

ONS 30th Annual Congress Podium and Poster Abstracts

For your convenience, all Podium and Poster Abstracts have been indexed according to subject (page 502) and first author (page 506).

The abstracts appear exactly as they were submitted and have not undergone editing or the *Oncology Nursing Forum* Editorial Board's review process. We have made every effort to be accurate. If any errors or omissions have been made, please accept our apologies.

Abstracts that are not being presented do not appear.

1
USE OF TELEVISED ANNOUNCEMENTS TO IMPROVE SCREENING AND RECRUITMENT OF AFRICAN-AMERICAN MALES TO A CANCER PREVENTION STUDY. Lisa Morgan, RN, OCN®, David Leos, RN, BSN, MBA, OCN®, and Norma Sheridan-Leos, RN, MSN, AOCN®, CPHQ, Curtis & Elizabeth Anderson Cancer Institute, Savannah, GA.

Numerous issues influence whether a person chooses to participate in a cancer prevention clinical trial. Studies on recruitment of minorities indicate that African-Americans have a distrust of the clinical trial process. African-American males have an increased incidence of prostate cancer than do white males.

This poster will describe how a community cancer center devised a televised announcement that was able to improve screening and enrollment to the SELECT study. Details will be provided so that other organizations can replicate this intervention for their organizations.

A SELECT study recruitment team was devised, the team brainstormed on ways to more effectively recruit African-American males to the study. This team was lead by a nurse; other team members included marketing, members of the target population, research nurses, and the clinical nurse specialist. The team worked with a local television station to craft a public service announcement (PSA) that was culturally sensitive and would have an impact on the viewer. An African-American meteorologist met with the team to discuss the project and he agreed to support the project. The station had a working relationship with the organization and did not charge the team to tape the PSA or to televise the PSA.

Before PSA, 21 calls were received about the SELECT study, 7 from African-Americans, with 2 being registered. In 2003, after the PSA, 312 calls were received, 278 generated by the PSA. Of these, 102 were African Americans, 8 of whom were registered on the study.

Televised announcements, when carefully constructed, can be used as an effective method to improve recruitment of African-American males to a cancer prevention study. Nurses have the skills and knowledge to help devise culturally sensitive televised messages to enhance minority recruitment.

2
ONCOLOGY NURSING SOCIETY DEVELOPS LEADERS TO GO ABOVE AND BEYOND COMMUNITY. Bertie Ford, RN, MS, AOCN®, Genentech Inc., San Francisco, CA, and Diane McElwain, RN, OCN®, MEd, York Cancer Center, York, PA.

The opportunities for nurses to serve in leadership positions are phenomenal. The NSABP (National Surgical Adjuvant Breast and Bowel Project) developed a committee in 2000 with an oncology nurse as chair and oncology nurses among the committee members. Cooperative groups have long had nursing committees for oncology nurses involved in clinical research, but that is usually the only place. NSABP's Diversity Strategic Planning Working Group is a unique opportunity for nurses to serve as leaders in a cooperative group setting.

The purpose of the Diversity Strategic Planning Working Group is to develop strategies to increase the accrual of minorities to the NSABP trials.

The Committee has been very active since its inception . . . we have developed a Resource list which contains a listing of materials, videos, publications, journal articles which serve a resource for the NSABP membership. Some of the resources come from ONS (multicultural toolkit, and the book: *Cancer Prevention in Diverse Populations: Cultural Applications* for the multidisciplinary team. We have educational symposiums at each meeting to educate the membership about diverse populations and highlight best practices of those who have been successful with enrolling minorities on clinical trials. We conducted a survey of the membership. Some of the things we assessed were: which minorities did they care for, strategies used in recruiting minorities, if they received education in terms of diversity, what needs did they have if any. We presented the findings at the NSABP group meeting. We plan to target institutions who have had a high percent of minority accrual to further drill down how they have been successful and try to transfer that success to other institutions.

This working group is around for the long haul . . . based on the survey . . . we will continue with the resource list, the best practices, and diversity education. We will also continue to utilize our nursing background and leadership skills to make this committee successful. The chair, an oncology nurse will defend the committee during our grant renewal.

ONS has many opportunities available for leadership development. Those of us who have utilized ONS resources, programs and projects have found use for them in an area outside nursing's usual arena.

3
IMPROVING THE QUALITY OF NURSING RESEARCH: A RESEARCH APPROVAL PROCESS. Angela Epshtein, BA, MA, and Susan Bauer-Wu, DNSc, RN, Dana-Farber Cancer Institute, Boston, MA.

The creation of a research approval process can improve the quality and reliability of nursing research conducted in clinical oncology settings. Development of a formal process and specific criteria for review of proposed research projects will facilitate scientifically rigorous studies that are more likely to produce high quality, publishable outcomes.

The creation of a research approval process emerged from an identified need to promote projects and provide structured feedback to both nurse scientists and nurse clinicians at a large, academic cancer center. Team members from The Phyllis F. Cantor Center for Research in Nursing and Patient Care Services at Dana-Farber Cancer Institute (DFCI) participated in a sequential method to develop a research approval process.

The formula for reviewing, critiquing, and summarizing recommendations was modeled after successful IRB procedures currently in place at DFCI. An interdisciplinary Scientific Review Committee (SRC) was formed to provide a forum for evaluating proposed projects and delivering written feedback and recommendations to the principal investigator. Representatives from Nursing (both clinical and research), Medicine, Pharmacy, Biostatistics, as well as faculty from affiliated schools of Nursing, were included in the SRC roster.

Feedback from principal and co-investigators indicated that the guidance provided by members of the interdisciplinary SRC improved the quality and feasibility of their studies. Additionally, the investigators have

reported that critiques regarding specific content such as research methods and analysis enhanced their overall understanding of nursing research and facilitated approval by other institutional committees.

The creation and evolution of a research approval process promotes a more informed and inclusive research environment for nursing and patient care services staff at DFCI. Additionally, the nurse scientists and representatives from related disciplines who served on the SRC have formed a network of colleagues that may lead to future collaborative research activities. The use of a research approval process provides standards of excellence for nursing research that will, in turn, inform and improve oncology nursing research conducted within clinical settings.

4 THE RESEARCH NURSES ROLE IN MAXIMIZING CLINICAL TRIAL ACCRUALS IN A COMMUNITY-BASED PRACTICE: A BLUEPRINT FOR SUCCESS. Vicki Tolbert, RN, BSN, OCN®, Johnston-Willis Medical Center, Richmond, VA.

As new drugs and treatments are developed, their efficacy must be determined through patients' responses. Therefore, accrual of patients to clinical trials is important in ensuring that the latest, safest and most effective treatments will be available.

Poor enrollment in clinical trials is readily acknowledged to be a problem in oncology especially in the community setting. This may be attributed to: reluctance of the patient, reluctance of the physician or lack of processes to support accruals. Utilization of a research nurse employed by a community hospital to assist with patient accruals in the oncologist's office in a contactual situation may be the answer.

The purpose of this project was to develop strategies to improve recruitment to clinical trials in a community based oncology practice and thereby increase the percentage of patients enrolled in clinical trials in order to meet the American College of Surgeons (ACoS) research standards for accreditation.

Interventions included proactive identification of patients, creation of clinical trial specific patient screening forms, development of a monthly handout listing current clinical trials, providing information about clinical trials in the inpatient hospital packets, discussion of new clinical trials at regular staff meetings, and a small incentive program for clinic staff who identify potential patients.

During the past year, we were able to increase our clinical trials enrollment by 33%. This has allowed us to meet the research standard requirements for the American College of Surgeons accreditation.

Nursing strategies to increase enrollment should focus on increased communication and education of patients and healthcare providers. A research nurse can provide the patient with the opportunity to participate in cutting edge research, provide the hospital with accruals to meet the ACoS standards, and provide the physician's practice with increased patient accruals. In addition, if more patients are enrolled in clinical trials, the time to trial completion will be shortened and thus drugs will be available for market production sooner.

5 IMPROVING RESEARCH DATA INTEGRITY: APPLYING NOVEL TOOLS IN A LONGITUDINAL BREAST CANCER CLINICAL TRIAL. Patrick McNees, PhD, Applied Health Science, Orlando, FL; Karen Hassey-Dow, PhD, Sreeramen Ramaswamysanthanam, MS, Ganesh Subramanian, MS, and Victoria Wochna-Loerzel, RN, MSN, OCN®, University of Central Florida, Orlando, FL.

Improving data integrity is a process and not an event. Yet methodologies that systematically improve most research processes and produce higher quality research data have not been specified or systematically evaluated. Longitudinal clinical trials present particularly salient challenges that can limit analyses, threaten interpretation and/or conclusions drawn from the data.

The objectives of this paper are to (a) describe the application of engineering quality improvement techniques to a longitudinal quality of life (QOL) clinical trial, and (b) determine the impact of engineering techniques to maintain and improve data integrity.

Deming's quality improvement framework and principles of statistical process control form the theoretical underpinnings for this work.

The investigators are conducting an ongoing randomized QOL clinical trial that will accrue 250 subjects. Subjects have either 6 or 7 monthly data accrual points. Based on initial results of the first quality audit of

50 subjects' data, the investigators identified improvements needed, and designed and implemented a novel and systematic approach to full quality improvement. This process included application of engineering techniques such as: statistical process control, item sampling, data review, quality audit, and feedback control.

A behavioral observational model was paired with statistical process analyses for both informing the research processes and performing analyses. The specific formula for estimating reliability was $r.\text{coefficient} = \frac{\text{agreements}}{\text{agreements} + \text{disagreements}}$. Other data were tabulated from data entry records.

The techniques used in this study resulted in incremental improvements including: greater inter-rater reliability, decreased error in missing data, improved data entry, enhanced data flow coordination, and reduced person hours involved in data management. Baseline reliability was 0.9676. While relatively high, analysis of first 110 subjects, reflect a 41% reduction in data errors from baseline. Thus, applying quality improvement engineering techniques and focusing on controllable sources of variability resulted in significantly fewer errors and improved data quality and integrity. Improving quality or data integrity is not an event, but a process. As such, application of engineering quality control techniques can result in improvement towards error-free data, while simultaneously providing an ongoing system for continuing to improve future research projects.

6 VALIDATING SELF-REGULATION THEORY IN LUNG CANCER. Teresa T. Goodell, PhD, RN, CNS, Oregon Health & Science University, Portland, OR.

Lung cancer kills more people worldwide than breast and prostate cancer combined, yet less clinical research is devoted to it than to these other cancers. It is among the most highly symptomatic of cancers, often detected late into disease progression. Blame by others and guilt for smoking may play a role in the perceived stigma against people with lung cancer. This stigma may influence how people with lung cancer and health care providers view the illness (illness appraisal). Effective symptom interventions are greatly needed for this population.

Self-regulation theory suggests that symptom distress is influenced by illness appraisal. Illness appraisal may contribute to symptom distress in people with lung cancer, but this relationship has not been explored. This relationship may suggest avenues for nurse-led symptom distress interventions that are cost-effective and entail minimal risk.

This is the first study to explore self-regulation theory as a basis for interventions designed to modify illness appraisal and reduce symptom distress in people with NSCLC. Symptom distress is viewed as distinct from symptom frequency and intensity in self-regulation theory, consisting of subjective emotional responses to symptoms.

The major objective was to explore relationships among selected components of illness appraisal (consequences, timeline, emotional representations, cureability/controllability, and illness coherence) and symptom distress in outpatients with non-small cell lung cancer (NSCLC). Thirty participants have completed three questionnaires: a demographic questionnaire, the Memorial Symptom Assessment Scale and the Illness Perception Questionnaire-Revised. Desired N is 50.

Preliminary analysis shows nine symptoms experienced by more than half the respondents: lack of energy, shortness of breath, cough, feeling drowsy, worrying, sexual problems, lack of appetite, feeling nervous and difficulty sleeping. Correlational analysis identified candidate variables for inclusion in a multiple regression model predicting symptom distress from the subset of high-frequency symptoms.

Of the illness appraisal dimensions, consequences resulted in the greatest change in R-sq. in the final model, although it did not reach statistical significance. Analysis will be repeated when the final sample is obtained. If illness appraisal contributes to symptom distress, as posed by self-regulation theory, nurse-led interventions could be developed to relieve distress in this highly symptomatic population.

7 AN INTERVENTION TO INFLUENCE KNOWLEDGE, HEALTH BELIEFS, AND INTENTION TO SCREEN IN PERSONS AT INCREASED RISK FOR COLON CANCER. Kristin Zawacki Seidl, PhD, RN, and Ann Marie Codori, PhD, Johns Hopkins University, Baltimore, MD.

Colorectal cancer (CRC) is the second leading cause of cancer death in the U.S., but it is preventable if found in the pre-malignant stage of

polyps. Screening tools are effective, but less than half of Americans over age 50 have been screened according to recommendations, and screening habits in those at increased risk have not been consistently described.

The purpose of this project was to evaluate the effects of a study-developed, targeted intervention on knowledge level, health beliefs, and intention to screen in first-degree relatives (FDRs) of CRC patients.

The Preventive Health Model was used to guide this study. Theoretical models of health behavior maintain that health beliefs influence actual behaviors, such as screening. Therefore, influencing health beliefs should theoretically change health behavior and screening practices.

This study used a randomized, repeated measures, factorial design with the following intervention groups: (1) control group, (2) targeted booklet group, (3) telephone informational session group, and (4) combined targeted booklet and telephone informational group. Measurement included nine knowledge-based questions, three visual analog scales, and the Rawl Scales for Perceived Susceptibility, Benefits, and Barriers. Data were collected at baseline and two weeks after intervention delivery. Ninety FDRs completed data collection.

Three separate repeated measures ANOVAs were conducted to evaluate the outcome variables of knowledge level, perceived risk and belief in preventability. Fisher's Exact test was used to compare intention to screen between groups.

Participants who received the targeted intervention had significantly higher scores in knowledge ($p = 0.007$) and belief in preventability ($p = 0.005$) than control group participants at the 2-week follow-up. Of the participants who needed a colonoscopy within the next year, those who received the targeted intervention were more likely to state that they intended to undergo colonoscopy screening within the next year than participants in the control group who needed a colonoscopy ($p = 0.004$). Future studies should continue to examine the relationships between knowledge, health beliefs, intention to screen, and actual behavior as it relates to CRC screening.

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A COLLABORATIVE APPROACH TO CARE OF THE PATIENT AFTER TRAM FLAP SURGERY: IN THE HOSPITAL AND BEYOND. Carolyn Weaver, RN, MSN, AOCN®, and Deena Dell, RN, MSN, AOCN®, BC, Fox Chase Cancer Center, Philadelphia, PA.

For many women who have a mastectomy, breast reconstruction makes a huge impact on their quality of life. There has been an increase in the number of free transverse rectus abdominis muscle (TRAM) flaps as well as deep inferior epigastric artery (DIEP) flaps at this Comprehensive Cancer Center. The Breast Cancer Clinical Nurse Specialists (BCCNSs) identified the need for a collaborative approach to care of these patients and subsequently established the interdisciplinary program.

The purpose of this program is to improve patient outcomes and satisfaction after TRAM flap breast reconstruction. The literature contains information about how to care for these patients immediately after surgery but little attention has been given to psychological preparation before or symptom management after hospitalization.

At the initial visit, a BCCNS along with the breast cancer social worker provides patients and support persons with information about available resources and an overview of treatments, including breast reconstruction. A plastic surgeon on the team provided in-services for the healthcare staff (including preadmission testing) on the types of TRAM surgeries and standard post op care. A standard of care and monitoring checklist were developed. The social worker created a database of women who had TRAM surgery and who were willing to share their experiences. The nursing and physical rehabilitation staff collaborated with the surgeon to devise a patient information sheet that explained activity restrictions and abdominal and postural exercises. The BCCNSs wrote several articles (one along with the physical therapist) to help educate nursing and physical rehabilitation colleagues.

Current evaluation of the program is based on anecdotal evidence and subjective evaluations. Therefore we, in collaboration with physical therapy, have instituted a research study to objectively identify the post op recovery with special attention to the area of pain assessment, pain control, return to prior activities, and patient satisfaction with our interventions.

A collaborative approach to care of the TRAM patient helps to ensure that satisfactory patient care outcomes are achieved. This interdisciplinary process can easily be utilized by other oncology nurse to improve nursing practice.

9

OUTCOMES OF A NURSE PRACTITIONER MANAGED PRE-ADMISSION TESTING CENTER AT A MAJOR METROPOLITAN CANCER CENTER. Martha Rodriguez, MS, ANP, Megan Abate, RN, MA, ANP, MaryAnn Carouso, RN, MS, FNP, Joanne Falletta Cregg, RN, MS, MPH, ANP, and Evlyn Hinds, RN, MS, FNP, Memorial Sloan-Kettering Cancer Center, New York, NY.

The pressure to deliver cost conscious, patient-focused, evidence based care has played a key role in the reconstruction of effective systems to manage elective surgical patients. In a cancer center where surgical interventions are the primary therapy for treatment and cure, a preoperative program that meets the needs of the patient, surgeon and anesthesiologist is crucial. The preoperative multi-modality therapies cancer patients receive in addition to co-morbidities contribute to the cancer patient's increased surgical risk. This comprehensive cancer center developed a model utilizing nurse practitioners as the designated staff to evaluate all patients preparing for surgery. The goals of this project are to identify and reduce the impact of co-morbidities, to improve surgical outcomes and increase patient satisfaction

The goals of the Pre-Admission Testing process are to evaluate patient's medical condition, to provide accurate airway evaluations, to assess preoperative risk, and to promote homeostasis in operating room and recovery room. A review of the literature identifies nurse practitioners playing a central role in the assessment of patients preparing to undergo elective surgery. The nurse practitioner's expertise in eliciting accurate health histories paired with sharp physical assessment skills is critical to determining a patient's suitability for anesthesia and surgery.

In Pre-Admission Testing, five nurse practitioners trained by committed anesthesiologists are responsible for the assessment of adult surgical patients. All levels of acuity are evaluated by the nurse practitioners including co-morbidities, airway classification and risk/status. A review of systems and physical examination is performed. Some patients are referred for cardiac or medical consultation. Discussions regarding risks, benefits, the recovery room and pain management are individualized to the patient

Data analyses from the first six months of implementation of the model indicate a reduction in surgical delays and cancelations, and improved documentation. Second quarter patient satisfaction measured by Press Ganey Associates, Inc. indicate increased patient satisfaction with overall surgical experience.

This model of presurgical testing evolved through the collaboration and cooperation of interdepartmental teamwork. A nurse practitioner managed presurgical testing center can provide accurate assessments contributing to operating room efficiency and positive patient outcomes

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UNDERSTANDING KYPHOPLASTY AS TREATMENT FOR VERTEBRAL COMPRESSION FRACTURES. Mandy Sullivan, RN, H. Lee Moffitt Cancer Center, Tampa, FL.

Kyphoplasty, a treatment for vertebral compression fractures is a viable pain management option for some patients. Familiarity with the type scope of approaches to pain management is imperative for Oncology Nurses.

Vertebral compression fractures and resultant pain is a significant issue for cancer patients. Both disease itself (breast, lung, and prostate cancers, and osteoporosis) and cancer treatment can compromise integrity of the vertebra. For example, the incidence of compression fractures in patients with multiple myeloma is 50%-70%. The vertebral body collapses with a compression fracture, resulting in shortening of the spine and characteristic kyphosis, or humped over appearance. The intent of kyphoplasty is to relieve fracture-induced pain. Kyphoplasty involves fluoroscopy-guided introduction of balloon-like inflatable bone tamps (IBT) into the collapsed vertebral body. Inflation of the IBT results in restoration of the vertebral body height. The IBT is removed and resultant cavity filled with bone cement. Kyphoplasty is typically performed as an outpatient or overnight stay procedure. Kyphoplasty is similar to another procedure of introducing bone cement into the vertebral body (vertebroplasty),

but differs in that kyphoplasty uses the IBT. Kyphoplasty results in fewer complications than traditional vertebroplasty, particularly less leakage of bone cement. Clinical trials demonstrate both pain relief and improvement in function as outcomes of the procedure.

The purpose of this presentation is to educate Oncology Nurses about an option available to treat painful vertebral compression fractures in cancer patients.

A general overview of the procedure will be depicted. Criteria for patient selection for kyphoplasty will be reviewed. Nursing priorities of care for the patient undergoing kyphoplasty will be identified. A case study will be presented.

Oncology nurses who view this presentation will gain a basic understanding of kyphoplasty, its use in management of pain resulting from vertebral compression fractures, and nursing priorities for patients undergoing this procedure.

Oncology Nurses, functioning as patient advocates, need to be familiar with the spectrum of pain management options for their patients. Understanding when kyphoplasty might benefit a patient with vertebral compression fractures could result in earlier intervention and improved pain control for those patients.

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SUCCESSFUL RADIOIMMUNOTHERAPY WITH ZEVALIN IN A 90-YEAR-OLD PATIENT WITH RELAPSED NON-HODGKINS LYMPHOMA. Stella Ortiz, RN, and Robert H. Joseph, MD, Westlake Village, CA.

Zevalin® is a second-generation radioimmunoconjugate, indicated for the treatment of relapsed or refractory low-grade, follicular, or transformed B-cell NHL. The effects of Zevalin therapy in patients over 85 years old have not been reported previously, and any additional measures for managing complications in this population are not defined. The administration of Zevalin in the very elderly may require increased observation of hematological recovery and follow-up from the oncology nurse.

The safety and efficacy of Zevalin have been documented in 4 registration trials of patients with NHL, where the oldest patient was 85 years old at the time of Zevalin administration. Our team evaluated the Zevalin regimen in a 90-year-old, female patient having a 15-year history of low-grade lymphoplasmacytoid type lymphoma. The patient presented with non-bulky disease and bone marrow involvement of 25% prior to Zevalin administration. Previous treatments for NHL included 4 chemotherapy regimens consisting of vincristine, cyclophosphamide, prednisone, and dexamethasone in various combinations. An 8-week course of rituximab therapy was also employed.

In October 2002, the patient received the standard Zevalin regimen, consisting of an initial infusion of rituximab (250 mg/m²) followed immediately thereafter by an intravenous injection of an imaging dose of 111In Zevalin (5 mCi). One week later, a second infusion of rituximab proceeded by a slow intravenous injection of 90Y Zevalin (0.3 mCi/kg) was administered. Initial therapy was well tolerated without complications. At 6 weeks post treatment, RBC and platelet transfusions (X2) were given because of hemoglobin and platelet nadir.

Post-treatment bone marrow showed no evidence of lymphoma, although some involvement by monoclonal plasma cells was noted. The patient later received dexamethasone and growth factors and was treated with a maintenance dose of rituximab.

Two years after Zevalin treatment, the patient is in good overall health. The patient is able to live independently and is not restricted by her condition. She continues to receive growth factors for anemia.

This case demonstrates that Zevalin is safe and efficacious in elderly patients with relapsed B-cell NHL, with little impact on patient quality of life. Particular attention in managing hematological recovery may be needed because of the possibility of prolonged cytopenia.

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PREDICTIVE VARIABLES IN MEN'S TREATMENT CHOICES FOR LOCALIZED PROSTATE CANCER. Donna Berry, PhD, RN, AOCN®, and William Ellis, MD, University of Washington, Seattle, WA; and John Blasko, MD, Seattle Prostate Institute, Seattle, WA.

Men diagnosed with localized prostate cancer (LPC) often have the opportunity to participate in the treatment choice. Nurses have important roles in assessment of personal factors that influence this decision.

The purpose of this study was to evaluate relationships between influential personal factors and medical factors on treatment choice and decision-related outcomes.

The Decision Support Framework (DSF) is organized by determinants of decisions, decision support interventions and evaluation process and outcomes of the decision support. This study represents exploration and analyses of decision determinants that are required prior to intervention development.

Patients in urology and radiation oncology practices in western Washington were invited to participate in this descriptive study by their clinicians during 2001–2003. Men completed questionnaires at home within 2 weeks of the informational clinic visit with the cancer clinician, but prior to treatment. This report presents data from 260 men diagnosed with LPC. Personal factors (influential people and outcomes), treatment choice (TC) and decision-related outcomes were queried along with demographic data.

Relationships between all variables and the outcomes, Satisfaction with Decision (SWD) and TC, were explored using exhaustive CHAID (Chi-squared Automatic Interaction Detector) in AnswerTree 3.0 (SPSS, Chicago, IL). CHAID enables exploration of relationships through successive partitioning of variables.

The typical respondent was a white, married man in his 60's, educated and currently employed. The strongest predictor partition variable for SWD was the subscale "factors contributing to uncertainty" (adj. $p < 0.0001$) followed by the Trait Anxiety score (adj. $p = 0.038$). The strongest predictive partition for the actual TC was age group (adj. $p < 0.0001$), followed by interacting marital status (adj. $p = 0.0003$), influence of the urologist (adj. $p = 0.0008$) and use of the Internet (adj. $p = 0.0479$). Men with LPC were more satisfied with their TC when they reported fewer uncertainty factors; these are factors mainly relevant to information needed to understand the pros and cons and to make a decision. Consistent with this finding for TC, is the use of the Internet, though this factor interacted with age, the influence of their surgeon and marital status. This study suggests that personally meaningful information communicated by patients and to patients is paramount.

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CHEMOTHERAPY HANDLING AND EFFECTS AMONG NURSES AND THEIR OFFSPRING. Susan Martin, RN, DNSc, AOCN®, Oncology Nursing Consultant, Long Beach, NY.

The use of antineoplastic chemotherapeutic agents for the treatment of cancer and some other non-neoplastic diseases has expanded widely during the past several decades. There is growing concern regarding the safety of healthcare workers who handle these agents. The literature has described adverse health effects such as chromosomal aberrations, reproductive dysfunction, and acute symptomatology. At present, the literature is lacking research that investigates the occupational exposure to chemotherapy and potential adverse effects among nurses' offspring.

This investigation studied whether there was an association between maternal occupational antineoplastic chemotherapeutic exposure and learning disabilities among offspring as well as infertility, miscarriage and pregnancy and birth complications among oncology nurses.

The conceptual framework of the epidemiologic triad where adverse health effects is a product of an interaction between the person at risk (host), an exposure to antineoplastic chemotherapeutic (agent), and the environment (availability of resources).

This epidemiological retrospective survey case-control design surveyed 7500 members of the Oncology Nursing Society using a self-report mailed survey.

Non-parametric testing (Chi square) was used to estimate the prevalence of dependent variables. Logistic regression was used to compare prevalence of the dependent variables, adjusting for the effects of interactions, confounders or other risk factors.

The response rate was 50%. Controlling for risk factors, significant associations were reported with chemotherapy handling and infertility in nurses who handled chemotherapy before the age of 25 (OR = 1.42, 95% CI = 1.05–1.91), and miscarriages (OR = 1.01, 95% CI = 1.001–1.02). Preterm labor was associated with administering nine or greater doses of chemotherapy per day (OR = 2.98, 95% CI = 1.75–5.04) and preterm births were associated with preparing nine or greater doses per day (OR = 5.56, 95% CI = 1.96–15.78). Learning disabilities were associated with

the frequency of glove use (OR = 2.56, 95% CI = 1.75–3.72). Specific learning disabilities including motor (OR = 2.53, 95% CI = 1.30–4.91), cognitive (OR = 2.25, 95% CI = 1.22–4.17), ADHD (OR = 1.88, 95% CI = 1.07–3.30), and speech (OR = 2.47, 95% CI = 1.58–3.85) were significant. These findings raise many questions regarding the potential long-term effects of chemotherapy handling on both oncology nurses and their offspring.

Funding Sources: Oncology Nursing Foundation AMGEN (Funded Doctoral Fellowship)

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INDIGENOUS HELPERS FOR SMOKING CESSATION. Susan Andersen, APRN, BC, PhD, Texas Tech University Health Sciences Center, Lubbock, TX.

Smoking cessation is an area where nurses are uniquely equipped to provide information to patients in all settings. Nurses are educated to think holistically, and take into account the individual patient in her/his unique setting composed of family, occupation, community and internal and external environment. The latest Surgeon General's report advises all health care providers be involved at every visit to promote smoking cessation. As smoking is related to the top four causes of mortality in the U.S., it is important for nurses to mobilize our considerable influence on patient care to advocate for smoking cessation.

The research examined the question is there a difference in post intervention smoking behavior between smokers who have an indigenous helper compared with those who do not among adult FreshStart participants.

The Transtheoretical Model of behavior change (TTM) is often used as a framework for smoking cessation programs. This study examined whether the TTM was useful in research to predict smoking behavior. An intervention was based on the TTM construct "processes of change." Helping relationships was the process of change selected as the intervention. An indigenous helper from the smoker's social network was designated by the intervention group participants.

A two-group, two-time, five-week multi-site experimental design was used. The outcome variable, smoking behavior, was measured in two ways: point prevalence and forward movement along the stages of change. Participants (N = 111) were recruited from five sites with regular FreshStart programs. Each one completed the Stage of Change Questionnaire, Processes of Change helping relationships subscale and Partner Interaction Questionnaire-20 at baseline and four weeks.

Logistic regressions and ANOVA were used in the analysis.

The use of an indigenous helper did not predict smoking cessation, however, use of Nicotine Replacement Therapy (NRT) and/or bupropion did. The findings did not support the use of the TTM process of change helping relationships to promote smoking cessation. The results do lend further support to the mounting literature supporting use of NRT/bupropion for smoking cessation.

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A META-ANALYSIS OF THE SENSITIVITY OF VARIOUS NEUROPSYCHOLOGICAL TESTS USED TO DETECT CHEMOTHERAPY-INDUCED IMPAIRMENTS IN COGNITIVE FUNCTION. Catherine Jansen, RN, MS, PhD, OCN®, Kaiser Permanente, San Francisco, CA; and Christine Miaskowski, RN, PhD, Marilyn Dodd, RN, PhD, Glenna Dowling, RN, PhD, and Joel Kramer, PsyD, University of California, San Francisco, San Francisco, CA.

Impairment in cognitive function is a newly recognized side effect of chemotherapy (CTX). Numerous valid and reliable neuropsychological tests are available to measure the various domains of cognitive function.

However, information regarding the sensitivity and specificity of neuropsychological tests to detect changes in cognitive function from CTX is lacking. The purposes of this meta-analysis were to identify which neuropsychological tests were used to evaluate CTX-induced impairment in various domains of cognitive function in adult cancer patients and to determine the sensitivity of each of the neuropsychological tests, that were used in at least two studies, through an estimation of an effect size.

Lezak's conceptual framework for neuropsychological testing formed the theoretical basis for this study.

Abstracts from five computerized databases were reviewed to identify studies that included (1) original data; (2) an adult sample; (3) neuropsychological testing of cancer patients who had or were currently receiving CTX; (4) valid and reliable neuropsychological tests with published standardized administration procedures; and (5) sufficient information reported on at least one test of cognitive function, to allow for the estimation of an effect size.

Prior to determining an effect size, each neuropsychological test was assigned to a specific domain of cognitive function. Johnson's (1993) DSTAT 1.10 meta-analysis software was used to calculate the effect size and confidence intervals. Effect sizes were interpreted as negligible if less than 0.20, small if between 0.20 and 0.50, medium if between 0.50 and 0.80, and large if greater than 0.80. A significance level of 0.05 was inferred when the 95% confidence interval did not cross zero.

This study found sensitive neuropsychological tests for the cognitive domains of language, motor function, verbal memory, and visual memory, but not for attention/concentration, executive function, information processing speed, or visuospatial skill. While this meta-analysis provides initial data on the sensitivity of some neuropsychological tests to determine CTX-induced changes in cognitive function, the limited number of studies makes it difficult to draw any definite conclusions. These results suggest the need for carefully designed, longitudinal studies to evaluate CTX-induced impairments in cognitive function.

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ACHIEVING EXCELLENCE IN BLOOD AND MARROW TRANSPLANT PATIENT CARE: DEVELOPMENT OF A REGIONAL TRANSPLANT EDUCATION PROGRAM AS A CHAPTER SPECIAL PROJECT. Natalie D'Itri, RN, MSN, AOCN®, Kelly Healthcare Resources, Rockville, MD; Sandra Mitchell, CRNP, MScN, AOCN®, Warren Grant Magnuson Clinical Center, Bethesda, MD; Castro Kathleen, RN, MSN, AOCN®, National Cancer Institute, Bethesda, MD; Sophia Grasmeyer, RN, BSN, OCN®, Matthews Media Group, Rockville, MD; and Claudia Soho, RN, BSN, OCN®, CCRP, and Katherina Litschke, RN, MSN, Georgetown University Medical Center, Washington, DC.

Hematopoietic stem cell transplantation (HSCT) is considered the best treatment option for many hematologic malignancies. The number of transplants performed each year continues to increase. Although high-dose therapy and the stem cell transplant procedure itself is generally performed in a specialized center, increasingly, the post-transplant hospital stay is shortened and patients receive much of their care in their home community. Recognizing a need for education about the unique needs of HSCT patients and their caregivers in all phases of the HSCT process, the Washington DC chapter of the Oncology Nursing Society (ONS) developed a Regional Transplant Educational Program (RTEP).

The purpose of RTEP is to educate nurses working in community, outpatient, and home-care settings about the foundational knowledge and needs of patients undergoing HSCT and to address some of the newer trends in transplantation, including reduced intensity conditioning regimens, use of donor lymphocyte infusion, and management of acute and chronic graft versus host disease (Reiss & Bolotin, 2002). Clinical excellence in HSCT nursing requires knowledge of assessment, prevention, and management of common problems encountered at each phase of the transplant process, along with skills in patient education and care coordination.

Prior to developing the structured educational program, a needs assessment was performed among nurses in the community. A Regional Advisory Team, comprised of expert HSCT professionals, was developed to outline course content and assist with program promotion across the region. Marketing strategies focused on reaching nurses in community and smaller practice settings that serve oncology patients.

Anticipated outcomes for RTEP include: Increased knowledge and understanding of HSCT process; enhanced quality of care for HSCT patients in the region; chapter recognition as a community resource for nurses caring for HSCT patients; and increased visibility of ONS, locally and nationally, as a leader in oncology education.

Development of a regional HSCT education program by an ONS chapter has the potential to identify the following: Regional HSCT resources for patients, caregivers, and professionals; needs in the oncology nursing community related to HSCT education; regional nursing leaders in HSCT; and the chapter's role in developing regional education programs.

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DECREASING THE INCIDENCE OF RSV IN AN OUTPATIENT BMT SETTING. Laura Turkel, RN, BSN, and Cynthia Besas, RN, BSN, OCN®, Duke Health Systems, Durham, NC.

Topic: The Respiratory Syncytial Virus (RSV) can be fatal to immunocompromised patients. A program that combines increased awareness with aggressive disinfecting and isolation protocols is effective in reducing the risk of RSV infection among outpatient bone marrow transplant clinic patients at low cost.

Purpose: The purpose of this presentation is to illustrate, as an exemplar from one institution, how, in response to a critical incident, clinic staff partnered with patients, caregivers and staff across multiple disciplines to implement consistent and low cost training, hygiene and disinfecting protocols to limit the incidence of RSV.

Interventions: RSV is typically introduced into the outpatient clinic by patients or their caregivers from the outside. Common RSV symptoms are nasal congestion, sore throat, cough and/or fever. With our plan of intervention nurses educate patients to recognize RSV symptoms. RSV procedures are reinforced at weekly caregiver meetings. The presentation will outline how the staff used a performance improvement process to limit the spread of RSV. The specific implementation steps, such as the protocol for hand washing and education of patients will be described.

Evaluation: Long term the efficacy of the program will be shown by comparing post-program RSV infection rates against historical data. The short-term value of the program is measured by the cost of the program versus in-patient healthcare costs due to avoidable RSV infection.

Discussion: This easy to implement, low-cost program effectively involves patients and caregivers in reducing the incidence of RSV. It also enhances the staff's ability to ensure quality patient care.

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THE DEVELOPMENT OF AN ALGORITHM MANAGING ACUTE DELIRIUM IN PATIENTS UNDERGOING ALLOGENIC STEM CELL TRANSPLANT (SCT). Kristine Simpson, RN, BSN, OCN®, Keri Reardon, RN, BSN, OCN®, and Margaret Bevans, RN, MS, AOCN®, National Institutes of Health, Bethesda, MD.

Delirium is defined as an acute and fluctuating disruption of attention and cognition that is not accounted for by preexisting dementia. Fann et al. (2002) reports that up to 50% of recipients undergoing a SCT experience delirium. In oncology patients pre-treatment predictors have been identified as increased age, female gender, cognitive impairment, metabolic imbalances, and hematologic malignancies. SCT recipients may present with several risk factors in addition to the direct and indirect effects of their intense treatment. Negative outcomes associated with delirious behavior can include increased length of stay, and injuries related to falls or other self inflicted behaviors e.g. accidental removal of an intravascular line.

Current literature focuses on the identification of predictors and reliable recognition of delirium. Minimal information is available to guide the use of interventions to avoid negative consequences. The purpose of this project is to develop an algorithm for defining nursing intervention in SCT patients at risk for complications from delirium.

The goal of the intervention algorithm is to improve recognition, remove contributing factors and maintain patient safety and dignity. The key steps include: consistent identification of patients at risk for complications from delirium, communication of assessment with all members of the team, recognition and elimination of contributing factors, and activation of safety interventions including fall risk precautions, high observation nursing care and pharmacologic interventions.

The intervention algorithm outlines a process which assists nurses to improve communication, reduce etiological factors and create a safe environment for patients at risk for complications from delirium.

Although the multidisciplinary team participates in the development of a plan to manage delirious patients, it is frequently the nurse who identifies high risk patients, recognizes signs of delirium and activates immediate interventions to avoid harm and secondary consequences. Implementation of this standardized approach to patient care empowers the nurse to effectively reduce length of stay and morbidity in SCT recipients at risk for complications from delirium.

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ORAL ASSESSMENT: DIFFERENTIATING BETWEEN MUCOSITIS AND STOMATITIS. Jessica Richard, RN, BSN, OCN®, Mildred "Millie" Toth, MS, RN, OCN®, AOCN®, and Bella B. Toth, MS, DDS, The University of Texas M.D. Anderson Cancer Center, Houston, TX.

Approximately 40% of patients receiving chemotherapy develop complications of the oral mucosa. In BMT/SCT patients, the percentage increases to 80%. Oral mucositis and stomatitis are painful, debilitating complications that can affect the patient psychologically and physically. In addition, the duration and intensity of treatment protocols may be altered because of mucositis and both its treatment and/or dose limiting toxicities. The oncology nurse's ability to assess for and differentiate between mucositis and stomatitis is essential to the appropriate management of these 2 distinct oral complications.

The purpose of this presentation is: (1) to educate the oncology nurse on the differences between mucositis and stomatitis; (2) to identify the most common risk factors associated with mucositis and stomatitis; (3) to demonstrate the appropriate assessment of the oral cavity and (4) to discuss the current trends in the treatment and prevention of oral mucositis. Current literature does not usually differentiate between mucositis and stomatitis, although, there is a distinct difference. Mucositis is the chemotherapy and/or radiotherapy induced inflammation of the oral mucosa that represents a separate entity distinct from oral lesions with other pathogenic causes summarized as stomatitis (Peterson, 1999).

The oncology nurse's assessment of the oral mucosa should include knowledge of the patient's treatment regime and reception of stomatotoxic therapies, or lack thereof, the treatment day as it relates to the patient's anticipated nadir, and the patient's history of oral complications. Culturing any suspicious lesions should be a priority and will help differentiate the cause.

Nurses' knowledge of the distinctions between cancer related mucositis and stomatitis and the ability to appropriately assess for and identify oral lesions and their potential causes can greatly improve the outcomes of treatment.

The current literature identifies a great need for further research into the treatment of oral mucositis. Several different treatments have been proposed but there remains no conclusive data to support one treatment over another. The author of this presentation will present the current trends in assessment and treatment and identify the trends that are the most promising as supported by the literature.

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CHANGING CHILDHOOD CANCER SURVIVORS HEALTH BEHAVIORS TO MODIFY RISKS OF LATE EFFECTS. Cheryl Cox, RN, PhD, Rosemary McLaughlin, MSN, Shesh Rai, PhD, Brenda Steen, RN, CCRA, and Melissa Hudson, MD, St. Jude Children's Research Hospital, Memphis, TN.

The late effects of therapy increase childhood cancer survivors' risk of chronic health problems. Young survivors fail to engage in important health-promoting behaviors, and they practice risk behaviors at alarming rates. Interventions to target behavior change must be developed if there is to be a significant impact on reducing late effects.

A recent (2002) clinical trial failed to demonstrate a clear impact of an intervention on changing health behaviors in adolescent survivors. The study outcome was a single summative measure: risk behaviors comprised the lower end and health-protective behaviors comprised the higher end of a unidimensional scale. We re-examined these same data by separately evaluating the impact of the intervention on 5 health risk and 9 health protective behaviors.

The Health Belief Model guided the selection of study variables and the development of the intervention in the parent study. The Interaction Model of Client Health Behavior guided the secondary analysis through the re-configuration of study variables and their relationships.

The randomized trial compared 132 adolescent survivors in the intervention arm with 135 in the standard care arm at baseline and at 1-year follow-up relying on self-report and medical record data. Disease and treatment knowledge were compared against the medical record; late effects risk perceptions and health/risk behaviors were assessed on Likert scales (Cronbach's alpha = 0.75 to 0.92).

Each of the 14 behaviors were evaluated separately in contrast to the parent study's single summative measure; age, gender, and the wide variation in baseline behaviors were addressed within an ANCOVA model.

Breast ($p = 0.0001$)/testicular ($p = 0.004$) self-examination increased as did perceptions about needing to change behavior ($p = 0.004$), effort needed to stay healthy ($p = 0.0001$), and knowledge ($p = 0.014$). Significant interactions between gender and treatment group were demonstrated.

The intervention's impact was demonstrated by treating health-risk and health-protective behaviors separately rather than as a single summative measure. Gender and age influenced the intervention's effects, suggesting that a "one-size fits all" approach to changing behavior is ineffective in adolescent survivors. The development of interventions to modify health behaviors in adolescent survivors must extend beyond cognitive processing theories and include important concepts of motivation and tailoring of intervention approaches.

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A MODEL FOR INTEGRATING ONCOLOGY AND GERONTOLOGY IN AN ADVANCED PRACTICE NURSING PROGRAM. Deborah McGuire, PhD, RN, Sandra W. McLeskey, PhD, RN, and Ann Marie Spellbring, PhD, RN, University of Maryland School of Nursing, Baltimore, MD.

As the baby boomers age, cancer prevalence will increase dramatically. The 2002 Annual Report to the Nation on Cancer estimated that cancer prevalence will more than double by 2050, with the majority of increase occurring in people over 65. Although increased attention has been given to preparing oncology nurses to meet this challenge, little emphasis has been placed on preparation of advanced practice nurses (APNs). This paper reports on how one school of nursing has integrated oncology and gerontology content into a single comprehensive graduate program and prepares graduates for dual certification.

Since cancer primarily affects elders, it is imperative that APNs be adequately prepared to care for this special population. In an informal survey, we found that most graduate oncology programs rarely integrate gerontology into required coursework. The purpose of this presentation is to describe the components and initial evaluation of an academic model that comprehensively integrates oncology and gerontology in an APN program.

The model combines an accredited gerontology nurse practitioner (GNP) program with an oncology specialty track that prepares a blended APN role (GNP and clinical nurse specialist). Foundational science courses provide strong background in both oncology and gerontology. Clinical courses and practice experiences are designed to meld key components of oncology and gerontology advanced practice. Graduates meet the educational criteria for national GNP and oncology APN certification.

This program is new, with one graduate to date, and two students in process. Initial evaluation focuses on meeting dual specialty competencies in the coursework and clinical experiences, post-graduate work settings, and student evaluation and feedback. Important components include close faculty collaboration, development of appropriate clinical settings for dual competencies, and students who have clearly defined career goals and commitment to both specialties.

The program clearly meets a compelling need, and is now seeing a gratifying increase in application and enrollment. Integration of oncology and gerontology content is essential for preparing APNs who can care for the rapidly increasing population of elders with cancer. (Funded by the John A. Hartford Geriatric Nursing Education Project/Creating Careers in Geriatric Advanced Practice Nursing).

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SYMPTOM CORRELATES IN THE GERIATRIC ONCOLOGY POPULATION: AN EVIDENCE-BASED REVIEW. Cheryl Lacasse, RN, MS, OCN®, The University of Arizona College of Nursing, Tucson, AZ, and Ann Reiner, RN, MN, OCN®, Oregon Health and Science Center, Portland, OR.

Cancer-related symptoms have been studied for over 2 decades, yet little is known about the effect of age on the cancer symptom experience. Symptom management in the geriatric oncology population is a body of knowledge which is developing from a blending of existing knowledge in cancer symptom management and geriatric healthcare.

This review provides an overview of current knowledge in the area of cancer-related symptoms such as pain, fatigue, sleep disturbances, decreased physical functioning, and mood changes in the geriatric oncology population.

A comprehensive literature review of published research studies from 1993–2003 which included at least 33% of participants aged 55 years and older yielded 23 studies. Qualifying studies explored the relationships between various aspects of aging and select symptoms. Studies were analyzed for their contribution to the understanding of symptom distress and the inter-relationship of multiple variables within the geriatric population such as co-morbidity, age, and functional loss. Analysis also focused on the impact of the symptom experience on daily living of the geriatric population including symptom severity and distress, physical functioning, and symptom clusters.

Critical analysis of the research indicates that older adults may perceive symptoms differently than younger patients and that this perception may be mediated by an increased number of co-morbidities and multiple symptom correlates. Evidence suggests: elders undergoing treatment frequently report pain and fatigue which are associated with a high number of other symptoms such as sleep disturbance, functional loss and depression; chronological age predicts symptom severity, but not symptom distress; increased symptom severity affects mental health and functional status. Age alone was found to be a weak predictor of functional loss.

Symptoms in older adults with cancer are framed within the normal aging experience. It is essential that oncology clinicians be aware of the nuances of symptom assessment in the elderly cancer patient including prevalence, intensity, severity, correlating symptoms and factors, and the interference with daily living the symptoms create. This presentation will review current evidence for assessing multiple symptoms in the elderly cancer population and implications for comprehensive geriatric oncology symptom management.

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ADOLESCENTS THROUGH THE LOOKING GLASS: THE LOOK GOOD FEEL BETTER PROGRAM FOR TEENS. Bazetta Schuver, BS, RN, Myra Woolery-Antill, MSN, Ellen Carroll, BSN, and Veronica McKenzie, BSN, National Institutes of Health, Bethesda, MD; and Emily Bahne, BSN, Johns Hopkins University, Baltimore, MD.

Oncology nurses are often in a unique position to assess and evaluate the impact of cancer treatments on psychosocial development of adolescent patients. As patient advocates, oncology nurses can inform patients about support programs, and in collaboration with members of the interdisciplinary team, participate in supporting and hosting such programs. This topic discusses an existing American Cancer Society program for adolescents with cancer and provides information on becoming a host institution.

Adolescence is a time of great turmoil. This stage of development is heavily influenced by physical changes associated with puberty and growth, and according to Erikson the psychosocial conflict of identity versus role confusion. Keenly attuned to the opinions of their peers, they often have distorted views about their appearance and attractiveness. What they see reflected back in the glass is often different than reality. During treatment for cancer, these normal adolescent concerns are accentuated because of physical changes and disruption in peer relationships. It is important to develop strategies to assist the adolescent with cancer to navigate this state of development.

One such strategy is the "Look Good, Feel Better" program for Teens modeled after the American Cancer Society's successful "Look Good Feel Better" program for women. It differs from the adult program in that it addresses the unique psychosocial needs of the adolescent with cancer; and includes both adolescent males and females. This program provides information on coping with side effects of treatments that affect psychosocial development and physical appearance in a fun and informative manner. This non-threatening forum incorporates social activities to encourage adolescents to express their concerns with other peers undergoing treatment and identify strategies for coping.

Those attending our institution's Look Good Feel Better for Teens have provided feedback indicating this program is beneficial. Adolescents who have attended this program have a better sense of identity, security and self-satisfaction which enables them to move to the next developmental stage.

Though this content is of special interest to oncology nurses working with pediatric patients, it also provides insight into the young adult cancer patient and discusses the impact of cancer and treatments on both males and females.

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USING THE LEVINE CONSERVATION MODEL TO GUIDE AN INTERVENTION TRIAL OF EXERCISE TO MITIGATE CANCER TREATMENT-RELATED FATIGUE. Christine St. Ours, MS, RN, Amy Bositis, BS, RN, Sue Hall, MS, CRNP, and Victoria Mock, DNSc, RN, AOCN®, FAAN, Johns Hopkins University School of Nursing, Baltimore, MD.

Using an appropriate theoretical framework can be a useful guide to the development, implementation, and evaluation of nursing intervention research.

Rigorous research design and methods are essential to the conduct of high quality intervention-testing research to manage cancer treatment-related fatigue. The purpose of this presentation is to illustrate the use of a theoretical framework to clarify the research question as well as to guide the intervention and selection of instruments in the design and conduct of a nursing intervention study.

The Levine Conservation Model defines four conservation principles: conservation of energy, structural integrity, personal integrity, and social integrity. Cancer diagnosis and treatment causes alterations and thus the need for adaptation in all four areas identified by Levine.

As this randomized clinical trial was designed, the Levine model was used to make sure all the principles were being considered. The intervention is a home-based moderate-intensity walking program that supports the conservation of energy and structural integrity by increasing functional capacity. It is also hypothesized that personal and social integrity will be enhanced when energy is conserved and individuals are able to maintain their social interactions. The intervention is being tested in 160 patients beginning chemotherapy or radiation therapy for a variety of cancer diagnoses. Evaluation of intervention effectiveness includes measurement of the four components of the Levine Model. Conservation of energy is measured by the Piper Fatigue Scale; structural integrity by measures of physical functioning using VO₂ MAX on treadmill tests, physical functioning scale of the Medical Outcomes Study (MOS), pedometer, and accelerometer. Conservation of personal integrity is evaluated by the Profile of Mood States and the Symptom Distress Scale. Conservation of social integrity is measured with the social functioning scale of the MOS.

The Levine Model will be tested as the intervention is evaluated by comparing the exercise and usual care groups using Repeated Measures Analysis of Variance.

Using a theoretical model to guide nursing research informs development of the intervention and ensures that appropriate outcomes are included in the evaluation. In addition, study findings can be placed in the appropriate context of knowledge to guide nursing practice.

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THE MEANING OF PROSTATE CANCER TREATMENT-RELATED INCONTINENCE AND IMPOTENCE AMONG LOW-INCOME AFRICAN AMERICAN MEN. Sally Maliski, PhD, RN, and Mark S. Litwin, MD, MPH, University of California, Los Angeles, Los Angeles, CA.

Prostate cancer is the most common noncutaneous cancer among African American men. African Americans men have a 66% higher age-adjusted incidence rate than Caucasians. Primary treatments carry a significant risk for incontinence and/or erectile dysfunction. Oncology nurses must be able to address these symptoms during treatment decision-making and post-treatment symptom management. In order to do so, meaning of these symptoms needs to be understood.

Little work exists on the meaning of these symptoms for low-income African American men to guide development of interventions among this population. Therefore, our purpose was to describe incontinence and impotence experienced by low-income African American men treated for prostate cancer to lay the foundation for culturally appropriate interventions related to these symptoms.

This study is grounded in the assumption that cultural beliefs and socioeconomic factors influence the meaning made of cancer-related symptoms. Furthermore, cultural concepts of masculinity are assumed to affect perceptions of ED.

The design employs ethnomethodology combining ethnographic perspective (cultural) with phenomenologic techniques (meaning) to develop an in-depth understanding of symptoms through personal interviews. Interviews are conducted by male, African American interviewers in the man's home or by telephone using an open-ended guide. Interviews

are audiotaped and transcribed verbatim. Follow-up telephone interviews are conducted 3 months later.

The PI reads all transcripts completely. The sentence is the unit of analysis for data management using NVivo. Unit-by-unit coding is done, identifying the major thought in each unit. Themes will be identified from the codes. Emerging codes and themes will be constantly compared to previous ones. Concepts will be identified from the categories, derived from clustering themes across transcripts. These concepts will be dimensionalized to show the range of themes supporting the concepts and the surrounding variations within themes evidenced in codes. Themes and concepts will be examined back through the unit-by-unit coding for expressions of culture-influenced beliefs.

Initial coding is revealing multiple factors affecting masculine identity, acceptance of current ED, and reluctance to use "unnatural" means of achieving erections. Ambivalence is emerging as men discuss having erections as an integral part of manhood while believing that there's more to life than sex. Having treatment is seen as a choice between having sex or living.

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EXPLORING THE RELATIONSHIPS BETWEEN CANCER PAIN, ATTITUDINAL BARRIERS, AND PTSD: A DESCRIPTIVE STUDY. Mary Thomas, RN, MS, AOCN®, Janette Elliott, RN, MS, AOCN®, and Marilyn Douglas, RN, DNSc, FAAN, VA Palo Alto Health Care System, Palo Alto, CA; and Jeffrey Gold, PhD, University of Southern California Keck School of Medicine, Los Angeles, CA.

The impact of cancer and its treatment can evoke extreme distress, including the anxiety disorder Post Traumatic Stress Disorder (PTSD). While awareness of PTSD in this population is increasing, its impact on cancer-related pain and pain management (PM) is not known.

The purpose of this study was to investigate the impact of PTSD in the context of the cancer pain experience, and particularly, to explore the relationships between PTSD and patients' attitudinal barriers (ABs) toward PM.

PTSD was conceptualized as a complex anxiety disorder, involving three symptom clusters: intrusive re-experiencing, avoidance/numbing, and hyper-arousal. Cancer pain was conceptualized as multidimensional (Ahles), impacted by one's ABs to PM.

A convenience sample of 289 adults with pain related to cancer/treatment participated. Instruments with established reliability and validity were used to measure the following variables: Brief Pain Inventory (pain severity, pain relief, pain-related interference with function), Barriers Questionnaire (ABs), PTSD Check List-Civilian (PTSD), POMS (mood disturbance), and FACT-G (quality of life, QOL).

Results were analyzed using independent sample t-tests.

The sample was predominately male (88%), veteran (85%), middle aged, with a variety of cancer types; over 30% were receiving concurrent cancer therapy. In this sample, 78 patients (27%) met the DSM criteria for PTSD, yet few had a documented diagnosis of PTSD. Symptoms related to hyper-vigilance and avoidance/numbing were more prominent than those related to re-experiencing. While there was no significant difference in pain severity between those meeting criteria for PTSD and those who did not, those who were positive for PTSD had significantly greater functional interference from pain, had less pain relief, and less satisfaction with PM. Those positive for PTSD had significantly higher ABs than those negative for PTSD, and demonstrated greater mood disturbance (tension and depression), and poorer QOL (physical, social, emotional well-being). These data depict a highly significant relationship between PTSD and ABs; additional analysis is on-going to further explore this important relationship. To effectively manage cancer pain, ABs must be addressed. Findings from this study suggest that issues related to PTSD are also important in this context, and warrant further investigation and clinical intervention.

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ONCOLOGY CLINICAL NURSE SPECIALISTS IMPLEMENT A CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING EVIDENCE-BASED PROJECT. Constance Donovan, RN, MSN, FAAN, AOCN®, Yale New Haven Hospital, New Haven, CT; M. Tish Knobf, RN, PhD, AOCN®, FAAN, Yale University School of Nursing, New Haven, CT; and Christine Denhup, RN,

MSN, CPON®, Karen Coombe, RN, AD, OCN®, and Cindy Czaplinski, RN, MSN, Yale New Haven Hospital, New Haven, CT.

Knowledge of the patient's experience with chemotherapy-induced nausea and vomiting (CINV) is of critical importance for effective management. Recent literature suggests that clinicians underestimate the incidence and severity of acute and delayed CINV. To address this problem at a university based NCI-designated cancer center, Oncology Clinical Nurse Specialists (CNSs) implemented a CINV Evidence-Based (EB) Project.

The purpose of the CINV EB Project was to influence nurse assessment/documentation of CINV in all oncology practice sites. Oncology CNSs play a key role in EB symptom management initiatives within their practice settings working with clinical staff. The literature identifies that simply providing evidence regarding best practice to clinical nurses is unlikely to result in desired practice changes. Thus, this presentation will describe the multifaceted processes used by the project CNSs with attention to such critical factors as organizational change, barriers related to CINV nurse assessment/documentation and strategies to overcome identified barriers.

The project was presented to and jointly accepted by standing oncology nursing committees. A representative workgroup from all practice sites was formed. Baseline staff needs assessment and CINV assessment/documentation data were collected which revealed practices and 2 key barriers: an inadequate nursing standard for CINV and inadequate documentation systems. Intervention strategies included: (1) literature review, (2) development of a new standard, (3) revision of the outpatient and inpatient flow sheets and (4) addition of a CINV section to the inpatient nursing admission assessment. Implementation strategies included: planning with nurse managers, sharing baseline data and small group educational discussions.

A nursing staff evaluation and chart audit will be used to evaluate the CINV EB Project. Data will be collected during month 3 (11/04) and month 6 (4/05) post implementation. The results will be compared to baseline data to determine trends in nurse practices and staff satisfaction.

Quality EP projects require a systematic approach and an understanding of the challenges of implementing change in contemporary health care settings. CNSs, who are embedded in the practice site and have established working relationships with clinical nurses, administrators, and key personnel in all departments, are in an ideal position to guide to practice change.

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UNITING ONCOLOGY NURSES TO DECREASE VARIABILITY IN AMIFOSTINE ADMINISTRATION. Annette Quinn, MSN, RN, University of Pittsburgh Cancer Centers, Pittsburgh, PA; Carrie Daly, RN, MS, AOCN®, St. Josephs Hospital, Chicago, IL; and Tracy Gosselin, RN, MSN, AOCN®, Duke University Medical Center, Durham, NC.

Amifostine is used to minimize treatment-related toxicity without reducing anti-tumor efficacy of chemotherapy or radiotherapy. Reduction of xerostomia in patients receiving amifostine is well-documented in the literature, and studies are on-going showing benefit in mucositis protection. The nurse's role in the administration of this drug is critical as side effects include hypotension, nausea, vomiting, cutaneous and allergic reactions. These can be minimized by daily assessment assuring proper hydration, timing of antiemetics, administration techniques and mucosal and skin assessment.

Due to variability regarding administration and symptom management, it was felt that amifostine guidelines would help create uniformity in practice, allowing for best patient care. The purpose was to assemble medical and radiation oncology nurses to develop guidelines focusing on amifostine administration and symptom management, and to evaluate the dissemination and efficacy of the guidelines as related to standardization of administration protocols, minimizing side effects and homogeneity of dosage and administration in clinical trials.

Fifteen nurses throughout the United States, developed guidelines for the administration of amifostine and recommendations for managing the most common side effects associated with the drug. The guidelines focus on both intravenous and subcutaneous administration and provide the staff with a convenient method for ensuring safe administration and decreasing toxicity from amifostine. Most frequently asked questions have been addressed in a pamphlet and materials have also been developed for patient education, documentation and assessment of these patients.

In 2003 this group of 15 nurses interacted with 5,190 physicians, nurses, pharmacists and other healthcare professionals. As of July 31, 2004 the 15 nurses have interacted with 4,699 health care professionals. In addition, 50 CEU programs with 541 attendees have also been accomplished. Clinical conferencing, on-site visits, and record keeping of calls received from clinicians have allowed for evaluation and success of the guidelines.

The guidelines which have been disseminated by the nurses in peer to peer interactions have decreased the variability in amifostine administration thus reducing the side effects and making evaluation of clinical trial results much more reliable. Nurses should refer to the guidelines when administering amifostine in the clinical setting to help diminish treatment related toxicity.

Vested interest: The primary author is an independent contractor for Oncology Education Services, Inc., in a program sponsored by MedImmune.

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HYPODERMOCLYSIS AND INTERMITTENT SUBCUTANEOUS MEDICATION ADMINISTRATION FOR HYDRATION, ANALGESIA AND PALLIATIVE SEDATION IN THE ACUTE PALLIATIVE CARE SETTING. Teresa Smith, BSN, Emylinda Basa, BSN, and Thuc Nguyen, BSN, M.D. Anderson Cancer Center, Houston, TX.

From 1914 through the 1950s, hypodermoclysis was a primary route of medication and fluid administration in the clinical practice setting. It was replaced by intravenous therapy primarily due to faster absorption of fluids and increased efficacy of drug administration. Hypodermoclysis has regained momentum, first with the hospice movement in England and now the United States. This route has become a useful tool for nurses in symptom management. It provides an easy, safe and cost effective method of hydration, electrolyte replacement, pain management and palliative sedation.

The use of hypodermoclysis in the acute palliative care inpatient setting helps the transition of the patient to home with hospice. It enables the patient's family to administer medications easily with minimal teaching. This method of administration is especially effective for the terminal patient who is unable to tolerate the oral, nasogastric or rectal route.

Interventions included a literature review, best practice evaluation and piloting hypodermoclysis and subcutaneous medication administration on the Acute Palliative Care Unit. Education materials were developed which included a detailed poster presentation, a comprehensive resource book of medications, and on-line teaching materials accessible to all institutional nursing staff for patient teaching. Additionally a competency check-list was developed for the APCU staff to assure annual competency.

The APCU staff is required to complete the annual competency check-list and perform site initiation. They are also required to complete a palliative sedation competency and drug administration knowledge test.

Changing the patient to a dysis site, while they are still hospitalized, affords the patient greater flexibility for medication administration and hydration. This eases the transition of the patient and family to home with hospice. Using this method prior to discharge, ensures adequate control of symptoms and demonstrates to the caregiver they can ensure patient comfort. When the caregiver realizes that they can effectively treat symptoms, without causing more discomfort, the patient and family can focus on making the most of their last days at home.

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SKIN AND WOUND ACTION TEAM (SWAT): TACTICS TO COMBAT SKIN AND WOUND ISSUES. Pamela Jakubek, MSN, RN, OCN®, CWOCN, Fox Chase Cancer Center, Philadelphia, PA.

Oncology nurses are faced with many challenges in skin and wound issues. Maintaining an up-to-date base of knowledge regarding wound care can be difficult in this ever changing field. A major comprehensive cancer center developed a SWAT team to address the educational needs of its nurses.

The purpose of this program is to make current skin and wound care management principles and practice standards easily available to clinical nursing staff so that they will be utilized more often. The goal of the program was to develop a team of nurses that: (1) Act as a resource to patients and personnel (2) Act as a role model in skin and wound assessment (3) Participate in data collection of pressure ulcer prevalence and incidence and (4) Participate in evaluation of wound and skin products introduced to the center.

A two-day program was presented to 30 oncology nurses. These nurses represented in-patient units and ambulatory care areas. Program topics included a review of skin and wound assessment, pressure ulcer development and topical treatment options. Hands-on negative pressure wound therapy training was also provided.

Pre and post tests were given. Significant improvements were noted from pre-test to post-test. Program evaluation was obtained via written evaluation and oral feedback. Quarterly pressure ulcer prevalence studies were examined. Significant reduction in hospital acquired pressure ulcer development has been noted since the inception of this program. The SWAT nurses report increased confidence in wound assessment and treatment planning. These nurses now also provide physicians with information regarding cost effective topical treatment options for wounds.

Oncology nurses traditionally focus their learning needs toward oncology issues, however, many oncology patients have wounds and skin care needs. Nursing leaders can initiate programs such as this that will effect nurses' autonomy and knowledge base regarding wounds, maintain cost effectiveness and improve patient outcomes.

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COLLABORATING TO IMPROVE CANCER-RELATED FATIGUE: A MULTI-DISCIPLINARY THORACIC ONCOLOGY TEAM IMPLEMENTS THE NCCN GUIDELINES FOR SCREENING CANCER-RELATED FATIGUE IN THE AMBULATORY SETTING. Barbara Cashavelly, MSN, RN, AOCN®, Jennifer Temel, MD, and William Pirl, MD, Massachusetts General Hospital, Boston, MA.

Advanced lung cancer patients experience a very high symptom burden due to the extensive disease at the time of diagnosis. Cancer related-fatigue is the most commonly reported symptom in this patient population. Despite the prevalence of cancer-related fatigue in the lung cancer population, clinicians report that routine screening for fatigue is neglected. As a result, cancer-related fatigue is an under reported, under-diagnosed and under-treated symptom. Routine fatigue screening, documentation, assessment and management of fatigue can ensure that patients with fatigue are identified and treated effectively. Systematic and structured symptom assessment has been shown to decrease symptom distress in nursing interventions.

The purpose of this project is to implement and integrate the NCCN Practice Guidelines for cancer-related fatigue screening and to also determine the fatigue levels in the Thoracic Oncology population. The problem of inadequate screening, assessment, documentation and management of cancer-related fatigue was identified through a cursory review of medical records and at multidisciplinary team meetings. Fatigue screening and assessment were not standardized across the practice setting. This presented an opportunity to implement the NCCN guidelines for screening cancer-related fatigue and to determine the prevalence of fatigue in the Thoracic Oncology ambulatory practice.

Interventions included screening all thoracic oncology patients for fatigue in the ambulatory practice setting during each patient visit. A quantitative 0–10 fatigue rating scale was used to obtain the rating. The screening method needed to be rapid, practical and clinically meaningful. Medical assistants were educated and in-serviced on cancer-related fatigue and were instructed on how to obtain the self-reported fatigue rating from the patient. Fatigue ratings were collected on each patient encounter for 3 months. Each rating was entered into a database and documented in the patient's electronic medical record.

The data collected from this project will be used to determine the feasibility of routine fatigue screening according to the NCCN Guidelines in the practice setting. The overall fatigue levels in the Thoracic Oncology practice will be determined and evaluated.

Management of cancer-related fatigue begins with the initial screening. Implementing the NCCN Guidelines for cancer-related fatigue screening in the clinical setting can enhance clinician awareness, assessment and management of cancer-related fatigue.

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RISK FACTOR SCREENING TOOL FOR LUNG CANCER (RFST-LC) REVISED: PILOT DATA. Cynthia Chernernecky, PhD, RN, AOCN®, Medical College of Georgia, Augusta, GA.

Lung cancer is a leading cause of death. There is no self-administered screening tool to assist practitioners in diagnosing lung cancer at earlier stages for at risk populations in neglected and rural areas.

Bringing people to the healthcare system earlier can enhance earlier diagnosis. The revised RFST-LC was developed for general practice settings to alert practitioners of patients at risk. The tool is based on an in-depth literature review and prospective research. Items in the original tool included risk factors of environment, job, genetics, symptoms, medications, comorbidities and biological/diagnostic markers.

Framework is based on self-care in screening of at-risk populations. Theoretical basis includes that earlier assessment leads to earlier diagnosis.

Twenty-five convenient lung cancer patients were prospectively interviewed and chart reviews. Measurement was a checklist format of 26 items. This pilot work resulted in the revised 14-item tool. In the future, the final tool will require a larger sample size, per power analysis, and patients with all types of lung cancer for validity establishment.

Of 26 factors tested, 16 were confirmed positive at a prevalence of > 24% and considered clinical significant for assessment by healthcare providers. The range of scores for positive items was 5 to 14. Two items were dropped for expense and low prevalence. From this data the revised 14-item tool was developed.

The top 4 items, above 80%, were cough, SOB, history of tobacco use and second hand smoke. Factors between 45%–65% were weight loss, job history, fatigue and current medications. Two new factors were discovered, bronchitis without complete resolve and consistent sputum production increase upon awakening. Of 26 items tested, 16 occurred in > 24%, 3 occurred in less than 24%, and 7 were ruled out. These results show promise for the continued development of a simple and easy tool to help clinicians begin to identify high-risk patients earlier. This can lead to further assessment and earlier diagnosis, particularly for vulnerable populations and those in healthcare poor environments. The newly revised 14-item RFST-LC is based on the above pilot work.

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RECRUITMENT CHALLENGES FOR LUNG CANCER NURSING RESEARCH. Lauri John, PhD, RN, CNS, The University of Texas at Austin, Austin, TX.

Lung cancer is the second most common cancer diagnosis in men and women. Quality of life and fatigue are significant problems in this population. Nursing research is uniquely qualified to address these issues; however, recruitment of participants to nursing studies presents a daunting challenge. In the current HIPAA environment in which researcher contact with patients (potential participants) is severely limited, the challenges for recruitment are amplified.

The purpose of this study is to examine challenges to recruitment of lung cancer patients into a seated exercise study focusing on promoting quality of life and decreasing fatigue.

Roy's Adaptation model is used to guide this study.

Persons diagnosed with primary lung cancer beginning treatment were recruited from local community oncology clinics. Recruitment strategies included: flyers placed in waiting rooms and posted in exam areas, presentations to clinic nurses, social workers, financial counselors, and physicians, announcements in professional oncology nursing meetings, advertisements in local oncology nursing newsletters, and announcements in support groups by group facilitators.

Effectiveness of recruitment strategies was evaluated based on number of participants recruited by each strategy and by narrative descriptions given by participants regarding the acceptability of each strategy.

The most effective recruitment strategy identified by participants was a flyer delivered to them by their nurses, and the second most effective strategy was flyers delivered by the financial counselors. Participants stated that they were reluctant to be publicly identified as lung cancer patients. They suggested that potential participants might be less receptive to picking up flyers advertising lung cancer studies placed in public areas. It was more acceptable to receive the flyer from their oncology nurse, social worker, or financial counselor. Given the impact fatigue has on quality of life in lung cancer patients and the difficulties with recruitment, researchers will need to be even more creative in discovering new and acceptable ways to reach this often overlooked population.

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ANALYZING AMBULATORY ONCOLOGY NURSES TELEPHONE MEDIATED DECISION SUPPORT: FACILITATING SYMPTOM MANAGEMENT SELF-CARE. Lisa Bitonti, BSCN, RN, CON(C), The Ottawa Hospital, Ottawa, ON, Canada; Annette O'Connor, RN, PhD, Ottawa Health Research

Institute, University of Ottawa, Ottawa, ON, Canada; Margaret Fitch, RN, PhD, Toronto Sunnybrook Regional Cancer Centre, Cancer Care Ontario, Toronto, ON, Canada; and Helen Bunn, RN, PhD, University of Ottawa, Ottawa, ON, Canada.

Cancer patients today are receiving increasingly complex treatment protocols causing more severe toxicities than ever before. Resource constraints are forcing oncology nurses to re-evaluate didactic methods of patient education and care around disease management. This reconceptualization of nursing care emphasizes the need for patient education to more on motivating behaviour change.

Research shows that self-care symptom management programs involving face to face interactions with nurses are effective at minimizing/preventing serious side-effects from cancer therapy and improve patients' self-care skills. As cancer treatment is increasingly being delivered in out-patient centres far from patients' homes, patients phone oncology nurses seeking advice for treatment related side-effects. Little is known about how nurses in cancer centres support patients over the telephone to make self-care decisions. The purpose of this study was to develop, validate and evaluate a research tool to analyse oncology nurses' provision of telephone mediated decision support to promote self-efficacy in symptom management self care to patients receiving breast cancer therapy.

This two-phase study is guided by Self-Efficacy Theory (Bandura, 1986) and the Ottawa Decision Support Framework (O'Connor et al., 1998) to identify performance criteria for ambulatory oncology nurses providing telephone-mediated decision support to promote self-efficacy in symptom management self-care to patients receiving breast cancer therapy

In Phase I, the Symptom Management Telephone-Mediated Decision Support Analysis Tool (Bitonti & O'Connor, 2004) was adapted from the existing Decision Support Analysis Tool (Bunn, O'Connor, & Jacobsen, 2003) and reviewed by an expert panel. A Standardized Patient Program and Rater Training program were developed to support reliability and validity testing in the subsequent phase. In Phase II, nurses' recorded interactions (n = 40) with standardized cases were analysed by two trained raters using the new tool.

Content validity was calculated using the interrater agreement and content validity index. Interrater reliability was established by analyzing the nurses' verbal responses in each of the categories of decision support skill.

This new tool can be used to train nurses less experienced in telephone mediated decision support and improve these skills in nurses who already provide cancer care over the telephone, in turn supporting patients to engage in self-care while at home.

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A TARGETED BREAST CANCER EDUCATION INTERVENTION (BCEI) FOR BREAST CANCER SURVIVORS: AN INTERIM ANALYSIS. Karen Hassey Dow, PhD, RN, FAAN, and Victoria Loerzel, RN, MSN, OCN®, University of Central Florida, Orlando, FL; Ying Zhang, PhD, University of Iowa, Iowa City, IA; and Patrick McNees, PhD, Applied Health Science Inc., Orlando, FL.

Targeted psychoeducational interventions are known to maintain or improve quality of life during treatment for cancer.

This research study seeks to determine whether targeted psychoeducational interventions are effective in maintaining or improving quality of life in breast cancer survivors within the first year after treatment, a time considered high risk for poor quality of life.

The intervention is based on a multidimensional quality of life framework targeting high incidence symptoms for psychoeducational intervention: physical (pain, lymphedema, fatigue, menopausal symptoms), psychological (anxiety, depression, fear of recurrence), social (sexuality) and spiritual (meaning in illness).

This randomized clinical trial tests the impact of targeted psychoeducational interventions, collectively called the Breast Cancer Education Intervention (BCEI), among 250 breast cancer survivors. For the Intervention Group, the BCEI consists of three weekly psychoeducational intervention visits with an Advanced Practice Nurse (APN) followed by monthly follow-up for six months. The Wait Control (WC) Group receives usual care with monthly attention control and the BCEI delivered at the end of six months. This paper reports on the first 100 subjects with completed data. QOL assessment occurred at baseline, 3 months, and 6 months.

Generalized estimating equations (GEE) model based on Liang and Zeger (1986) was selected for longitudinal data analysis because this

statistical model accounts for intra-subject correlations among repeated measurement of the same subject over time. Baseline demographics shows no significant differences between the two groups with exception that intervention subjects were married or living with partner ($p < 0.05$). QOL scores were calculated at baseline, three months, and six months.

Preliminary findings show that the BCEI was effective in improving QOL in the Intervention Group at three months compared with the WC Group. WC reported marked increase in fatigue, pain, and anxiety at three months. In addition, BCEI intervention effects on overall Physical QOL were retained from baseline to the end of six months. Findings suggest that breast cancer survivors benefit from targeted psychoeducational intervention rather than general symptom information within the first year after treatment. Implications for restructuring general symptom management to targeted interventions are indicated.

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INTERNET RESOURCE FOR PARENTS OF CHILDREN WITH CANCER. Deborah Lewis, EdD, CRNP, MPH, Sriya Gunawardena, MD, and Jim Harrison, PhD, MD, University of Pittsburgh, Pittsburgh, PA; and Veronica Eckroth, CRNP, Childrens Hospital of Pittsburgh, Pittsburgh, PA.

Concrete information needs are the number one needs expressed by family members and patients with cancer. With advances in information technology patients and families now have many different ways to access healthcare information. Oncology nurses are challenged to understand how to best utilize these innovative approaches to support patient and families' information and communication needs.

Few studies examine the use or impact of Internet information resources for parents of children with cancer. Consequently, little is known about how Internet information and communication resources would be used in the context of daily information access and healthcare decision-making for these parents. The goal for this research is to understand how parents of children with cancer use the Internet to seek health information and to inform the design of a web based resource that will provide family-centered information.

Consumer Health Informatics is the integration of consumer health information and information technology. Family-centered care emphasizes the importance of provider-caregiver information sharing. This research is based on a philosophy of family-centered information sharing utilizing information technology.

To determine parent Internet use we utilized a 34 question structured interview. Next, three prototype websites were designed and usability testing was completed with both parent's and oncology clinic providers. Trained facilitators presented the websites and elicited feedback using think-aloud procedures and formal task analysis using scripted scenarios. Field notes were taken.

The research employed ethnographic methods of analysis for the purpose of understanding the need and usability of the prototype designs. Descriptive statistics, content and task analysis were completed.

One hundred seventeen parents completed the Internet use interviews. Most have access to the Internet from home and have searched for information regarding their child. Few have used use e-mail to communicate with care providers. User testing: parents (N = 17) and oncology clinic staff (N = 12) expressed a preference for prototype website designs that were graphically pleasing and simple to navigate. A specialized search engine was noted as an important component. Currently the final website prototype is being implemented with 30 families to further understand "best practice" in healthcare website design and the impact of this Internet resource on family-caregiver information sharing.

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INFORMATION SEEKING BEHAVIOR AMONG INDIVIDUALS RECEIVING TREATMENT FOR CANCER. Leah Mraz, MSN, RN, C, AOCN®, The Cancer Institute of New Jersey, New Brunswick, NJ.

Educating patients is a critical function of oncology nurses; it is imperative for individuals with cancer to understand the disease, treatment, and the physical, psychological, and social impact. Yet, how do nurses determine how much information to provide?

This study determined factors that influence information seeking among individuals receiving cancer treatment, and identified components of the information seeking process.

According to Lenz's conceptual framework of health information seeking, potential predictors of variations in search behaviors are background, personality, context, and social network. This research focused on the first step, desire for information.

Descriptive design in which a purposive sample of 108 adult patients, at an ambulatory NCI-designated comprehensive cancer center, completed a demographic survey, the Krantz Health Opinion Survey, and one open ended question.

Mean age was 55 years. The majority of subjects were female (61%), Caucasian (78.1%), had a college degree or greater (57.3%), had breast (24.8%) or hematological (24.8%) cancers, and were diagnosed less than six months (31.4%).

Data were analyzed using descriptive and inferential statistics. Qualitative data were coded for themes.

The majority of subjects preferred information. Culture, length of time since diagnosis, and levels of education did not influence preference for information. Females preferred more information as compared to males. Emerging themes about the information search process revealed that information seeking is not an individual process, but a group effort with the group composed primarily of family. The Internet was the primary source for seeking information. The major topic searched for was cancer specific information.

Findings suggest that education should involve the family system, all of whom want information when a diagnosis of a cancer is present. Patients and families need to be informed about credible resources, and how to determine if information is trustworthy, especially on the Internet. Nurses are a critical resource to patients and family members. Findings support that the development of education resources and learning centers may assist with the information search process.

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HAND-FOOT SYNDROME: WHATS NEW IN 2005? AN UPDATE ON CURRENT MANAGEMENT STRATEGIES. Gail Wilkes, RNC, ANP, MS, AOCN®, Boston Medical Center, Boston, MA.

Hand foot syndrome (HFS) continues to challenge patients and their nurses. Etiology and standards of practice are unclear, as evidence based practice recommendations for nurses are lacking. This poster will provide an update that reflects the state of the science and best practice in 2005.

The purpose of this poster is to present potential pathophysiologic mechanisms in the development of HFS, and the strength of evidence of current and newly studied prevention/management strategies. HFS is a dose-limiting toxicity of liposomal doxorubicin and the 5-FU pro-drug, capecitabine, and can severely impair quality of life. Many nursing strategies are based on anecdotal evidence, such as teaching patients to use emollients on the skin and to avoid heat. Three new interventions have been tested to prevent HFS: celecoxib, dexamethasone, and local cooling. The conceptual model of evidence based practice will be used to develop the poster.

This poster will identify potential mechanisms in the pathophysiology of HFS, the evidence base of strategies used in the prevention and management of HFS, and an evidence-based decision tree to assist oncology nurses in their practice and patient education.

After viewing this poster, the oncology nurse will be able to:

- 1) Describe potential mechanisms of HFS
- 2) Discuss the evidence base for currently used nursing interventions
- 3) Describe the strength of evidence for the use of dexamethasone or local cooling in the prevention of HFS related to liposomal doxorubicin, and celecoxib in the prevention of HFS related to capecitabine.

Nurses are experts in symptom management, and HFS can cause symptoms that severely compromise a patient's quality of life. Nurses must be current in their knowledge about the pathophysiology of HFS, as well as the evidence base for interventions to prevent or minimize the development of HFS, and to manage HFS if it occurs. Nurses use this knowledge to empower patients and their families to prevent or minimize the development of HFS, and to manage it if it occurs. Finally, this is an evolving science, so specific areas that require nursing research will be identified.

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CHEMOTHERAPY SIDE EFFECTS: DEVELOPING A RISK ASSESSMENT TOOL FOR USE WITH PATIENTS PRIOR TO THEIR FIRST CYCLE OF

CHEMOTHERAPY. Alice Quargnenti, RN, BSN, CCRC, The West Clinic, Memphis, TN, and the AIM Higher Task Force, AL.

While risk factors for several chemotherapy-induced side effects are known, little work has been done to develop tools that assist the nurse in efficiently identifying and documenting risk factors. Development of such a tool would be helpful in determining early interventions that could prevent or reduce the severity of chemotherapy side effects.

The purpose of this project was to develop a practical risk assessment tool for use with chemotherapy-naïve patients. The tool was developed to assist in individualizing care, thereby focusing appropriate patient education and primary prophylactic measures. The tool was developed by the AIM Higher Risk Assessment Task Force consisting of nurse champions participating in the AIM Higher Initiative.

The following eight side effects of chemotherapy treatment were selected based on relevance to the chemotherapy-naïve patient: neutropenia, anemia, nausea and vomiting, constipation and diarrhea, anxiety and depression, oral mucositis, neurotoxicities, and hand-foot syndrome. Associated risk factors were identified from published literature and incorporated into the tool. The risk assessment was piloted in 6 community oncology clinics, evaluating the form for ease of use, time required for completion, and clarity. Thirty consecutive patients were followed at one site to examine the potential impact of the tool on clinical interventions.

Time to completion ranged from 10–20 minutes, including time for both chart review and patient interview. Several barriers to collecting the risk information were identified including lack of complete information in the chart, scheduling of lab tests, and the time involved in obtaining information. In the 30 consecutive chemotherapy patients with whom the risk assessment tool was utilized, 65% received medical intervention (anti-emetic changes and/or cytokine therapy) related to their chemotherapy regimen.

Comprehensive and systematic risk assessments can be facilitated by nurses through the incorporation of clinically sensitive documentation tools. Identification risk factors will encourage use of established guidelines emphasizing proactive management and may assist clinical investigators in defining the role of predictive risk models in directing patient care.

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SYMPTOM ASSESSMENT: A LOOK AT THE CONGRUENCY OF THE PATIENT NURSE PERSPECTIVES. Mercy Cherian, RN, OCN®, Rosanne Arlington, RN, MSN, CNS, ONC, OCN®, and JoAnn Mick, RN, MSN, AOCN®, MBA, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Nurses often use their observational skills to assess patients' symptoms and to feel "comfortable" with what they "see." However, there is evidence that patients often try to appear normal and not publicly demonstrate symptomatology. Failure of oncology nurses to directly seek input from patients about symptoms that the patients may be experiencing can lead to erroneous assessment of and inappropriate or inadequate intervention for the symptoms.

The purpose of this project was to help oncology nurses identify incongruities between their perceptions of symptoms and those of cancer patients, to highlight the importance of consistent objective assessments including input from patients, and to implement an assessment process that provides an accurate symptom assessment.

Interventions included a survey of all staff nurses and patients to determine congruence of symptom rating. Each nurse was asked to rate patients' level of pain, fatigue, nausea, depression, anxiety, drowsiness, shortness of breath, appetite, sleep and sense of well-being. The patients (45 to date and 100 eventually) were then surveyed to determine their self-reported rating, using a symptom-assessment tool.

Surveys of patients and nurses using the M. D. Anderson's Symptom Assessment Tool showed that nurses and patients evaluated symptoms at the same level 35% of the time but only when both patients and nurses rated a symptom as "0." Nurses underrated symptoms 42% of the time compared with patients; the symptoms that were underrated most frequently were fatigue, depression, anxiety, appetite, and sense of well-being.

This project demonstrated the importance of directly soliciting input from patients with cancer to accurately determine the presence and rating of symptoms. Use of this process may help nurses in other oncology settings improve assessments of symptoms and ultimately pay greater attention to patients' needs.

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A SOLUTION FOR PAINFUL SURFACE WOUNDS: A CASE STUDY. Ann Blackett, MS, RN, COCN, CWCN, Susan Kay Bohnenkamp, MS, RN, CCM, and Patricia McDonald, ARNP-BC, CWCN, University Medical Center, Tucson, AZ.

Oncology patients are susceptible to a variety of painful skin conditions, which may be related to therapies such as chemotherapy, radiation, and bone marrow transplant. The treatment myth is frequently to “leave it open to air” so the wound will “dry out”. However, partial thickness wounds require a non-adherent moist dressing that covers the wound and the naked nerve endings. The following is a case study of a 66-year-old female recently treated with chemotherapy for chronic lymphocytic leukemia who developed Pemphigus Vulgaris, an autoimmune disease with cutaneous manifestations of blisters and surface ulcers. The patient’s wounds were causing excruciating pain.

To describe the wound care necessary to relieve the pain and discomfort of partial thickness wounds from dermatological conditions in oncology patients.

Initially, the wound Plan of Care was “Leave it open to air”. The serous sanguineous fluid drained onto the bed linens causing excruciating pain with the constant cycle of being stuck and unstuck to the sheets. The patient agreed to the dressing and allowed progressive Photographic documentation.

The dressing is a daily dressing. It utilizes a foaming skin care wash, non-sting skin barrier, and hydrogel sheet.

Three outcome measurements:

- A. Pain management via Wong-Baker pain scale
- B. Pain management via amount of pain medication
- C. Wound healing by Photo documentation
 - Wong-Baker pain scale
 - Prior to the dressing application, the patient reported her pain level as ten. After the dressing, the patient reported the pain level as one.
 - After 12 hours, the pain level advanced to 6 and 8. Therefore, another dressing change was added before bedtime.
 - BID dressing changes kept her pain between 1 and 2 consistently throughout the 24 hours.
 - Pain Medication usage decreased.
 - Photographic documentation indicated complete wound healing after approximately 4 months.

More research is necessary to determine the impact of wound care on pain for cancer patients. The oncology patient has unique skin care issues due to therapy modalities. This case study exemplifies the unique skin issues and how a wound care plan can reduce pain.

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NURSING MANAGEMENT OF PATIENTS UNDERGOING HEPATIC EMBOLIZATION FOR HEPATOCELLULAR CARCINOMA. Lisa Wall, RN, PhD, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Hepatocellular carcinoma (HCC), the most common cancer world wide, is a primary cancer of the liver. The best treatment for HCC is surgical resection; however, for individuals with multifocal disease or risk factors that preclude surgery, hepatic embolization is a good alternative to control disease. Nurses must be concerned with preparing patients for hepatic embolization, closely monitoring their response to the treatment, and providing emotional support.

The purpose of this presentation is to describe hepatic embolization and to identify the nurse’s role in supporting patients through this procedure. Hepatic embolization is a procedure performed in interventional radiology whereby the arterial blood flow feeding the tumor is located by computerized tomography (CT). Tiny pellets are inserted via an arteriogram to block off the tumor’s blood supply. This creates a tumor lysis syndrome thereby shrinking or killing the tumor.

Nurses contribute to the safety of embolization through patient education, assessment and symptom management. Pre-procedure, nurses instruct patients to avoid medications and products that affect coagulation. Platelet and prothrombin times must be evaluated before and after embolization since many patients with HCC have low platelet counts due to cirrhosis and are at increased risk for bleeding. Post-procedure, adequate hydration is encouraged to counteract the effect of contrast dye used during the procedure. Complications to assess for include bleeding,

infection and hepatic injury. Signs and symptoms of concern include decreased hemocrit and hemoglobin, fever with increased white blood cell count and increased bilirubin level.

Slight elevations in liver function tests and alpha-fetoprotein (AFP) are expected within the first month after embolization. Therefore, evaluation of treatment effectiveness can best be determined 6–8 weeks after embolization through CT scan and decreased AFP. Embolization may be repeated; however, it is not curative and patients must be monitored for signs of liver failure due to progressive disease.

In selective patients, embolization effectively controls HCC for many years. Since HCC is commonly found in patients with hepatitis and cirrhosis, embolization can be complicated by these comorbidities. Nurses play an important role in safely managing patients through treatment and supporting them as they live with a potentially fatal disease.

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COMBINED MODALITY THERAPY FOR LOCALLY ADVANCED ESOPHAGEAL CANCER: THE NURSES ROLE IN MANAGING SIDE EFFECTS. Ethel Beeling Law, RN, MA, OCN®, E. Linda Frierson, RN, BSN, and Stephen Gavin, RN, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

Esophageal cancer is an aggressive tumor. Five-year survival with locally advanced disease is 25%; surgery or radiation alone has failed to improve survival. Preoperative chemoradiotherapy followed by resection results in an improved 5-year survival of 35%. However, concurrent chemoradiation is associated with greater grade 3 gastrointestinal and mucosal toxicity than with radiotherapy alone (44% vs 25%) which may lead to severe dehydration and hospitalization. These side effects can lead to pain and nutritional deficits that affect quality of life and to breaks in treatment which may impact on the effectiveness of therapy.

Medical and radiation oncology nurses play a key role in managing the side effects of chemoradiation. This presentation will provide a comprehensive review of the newer concurrent therapies, describe potential toxicities, and discuss interventions to prevent and manage symptoms.

The medical and radiation oncology nurses collaborate to coordinate the start of treatment and timing of MediPort placement for continuous chemotherapy. They provide a calendar of the treatment regimen to ensure understanding and compliance. Education includes preparation for simulation, discussion of possible side effects of chemoradiation, and review of self-care measures to minimize these. Chemotherapy used in combination with radiotherapy includes fluorouracil, cisplatin, mitomycin, irinotecan, and paclitaxel; drug-specific side effects are also reviewed. Side effects are assessed throughout treatment. Prophylactic anti-emetics are given to encourage food and fluid intake. Pain from odynophagia or stomatitis is managed aggressively. About 50% of patients receiving paclitaxel and cisplatin suffer from grade 2+ electrolyte imbalances, which require IV hydration with electrolyte replacement. Five percent of patients require an enteral feeding tube to supplement oral intake. Colony stimulating factor may be initiated for myelosuppression to reduce the risk of infection.

Nurses play a pivotal role in managing patients on multimodal therapy for locally advanced esophageal cancer and can have a great impact in helping them tolerate their treatment with optimal quality of life, minimal treatment breaks, and less hospitalizations.

Comprehensive knowledge of the various treatments and potential toxicities provides a foundation for nursing assessment, identification of patients at risk for complications, early recognition of side effects, and intervention to improve tolerance of treatment.

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AN INNOVATIVE AND CREATIVE SOLUTION FOR GASTRIC OUTLET OBSTRUCTION—EXTRACORPOREAL GASTRIC ASSIST DEVICE (EGAD): IMPLICATIONS FOR NURSING. Teresita Lopez, RN, Natasha Ramrup, RN, MSN, Mary Eagan, RN, MSN, OCN®, Moshe Shike, MD, and Saul Midownik, MEE, CEE, Memorial Sloan-Kettering Cancer Center, New York, NY.

Cancer patients with involvement of the GI tract face many challenges. One such challenge is the complex and debilitating condition known as Gastric Outlet Obstruction (GOO). GOO may result from both benign and malignant diseases. Some of the problems experienced by GOO patients are nausea, vomiting, early satiety, epigastric fullness, abdominal pain, dehydration, electrolyte imbalance and eating deprivation. The use of an EGAD may be an effective solution in maintaining

adequate hydration, electrolyte balance, overall nutrition, and restore the ability to eat and drink. Nurses knowledge of EGAD, its effectiveness and complications is essential to manage, educate, and care for the patient population.

This presentation will (1) provide an overview of EGAD (2) describes the inpatient nurse's role in educating patients about EGAD and its complication (3) describe an effective/caregiver educational plan for EGAD management and (4) highlight the impact on quality of life.

At our NCI designated comprehensive cancer center, the EGAD was created for patients who have inoperable GOO. The device allows digestive fluids, enzymes and electrolytes to be processed by the gastric intestinal tract. The EGAD includes a 28 fr. gastrostomy tube, and 28fr. jejunostomy tube joined by a small pneumatic pump which pumps gastric contents across the obstructed outlet and into the jejunum. The goals of nursing care post placement of the EGAD are astute patient assessment, educating the patient on the system operation and early detection of potential complications.

Some of the advantages of the EGAD include elimination of dependence on intravenous fluid hydration, improvement of electrolyte imbalance, and decrease expense. This device allows the patient to eat, drink and reduce the need for enteral feeding. The EGAD also improves the overall nutritional status of the patient.

Oncology nurses are in a pivotal position to provide support, reassurance and feedback regarding the device to prevent complications at home. An understanding of this debilitating condition can lead to improved patient treatment, outcome, education and overall quality of life. A multidisciplinary team is of utmost importance in managing this patient and prolonging survival.

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MANAGEMENT OF PATIENTS EXPERIENCING MALABSORPTION STATUS POST PANCREATIC RESECTION. Marie Riehl, RN, OCN®, and Linda Schiech, RN, MSN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA.

Fat malabsorption in patients post pancreatic resection may lead to vitamin and essential fatty acid deficiency in addition to steatorrhea. Patients commonly complain of flatulence, diarrhea, steatorrhea and abdominal discomfort after eating following pancreatic resection and Whipple procedures. Teaching this population of oncology patients on the use of pancreatic enzymes and timing of enzyme administration with meals and snacks reduces symptoms and episodes of malabsorption.

Through patient education, symptom management and instruction of administration of pancreatic enzymes, malabsorption and increased nutritional status are addressed. Increasing the patients awareness of the use of pancreatic enzymes in prevention of malabsorption should increase nutritional status and prevent common gastrointestinal symptoms.

Patients presenting to the outpatient department for their initial post operative visits commonly complain of flatulence, diarrhea, steatorrhea and abdominal discomfort after eating. Reviewing patients medications and the timing of the oral intake of the enzymes showed a relationship to the symptoms they were reporting. Commonly patients took the enzymes prior to sitting down to have a meal. Patients were educated on the importance of taking their pancreatic enzymes with the food they were eating versus prior to that meal or snack. Patients were offered the suggestion of placing the enzymes around their plate in the relation to a clock. It was suggested to take the capsules at 12, 3, 6 and 9 o'clock. Follow up calls to these patients and follow up office visits allowed for assessment of the patients complaints and/or progress.

Continued follow up and education showed marked improvement in patients' overall understanding and compliance. The patients report changes in diet and symptoms often resulting in the change in the amount of capsules taken with meals. Patients are encouraged to equally disperse the enzymes with fluids before, during and after the meal or snack. Patients reported it helpful to lay the capsules around their plate to remember to disperse the capsules throughout the meal.

Through effective teaching and assessment of patients' symptoms of malabsorption, we as nurses can intervene and instruct the patient and caregivers on administration of pancreatic enzymes. The number of capsules taken with meals and snacks should be estimated by assessing which dose minimizes steatorrhea, diarrhea, and flatulence while maintaining good nutritional status. Dosages should be adjusted according to the response of the patient.

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TRENDS IN THE USE OF PALLIATIVE CHEMOTHERAPY IN HOSPICE. Terri Maxwell, MSN, APRN, BC-PCM, and Linda Hoplamazian, MHA, BSN, RN, excelleRx, Inc., Philadelphia, PA; and JoAnne Reifsnnyder, PhD, APRN, BC-PCM, Ethos Consulting, Haddon Heights, NJ.

Chemotherapy may be used to control symptoms that are directly or indirectly due to malignancy. Palliative chemotherapy can provide symptom relief by local tumor reduction and improve quality of life by improving pain, appetite, or performance status not associated with an obvious reduction in tumor burden. Palliative chemotherapy is generally given on the basis of "clinical benefit" rather than survival prolongation. Increasingly, chemotherapy agents are FDA-approved or marketed on this basis alone. Patients who opt to forego life prolonging treatment and have a limited life expectancy are eligible for hospice. Since palliative chemotherapy may be provided for symptom control rather than life prolongation, more and more hospices are increasing access for patients receiving such palliative treatments.

To describe trends in palliative chemotherapy and to discuss emerging norms for chemotherapy use in hospice settings. Survey findings describing hospice admission practices for patients receiving or requesting palliative chemotherapy are presented.

Interventions included literature review of trends and practices in palliative chemotherapy for advanced cancer. Seventy-nine of 395 hospices responded to a survey to evaluate chemotherapy and related treatment access in hospice. Items assessed: (1) whether and how frequently hospices admit patients receiving interventions such as palliative chemotherapy, immunologic, and hematopoietic agents; (2) hospice administrator's perceptions regarding advantages/disadvantages of admitting patients receiving these therapies; (3) perceived barriers to providing chemotherapy in hospice, and (4) hospice future plans if they indicated no current use of chemotherapy. Survey responses were analyzed using summary of descriptive data and tabulation of correlation matrices.

Findings illuminate current practice regarding administration of chemotherapy and related therapies in hospice care settings. Prevalence of chemotherapy administration, hospice administrators' attitudes, and characteristics of hospices providing these therapies will be presented. Recommendations for future research and program development will be discussed.

Debate continues concerning the definition of palliative care and the suitability of certain therapies for patients approaching the end of life. As both cancer and palliative care have evolved, so has the definition of "palliative chemotherapy." A growing number of hospices are classifying some chemotherapy and related treatments as palliative in certain circumstances.

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END OF LIFE CARE. Barbara Virchick, RN, MS, APRN-BC, Mass General Hospital, Boston, MA.

Topic: Nurses providing end-of-life care not only impact the quality of life for the patient but the grief process and future memories of family members who share this important milestone. The goal of end-of-life care is to help patients and their families maintain optimal quality of life through the dying process, so that they will experience a "good death." Nevertheless, many nurses feel unprepared for the challenge of providing compassionate care for patients facing death.

The purpose of this presentation is to demonstrate how advance practice nurses can assist staff nurses gain expertise in providing quality end-of-life care.

A curriculum was developed to assist staff nurses on an acute, inpatient oncology unit in an academic medical center in developing skills for providing holistic end-of-life care for dying patients and their families. The curriculum covers the epidemiology of dying in America, evolution of the end-of-life care movement, and nursing care for the dying patient using Ferrell's Quality-of-Life approach which is organized around four domains of well-being: physiological, psychological, social, and spiritual. If a dying patient or family members have unmet needs in any of the four domains, suffering will result. The curriculum also integrates content from the End-of-Life Nursing Education Consortium (ELNEC).

Feedback from nurses who attended the program was overwhelmingly positive.

The Advanced Practice Nurse (APN) has both the opportunity and responsibility to disseminate specialized knowledge to other providers on the multi-disciplinary care team. The APN with in-depth knowledge and expertise in terminal care is well placed to impact the quality of care provided by nurses at the bedside through education and clinical guidance. Farrell's Quality-of-Life paradigm provides a useful structure around which to organize education on principles of end-of-life care for acute care nurses.

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APPROACHING DEATH: A PHENOMENOLOGICAL STUDY. Patricia Ryan, RN, PhD, AOCN®, University of Kentucky, Lexington, KY.

An understanding of the end-of-life experience from the patient's perspective is limited. It is important that care be based on understanding; not merely healthcare professional's assumption or caregiver's retrospective reports.

Knowledge developed directly from the patient's perspective is needed in order to design meaningful care. The purpose of this study was to explore the lived experience of approaching death among elderly persons with advanced cancer.

A qualitative design with a phenomenological approach was used with five purposively selected participants. Multiple in-depth interviews were conducted over time in the homes of the participants or in a private hospital room. A set of open-ended questions designed by the researcher were used as a general guide for the interviews.

Each taped interview was repeatedly reviewed following its completion. The tapes were transcribed by the researcher verbatim. The material was subjected to a process Munhall (2001) refers to as contextual processing. This activity occurs parallel to the inquiry. This process provides a departure from generating themes and categories and allows for the composition of a narrative that reflects one person's description of the experience within his or her situated context.

Five insightful and compelling narratives of these individuals' experiences suggest that genuine caring, compassionate honesty from trusted healthcare professionals, cautious hopefulness maintained by the individual and their loved ones, unquestioned faith, an involvement in desired life activities, and positive interactions within the healthcare system and in their personal relationships were meaningful to this experience. As we look beyond the diagnosis and consider the lived experience, we get a more vivid picture of the whole person and the meaning the experience holds for them and those who love them. Knowledge of this experience allows healthcare professionals to honor the remaining "precious moments" of these individuals lives by respecting their humanity, preserving their dignity, ensuring their comfort, and advocating for the highest quality of palliative care. Such knowledge can enable healthcare professionals and others providing care to assist individuals approaching death and their families to do so in a way that is meaningful rather than merely tolerable.

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SYMPTOMS AT END-OF-LIFE AMONG INDIVIDUALS WITH CANCER NOT DESIGNATED AS TERMINAL. Ardith Doorenbos, RN, PhD, Barbara Given, PhD, RN, FAAN, and Charles W. Given, PhD, Michigan State University, East Lansing, MI; and Natalya Virbitsky, PhD(c), University of Michigan, Ann Arbor, MI.

A substantial body of work describes the health status of individuals with advanced cancer and receiving palliative care. Common across these reports are high levels of symptom experience at end-of-life. It is not known if the symptom reports at end-of-life are different in individuals who are not designated as terminal.

Among individuals who were not designated as terminal at the time of accrual, but who subsequently died, determine if nearness to the date of death and the level of emotional distress at the observations made nearing death affect the number and the hierarchical ordering of 21 common cancer symptoms.

Lazarus and Folkman's stress and coping theory explains the process of adapting to various stressful events, including impact of psychological distress on the symptom experience of a life-threatening illness such as cancer.

Secondary analysis of individuals with cancer who died (N = 198), obtained from three different longitudinal studies. Individuals were recruited

from cancer centers, signed consent forms, and were interviewed over the course of a year. Measures included the Symptom Experience tool, the CESD, and descriptive questions. Death certificates from a statewide registry were obtained to identify the date of death for up to 12 months after completion of the studies.

A three level Hierarchical linear model (HLM) was used for analysis. Level-1 is the hierarchical frequency of 21 symptoms. Level-2 is the equation for the trajectory of each individual representing change over time within person or the repeated measures of symptoms and depression. Level-3 explains that trajectory via person-specific characteristics. Restricted Maximum Likelihood was used as the method of estimation.

There were changes in symptom number with more patients reporting more symptoms and in the hierarchical ordering of symptom frequency as individuals with cancer approached death. Depression worsened the symptom experience.

This secondary analysis describes the changes in the number and hierarchical ordering of symptom frequency during the months prior to death. A key element of this study was that although the patients died, they had not been formally designated as terminal; they had not been referred to hospice, nor had treatment been withdrawn. Thus, this research expands our understanding of the symptom experience at end-of-life for individuals with cancer.

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NURSE-DEVELOPED SURVEILLANCE PROTOCOL TO DECREASE VRE INFECTIONS IN IMMUNOCOMPROMISED PATIENTS. Lucy Mauney, RN, BSN, OCN®, Duke University Health System, Durham, NC, and Katrina Green, RN, Duke University Hospital, Durham, NC.

Approximately 2 million nosocomial infections occur in the United States each year with nearly half caused by antibiotic-resistant organisms. Organisms that have consistently been susceptible to all antimicrobial agents have developed resistance not only to the classic agents, but to newer agents as well. VRE is one of the most troublesome bacterial strains of present concern, and a major cause of morbidity and mortality among immunocompromised patients. Hospital Infection Control Practices Advisory Committee (HICPAC) cites recommendations for every hospital to develop a comprehensive plan to detect, prevent, and control infection and colonization with VRE.

This poster will describe and review the impact an active surveillance protocol had on decreasing the number of nosocomial-acquired VRE infections among patients on an inpatient hematology/oncology unit. Our project was aimed at identifying as many colonized patients as possible so that infection control measures could be implemented to decrease transmission and reduce the number of patients infected with VRE.

The poster will discuss the protocol which included identifying and isolating high-risk patients upon admission; increasing staff education through monthly inservices with the hospital infection control department; and increasing patient education by distributing pamphlets that include information about nosocomial infection and contact isolation procedures.

Prior to March of 2002, mortality associated with VRE reached nearly 100%. The active surveillance protocol was implemented (n = 75) and over the next 6 months, as a result of increased screening, there was an increase in detection of VRE colonization. Because patients were isolated as part of the protocol, there was a 34% decrease in nosocomial-acquired VRE infections.

A well-designed surveillance protocol decreases mortality through identification and isolation of high-risk patients and increasing education among patients and staff. Active surveillance for VRE in high-risk patients had a significant impact on limiting the spread of VRE: the rate of nosocomial-acquired VRE decreased by 34%. Other oncology nurses may use similar approaches to improve infection control measures in practice, to decrease nosocomial VRE infections, thereby decreasing mortality associated with VRE, and to increase compliance with HICPAC recommendations.

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GETTING TO THE HEART OF CARDIOPULMONARY EMERGENCIES IN ONCOLOGY PATIENTS. Lorna P. Baker, MSN, ARNP, CCRN, OCN®, H. Lee Moffitt Cancer Centre & Research Institute, Tampa, FL.

Oncology patients have a range of co-morbidities, and varied educational strategies are necessary to prepare nurses for cardiopulmonary emergencies.

Our 162 bed NCI-Comprehensive Cancer Centre has no emergency department, but cares for cancer patients with a range of co-morbidities. Ventricular fibrillation is the primary pathology in adult cardiac arrests, and the best chance for survival is early defibrillation. Recognizing this, the hospital replaced existing defibrillators with those equipped with built-in Automated External Defibrillators (AEDs). Institution-wide inservices were conducted. Still, codes are relatively infrequent, and the comfort level in first responders is low. Direct observation and review of Code Blue documentation revealed no AED use prior to arrival of the code team. Some nurses expressed the need to practice. The Critical Care Nurse Manager obtained approval from the Code Blue Committee for the author to conduct mock codes institution-wide. The purpose of this abstract is to discuss a process for increasing oncology nurses comfort with cardiopulmonary emergencies.

The Critical Care CNS and Center Educators conduct monthly mock codes, rotating between inpatient and outpatient settings. The first "code" met with resistance and we learned that a certain amount of preparation promotes a smoother process. The chief resident is now notified a few days prior to the "code". She alerts the residents and encourages their participation. The unit's clinical leader assigns a nurse to "the patient". As code team members check in, they are given the opportunity to be excused or to participate in making the scenario more realistic. The code is stopped after successfully implementing ACLS protocols. One Educator completes a QI monitor, which is used to provide feedback to the staff.

Participant feedback has been positive, and we continue to receive requests for mock codes in other areas and other shifts. Identified deficiencies in knowledge and performance are corrected through continued education. The QI monitor will serve as the tool to measure effectiveness of this exercise.

By improving staff proficiency with use of the AED mode, we expect to see increased utilization and demonstration of competence in code situations. Optimally, we would expect improved patient outcomes in cardiopulmonary emergencies.

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Abstract withdrawn.

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FROM HEART FAILURE TO HEART SUCCESS: IMPROVING OUTCOMES IN CANCER PATIENTS WITH HEART FAILURE THROUGH COLLABORATIVE PRACTICE. Anecita Fadol, RN, MSN, FNP, Daniel Lenihan, MD, Janet Taubert, RN, MSN, AOCN®, Margaret Holm, RN, MHSA, FACHE, Stephanie Fulton, MSIS, and Marilou Sequitin, RN, BSN, M.D. Anderson Cancer Center, Houston, TX.

Although heart failure is a serious complication of chemotherapy, it no longer implies a "death sentence". With appropriate management and pharmacological intervention, normal heart function can be restored. Management of heart failure in cancer patients requires complex therapeutic interventions and presents challenging issues not only to health care providers, but also to the patient and family. Oncology nurses should have an adequate understanding of heart failure management to be able to assist patients and their families to meet these challenges.

To improve the care of cancer patients with heart failure, a collaborative, multifaceted, interdisciplinary "Heart Success Program" was developed to provide cost effective quality care without compromising cancer therapy. The Theory of Planned Behavior is the theoretical basis for the Heart Success Program, with the assumption that a comprehensive approach will cause a behavioral change of better patient and provider adherence to standard heart failure therapy resulting in improved clinical patient outcomes.

Implementation of the Heart Success Program includes utilization of a heart failure clinical pathway, inpatient heart failure order set, and comprehensive patient and family education, using a heart success patient education booklet, heart failure videotapes, and a patient diary. An interdisciplinary clinical round is conducted weekly to provide a forum for discussion of identified patient's problems and formulate solutions.

Quality improvement outcomes identified for the program include decreasing average hospital length of stay, decreasing hospital readmission over a one year period, improving quality of life, and improving provider compliance with evidence-based pharmacological therapy for heart failure as recommended by the American College of Cardiology/American Heart

Association guidelines for heart failure management. A database has been created for measuring these outcomes.

There is abundant literature on the effectiveness of heart failure programs in improving clinical and patient outcomes in heart failure patients without cancer, however, there is a paucity of clinical evidence specific to cancer patients with heart failure. Oncology nurses should pursue nursing research efforts on nursing interventions and symptom management for this patient population and take an active role in changing heart failure to heart success.

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DEVELOPING AN EVIDENCED BASED TELEPHONE FOLLOW UP PROGRAM IN RADIATION ONCOLOGY. Karen Smink, RN, BSN, OCN®, Duke University Health System, Durham, NC.

Oncology nurses recognize the need to aggressively monitor and manage treatment related toxicities to enable patient completion of their prescribed course of radiation therapy, as well as optimize patient and caregiver satisfaction. The nursing staff in the Radiation Therapy Department at Duke University use a primary care model, allowing each nurse to be closely involved with a patient from initial consultation and treatment planning, until completion of therapy. We recognized the need to monitor patient symptoms and provide support for management of those symptoms following completion of the treatment phase. This presentation will highlight results from a pilot study identifying common symptoms in patients following radiation therapy. Samples of standard symptom management protocols will be presented.

The purpose of this project was to identify and prioritize ongoing and new treatment related symptoms following completion of radiation therapy. We then developed triage protocols for symptom management utilizing Oncology Nursing Society standards and other oncology and ambulatory care literature.

Within two weeks of completion of therapy, fifty consecutive patients were called by their primary radiation therapy nurse who documented symptoms, number of attempts to reach the patient, and length of the call.

Based on the pilot data from the telephone calls, the five most prevalent side effects were chosen for development of nursing triage protocols. As an outcome measure following implementation of the triage protocols, a qualitative interview study is planned to assess patient satisfaction with the telephone interventions.

Developing a program to continue patient support following completion of radiation therapy will accomplish multiple goals, most importantly to enhance patient safety and comfort in a time period when they are at high risk for having treatment related side effects. Having standardized instructions for symptom management by telephone is consistent with licensure requirements and scope of care issues.

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STRATEGIES NON-PEDIATRIC NURSES CAN USE FOR PREPARING THE PEDIATRIC PATIENT FOR CANCER TREATMENTS. Carol Pinola, RN, BSN, and Amy Bullock, MSEd, CCLS, Memorial Sloan-Kettering Cancer Center, New York, NY.

There are 12,400 new cases of childhood cancer diagnosed annually in the United States. Multimodality treatment including radiotherapy has made most childhood cancers curable. The need to prepare a child and their family for any medical procedure or treatment and provide support is well documented in the literature. This preparation presents a challenge for even the most seasoned pediatric oncology nurse. For the adult oncology nurse who must provide care for the pediatric patient this challenge is even greater. Inadequate preparation of a child for cancer treatment and procedures can create unnecessary anxiety for the child necessitating anesthesia to provide care. Inadequate preparation can also have a negative impact on the psychosocial development of this new generation of survivors.

This presentation will describe a program developed collaboratively by a radiation oncology nurse and a child life specialist at a large comprehensive cancer center to develop strategies that the adult nurse can utilize when caring for a pediatric patient.

The first step was to develop a multimodal age-appropriate preparation program for the child that includes play-size models of equipment, an interactive workbook, unit tours, and imagery/distraction techniques. The next step was to develop classes for staff to address their knowledge

deficit and feelings of inadequacy. Topics included developmentally appropriate language dos and don'ts, hints on how to approach a child, and strategies to gain cooperation. Finally, systems of communication among the disciplines were established, including a weekly on-treatment patient list which is electronically available and use of E-mail to communicate changes in care plans.

Interventions are evaluated on a case by case basis due to the individualized goals set for each child. Overall, children's experiences in our department have improved, with fewer children requiring anesthesia for treatment. Staff is demonstrating increased confidence and utilizing the developed strategies daily when treating the pediatric patient.

These strategies can be adopted on any non-pediatric oncology unit and serve as a model for oncology nurses who find themselves faced with the challenge of preparing, educating and supporting a child through any aspect of their cancer treatment.

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FROM FEAR TO FACT: STRATEGIES FOR ENHANCING RADIATION SAFETY KNOWLEDGE AND ATTITUDES AMONG NURSES. Joanne Kelvin, RN, MSN, AOCN®, Lawrence T. Dauer, CHP, RMP, Jean St. Germain, MS, CHP, Christopher L. Horan, RTT, and Janine Kennedy, RN, BSN, MA, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Sixty percent of cancer patients receive radiation therapy [RT] during their cancer treatment, so most oncology nurses will care for patients receiving RT at some time. An understanding of radiation safety principles and their application in practice is critical for all oncology nurses. However, misconceptions about radiation are common, causing undue fears and concerns that may negatively impact patient care. Effectively educating nurses to overcome these misconceptions is a challenge.

Strategies were developed at a large urban comprehensive cancer center to enhance inpatient nursing staff knowledge and attitudes regarding radiation safety. A multifaceted approach to educating staff was implemented, incorporating principles of adult learning theory and recognizing the usual information-seeking behaviors of staff nurses.

A multidisciplinary team was formed that included nurse leaders from radiation oncology and radiology, a nurse educator, clinical nurse specialists from inpatient units where patients are commonly admitted for brachytherapy or radiopharmaceutical therapy, and members of the radiation safety section. A number of educational initiatives were undertaken. All radiation policies and procedures were revised to ensure they were clear, concise, and consistent. A 12-minute video was developed to provide core content. Radiation precaution door signs and chart labels were revised to provide clearer instructions to visitors and staff. Interactive problem-solving sessions for managers, APNs, and educators reviewed modality-specific precautions. Unit-based inservices focused on treatments commonly administered on the units. PowerPoint presentations were developed for specific treatments, reviewing clinical indications, treatment techniques, and radiation precautions required. These will be available on the institutional intranet and will be hyperlinked from the respective policies and procedures.

Inpatient nursing staff were surveyed before education was initiated using a questionnaire designed to assess knowledge and attitudes. The survey will be repeated after all educational initiatives have been implemented to evaluate the impact of the program.

Well-designed educational initiatives can be effective in overcoming misconceptions and fears related to radiation and can enhance knowledge and attitudes. These strategies could be modified to suit other organizations in providing education related to radiation safety, and this multifaceted educational approach could be used to address other challenging issues as well.

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IMAGE GUIDED INTENSITY MODULATED RADIATION THERAPY (IMRT) AND STEREOTACTIC IMMOBILIZATION BODY FRAME: A NOVEL APPROACH TO TREATMENT OF PARASPINAL TUMORS. Joan Zatzky, RN, ANP, Memorial Sloan-Kettering Cancer Center, New York, NY.

Stereotactic immobilization body frame and image guided IMRT is a new treatment that allows delivery of high dose radiation to precisely targeted tumors thereby limiting damage to surrounding normal tissue. This technique is an option for newly diagnosed or previously treated patients.

It is essential that oncology nurses understand this new technology so that they can identify potential candidates, educate patients and families and provide symptom assessment and management.

Radiation therapy for primary and metastatic paraspinal tumors is a challenge due to the proximity of the spinal cord to the treatment field. Traditionally, paraspinal tumors were treated with surgery, radiation therapy or a combination of both. Conventional radiation techniques were limited due to morbidity associated with radiation doses greater than 5000 cGy to the spinal cord. The use of the stereotactic immobilization body frame with IMRT and image guided verification is a new technique that allows delivery of precisely targeted high dose radiation while respecting spinal cord and dose tolerances.

At this NCI-designated comprehensive cancer center, sixty-one patients with paraspinal disease were treated in this fashion. During treatment, patients are placed in a customized body frame and immobilized for up to two hours. Extensive preparation and treatment time require nursing interventions and standardized patient education to ensure psychological and physical comfort during the treatment.

Patients are imaged and assessed six to eight weeks post treatment and then every three months thereafter. Although radiologic response varies, treatment overall, has been well tolerated, as evidenced by improved clinical outcomes (ie. decreased symptoms, reduced narcotic requirements, improved neurological function) and minimal side effects.

Image guided IMRT with body frame immobilization is proving to be a viable treatment option for patients with paraspinal tumors. Oncology nurses may encounter patients in their practice who have received or are candidates for this treatment. It will be necessary for the oncology nurse to understand the treatment, eligibility criteria, management and guidelines in caring for patients with primary or metastatic paraspinal tumors. This treatment has changed practice in this institution, and will undoubtedly warrant changes in the oncology community.

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CHAIRSIDE CHECKLIST: AN INNOVATION IN SAFE CHEMOTHERAPY ADMINISTRATION. Susan Fredericks Hodes, RN, BSN, OCN®, and Sheri Guarino, RN, OCN®, University of Rochester, James P. Wilmont Cancer Center, Rochester, NY.

The Joint Commission on Accreditation of Health Care Organizations (JCAHO) 2004 National Patient Safety Goal to improve the accuracy of patient identification challenges oncology nurses to improve patient care processes. The administration of chemotherapy and biotherapy is a high risk activity requiring multiple safety checks to ensure accurate patient and drug identification and prevent errors.

The purpose of this project is to increase patient safety during chemotherapy administration and reduce the number of chemotherapy related medication errors in a large outpatient cancer treatment center in Western New York. This location serves approximately 70 patients per day and nurses infuse high volumes of chemotherapy. The need for this project arose from a chemotherapy error that resulted from incorrect identification at several points along the prescribing/admixture/administration axis.

A Root Cause Analysis exercise resulted in several necessary improvements in the pre-administration verification process. Using Crew Resource Management principles, the nursing staff developed a standardized checklist which is utilized to check chemotherapy medication against prescription and patient identifiers at the chair side prior to administration to catch potential errors before they reach the patient. This ChairSide Checklist provides the nurses with a consistent method of performing verification, so that it is performed the same way each time by each nurse, minimizing the variation between practitioners and potential for errors. The method of project implementation and utilization will also be described.

Project goals are evaluated on an ongoing basis utilizing the Plan, Do, Study, Act Model. Since the establishment of the ChairSide Checklist, an 80% reduction of event occurrence reports due to identification of patient and/or medication variables has been observed. Nurse satisfaction with the process and patient reaction to the safety measures will also be described.

This topic has wide implications in providing a concrete method of implementing the principles of the JCAHO National Patient Safety Goals. The standardization of patient and drug verification during chemotherapy administration is specific to the practice of Oncology Nursing in all settings where cancer care is provided. Future plans include implementation of the ChairSide Checklist on inpatient oncology units.

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IMPLEMENTATION OF AN INNOVATIVE NEW PROTOCOL TO DESENSITIZE PATIENTS SENSITIVE TO TAXOL/CARBOPLATIN. Ruth Muller, RN, MSN, Julio Toro, BSN, Lana Callahan, RN, OCN®, Michelle Ciszewski, RN, BSN, OCN®, and Karen Lynch, RN, BSN, Brigham & Women's Hospital, Boston, MA.

The combination regimen taxol/carboplatin has been shown to increase survival time by as much as 50% in women with advanced ovarian cancer. Unfortunately, 6% of patients have experienced an allergic reaction to either or both of these drugs. At Dana-Farber Brigham Woman's Cancer Center, (DFBWCC) inpatient oncology nurses are carrying out a new desensitization protocol designed to allow these drugs to be safely administered to patients who have demonstrated an allergic response.

This presentation describes an innovative protocol that guides nurses to safely administer taxol/carboplatin to those patients who have previously shown sensitivity to these drugs.

The oncology attending writes an order delineating the target chemo dose and the allergy fellow executes a computerized order process detailing three to five bags of precisely timed "stepped" doses of chemotherapy. Prior to initiating the protocol, the nurse performs an initial assessment focusing on symptoms experienced during the previous reaction and administers premedications. She then executes the intricate protocol, reassessing the patient constantly particularly as the rate or concentration is escalated. In addition to clinical skills, the nurse's ability to provide an empathetic presence reducing the patient's acute anxiety is paramount to the successful completion of the protocol. Patients are monitored for arrhythmias and vital signs are obtained every time there is a change in concentration and/or rate.

The intensive care unit is the setting for the first desensitization and if successful, subsequent administrations are done in an intermediate care unit with a 1:1 nurse.

Over 200 desensitizations to chemotherapy agents have been completed at DFBWCC over the past 3 years; 97% of which have been successful and 3 % have required modifications to the protocol.

Although a patient who has once had a reaction to a drug will remain allergic despite being desensitized, the goal of desensitization is to allow the patient to be able to tolerate a select dose on the specific day of administration. This presentation, using illustrative cases, will describe an innovative new protocol that provides the means for achieving this goal.

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THE PATIENT/FAMILY LEARNING CENTER: AN APPROACH TO ACHIEVING SELF EFFICACY. Karen Hammelef, RN, MS, CS, and Debby Roisen, BSN, RN, University of Michigan Comprehensive Cancer Center, Ann Arbor, MI.

The cancer patient preparing for chemotherapy treatment faces a myriad of complex concepts to learn and skills to master. In a time span averaging one week, the typical cancer patient is confronted with medications to learn, side effects to manage, catheters to care for and pumps to monitor. At this NCI designated comprehensive cancer center, the chemotherapy education process was fraught with redundancies and omissions. The process lacked a conceptual framework that incorporated principles of adult learning theory. These educational issues highlighted concerns regarding patient safety, regulatory compliance, utilization of appropriate resources and the quality of education received.

The purpose of this project is to improve the education process for cancer patients receiving chemotherapy using the Plan-Do-Check-Act Model for quality improvement initiatives. Chart audits and organizational data revealed poor compliance with regulatory documentation standards, poor staff satisfaction with the complex process of patient education and inconsistent teaching standards. Desired improvements addressed standardizing the education process & content, alleviating infusion area space concerns and implementing regulatory requirements for documentation.

A proposal for development of a centralized teaching center, staffed by an experienced oncology chemotherapy nurse educator was adopted in 2003 after a lengthy "Plan" process. The learning center opened in April, 2004 using focused integration strategies identified in the "Do" component of the PDCA process. A novel approach to chemotherapy preparation was developed based on the surgical model of preparing a patient for the operating room.

Clinical, staff and organizational outcomes were measured by surveys, resource utilization data and chart audits. Outcomes realized include improved patient & staff satisfaction with education process, increased compliance with documentation & regulatory education standards and improved efficiency in the infusion areas.

This approach to chemotherapy skills mastery in the cancer patient and family may be adopted to create self efficacy in any population challenged with complex skills and concepts. The learning center approach contributes to organizational improvements of increased patient and staff satisfaction, efficiency and compliance with regulatory standards as well as enhanced patient education; universal goals for cancer care providers.

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CHEMOTHERAPY/BIOOTHERAPY SAFETY ASSURANCE PROJECT: NETWORK SAFETY THROUGH INTERDISCIPLINARY COLLABORATION. Patricia Shearburn, RN, MSN, AOCN®, Janine Barnaby, RPh, Gregory Harper, MD, PhD, Melissa Kratz, RN, MSN, AOCN®, Dave Pucklavage, RN, and Marlene Ritter, MBA, RRT, Lehigh Valley Hospital, Allentown, PA.

Chemotherapy agents are associated with serious and potentially life threatening side effects. Multiple practice settings involved in patient care and an interdisciplinary administration process creates high risk for potential and life threatening errors. An interdisciplinary team from five practice settings evaluated and revised the hospital practices for the safe use of antineoplastics. One outcome was the development of a computer assisted order entry system for chemotherapy.

The purpose of this project was to identify potential areas for errors in the antineoplastic pathway across oncology practice settings, and to establish systems aimed at error prevention. Multiple national organizations have identified medication mistakes as a major cause of patient morbidity and mortality. Error report data from 2001-2003 demonstrated an error rate of 0.43, however because of the potential consequences of even one chemotherapy error steps were taken to further reduce our error rate.

Interventions included: computerizing standardized chemotherapy/biotherapy order sheet with a forced function feature to prevent omissions of critical patient data, computer generated BSA, creatinine clearance and dose calculations to prevent math errors, embedded anti-emetogenic protocols, and antineoplastic protocol selections embedded with dosages, routes, schedules and specific administration directions. Education was provided to all stakeholders regarding sheet utilization and generalized safety precautions.

Legibility, missing data and math errors has been totally eliminated. Greater than a ninety- five percent utilization of the computerized order sheets exists. An audit of the order sheets (n = 588) demonstrated: 99 changes in the selected protocol, 22 orders written for more than 1 cycle, 3 lab parameters missing, and 2 wrong schedule of drugs.

The most important discovery was the enormous variation in individual physician practices in the ordering of "standard" treatment protocols. While not truly "errors," these variations contribute to confusion among the nurses and pharmacists, and represent a significant opportunity to achieve greater safety through diminished variance. The program contains more than 120 antineoplastic protocols. Continued development of electronic antineoplastic process will include: toxicity tracking, treatment summaries, and an on line flow sheet to be shared across treatment sites for enhance continuity of care.

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USE OF THERAPEUTIC TOUCH TO DECREASE PATIENT ANXIETY AND TO IMPROVE PATIENT RESPONSE. Mary Thompson, RN, BSN, OCN®, and Cassandra Orem, St. Joseph Medical Center, Towson, MD.

This simple performance improvement initiative is an attempt to reconnect the nursing staff with the very essence of nursing and to focus on the provision of comfort and care in a high tech environment through the art of touch. This study demonstrated that the intentional use of therapeutic Comfort Holds had a positive and measureable impact on patients' anxiety and related symptoms.

An awareness of touch as a tool to convey caring and reduce anxiety is an important step in increasing understanding of touch as a prescriptive tool in easing the psychosocial and physical distress associated with illness. The simple research design consists of a control group of new chemotherapy patients seen in the infusion center prior to training the

nursing staff on the administration of Comfort Holds. The experimental group is composed of patients seen after staff training has been completed. The statistical testing methods are a simple comparison of the average score for each group obtained from a linear analog self reported anxiety scale.

Nine Comfort Holds passive touch techniques were taught to the nursing staff by a certified massage therapist, each nurse utilizing the techniques she was most comfortable with during the teaching session prior to the first chemotherapy administration.

Patients completed a self-assessment before and after teaching by the nurse, with and without employment of Comfort Holds. The self-assessment included four areas, tenseness, anxiety, nausea and pain to be rated on a 0-10 scale. When no Comfort Holds were employed, 62% of the patients reported a reduction in stress levels, with an average reduction of 47%. Utilizing Comfort Holds, 100% of the patients reported a reduction in stress, averaging 69% lower.

Utilizing Comfort Holds during patient education was simple, non-intrusive for the patient and well within the staff nurses personal comfort levels. The use of Comfort Holds demonstrated a significant decrease in anxiety levels for all the patients. These techniques are readily employed by all levels of staff and may be used on all patients.

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IMPLEMENTING SYSTEMATIC SCREENING OF DISTRESS INTO ONCOLOGY NURSING PRACTICE. Susan Mazanec, MSN, RN, AOCN®, Donna Kwilosz, PhD, and Wendy Miano, MSN, RN, AOCN®, Ireland Cancer Center, University Hospitals of Cleveland, Cleveland, OH.

Although distress is common in patients undergoing cancer treatment, it often goes unreported by patients and unrecognized by nurses. The NCCN Practice Guidelines recommend use of a simple screening tool and problem list at consultation and at transition points during the cancer experience to assure that all patients are screened for distress. With this proactive approach, the oncology nurse plays a key role in managing low level distress and identifying patients with moderate to severe distress for early intervention.

The purpose of this project is to implement systematic screening of distress at the time of outpatient consultation at a NCI-designated Cancer Center. Management formed a task force to address the high levels of distress noted in anecdotes on patient satisfaction surveys and to outline the cancer center's guideline for distress screening. The NCCN guideline stipulating a psychosocial referral for a distress score of 5 or above on a 0-10 scale was adopted.

Initial interventions included formation of a nursing and social work task force to implement the guidelines, assessment of current nursing practice, psychosocial resources identification, modification of the patient history form to include the distress scale, and design of a new referral form. Lectures and poster presentations for staff described the concept of distress, screening tool, management of low level distress, support services, referral process, and necessary practice change. A pilot project of integrating the distress screening tool into nursing practice was undertaken prior to the cancer center-wide rollout of the project on May 1, 2003.

Evaluation of compliance with the guideline is ongoing. A retrospective chart audit is conducted monthly to assess nursing documentation of referrals and social work documentation of patient contact. The task force meets monthly to review descriptive statistics from chart audits, obtain feedback from nurses and social workers, and outline strategies to address practice issues, documentation barriers, volume of referrals, and educational needs.

Integration of the NCCN distress screening tool into standard oncology nursing practice is a challenging and protracted process. Implementing these guidelines require careful planning, realistic assessment of nursing practice and social work resources, and monitoring of compliance.

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A REPORT CARD ON ONCOLOGY NURSES: SURVEY OF PATIENTS WITH METASTATIC BREAST CANCER. Karen J. Stanley, RN, MSN, AOCN®, FAAN, Self-Employed, Greenwich, CT; Neil Love, MD, Jennifer Love, BS, and Richard Kaderman, PhD, Research to Practice, Miami, FL; Douglas Paley, BA, Self-Employed, Miami, FL; and Michelle Paley, MD, Research to Practice, Miami, FL.

Patients with metastatic breast cancer have multiple needs related to the psychological impact of being diagnosed with an incurable disease

as well as the demands of the chronic nature of their illness. Oncology nurses have set high standards with regard to patient education and emotional support, but relatively minimal information is available on how well they actually fulfill those needs.

The objective of this evaluation was to assess the needs of patients with metastatic breast cancer and their level of satisfaction with oncology nurses in order to guide professional education and patient care.

Patients with metastatic breast cancer—recruited nationally through oncology offices and support groups—voluntarily participated in a 250-item, approximately 45-minute anonymous telephone interview. They were asked to rate on a scale of 1-5 (least to most important) and to grade (A-F) specific aspects of care provided by oncology nurses.

154 patients with metastatic breast cancer (153 females, one male, mean age 56.7 years) were surveyed. Ninety percent of the participants rated "allowing the patient to be an active participant in decision-making" as 5 (most important). "Providing information about treatment," "providing reassurance" and "providing emotional support" were rated as 5 by 85%, 66% and 58% of patients, respectively. The percentage of "A grades" given to oncology nurses were: overall care 81%, allowing questions 86%, emotional support 74%, time spent with the patient 65%, overall information provided 59%, information provided on side effects 59%, and phone interactions with patients 67%.

Patients with metastatic breast cancer rate the need for information and participation in decision-making somewhat higher than their need for emotional support. While they have a high level of satisfaction with their oncology nurses, a significant percentage feel that treatment information is suboptimal and emotional support could be more substantial. These perspectives provide an opportunity for nurses to make changes in professional education and on-the-job training, to routinely assess patients for satisfaction with these issues, and to improve patient education methods.

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PATIENTS EXPERIENCES OF RECEIVING RADIATION TREATMENT FOR HEAD & NECK CANCER: A QUALITATIVE STUDY. Maureen McQuestion, RN, BA, BScN, CON(C), MSc(c), Princess Margaret Hospital, Toronto, ON, Canada.

Clinical experience reinforces that the diagnosis and treatment of a head and neck cancer has a major impact on patients. As a result of changes in radiation treatment protocols, increased use of combined modality treatments, and an increased emphasis on ambulatory care, the experience of care and treatment has changed for patients. The existence or lack of social support, financial support and effectiveness of symptom management can also have a significant impact. Nurses are in a unique position to support patients during this experience.

Most research in head and neck cancer has focused on the efficacy of treatment modalities and the assessment and management of side effects. Little attention has been directed toward understanding patients' experience of receiving radiation treatment. This qualitative study helps describe and understand the experience of patients from their perspective.

Thorne's (1997) approach of interpretive description was used for the study. Thorne supports a method of interpretive non-categorical description derived from nursing's philosophical and theoretical foundations. This qualitative approach is grounded in an interpretive orientation and acknowledges, "human health and illness experiences are comprised of complex interactions between psychosocial and biological phenomena" (Thorne, 1997, p. 172).

Theoretical sample selection was used to recruit participants from a specialized cancer clinic. In-depth, audiotaped interviews were conducted with 17 participants, 3-4 months following treatment. A single post analysis focus group was held with 5 participants to share findings and verify that themes were reflective of the experience of the participants.

Giorgi's analytical technique was used for analysis.

Five themes were identified including participants (1) experienced shock, worry, and a fear of dying as they attempted to make sense of their diagnosis, (2) felt a lack of control from disrupted expectations and changes in life routines, (3) had a heightened awareness of self, others and the health care system, (4) used multiple strategies to regain a sense of control, and (5) learning to live with an uncertain future. Strategies and interventions are being developed for patients as well as the health care team to better support future patients for the treatment experience.

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DEVisING A CONSULTATIVE SERVICE FOR NURSES WISHING TO SUBMIT AND PRESENT ABSTRACTS AT PROFESSIONAL MEETINGS. Norma Sheridan-Leos, RN, MSN, AOCN®, CPHQ, and Hannelore Jolley, Curtis and Elizabeth Anderson Cancer Institute, Savannah, GA.

Many nurses would like to submit and present abstracts at professional meetings. But due to lack of skills and or resources the nurse does not start or complete the submission process. If an abstract is chosen presentation, a nurse may feel overwhelmed with this process and may not present the work.

This abstract will discuss the efforts of a Clinical Nurse Specialist (CNS) to devise and implement a consultative service for nurses wishing to submit their first abstract for review by a professional group. Detail will be provided so that other organizations can replicate this project.

The CNS designed an in-house consultative service to assist nurses in the abstract submission and presentation processes. The CNS:

- 1) Identified potential topics
- 2) Met with each nurse using a one-to-one approach to help the nurse overcome the perceived barriers for submission and presentation.
- 3) Assisted the nurse to draft the abstract
- 4) Helped to refine the abstract
- 5) Assisted in the submission process
- 6) Assisted in the development of the presentation

A year after the service was started, a medical editor was hired to support nurses with editorial, graphical, and statistical issues with their abstracts and presentations. Due the increased number of nurses attending professional meetings to present their abstracts, the CNS created a tax-exempt clinical education fund to pay for the travel expenses. The CNS also assisted nurses in applying for scholarships to pay for travel expenses.

Prior to the implementation of the program, no abstracts had been submitted. From March 2002 to March 2004, twenty-one abstracts were submitted with twenty accepted for presentation. Fifteen of these abstracts were for first time authors.

When supported, nurses can gain the confidence and skill to submit abstracts and make enlightening presentations that serves not only to enrich the presenter but the nursing community at large.

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ABSTRACT PREPARATION PROGRAM. Patricia Schaindlin, RN, MA, AOCN®, Teresa Sinopoli, RN, MSN, AOCN®, and Leslie Tyson, MS, ANP-BC, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Abstract preparation and podium or poster presentation are traditionally professional activities expected of Advanced Practice Nurses (APN). This experience offers oncology nurses the opportunity to "step away" from clinical responsibilities, share expertise and maintain professional satisfaction. In 1998 APNs at our comprehensive cancer center assumed responsibility for the Division of Nursing abstract preparation program. Forty two nurses attended one of the eight workshop sessions, submitted 36 abstracts to Congress, with 20 acceptances for poster or podium presentation. Five years later this successful program has expanded with more than 150 nurses attending a workshop, 204 submitted abstracts 1998-2004 with an acceptance rate of 83% in 2003.

Original goals were to (1) Promote the program to increase nursing awareness, interest and abstract submission by new writers (2) Encourage involvement of APNs who have presented abstracts in poster or podium format, to function as mentors for new authors. These goals have been realized and annual abstract submission has become somewhat of an "expectation" for nurses at all levels of the clinical ladder. The success of the abstract program prompted the need for additional programs for poster / podium presentation, mentorship and writing for publication. A Professional Development Task Force (PDTF) was created and provides a formal structure to direct and support nurses involved in these activities.

One hour workshops are offered two months prior to the ONS deadline. A twenty minute didactic period reviews: ONS submission packet, "Guidelines For Writing An Abstract" (developed by our workshop coordinators) and the Division of Nursing policy/procedure for review of abstracts. Informal discussion follows regarding abstract ideas, motivational thoughts and mentor identification for first time authors to provide support through the process.

The success of this program is due to the commitment and support of our Division of Nursing, APNs who coordinate workshops and mentor abstract writers and the oncology nurses who pursue this professional activity.

This presentation will define the abstract preparation program, discuss the oncology nursing experience at this center and provide a model for oncology nurses in other settings interested in developing a similar program.

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THE DEVELOPMENT OF A PROFESSIONAL EDUCATION COMMITTEE AT A COMMUNITY-BASED CANCER CENTER. Dana Inzeo, RN, APRN-BC, MA, AOCN®, Coleen Bejot, RN, MSN, Arthur De Simone, MD, Sandy Balentine, RN, OCN®, BBA, and Frances Cartwright, RN, AOCN®, PhD(c), The Valley Hospital, Paramus, NJ.

Community based ambulatory care centers have become the major setting for delivery of complex care for individuals with cancer. The increased acuity of the oncology patient population and staffing shortages results in the need for the oncology nurse to develop "best evidence" educational models to ensure an optimal standard of care.

The Oncology Professional Education Committee was developed in a community based cancer center affiliated with an accredited community hospital and a university medical center that would ensure the following: (a) education planning based on priority of need, (b) education projects reviewed against "best evidence" criteria, and (c) optimal utilization of staff and funding resources. Representation from the oncology interdisciplinary team in all areas where patients receive care were included.

Several key strategies were implemented: (a) a needs assessment survey completed by all clinical staff in the center, (b) development of an annual educational template based on the needs identified, (c) review of annual educational template with potential funding sources (e.g., pharmaceutical companies), and (d) implementation of educational programs that include a content outline, objectives, evaluation method, qualified speakers and CE application completion.

The annual educational template and development of the educational programs provided a framework to measure outcomes. These outcomes were: (a) increase in available CE approved programs on site, (b) attendance and evaluation from targeted audience, (c) increased funding for planned programs, (d) reporting of outcome measures achieved from this new program to performance improvement committee, cancer committee, leadership committee and administration.

An interdisciplinary team developed and began implementing a "best practice" educational template. The members of this team enthusiastically developed and presented educational programs. As a result of this initial effort by the participants, a mentorship team was developed to mentor participants in preparing aspects of these programs for presentations, publications, abstract submission and development of research projects. Through education and support for evidenced-based research projects, the oncology nurse can translate the "best evidence" into quality patient care.

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ONCOLOGY NURSING RETREAT: CREATING A COMMUNITY FOR CANCER NURSING PRACTICE. Ellen Fitzgerald, RN, MS, Barbara Cashavelly, RN, MS, Joanne LaFrancesca, RN, MS, Catherine Mannix, RN, BSN, and Jackie Somerville, RN, MS, Massachusetts General Hospital, Boston, MA.

Oncology patients and families are cared for in many settings in a large academic medical center. A major challenge facing nurses today is to create an environment of care which appears seamless to patients and families. Nurses play a key role in ensuring consistent standards and practices as well as facilitating communication and collaboration among many care settings.

The Nursing leadership group identified the need to bring together nurses in all settings caring for oncology patients and families. Goals included: develop a shared vision for oncology nursing practice, provide opportunities for staff in different settings to network and build relationships, facilitate communication about shared patients, and set the stage to develop standards of care across all settings.

Six Oncology Nursing Retreats have been held beginning in October 2002. Early retreats focused on identifying what united us as oncology nurses. The use of clinical narratives allowed participants to identify common practice themes. Key values and vision for the oncology nursing ser-

vice were discussed and participants identified future goals. Workgroups were formed outside of the retreat structure to refine the vision statement and develop an action plan for the priority item of communication. Workgroups reported back at the next retreat. Other accomplishments include the development of a consistent curriculum for orientation to oncology and evaluating best practices for chemotherapy safety and handling. The latest retreats have focused on the development of an Oncology Nursing Practice Committee to establish, communicate and evaluate standards of oncology nursing practice.

A written evaluation was conducted of the participants attending each retreat. An on line survey was done to solicit feedback from a larger group. The overwhelming majority of respondents identified the opportunity to come together as oncology nurses as the major benefit. The opportunity to identify goals, participate in developing plans and seeing outcomes from the work were also rated highly.

The benefits of the Oncology Nursing Retreats have been building relationships among nurses in different care settings, increased collaboration among practice areas, and identification and development of consistent standards and practices. In addition, nurses have become engaged in the process of identifying and setting goals as an oncology nursing community.

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INTERDISCIPLINARY COLLABORATION: MAKING ALLERGY HISTORIES PRESENT. Cynthia Murphy, RN, MS, Fran Zandstra, RN, MBA, and Carol Causton, RN, OCN®, M.D. Anderson Cancer Center, Houston, TX.

Since the Institute of Medicine Report in 2000, "To Err is Human: Building A Safer Health System," much emphasis by regulatory and health care agencies has been cited to promote patient safety initiatives within organizations. In a strategy to continue real time electronic documentation by nursing staff, and promote patient safety initiatives, executives at our Comprehensive Cancer Center approved the initiation and phased implementation of electronic allergy documentation within the organization in preparation for Clinician Provider Order Entry (CPOE) and Electronic Medication Administration (eMAR).

With approval and administrative support to move forward, an interdisciplinary team was organized including key clinical stakeholders who needed access to allergy history at the point of care. Our task was to provide allergy information to all healthcare professionals using coded values for future drug-drug and drug-food interaction checking at the point of care. Content user experts were solicited for team membership. The working team included: pharmacists, clinical dietitians, clinical nurses from both the hospital, ambulatory operations and ancillary services, such as Diagnostic Imaging. In addition, we found opportunities to leverage our initial pilot project using the electronic documentation of vital signs, pain level, height, weight and calculated BSA with the allergy documentation in the Electronic Medical Record, and deliver this data to the pharmacy department via electronic means for timely institutional data review.

The area of focus includes: the processes used to evaluate pre-implementation work practices, identify gaps and opportunities for improvement; formulate the design of allergen categories for data collection and reassessment by users; streamline policies; and review the techniques used to educate staff.

The specific methods used to evaluate the impact of this change in our environment will be described using pre and post implementation data.

We have found that in our large academic cancer center, that having the right team and the commitment of the executive leadership, improvements to patient care and patient safety is promising through electronic documentation of allergies and symptoms. The allergy history is present for all clinical staff when needed with no reliance on paper medical records to retrieve the data.

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LINKING SUCCESS AND FAILURE: IMPACTS ON ONCOLOGY NURSES ACCEPTANCE AND USE OF A NEW ELECTRONIC MEDICAL RECORD (EMR). Linda Schiech, RN, MSN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA, and Marina Douglas, RN, MS, Principal-Beacon Healthcare Consulting, McLean, VA.

Success and failure: strange bedfellows. "The key factor to failure is 15 years of past success"—Peter Drucker. The past successes of an institution, including nursing departments, can decrease the success of new

projects. Introducing a complete electronic medical record (EMR) will cause major changes bringing likely increased anxiety and decreased adaptability for change.

The institution undertook a 5-year strategic Information Technology plan to implement state of the art clinical computing encompassing an EMR. The nursing department has been highly successful achieving ANCC Magnet status, and a fully participatory Shared Governance Model. The longevity of the nursing staff speaks to the success with an average length of employment of 9.5 years and more than 17% of the staff reaching 20+ years of service to the institution. The combination of these factors contributed to a formidable resistance to the initial automation required for an EMR.

To introduce the concept of EMR, nursing staff was mandated to attend an education session facilitated by a nurse and an organizational psychologist. The session focused on how EMR would benefit the patient care delivery in the highly complex oncology world. William Bridge's Change Theory was utilized as a framework to prepare the staff for a multi-phase approach. The use of "superusers," staff trained in depth by a training team, were then responsible to train other staff members. This allowed more people with detailed knowledge of the system to be available for troubleshooting. The facility also utilized a "Command Center," open 18 hours a day during the first 2 weeks of the system's implementation. Clinical and technical people were immediately available to answer questions and actively rounded through the clinical areas to train and troubleshoot as needed.

The initiative was deemed successful as evidenced by monitoring the number of calls made to determine if problems noted during the initiation were resolved, and by tracking staff's general comments about the system.

The successful utilization of change theory and the use of the "superusers" concept can be applied to other major changes in oncology nursing practice, allowing for increased patient safety, improved workflow and enhanced communication.

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DEVELOPMENT OF A COMPUTERIZED PATIENT EDUCATION SYSTEM IN THE CLINICAL SETTING. June Eilers, PhD, RN, BC, The Nebraska Medical Center, Omaha, NE; Judith Heermann, PhD, RN, University of Nebraska College of Nursing, Omaha, NE; and Lisa Janousek, RN, MSN, The Nebraska Medical Center, Omaha, NE.

Development of a computerized patient education system establishes an effective mechanism for providing and recording teaching over time and across settings.

The purpose of this project was to develop a system for patient/family education that would allow for tracking of education, promote high quality standardized content, provide for linkages with other components of the computerized medical record, and build on the strength of electronic documentation.

Although long acknowledged as an important component of quality cancer care, patient/family education has become increasingly critical with high acuity levels, increased expectations regarding self-care, and extended trajectories of active disease, treatment, remissions, and disease free periods. In addition third-party payers are basing reimbursement on education received and documented. The involvement of multiple disciplines in various settings increases the need for a system that clearly articulates the responsibilities of the different disciplines and fosters an integrated approach to teaching that benefits patients/families.

Components of the system include teaching materials and standardized content which are intranet accessible, and electronic documentation of content delivered and the patient's mastery of content. Team members involved have included: informatics nurse specialist, information technology specialist, clinical nurse researchers, clinical nurse specialist, patient education coordinator, and representatives from the multiple disciplines involved in the education: nursing, pharmacy, social work, nutrition services, respiratory therapy, and physical/occupational therapy. A formative evaluation approach has been integrated into the project to allow for modification of the plan based on data. This approach includes the use of small focus group sessions and paper/pencil questionnaires for end-user input and on-going evaluation.

The components incorporated into the evaluation include user reactions to the (1) overall system, (2) clarity of goals and standardized documentation terminology, (3) adequacy of teaching standards and

content, (4) availability of necessary teaching materials and content, (5) usefulness of the system to track education over time and (6) end-user performance. Multiple waves of data collection provide guidance for continued development of the system throughout the project.

Development of an integrated system for patient/family education in the clinical setting requires a carefully planned approach. Involvement in the formative phases of the development of such systems enables nursing to play an influential role in the usability of the final product.

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EMPOWERMENT: THE RESPONSE OF AN EMPLOYEE OPINION SURVEY. Sherri Rubinstein, RN, BSN, The University of Texas M.D. Anderson Cancer Center, Houston, TX.

The healthcare industry is a competitive and demanding market. Recognizing that the employee is the most valuable asset the management of MD Anderson Cancer Center (MDACC) conducted an Employee Opinion Survey in October 2002. The survey assessed the thoughts, opinions, and morale of employees.

Responses highlighted areas of strength and identified areas needing improvement. These outcomes were used to develop action-planning strategies. Typically, organizational decisions are made at the top and then communicated to the employee. Knowing that the best ideas often come from those individuals actually working with an issue the institution found a way to reverse the process by empowering the employee. By encouraging employee involvement in the decision making processes administration and faculty leaders sought measures to address issues of concern identified in the survey.

Management recruited teams throughout areas of the institution to identify the greatest area of concern within their clinical area. Teams were composed of diverse individuals with varied skills, talents, education, and responsibilities. One such diverse team, from the Sarcoma Center was formed and composed of eight individuals representing nursing, research, and support staff. The team focused on the improvement of employee satisfaction through the implementation of measures that supported optimal workload management by reduction of documentation.

When initially surveyed, 70% of the staff from this clinical area indicated that the workload was unreasonable. One contributing factor was the current amount of paperwork involved in patient care. The team developed a plan for consolidating three forms used daily in clinical practice into one tool. This form would be user friendly, easily accessible, and part of the permanent patient record. Within a period of 6 weeks, the implementation of this revised instrument reduced unfavorable results from 70% to less than 40%.

The expected outcomes were found to have numerous gains for both the employee and management. The reduction in paperwork and duplication resulted in cost containment, increased time efficiency, and improvement of employee morale. The end result of promoting employee involvement in the workplace was the generation of workable, meaningful solutions.

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ONCOLOGY NURSES AS SERVICE LINE ADMINISTRATORS: A UNIQUE BLEND OF ROLES. Catherine Lyons, RN, MS, CNA, University of Rochester Medical Center/Strong Memorial Hospital, Rochester, NY.

The establishment of Clinical Service lines in various specialties (Oncology, Cardiac) in different settings (academic, community) has seen rapid growth and expansion as a relevant and responsible model of management. In the specialty of Cancer, in particular, the continuum of care experienced by patients over the course of the disease makes the Service line concept particularly appropriate. Oncology Nurses should be considered as strong candidates for Service Line Administrator roles because of their unique and valuable set of skills.

This presentation will describe (1) the elements of a successful Service Line Concept, (2) the organizational model, (3) the importance of linkage between financial and clinical performance/outcomes and (4) the concept of focus on patient care and services regardless of the setting and (5) organizational and role differences in community and academic environments. Strategies for measurement of key evaluation metrics will also be discussed.

In addition to describing the challenges of initiating a Service Line model, the knowledge, skills and abilities of the Service Line Administrator will be described, along with the description of typical roles and responsibilities for this key position. For those who are considering the implementation of such a model, key ingredients for success in recruiting an Administrator with a unique blend of administrative and clinical skills will be described along with the challenges that may be encountered in various settings.

Qualitative as well as quantitative dashboard indicators for the Oncology service Line will be described. Strategies for development of successful partnerships with Hospital and medical staff leadership will be outlined in both an academic and community setting.

This topic has wide implications for community and academic health care organizations interested in developing the Service Line Concept for Cancer. A case for Oncology Nurses as successful Service line administrators will be articulated along with suggested additional skills and education that the successful candidate should possess.

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IMPLEMENTING A PALLIATIVE CARE CONSULT SERVICE. Sara Welsh, RN, MSN, CNA, Curtis & Elizabeth Anderson Cancer Institute at Memorial Health University Medical Center, Savannah, GA; Jerry Quinn, RN, OCN®, Memorial Health University Medical Center, Savannah, GA; and Jennifer Currin, LMSW, Memorial Health University Medical Center, Savannah, GA.

Palliative care is comprehensive, interdisciplinary care for the management of patients and their families with chronic debilitating or life threatening illness. The aim of this care is to relieve suffering and improve quality of life. This type of care is different than hospice care. One in five hospitals now offers palliative care. Developing a palliative care consult service is a method that allows community hospitals to offer this type of care to cancer patients without the high cost of hiring/supporting their own staff.

This abstract will describe the actions taken by an interdisciplinary team lead by an oncology nurse to devise and implement a palliative care service at a community cancer center. Details will be provided so that other organizations can replicate this service.

As this was a new service many new processes had to be devised such as:

- 1) A palliative care screening tool was adapted to screen patients on admission. Using a standardized scoring system patients with palliative care needs were identified. The primary care physician is notified and an order for a palliative care consult is requested.
- 2) An assessment of staff knowledge and beliefs about palliative care was devised and given to staff to identify learning needs and beliefs about palliative care.
- 3) A process was devised so that the palliative care physician was allowed to see patients in the hospital and work with the patient/family and care team.

For this ongoing project, the following measurement indicators were selected:

- 1) Percent of patients eligible that were referred
- 2) Time from MD order to consult
- 3) Change in variable costs
- 4) Percent of identified needs met by discharge

Oncology nurses have the knowledge and skills to lead interdisciplinary teams in developing cost effective, palliative care consult services. This type of service can improve quality of life and also decrease costs.

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SUCCESSFUL STRATEGIES FOR JOB-SHARING THE CASE MANAGER ROLE. Susan Franco, RN, BSN, Nebraska Medical Center, Omaha, NE.

As the nursing work force ages, and nurses encounter new demands in their changing life cycles, creative strategies must be employed to keep expert nurses in the workforce.

Aging parents, the challenge of children involved in multiple community activities, and marital demands impact the nurse's ability to maintain a fulltime professional role. Some choose to relinquish their positions or postpone their nursing career if adjustments cannot be made to achieve a balance between professional and personal commitments. This has influenced the number of nurses available for filling positions during the nursing shortage.

One approach to retain expertise without sacrificing personal commitments is the development of job-sharing positions. This approach, which allows nurses to work part-time in positions with full-time requirements was instituted in the case manager role at our institution. The nurse partners with a colleague to provide comprehensive care management for the oncology patient. The patient benefits from being able to draw upon the experience of two nurses who are in close communication with each other. The complexity and acuity of oncology patients today make job-sharing particularly challenging. Strategies have been developed to ensure seamless care is provided and patient satisfaction is maintained. Effective interpersonal skills, consistent documentation tools, strong organizational techniques, careful partner selection, and a commitment to the role are essential elements. In addition, there must be understanding and acceptance by the physician collaborators and other co-workers, and support from the institution. The critical components in designing the job-share role will be presented.

Lessons learned over a cumulative of ten years of job-share experience and outcome measures will also be discussed to assist others desiring to create such roles in their institutions.

Health care organizations must come to realize they need to be open to new ways to structure work to retain valuable nursing staff desiring to have the right blend of commitments in their professional and personal life. Creating and sustaining these types of job-sharing positions can be a win-win for the nurse who can have the desired balance in life, the patient who receives quality seamless care, and the organization who retains valuable nurses.

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MAXIMIZING THROUGHPUT FOR ONCOLOGY OUTPATIENTS. Nancy Ziel, RN, BSN, and Patrice Skjerve, RN, MSN, AOCN®, H. Lee Moffitt Cancer Center, Tampa, FL.

Advances in the detection and treatment of cancer in an aging population has resulted in explosive growth in outpatient oncology care, while inpatient bed capacity has remained essentially unchanged. It has therefore become imperative to develop and implement innovative solutions that ensure that the urgent care needs of patients are met appropriately while utilizing existing resources wisely. Most traditional medical surgical hospitals caring for oncology patients have an emergency department that handles urgent patient care needs and serves as a transition point between outpatient and inpatient services. At our specialty institution, a traditional emergency department does not exist since the full range of emergency and trauma services are not needed. However, patients do present to outpatient clinics with urgent needs which may or may not require hospitalization. Therefore, the Patient Triage Area was developed to meet these patient needs.

The purpose of this project was to explore the processes associated with patient care in the Patient Triage Area, and to develop standards and policies to address the unique patient needs in this area.

Process flow diagrams detailing several important aspects of care related to the Patient Triage Area were developed. Through the analysis of these flow diagrams, key policies and processes for improvement were identified. Forms and other documentation were then developed, tested and implemented.

Evaluation of this project is currently in process. Several quality measures will be used to assess the effectiveness of interventions. These quality measures include customer satisfaction (both internal and external), patient wait time reduction, and hospital admission rates within 48 hours for patients discharged to home and not admitted to the hospital.

This abstract presents one way to meet the challenge of addressing patient urgent care needs within one institution. The strategies presented here could be utilized in many institutions to address the unique needs of the oncology patient while maximizing throughput.

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SU11248: A NOVEL DRUG GIVING RENAL CANCER PATIENTS NEW HOPE. Suzanne Sweeney, RN, Patricia Fischer, RN, MSN, and Anne Valentini, RN, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

SU11248 is a new oral drug giving hope to renal cancer patients. It is classified as a tyrosine kinase inhibitor, currently used in phase II trials to treat metastatic renal cell cancer (RCC). This drug works by blocking mul-

tiplied tumor growth factor receptors, which interrupts signaling pathways to prevent tumor growth and cause tumor regression. Oncology nurses are crucial in the management and education of patients enrolled on trials and play an essential role whenever new drugs are introduced.

RCC is diagnosed in approximately 30,000 Americans annually. The 5-year survival rate for metastatic disease is around 10%. Cytokines are standard therapy for RCC but only 15% of patients respond to treatment. The purpose of this presentation is to inform oncology nurses of a new treatment option for metastatic RCC, and report our experience managing patients enrolled in clinical trials. Eligibility criteria, treatment schedule, toxicity profile, and ongoing evaluation/followup will be reviewed.

Patients who have failed prior cytokine therapy were eligible for this trial. Calendar/diaries were used to measure patient compliance with the protocol. Patients were taught to record the date and time of daily administration of the SU11248 capsule as well as document side effects. Some common side effects noted were fatigue, nausea, and diarrhea, a rash on the hands, mouth soreness, and yellow skin discoloration. If side effects were significant, the drug was held, reduced, or discontinued. A weekly multidisciplinary meeting was held to discuss findings to ensure patient safety.

SU11248 has shown anti-tumor activity as second-line therapy for patients with metastatic RCC. Overall, this medication is relatively well tolerated. Extensive patient education, symptom management and close followup allowed patients to be treated safely.

By closely monitoring patients taking SU11248, oncology nurses are able to ensure the safe administration of this novel drug in clinical settings. This presentation will provide educational material, and discuss the toxicity profile and the nurse's role in managing these patients. Future plans include a Phase III randomized trial comparing this agent with Interferon to determine its efficacy as a first-line therapy.

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EXPANDING APPLICATIONS OF COLONY STIMULATING FACTORS: MUCOSITIS, DIARRHEA, WOUND HEALING, AND CROHN'S DISEASE. Patricia Buchsel, RN, MSN, FAAN, University of Washington, School of Nursing, Seattle, WA, and Elaine DeMeyer, MSN, AOCN®, Creative Cancer Concepts, Rockwall, TX.

Colony stimulating factors (CSF) are commonly used as supportive care agents for neutrophil recovery. Recent encouraging results suggest that CSFs may have expanding applications beyond neutrophil recovery including treatment of mucositis, diarrhea, chemotherapy extravasation ulcers, pressure sores, and chronic refractory wounds. Other patients who have shown benefit are those with gastrointestinal disorders such as Crohn's disease. Oncology nurses can broaden their knowledge of new applications for proven therapies such as CSFs for the improvement of their clinical knowledge and to enhance patient education.

The purpose of this abstract is to acquaint oncology nurses with the expanding uses of CSFs in supportive care beyond neutrophil recovery and to introduce the concept of GM-CSF in new applications.

Early research with GM-CSF suggested that allogeneic bone marrow transplant recipients who received GM-CSF had a 72% lower rate of mucositis than patients receiving placebo ($p = 0.005$). A recent study ($n = 69$) showed that oral mucositis lengthen hospital stays by 6 days in stem cell transplant recipients. Another study ($n = 92$) showed the economic burden of mucositis to be \$42,749 more when compared to those without mucositis. Case studies now indicate that the use of topical or subcutaneous GM-CSF is effective in wound healing after an infection resulting from a PEG tube, in skin ulcerations in breast cancer, chemotherapy extravasation ulcers, and in healing of chronic refractory wounds in patients with sickle cell anemia. An early study in patients with Crohn's disease ($n = 124$) demonstrated that more than 54% had improvements in debilitating symptoms.

Clinical studies and case studies show that CSFs to be effective in many adverse effects of cancer and its treatment. These conditions are managed by oncology nurses worldwide and have enormous impact on the well being of the cancer patient.

Oncology nurses have long been familiar with the supportive care rendered by CSFs. New information on the expanding uses of GM-CSF suggest that common adverse effects of cancer and its treatment such as mucositis, wound healing, and inflammatory diseases may improve the

clinical and economic outcomes of debilitating adverse effects of cancer treatment such as mucositis. In many cases, CSFs are not administered in traditional dosing. Oncology nurses need to be knowledgeable about not only new applications but of new administration methods.

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CLINICAL VACCINE TRIALS: LESSONS FOR ONCOLOGY NURSES. Carol Hill, BSN, RN, OCN®, Emory University, Atlanta, GA; and Karen Ann Anderson, PhD, MSN, RN, CDE, Janelle Bowersox, MSN, RN, and Kia Stokes, BSN, RN, Emory University, Winship Cancer Institute, Atlanta, GA.

For many years chemotherapy agents have been used to treat cancer after surgery or radiation therapy. Over the past several years vaccine therapy has emerged as a promising treatment for many different types of cancer such as melanoma, head and neck, pancreatic, lymphoma, renal cell, and prostate cancers. The rationale for the clinical trial development of vaccine therapy is to determine if the patient's own immune system can be enhanced to trigger a response to help kill cancer cells. The clinical oncology nurse plays a key role in managing these clinical research trials.

This report discusses the unique challenges presented by vaccine therapy and nursing implications that are exceptionally dissimilar to that of chemotherapy. It is of critical importance to the well being of the patient for oncology nurses to understand how clinical trial vaccines are stored, prepared, administered, and documented.

Vaccines must be given within a strictly specified time after preparation, must be given subcutaneously or intradermally, and most must be given in a non-resected nodal basin. Timing of administration is critical to patient safety and includes frequent monitoring for as long as eight hours after administration. Clinical trial blood draws for pharmacokinetic studies may also be required and must be processed appropriately.

Detailed documentation is important since each vaccine is made specifically for each patient and side effects will vary from patient to patient. Finally, extensive post-vaccine patient education will also be an important part of the vaccine trial administration.

The oncology nurse brings clinical expertise and sound scientific knowledge to the clinical trials setting. The complicated features of a vaccine clinical trial create challenges that oncology nurses need to understand prior to assuming the responsibilities related to vaccine trials. Therefore, it is critical for nurses and nurse managers to avail themselves of educational opportunities that will best support their staff in preparation of vaccine clinical trials. Vaccine clinical trials will soon be a significant part of the oncology nurse experience.

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THE AMBULATORY NURSE: A VITAL ASSET TO PATIENTS TAKING INTERFERON. Anne Valentini, RN, BSN, and Patricia Fischer, MSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

With the ever-growing shift in treatment to an outpatient setting, the ambulatory nurse plays a vital role in educating patients to ensure their safety at home. Interferon, a cytokine used to treat metastatic kidney cancer, is administered subcutaneously and is associated with numerous toxicities. The nurse is an integral part of the healthcare team educating patients about administration techniques, management of debilitating side effects, and self care measures to enhance quality of life.

At this NCI designated cancer center, the nurse educates patients about self-subcutaneous administration of interferon using a multidose pen. The pen makes it safer for patients taking this medication at home by eliminating many steps of a conventional injection, therefore decreasing chance of complications related to contamination and/or error. Nurses managing these patients need clinical expertise about the disease and competency using the multidose pen. In order to meet the needs of staff and patients, a program was developed to ensure competency of nurses about correct usage of the pen and the development of a nursing care plan.

A staff nurse with expertise on this subject organized an inservice that incorporated an overview of kidney cancer, treatment with interferon, hands-on demonstration of the pen, and management of side effects. A take-home teaching packet was devised that included step by step instructions for use of the pen, fact card about interferon, instructions on home disposal of needles, and booklet on subcutaneous injections. This inservice not only educated nurses, but served as a forum for discussion of patient issues and nursing concerns related to self-administration of interferon.

The nurses verbalized increased confidence and decreased anxiety about this subject after attending the inservice. Patients stated that they used the teaching packets as a constant source of referral. Patient safety was enhanced through the use of verbal, printed, and hands-on instruction.

It is crucial that nurses develop expertise and explore ways to improve home safety to assure safe self-administration of medications at home. This presentation will provide information for developing an inservice and patient instructional packet that nurses can use in their setting to educate peers and patients.

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ADDRESSING ONCOLOGICAL PAIN THROUGH A MULTIDISCIPLINARY (MDC) APPROACH. Nancy Lambert, RN, BSN, OCN®, Christiana Care Health Services, Newark, DE.

Controlling chronic and acute pain in the oncology setting is a crucial step toward improving the quality of life for a patient with cancer. The unique role of the oncology nurse is to establish a trusting relationship in order to support the on going pain assessment which facilitates communication to the physician and allows the maintenance of appropriate pain control.

A community-based survey was sent out to cancer patients served by the HFGCC to establish if a variety of needs were being met and the quality of the service rendered. In this survey, over 50% of the cancer patients reported pain that was not controlled by their oncologist.

As indicated by research and assessments of pain programs, it was recommended that a multidisciplinary team be established to focus solely on cancer patient pain. The "team supplies a comprehensive holistic assessment of the client while maintaining an open communication with the primary oncologist. The Multidisciplinary Team includes three members. The main and prescribing physician is a physiatrist, who specializes in pain management, a psychologist to assess for psychiatric co-morbidities, and an oncology certified nurse whose interest is in quality of pain control. The team establishes a comprehensive pain management program that encompasses every appropriate component of the continuum of care.

Patient evaluation is delivered in a variety of methods. The oncology nurse follows up by telephone to determine if the patient is experiencing appropriate pain control. When the situation dictates, a home care agency is utilized in assist in monitoring the pain. The patient is re-evaluated by the team in 1-3 weeks. The Pain MDC is evaluated through patient satisfaction survey.

The role of the oncology nurse is implemented by providing an up front pain and bowel assessment, while clarifying any questions that arose when reviewing the patient's chart and pain assessment form. The oncology nurse serves as vital conduit to the physician and home care agency for pain management adjustments.

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PERCEIVED NEED FOR SYMPTOM MANAGEMENT IN THE OUTPATIENT UNIT. Kyra Whitmer, PhD, RN, Jane Pruemer, PharmD, BCOP, and Abdul-Rahman Jazieh, MD, MPH, University of Cincinnati, Cincinnati, OH.

It is known that oncology patients experience multiple symptoms at various times during their cancer experience. The question posed was what were the needs of our outpatient population for symptom management?

A multidisciplinary team assembled to determine the need for a symptom management clinic. Two surveys were developed for potential users, one for the outpatients and the other for the attending oncologists. Eighty five percent of these outpatients are either Medicaid or self-pay.

During a 3 week period, outpatients were approached after registering for the oncology clinic and while waiting for their appointment. Ninety five percent of the outpatients approached completed the survey.

Findings: A total of 112 surveys revealed that 71% of the outpatients would attend a symptom management clinic for relief of pain (50%), fatigue (40%), nausea/vomiting (30%), and/or sleeping difficulty (30%). A total of 16 surveys completed by oncologists revealed that outpatients could use more assistance with pain (81%), diet (75%), depression (69%), and/or fatigue (56%). Outpatients felt they would benefit from meeting with a nurse (35%), social worker (21%), dietician (18%), and/or pharmacist (18%). While oncologists felt the following would complement care: dietician (69%), psychologist (69%), nurse (56%), and/or social worker (56%). Fifty-one percent of the outpatients indicated that

they would attend a symptom management clinic and all but one oncologist would refer to this clinic.

Interpretation: Symptoms need to be addressed in the outpatient setting. Users, both outpatients and oncologists perceive benefit from a collaborative and interdisciplinary symptom management clinic.

While there exists some disconnect between perceived need for symptom management between outpatient and oncologist, it is evident that pain is the symptom of primary concern. An interdisciplinary team of oncologist, nurse, social worker, dietician, pharmacist and psychologist could collaboratively address the presenting symptoms. Outpatients are willing to attend such a clinic and oncologists will refer.

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PREDICTORS OF COMPLEMENTARY AND ALTERNATIVE THERAPY USE BY CANCER PATIENTS. Judith Fouladbakhsh, MSN, APRN, BC, AHN-C, CHTP, Wayne State University, Detroit, MI; and Manfred Stommel, PhD, Barbara Given, PhD, RN, FAAN, and Charles Given, PhD, Michigan State University, East Lansing, MI.

Complementary and alternative therapies (CAT) are used by cancer patients along with "mainstream" medical treatments.

Estimates of CAT use by cancer patients range from 7%–64%. It is important for oncology nurses to understand factors that lead to use of CAT because of implications for nursing care.

This study sought to determine predictors of use of CAT by cancer patients.

Andersen's Behavioral Model of Health Services Use was employed. The study focused on three key aspects of the model: predisposing, enabling and need-for-care factors, which are relevant to the prediction of CAT use.

A secondary analysis of two NIH federally funded panel studies was conducted. The sample included lung, breast, colon and prostate cancer patients (N = 968), interviewed in two panel waves (three months apart). Study participants were asked if they used any of the following complementary/alternative therapies: herbs/supplements, spiritual healing, relaxation, massage, acupuncture, energy healing, hypnosis, therapeutic spas, alternative diets, audio/videotapes, osteopathic, homeopathic or chiropractic treatment. Most of the sample (97%) received "mainstream" medical treatment: surgery (65%), chemotherapy (38.5%) radiation therapy (54%).

The dependent, dichotomous variable for this analysis was: use or no-use of any of the identified complementary/alternative therapies at time of interviews.

Independent variables analyzed in the model included:

Predisposing: gender, age, race, education, marital status;

Enabling: income, health insurance status, caregiver presence, geographic location;

Need-for-care: cancer stage, site, symptoms, treatment, perceived health need.

Binary Logistic Regression was the primary statistical model employed in the analysis, which focused on the between-subject differences in CAT use (disregarding changes in use over time). A stepwise procedure was followed in which potential predictor variables were excluded from the model if their p-value exceeded 0.10.

Statistically significant predictors of at least one-time CAT use were: gender (women's odds of CAT use is 2.5 times larger than men's), marital status (single and divorced persons are more likely to use CAT), income (the higher the income, the more likely to use CAT), and cancer treatment (patients who underwent surgery were more likely to use CAT). Implications for nursing practice will be discussed.

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UTILIZING OPEN FORUM SESSIONS TO INCREASE AWARENESS AND SELF-CARE REGARDING THE PREVENTION AND TREATMENT OF LYMPHEDEMA. Michele Charles, MS, RN, and Deborah Arvidson-Hawkins, RN, BSN, OCN®, H. Lee Moffitt Cancer Center, Tampa, FL.

During clinic visits with patients who have had recent breast cancer surgery involving the removal of one or more lymph nodes (predominantly axillary), information on lymphedema prevention and treatment is provided. With limited time and the amount of information provided, a need for a supplemental education arose. Monthly lymphedema education sessions were created to fulfill this need.

To improve understanding and facilitate methods of prevention and treatment of lymphedema in the post surgical breast cancer patient. The style of discussion and presentation of information by trained nurses in surgical and medical oncology as well as physical therapists empowers the patients to improve self-care, increase awareness of, and dispel common myths regarding lymphedema. The sessions have the secondary effect of creating a support network of patients with similar situations.

The group is conducted by multidisciplinary professionals from surgical and medical oncology nursing and physical therapy, as an open forum, to facilitate discussion and answer questions regarding prevention and treatment of lymphedema in post surgical patients, predominantly breast cancer patients. The discussions are held in a comfortable room with patients and facilitators seated in a circle. Written material and charts are utilized to educate patients on the anatomy of the lymphatic system, causes of lymphedema, and methods of prevention/treatment options. The sessions are held on a monthly basis with a duration of one hour.

The participants of the group are asked to provide feedback through comment cards and verbal discussion when the session is completed. Names and phone numbers are obtained in order to facilitate follow up and to provide a list of patients that desire to be part of a support network for future participants.

The sessions may encourage women to feel more comfortable asking questions and improving self-care related to their individual risk for developing lymphedema. Observing other participants in various ranges of onset of lymphedema is an added benefit to overall awareness. Research is minimal in this area and groups such as this can provide much needed data for future nursing research.

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A DEADLY TRIO: CANCER, AGGRESSIVE CHEMOTHERAPY, AND TYPHLITIS. INCREASING THE ONCOLOGY NURSES KNOWLEDGE OF THIS UNKNOWN COMPLICATION. Tim Eden, RN, BSN, and Mikaela Olsen, RN, MS, OCN®, Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD.

Typhlitis, derived from the greek term "typhlon" or cecum, is a rare and serious complication in cancer patients which refers to inflammation of the cecum. This condition may result in necrosis of the cecal portion of the bowel and/or the ileum and appendix. Related terms used in the literature include necrotizing enterocolitis, neutropenic enterocolitis, and ileocecal syndrome. These terms may indicate inflammation in other areas of the bowel whereas typhlitis refers solely to the cecum. Historically, typhlitis has been described as a complication of highly immunosuppressive therapies for lymphoma or leukemia. With the advent of higher doses of chemotherapy this condition now appears in many non-hematologic patients. The etiology of typhlitis is not well understood. The universal predisposing factor for typhlitis is profound neutropenia. It is estimated that as many as 40–50 percent of patients with typhlitis may die due to complications related to bowel necrosis, sepsis or perforation.

The purpose of this presentation is to educate nurses about typhlitis. This presentation covers risk factors, pathophysiology, clinical presentation and a nursing plan of care for the patient with typhlitis. Case studies will be utilized to illustrate the complex nursing care of this life-threatening complication.

A detailed nursing plan of care for the patient with typhlitis was developed and implemented in this designated comprehensive cancer center to guide nurses. Education on typhlitis will be integrated into nursing orientation for new oncology nurses to assist them in the recognition and management of this rare complication.

The goal of this presentation is to increase the nurse's understanding of oncology patients with typhlitis. Increased knowledge will enhance symptom management goals and assist with early identification and interventions for patient symptoms, thus improving the care of this population.

It is predicted that the incidence of typhlitis will increase in the coming years due to the effects of newer chemotherapy drugs, higher doses of chemotherapy, and an increasing number of patients chronically immunosuppressed. Typhlitis should be considered an oncological emergency. Through this presentation we will share our experience with this complication and provide guidelines for the care of the oncology patient with typhlitis.

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THE IMPLEMENTATION OF TELEMETRY MONITORING ON A THORACIC UNIT. Wendi Stone, BSN, and Maureen Jingeleski, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

Postoperative thoracic oncology patients are at risk for developing cardiac arrhythmias, specifically atrial fibrillation (AF). Patients with post-operative AF are often asymptomatic therefore new onset AF could go undetected. This NCI designated cancer center implemented a telemetry monitoring system on the thoracic medical and surgical unit to be able to detect AF on initial onset and thus improved patient care by initiating care early.

Atrial Fibrillation is a complication of lung cancer surgery in 10%–40% of patients. Arrhythmias are associated with increased postoperative morbidity and mortality. Potential causes are related to surgical proximity, hypovolemia, hypoxia, electrolyte imbalances, and other co-morbidities. Telemetry allows for early identification of arrhythmias. Early cardiac intervention allows the patient to get out of AF before they become at significant risk for thrombotic complications due to the arrhythmia or to begin antithrombotic therapy as soon as clinically indicated.

The telemetry program was initiated in 2002 with 8 wireless monitors and pagers. The nursing staff were deemed competent after successful completion of an eight hour dysrhythmia class and post-test. The institution then developed a plan of care for post-op thoracic patients needing telemetry. The patients who meet certain criteria are placed on telemetry for 48 hours. If no arrhythmia is detected the telemetry is discontinued, if an arrhythmia is detected the patient remains on monitoring and requires additional medical interventions. The nurse is responsible for printing a daily rhythm, performing a cardiovascular assessment, monitoring lab values, and vital signs. Treatment for AF includes the administration of IV diltiazem, supplemental oxygen, and replacement of electrolytes.

Undetected arrhythmias result in complications such as pulmonary embolism and respiratory distress, requiring transfer to the ICU, and prolonged hospital stay. Telemetry monitoring have resulted in shorter length of stay, fewer postoperative complications, and a decrease in hospital costs.

The telemetry monitoring allows for early identification and treatment of arrhythmias. Due to the improved patient outcomes with the telemetry program four more telemetry monitors are to be added in the fall of 2004 and four more in 2005.

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HANDS-ON EDUCATIONAL APPROACH TO IMPROVE COGNITION IN CANCER PATIENTS. Rosanne Arlington, RN, MSN, CNS, OCN®, Mercy Cherian, BSN, OCN®, and JoAnn Mick, RN, MSN, AOCN®, MBA, U.T. M.D. Anderson Cancer Center, Houston, TX.

Cognitive impairment can be a major impediment to oncology patients' education and successful return to the home environment. Patients often are insecure about their ability to care for and made decisions about the use of urinary drainage devices. Oncology nurses have a unique opportunity to provide education in a format that optimizes the patient's educational experience.

The purpose of this project was to develop an educational program to effectively address the educational needs of oncology patients with potential cognitive impairment who undergo surgical urologic procedures and return home with a urinary drainage device.

The intervention included development of a "hands on" educational experience that specifically addressed cognitive impairment by emphasizing active, repetitive demonstration of techniques by nursing personnel then return demonstration by patients and caregivers using a life-size mannequin, models, and supplies that would be used at home. All members of the team worked together to assure that the skills demonstrated in the classroom were demonstrated again with the patient's equipment to support the patient and caregiver, to reinforce their knowledge and skill, to provide an opportunity to ask questions in a supportive environment, to demonstrate their mutual ability to adequately provide care and make decisions, and to help them begin to develop a concrete plan for care after discharge. A video and an educational handout were distributed to reinforce the information.

The knowledge, ability, and confidence of patients and family caregivers (n = 155) were measured by a questionnaire at the conclusion of the program, by the demonstration of their ability to perform the tasks required to appropriately care for the urinary drainage devices

in both the classroom and bedside settings, by verbal comments about their knowledge and security, and by a dramatic, documented reduction of calls to the clinic after discharge.

The patients and caregivers reported increased confidence, knowledge, and ability to be involved in self-care throughout the hospital stay. This "hands on" educational model is an effective, time-efficient way for oncology nurses to help patients and caregivers gain increased confidence, knowledge, manual dexterity, and ability to safely provide care once they return home.

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MANAGING DIABETES IN THE ONCOLOGY PATIENT: PATIENT EDUCATION STRATEGIES. Ellen Coonerty, RN, BSN, CDE, Memorial Sloan-Kettering Cancer Center, New York, NY.

Glucose intolerance is one of the first metabolic consequences of cancer. Since successful management of this condition depends upon the patient's level of involvement, the oncology nurse has a unique opportunity to act as both teacher and liaison with the team charged with preventing glycemic derangements.

Recent studies show that hyperglycemia increases morbidity and mortality in hospitalized patients and increases lengths of stay by one to three days (Van de Berghe et al., 2001). Additionally, hyperglycemia increases sepsis, acute renal failure, critical illness-related polyneuropathies, and is an independent risk factor for adverse outcomes and repeat hospitalizations (American College of Endocrinology, 2004). At this NCI designated cancer center, during a two-week period in October 2003, 25% of patients had one or more blood glucose levels greater than or equal to 200 mg/dL. Both hyper- and hypoglycemia can impair the quality of life for the oncology patient and may alter the patient's ability to interact with family members and caregivers.

Successful treatment of hyperglycemia employs the oncology nurse and the patient/caregiver as integral members of the diabetes team. Basic anatomy and physiology, graphic designs, case scenarios, and story-telling techniques are all strategies developed to explain hyperglycemia and help motivate the patient/caregiver to become active and willing participants in the diabetes plan of care. The nurse who uses these illustrations and methods can instrument positive changes in behaviors surrounding glucose control and effect better physiologic outcomes.

Nurses and the previously naïve/resistant patients' reaction to the occurrence of hyperglycemia have embraced these educational tools with new motivation and feelings of empowerment. Both begin to look at the hyperglycemic state as manageable with some modifications, as compared with cancer, where physiologic control is frequently unpredictable.

Education is tantamount to optimal glycemic control and the prevention of adverse outcomes. The complex diagnosis of diabetes must be taught and understood by the patient/caregiver to actively enlist their participation and maintain near normal glycemia. This presentation will empower the oncology nurse with meaningful and understandable information that the nurse as teacher and nurturer can impart to the patient/caregiver.

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TREATMENT OF ANEMIA WITH DARBEPOETIN ALFA (ARANESP) IN THE RADIATION ONCOLOGY SETTING. Donna Finney, APRN-BC, OCN®, and Ron Allison, MD, East Carolina University, Greenville, NC.

Anemia is common in patients undergoing radiation therapy, with an estimated incidence of 40%–60% (Harrison, 2000). Failure to diagnose and treat anemia has significant consequences on patient outcomes. Anemia contributes to hypoxia of tumors, associated with decreased radiosensitivity and increased incidence of local failure and distant metastasis (Feldmann, 1999). Diminished quality of life and fatigue resulting from anemia contribute to missed treatment visits. In the radiation oncology setting, anemia-directed interventions are not routinely implemented. Oncology nurses are in the ideal position to evaluate patient outcomes, and provide education, therapy and support.

This project will evaluate the efficacy of darbepoetin alfa intervention for the treatment of anemia in patients undergoing radiation therapy, as measured by quality of life, hemoglobin (Hb), cancer recurrence, and survival and compliance to therapy. Darbepoetin alfa is a unique erythropoietic molecule that is well-tolerated and effective in the treatment of chemotherapy-induced anemia, with a 3-fold longer half-life

than recombinant human erythropoietin which allows for less frequent administration (Egrie, 2003). Design and baseline characteristics will be presented (start date August 2004).

Darbepoetin alfa will be administered subcutaneously once every other week, and titrated to maintain Hb within the target range of 11 to 12 g/dL. Anemia is defined by Hb <11 g/dL. Quality of life and fatigue will be measured by the FACT-Fatigue questionnaire (Cella, 1997). Data will be obtained on erythropoietic therapy, tumor type, disease status and progression. Patients undergoing chemotherapy will be excluded.

Approximately, 70 patients per day have radiation therapy at the Brody School of Medicine, East Carolina University. Patients will be evaluated weekly by a nurse practitioner or physician. Following treatment, monitoring will be done every 3 months for the first year and every 6 months thereafter for 5 years.

Anemia interventions have shown potential to increase the effectiveness of curative-intent radiation therapy, demonstrating that the strategy of overcoming tumor hypoxia may be a viable and important approach. The longer half-life of darbepoetin alfa allows for fewer interventions. As patient advocates, oncology nurses may implement anemia-directed interventions in clinical practice, and examine quality of life in patients undergoing radiation therapy.

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LOWER EXTREMITY LYMPHEDEMA IN THE GYNECOLOGIC PATIENT. Kathleen Appollo, RN, BSN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Lower extremity lymphedema (LEL) can be a debilitating side effect of surgery with lymphadenectomy and/or radiation therapy in the treatment of gynecologic malignancies. One retrospective survey suggests that LEL occurs in as many as 18% of women after gynecologic cancer treatment.

Information is available about upper extremity lymphedema after surgery for breast cancer; however, a review of the literature reveals limited information about prevention and treatment for LEL. Anecdotally, many women perceive that they did not receive adequate education about the possibility of LEL after treatment. The discouragement they experience in coping with dysfunction and body image changes may lead to a compromised quality of life.

Patient education for LEL may be inadequate because the primary patient educator, the nurse, lacks knowledge of LEL. This presentation will review the risks, causes, prevention strategies and treatment of LEL. It will also provide nursing assessment criteria and interventions to use in the immediate post-operative period and at follow-up visits. The benefits and limitations of physical therapy and lymphedema specialist's treatments will be discussed. Preventive strategies include the need for early post-operative mobility, meticulous hygiene, nail and skin care, properly fitted foot ware, and prompt attention to cuts and pressure points to avoid infection. Severe lymphedema may be lessened with elevation of the extremity, use of fitted support hose, prompt treatment of infection, and early referral for physical therapy. Dietary and lifestyle changes as well as referral to support groups may be valuable coping strategies.

LEL may occur months or years after gynecologic surgery. Therefore, ongoing assessment and surveillance is necessary at every outpatient visit. Since lymphedema may herald a recurrence of cancer, nurses must be knowledgeable in deciphering the cause, especially after a long disease free interval.

This presentation reviews the risks, preventive and treatment strategies about LEL in the gynecologic patient. The information may also be pertinent to a patient having surgery with lymphadenectomy or abdominal or pelvic radiation in malignancies of the genitourinary or gastrointestinal systems or lymphoma or melanoma.

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SUCCESSFUL DELAYS OF MUCOSITIS IN HEAD AND NECK CANCER PATIENTS RECEIVING RADIATION THERAPY: TOOLS OF COMMUNITY RADIATION NURSES. Maryann Dzibela, RNC, MSN, OCN®, CCRP, JFK Medical Center, Edison, NJ.

The incidence and severity of radiation induced acute toxicities depends on various factors including combined modality treatment with chemotherapy and site specific sensitivities. Mucositis leads to treatment delays and dose reductions which can decrease the patient's quality of life

and survival probability. Radiation oncology nurses play pivotal roles in delaying and preventing their patient's severe mucositis.

The purpose of this study is to seek specific interventions and strategies of care in head and neck cancer patients who successfully delayed the onset of acute mucositis during treatment.

The RTOG Mucosal Evaluation and the NCI Common Toxicity Criteria tools were used consistently when evaluating 50 head and neck patients over a three year period. Each intervention and time to mucositis were recorded.

Outcomes were measured by retrospective analysis of head and neck cancer patients' charts who were evaluated consistently with RTOG and NCI tools for documenting mucositis. Interventions evaluated included patients treated with radioprotectants, mouth rinses, cleansing agents, lubricants and coating agents. The project goal is to prevent or minimize mucositis through the in depth historical data examined.

Finding suggest that the use of consistent tools provides the radiation oncology nurse with the strongest evidence to accurately examine their practice, make changes in interventions and impact the delay of mucositis.

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MALIGNANT PLEURAL EFFUSIONS: ADVANTAGES OF PALLIATIVE OUTPATIENT MANAGEMENT WITH THE PLEURX CATHETER. Lauren Drysdale, RN, BSN, and Lisa Cederbaum, RN, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

Malignant pleural effusion (MPE) is often an end stage complication of cancer, and most patients die within six months of diagnosis. In these patients, palliative therapy is considered the primary treatment plan. With the intervention of skilled nurses, patients are able to manage their MPE at home, thus increasing their quality of life and allowing them to maintain a sense of independence.

MPE is the accumulation of excess fluid in the pleural space. For those suffering with MPE, fluid accumulation results in chest discomfort, shortness of breath, cough, pleuritic pain, and often recurs post initial drainage. Removal of this fluid traditionally required in-patient admission and painful treatments including therapeutic thoracentesis and chemical pleurodesis. Recently, the trend has shifted towards placement of small-bore indwelling catheters, allowing for outpatient management. Nursing care of this catheter is relatively simple and care is easily transferred from nurse to patient or caregiver, thus facilitating a faster discharge to home.

The nurse's primary role is educating the patient and caregiver and providing instruction of proper drainage technique. The nurse provides demonstration of dressing change and drainage, then, requires return demonstration from patient and caregiver to ensure understanding and compliance. Supplemental to the one on one patient education, an instructional booklet has been created for the patients to have written information for reference. The support paradigm shifts from recurrent hospital admissions to placement of semi-permanent chest drainage and outpatient management.

For MPE that recur rapidly, the placement of a small-bore catheter, such as the Pleurx®, is the treatment of choice. It permits a sense of independence for the patient allowing them to live their lives and decrease hospital visits when their time at home with family is most precious. Allowing the patient to return home with a less aggressive treatment and limited or no hospital stay defines the type of care oncology nurses have always embraced.

The Pleurx® catheter is an excellent choice in managing MPE. The Pleurx® system allows for intermittent self-drainage of MPE, thus eliminating admissions for hospital management.

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SELF-PERCEPTION OF PATIENTS DEVELOPING CUTANEOUS TOXICITY DURING TREATMENT WITH CETUXIMAB (ERBITUX): BUILDING NURSING KNOWLEDGE. Kristin A. Cawley, RN, MSN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

The recent advances in treatment for colorectal cancer have made it an innovative and exciting time for oncology nursing. In February 2004, cetuximab was the first monoclonal antibody approved for refractory colorectal tumors expressing endothelial growth factor receptor (EGFR). In the advent period of clinical trials involving cetuximab, oncology nurses became challenged with managing a new and complex adverse effect when patient's presented with skin reactions shortly after initia-

tion of therapy. Acneform eruptions, seborrheic dermatitis, and maculopapular rash (all commonly referred to as acne) are unique cutaneous toxicities attributed to treatment with cetuximab. The acne present as lesions surfacing on the face, chest, back, and extremities, and have been described as painless. Although the severity, location, and length of time this cutaneous toxicity may last varies on the allocated regimen or cessation of therapy, current treatment measures including pharmacological, non-pharmacological, and self-protective behaviors have shown minimal improvement. Oncology nurses have the opportunity to gain knowledge into personal experiences, identify potential barriers for initiating, maintaining compliance or denying treatment; and recognize physical and psychological distress associated with this toxicity.

Oncology nurses play a pivotal role in comprehensively managing physical, psychological, and psychosocial concerns facing the patient. This presentation will explore the impact that cutaneous toxicities have on a patient by identifying and comparing patient reported self-perceptions.

Case studies will be presented to describe personal experiences described by patients, including the impact of cutaneous toxicity on their body image, disease process, compliance to treatment, stress and anxiety, self-esteem, and quality of life (QOL).

The oncology nurse who demonstrates a concise understanding of what the patient is feeling can better provide guidance and assist the patient with adjustment and adaptation to this change in physical appearance.

This collection of information will assist in building a knowledge base for nursing. In addition, it will contribute to improving clinical practice and patient care through the development of a patient assessment tool related to the impact of cutaneous toxicity; as well identify potential strategies for patients to implement in managing this.

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SKIN TOXICITIES AND GEFITINIB (IRESSA): A NURSING CARE PLAN. Ann Culkan, RN, Barbara Pizzo, RN, OCN®, BSN, and Leslie Tyson, MS, ANP-BC, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Gefitinib (Iressa, ZD-1839) was approved in Japan in 2002 and in the United States in 2003 as third line treatment regimen for patients with Non Small Cell Lung Cancer (NSCLC). Daily oral self medication of gefitinib is well tolerated. The side effects are inherently different from those of conventional cytotoxic agents as it does not cause the myelosuppression and nausea or vomiting frequently associated with "conventional" chemotherapy. Effective assessment and interventions for this continuing side effect profile is emerging and requires specific nursing monitoring and interventions.

The purpose of this presentation is to educate oncology nurses in accurate assessment and interventions specific to this exciting new compound. In the US, investigators reported skin toxicity in 62% of patients. Rashes typically consist of pustular or acne-like lesion with occasional erythema and/or pruritus; they are usually located on the face, neck and trunk. Dermatologic changes can include skin desquamation, slow-healing cuts, nail/cuticle cracking and nasal ulcers.

Treatment interventions are specific to the severity of the rash. The thoracic oncology nurses at this NCI-designated comprehensive cancer center have developed a patient fact card, patient education materials, and nursing care plan for patients receiving this unique treatment.

Most patients had a high level of tolerance for the dermatologic effects associated with gefitinib, which were milder than toxicities associated with chemotherapy.

This presentation will include a comprehensive nursing care plan highlighting the cutaneous reactions and nursing interventions designed to manage the dermatologic changes seen in patients ingesting gefitinib.

This care plan could be used by oncology nurses to provide education and interventions for patients receiving this treatment.

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COMPLETE URINARY OBSTRUCTION (CUO) AND RADIATION RECALL DERMATITIS (RRD) ASSOCIATED WITH TAXOTERE: CASE REPORT AND LITERATURE REVIEW. Lourdes Duque, RN, NP-C, MSN, Erma Morales, MSN, NP-C, Pamela Osenenko, RN, Yvette Alejandro, BSN, RN, Janet Cogswell, RN, CNS, and Shirley Hwang, RN, MS, VA New Jersey Health Care System, East Orange, NJ.

Radiation recall is an inflammatory reaction within a previously irradiated area triggered by chemotherapeutic agents. It is an uncommon event and can occur from weeks to years after radiation therapy. The

mechanism is unknown. Early recognition of RRD, mucositis or CUO is vital to prevent serious complications. The association of RRD with taxotere is not well known.

We report a patient who developed taxotere induced RRD, CUO and summarize previously published case reports. An 86-year-old man with prostate cancer received external beam radiation to the prostate and pelvis (6840 cGy) in 1992. In 2003, his disease progressed to hormone refractory status, and he received taxotere 30mg/m² IV weekly. After receiving a total of 570 mg/m², he developed a rectangular area of erythema and edema involving the penis, scrotum, legs, and suprapubic area as well as new onset of CUO. CT scan of the pelvis showed no evidence of thrombus or lymphadenopathy. He was treated with Taxotere discontinuation, insertion of Foley catheter, corticosteroids and diuretics with rapid improvement. The skin reaction was attributed to RRD while the CUO was likely due to mucositis of the urethra.

There have been 8 case reports of taxotere associated RRD. All these cases were patients with breast cancer who presented with acute and severe erythema, pain and induration of previously irradiated skin. In all patients, rapid improvements were seen after administration of corticosteroids. Successful rechallenge with taxotere was reported in two patients.

We report the first case of RRD and CUO in a prostate cancer patient. The duration between the radiation and initiation of taxotere was 11 years. This is the longest duration that has been reported. The dramatic recovery of all his symptoms after administration of corticosteroids support this treatment approach.

Taxotere has been recently approved by the FDA for hormone refractory prostate cancer and will be frequently used in patients who have received prior radiotherapy. It is important to recognize the radiation recall phenomenon and its management.

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MANAGING SKIN RELATED INFECTIONS IN CUTANEOUS T CELL LYMPHOMA PATIENTS WITH IONIC SILVER IMPREGNATED DRESSINGS. Karen Koch, RN, BSN, Rae Rapisardi, RN, Orranah Saxelby, RN, and Robin Gemmill, RN, MSN, City of Hope National Medical Center, Duarte, CA.

The survival rate for cutaneous T cell lymphoma (CTCL) continues to improve due to early detection and advanced therapies. Cutaneous infections however remain one of the primary causes of morbidity for these patients challenging the hematology nurse's ability to effectively manage skin related symptoms while preventing infection and improving patient outcomes.

The purpose of this abstract is to outline a process implemented by the hematology nursing staff to treat and prevent secondary skin related infections for CTCL using topical ionic silver impregnated dressings.

Patients with advanced stage CTCL are often hospitalized because of secondary skin infections, related to ulcerations of skin patches, plaques and/or tumor. The hematology nursing staff consulted the advanced practice nurse (APN) familiar with the relevant evidence-based research and complex care needs required for the CTCL patient, to assist in the planning, treatment, and management of patients with active skin lesions. The APN suggested a topical antimicrobial agent; ionic silver impregnated dressing to reduce the risk for super infections related to immunocompromised condition and over usage of systemic antibiotics. The staff began using ionic silver impregnated dressing as part of a comprehensive multidisciplinary program to address wound infection, excessive drainage, and pain management. Wound therapy with the ionic silver dressings, in conjunction with systemic antibiotics, surgical debridement, chemotherapy, and radiation therapy, demonstrated a decrease in wound infection and drainage. Pain management continued to be a challenge especially, as wounds began to heal. Morphine sulfate was compounded into the ionic silver gel placed into the wound prior to dressing changes resulting in reduced pain scores.

Integration of ionic silver dressings into the treatment plan changed the course of treatment by improving wound healing. Observing the beneficial outcomes of ionic silver dressings, the nurses began to identify and initiate preventative treatment reducing the costs of care with decreased frequency of dressing changes, decreased need for systemic antibiotics, and improved patient outcomes.

This unique approach to prevention and management of skin related infection enhances existing therapies and improves patient outcomes.

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THE USE OF URODYNAMICS IN THE EVALUATION OF THE CANCER PATIENT WITH LOWER URINARY TRACT DYSFUNCTION. Mary Newcomb, RN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Urinary incontinence and voiding dysfunction have a significant impact on the quality of life for patients with pelvic cancers and their care givers. Assessment of the lower urinary tract is important for planning before and after treatment which include medical management, radiation or surgery. Urodynamics studies are one of the tools used to evaluate this function and ambulatory nurses play a major role in performing and educating patients about these studies.

Bladder function requires coordination of the bladder and urethra. Pelvic tumors often compromise this function and leads to urinary incontinence, retention, or both. If voiding dysfunction goes untreated, severe problems such as chronic infection, altered renal function, incontinence or urinary outlet obstruction can develop. This presentation describes urodynamics, the nurse's role in educating patients, conducting the study as well as the rationale and interpretation of the results.

The nursing care plan includes a step by step overview of the urodynamic study. Patients are instructed on preparation before and after the procedure. Patient education material is provided prior to testing which includes possible side effects, such as dysuria, fever and discomfort. After testing, the patient is informed of the different treatment options available including the risks and benefits.

Ensuring a safe and comfortable environment is essential for this study. The nursing care plan guides nurses to create a relaxed environment and also informs nurses to educate patients with clear and concise information. Both of these actions help to reduce patient anxieties, a vital component for accuracy of the study.

Urodynamic testing requires nurses to be equipped with a theoretical understanding, practical experience and the expertise to perform the test accurately. This presentation provides a nursing care plan that includes educational guidelines and materials, treatment options and information needed to care for patients undergoing urodynamics in the ambulatory setting.

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CENTRAL LINE CARE: CHLORHEXADINE VERSUS BETADINE. Setiva Wyrick, RN, UMC, Tucson, AZ.

Central line infections are a prominent cause of oncology patients' morbidity, mortality, and increased health costs. The importance of decreasing infections brings oncology nurses, physicians, and research staff together; to research improving methods of central line cleaning. One meta-analysis study by Chiyakunapruk et al. (2002) determined a decreased incidence of infection when using a chlorhexadine product, instead of a providone-iodine solution. Using research articles and conducting clinical trials the most accurate intervention for cleaning central lines will be determined.

The objective of the study is to compare a new method of central line cleaning, chlorhexadine, to the current method of betadine/alcohol solution. The methods will be compared by infection rates per 1,000 catheters in an adult oncology unit.

The purpose was accomplished by collecting retrospective data through chart reviews on central line infection rates on an adult oncology population. For six months, the current protocol of betadine/alcohol was used to clean central line sites; compared to another six months of using the new protocol with chlorhexadine. To ensure accuracy of the new protocol oncology nursing staff watched videos, attended educational inservices, and read written information. After the two six month periods the infections rates between the two protocols were evaluated.

Data concluded a decrease in infection rate from 8.71 to 4.90 after implementing the chlorhexadine protocol.

By improving central line cleaning protocols we are keeping protocols current with new research, creating continual education for nursing staff, and most importantly decreasing infection rates. Decreased infections rates improve the quality of care for the oncology population by decreasing lengths of stay, decreasing re-admissions for infection, and decreasing total costs for patients.

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CATHFLO ACTIVASE PROTOCOLS FOR MANAGING CENTRAL VENOUS ACCESS DEVICE OCCLUSIONS. Patricia Luptak, RN, OCN®, BSEd, Jefferson Regional Medical Center, Pittsburgh, PA; Ted McClusky, MD, PhD,

Genentech, Inc., San Francisco, CA; and Suzanne Herbst, RN, NAVAN, Salt Lake City, UT.

Most Chemotherapy is given through some type of CVAD. If the device is not patent, it causes delay in treatment for the patient. The nurse can use these protocols to declot CVADs and ensure timely treatment schedules without delays for clotted devices.

The problem is caused by one of four thrombotic events. Fibrin tail, fibrin sheath, intraluminal thrombus, or mural thrombus. Other occlusions can occur which are non-thrombotic such as catheter malposition, catheter related infections, and drug precipitates. These need to be identified by assessment skills to determine the proper method of opening the CVAD.

The lecture discuss the Diagram of Virchow's Triad and its relationship to the anatomy and physiology of the vasculature. Protocols that have been developed at JRMCC are discussed including the rationale for use of each particular type.

Presented data will evaluate success of these protocols including case studies of actual patients. Outcome is successful treatment of patients in many clinical settings in addition to eliminating treatment delays, improving patient satisfaction, and avoiding progression of disease.

These protocols of declotting CVADs enhances the oncology nurse's ability to proceed with treatment by establishing a good blood return from the patient's device. These protocols are available for use in clinical practice across the continuum of health care.

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AN ALTERNATIVE TO IV FLUIDS—HYPODERMOCLYSIS. Mary Cline, APRN-BC, AOCN®, and Kelli Gershon, MSN, RN, FNP-C, M.D. Anderson Cancer Center, Houston, TX.

The administration of fluids can alleviate symptoms of dehydration, and improve cognition and quality of life (QOL).

Faininger et al. (1994) studied 100 patients admitted to a palliative care inpatient unit from 12/90–11/91. Fluids via hypodermoclysis (HDC) were administered to 69 patients, 31 were not given fluids. Rationale for fluid administration per HDC were: dehydration, delirium, vascular depletion, constipation, and relief of thirst/xerostomia. The conclusion of the study was that HDC was a useful and safe method of maintaining hydration in the terminally ill patient. Bruera et al. (1990) treated 58 patients in a palliative care inpatient unit from 6/88–11/88 with fluids per HDC. All patients had clinical signs and symptoms of dehydration. HDC was found to be an effective method of hydration that can improve the QOL of patients with advanced cancer.

Fluids can be administered via HDC to ambulatory or bedridden patients; site dependent on mobility and skin integrity. Equipment consists of solution, tubing, butterfly needle, povidine/iodine solution, alcohol prep, and sterile occlusive dressing. Fluids that can be administered are normal saline (NS), 1/2 NS, 1/3 NS in 2/3 dextrose in water, and varying formulations of dextrose in water. Amount of fluid administered ranges from 500 cc bolus over 1–2 hours to three liters in a 24 hour period. Medication, to include opioids, can also be administered through the HDC site to assist in the alleviation of symptoms in the terminally ill patient. Adverse reactions are most local in nature—site redness, swelling, and irritation. Systemic reactions consist of fluid overload, pulmonary edema, poor absorption, electrolyte imbalance, and infection.

Didactic information and practicum (workshop) will be presented to increase the knowledge, application, and administration of fluids via HDC to terminally ill patients.

The workshop will offer participants a hands on practicum and demonstration to the skills needed to administer fluids per HDC. Participants will be able to specify the advantages/disadvantages of fluids administered via HDC. Participants will be able to describe the efficacy of fluids administered via HDC. Participants will be able to demonstrate set-up and administration of fluids per HDC.

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CENTRAL VENOUS CATHETER INSERTION MADE EASY: PRE-PRINTED ORDER SETS AND INFORMED CONSENT VIDEO. Melann Chiu, RN, CRNI, and Deborah Richardson, RN, CNS, M.D. Anderson Cancer Center, Houston, TX.

Pre-printed order sets and an informed consent video reduce waiting time for patients and allow Infusion Therapy nurses to assist CVC insertions without delay.

Establishment of a reliable central venous catheter (CVC) is vital to many oncology patients. Infusion therapy at M. D. Anderson Cancer Center inserts approximately 450 subclavian CVCs each month. Certain requirements must be met before a patient may undergo CVC insertion. All patients must be provided the necessary patient education about risks, benefits, alternatives and complications prior to signing a written consent for the procedure. Patient criteria including a baseline chest x-ray and a coagulation profile within normal limits must be documented. Following completion of these requirements, the catheter insertion may be ordered at the physician's request.

Pre-printed order sets provide for documentation of patient identifying data, diagnosis, and criteria such as baseline chest x-ray and coagulation profile. All nursing and medical staff are required to be familiar with these documents, which are accessible through the hospital intranet. The informed consent video provides patient education information and covers risks, benefits, alternatives and complications of CVC insertion. This 12 minute video is required viewing for all patients undergoing the procedure. After watching the video, the patient is provided an opportunity to ask further questions, and then written consent is obtained if the patient agrees to proceed.

Data was collected from 12/7/00 to 3/1/00 on 99 Breast Cancer patients. The survey results showed 30% did not have a pre-insertion interview, 24% had missing criteria (coagulation profile or chest x-ray), and average wait time was 50 minutes. Survey results after implementation of pre-printed order sets from 6/1/02 to 8/1/02 on 91 Breast Cancer patients showed only 7.7% had no pre-insertion interview and only 4.4% were missing criteria. Average wait time decreased to 27 minutes, representing a 54% improvement.

Pre-printed order sets and an informed consent video allow Infusion Therapy nurses to better manage patients needing CVC insertions by improving adherence to pre-insertion protocols and decreasing patient wait times.

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IV ACCESS PROGRAM FOR SUPPORTIVE CARE IN CANCER: PERIPHERALLY INSERTED CENTRAL CATHETER. Jeong Yun Park, CRNI, MSN, Gwang OK Park, PhD, Jeong Eun Choi, and Yun Jeong Yang, Asan Medical Center, Seoul, Korea.

Reliable IV access is essential for the safe administration of pain control, nutritional therapy and hydration. Peripheral IVs are difficult to place in poor venous status and repeated venipuncture has been identified as one of the greatest stresses in cancer patients. Recently, Peripherally inserted central catheters have recommended a method for long term IV therapy.

The purpose of this study was to describe the incidence of complications and to identify risk factors for complications.

A retrospective review of all patients whom a PICC line was inserted between January 2002 and April 2004 at Asan Medical Center, Seoul, Korea was taken. The data were collected from the medical records: cancer type, indication for PICC insertion and reason of removal.

Two hundred four PICC lines were inserted in 174 patients. One hundred seventy (83.3%) PICC were inserted for venous access. The average dwell time was 21.7 days (range 1-132 days). Complications developed in 43 PICC lines (27.0%). Infective complications occurred in three of the PICC inserted (1.9%) at a rate of 3/3456 PICC days. PICC lines were removed for the adverse events such as phlebitis (5.7%), occlusion (7.5%), and leakage (6.3%).

PICCs are a safe and effective alternative device for IV access in cancer patients. PICC lines inserted by trained nurses at initial IV therapy in supportive care were recommended.

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EMR COMPETENCY: A KEY TO PATIENT SAFETY. Susan Paradela, RN, BSN, OCN®, and Jessica Richard, RN, BSN, OCN®, U.T. M.D. Anderson Cancer Center, Houston, TX.

Since the introduction of allergy documentation in the EMR, super-users have collected data on the accuracy of allergy entry and the elapsed time between patient admission and allergy documentation.

Paper use in hospitals is becoming a thing of the past. The pressures of our technologically driven society are forcing many institutions to invest in electronic medical records (EMR). EMR advantages include: increased patient safety, decreased documentation redundancy, increased legibility,

and easier, faster access to information. The efficiency of an EMR cannot be denied, although the transition to the use of such systems is not easy. Institutions are faced with the challenge of training staff in the use of these systems. The data entered into an EMR becomes part of the patient's permanent medical record and its accuracy must be assured. The Division of Nursing is incrementally being introduced to the various applications of our EMR.

The results were well below what was desired. Frequently the allergies were either not being entered at all or the time of entry was greater than the expected 1-2 hours after admission. In an effort to improve the competency of staff and the accuracy of the data entered into the EMR system, the adult leukemia unit developed a competency measure. While performing education with the nurses, the super-users found that the primary barrier to accurate and timely entry of allergy data was deficient understanding of how to use the system and the associated workflow. The nursing staff was presented with a written scenario of a patient's admission data and was required to enter the necessary data, including patient allergies, and provide accompanying screenshots. Each RN was checked off on this competency.

Since check off, the collected data has shown improvement in accuracy and a reduction in the time of entry, as well as an increase in staff confidence in the use of the system.

In order to assure patient safety and accuracy of data entry, EMR competency should be adopted by institutions that utilize EMR systems.

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UNIVERSAL PLANS OF CARE FOR THE ONCOLOGY POPULATION. Marian Fergus, RN, Duke University Medical Center, Durham, NC.

Topic: Universal plans of care for the oncology population promote consistency of care and allow the bedside nurse cultivate better practice.

Purpose: At Duke University Hospital, patients may receive chemotherapy as cancer treatment in over 20 areas. To further support the safety mechanisms already in place, the Oncology Clinical Practice Council (CPC) identified the need to develop a structured plan of care for the administration of chemotherapeutic and biologic agents. The plan of care (POC) needed to be applicable and relevant in a large comprehensive cancer center with populations including adults and pediatrics in the inpatient and outpatient settings. Most importantly the POC needed to optimize patient care by providing a user friendly tool that enhanced quality nursing care.

Interventions: A sub committee of the Oncology CPC was charged with developing the POC based on accepted standards from the Oncology Nursing Society and unit practice. Common problems for the patient population receiving chemotherapy/biotherapy included chemotherapy administration, nausea/vomiting, mucositis/stomatitis and fluid/electrolyte balance. A scheme was devised to individualize the POC for each patient. A standard focus note was included to document patient care as well as agent administration consistently. This scheme could be used by the distinct groups of nurses potentially caring for the patient: those treating patients on dedicated oncology units, those credentialed to administer agents to off service units and those in off service units caring for patients but not credentialed to administer agents.

Evaluation: The POC was piloted on an adult intermediate oncology unit and the feedback recommended going forward with no significant changes. Comments from the staff nurses verified the POC saved the nurse time allowing more to be dedicated to direct patient care. Perhaps most germane, documentation audits revealed an increase in consistent care planning and recording of chemotherapy administration.

Discussion: The POC were accepted as part of standard practice and are well utilized. Final steps in the approval process include review by the sub committee on education and the hospital documentation committee. The POC will be implemented in all areas of the hospital where chemotherapy is administered.

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COMPUTERIZED PHYSICIAN ORDER ENTRY (CPOE): AN INTERDISCIPLINARY APPROACH TO IMPROVE ONCOLOGY PATIENT CARE. Suzanne Carroll, RN, MS, OCN®, AOCN®, CCC, Teresa Michaels, MSN, RN, BC, and Drama Choplin, RN, Wake Forest University Baptist Medical Center, Winston-Salem, NC.

Several recent Institute of Medicine (IOM) studies have detected significant quality problems throughout the health care system. These

studies have indicated the prevalence of poor quality care in the United States and have focused specifically on patient safety and ways to improve it. Information technology has been recognized as an important agent of change to our health care system. Computerized Physician Order Entry (CPOE) is a change agent that has been implemented in our oncology setting as a means to improve patient safety.

CPOE allows physicians to enter orders directly into the computer rather than handwriting them. CPOE incorporates supportive technology into order entry and has the potential to decrease medical errors and improve patient safety. Implementing CPOE in an oncology setting involved an interdisciplinary approach and ongoing administrative support.

Prior to implementation of CPOE an interdisciplinary clinical group was formed for order set development. This group was coordinated by the oncology clinical nurse specialist and consisted of physicians, nurses, pharmacists, chemotherapy coordinators, nurse managers, nursing clinical systems and information systems staff. The group reviewed previous oncology order sets and developed new orders that were determined to be beneficial for oncology care. The new and revised orders were formulated into a CPOE template and tested in a play system prior to go live implementation. Playing with the system provided opportunities to standardize practice and incorporate clinical decision support into the order program.

The interdisciplinary requisite planning was essential to the success of go live CPOE implementation. Group consensus provided opportunities to streamline ordering of medications, diagnostic tests and blood products. Implementing CPOE in the oncology setting has required extensive interdisciplinary cooperation and nursing clinical systems support. Supporting the physicians and nursing staff has been integral as we have converted from writing orders on paper to the constraints of computer ordering.

Although it is a complex undertaking, it is our intention that CPOE will contribute to improving oncology patient care outcomes by reducing the under use, over use and misuse of health care services. This poster will describe the benefits and challenges of implementing CPOE in an oncology setting.

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DEVELOPMENT OF A RESOURCE GUIDE FOR FAMILY CAREGIVERS TO ENHANCE THE CAREGIVING EXPERIENCE. Anne Walsh, RN, MS, OCN®, Jill Solan, RN, MS, OCN®, Ethel Law, RN, MA, OCN®, Theresa Sinopoli, RN, MS, AOCN®, and Joanne Kelvin, RN, MSN, AOCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

More than a quarter of adults in the US provided care for a chronically ill, disabled, or aged family member or friend during the past year. Family caregivers of adult oncology patients are often ill-prepared for the complexity of roles they will assume, and without adequate knowledge and support can develop caregiver burden and physical and emotional health problems. Oncology nurses have a unique role in identifying caregivers at risk and intervening to prevent negative outcomes.

Ambulatory nurses within a large NCI-designated cancer center formed a multidisciplinary group, including social workers and patient educators, to improve practice related to caregiver issues. An evidence-based practice approach was used to guide us, and this presentation will review the evidence and describe how we applied it to our practice.

A search for relevant evidence focused on understanding the caregiving experience and identifying effective supportive strategies. Selected evidence was reviewed and evaluated as a group, and key findings were summarized: risk factors, outcomes, and mediating factors. Based on the evidence, we developed a 36-page booklet covering the most challenging issues reported by caregivers (e.g., managing symptoms, transportation, finances, legal issues, and self-care). Each section provides concrete tips and a list of resources caregivers can access to independently solve problems they encounter at various times in the cancer continuum.

The evidence indicates that caregivers with information, support, and skills in problem-solving are more likely to have positive outcomes. However, interventions must be planned to ensure easy access by caregivers at times that are convenient for them. This booklet was designed with that in mind. When caregivers feel more prepared, they perceive their experience in a more positive way and are more likely to maintain their physical and emotional health.

Nurses can play a pivotal role in identifying family caregivers at risk and providing needed information and support. The booklet we

developed can be adapted by other oncology nurses as a tool to address the needs of family caregivers in their setting. Armed with appropriate resources caregivers can feel competent and perceive the caregiving experience as positive and rewarding.

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FAMILY CAREGIVER PATHWAY: THE DRIVING FORCE FOR MAINTENANCE OF LIFE BALANCE OF THE CAREGIVER THROUGHOUT THE CANCER EXPERIENCE. Vlasta Aubrecht, RN, BSN, Rosanne Arlington, RN, MSN, OCN®, CNS, and JoAnn Mick, RN, MSN, AOCN®, MBA, U.T. M.D. Anderson Cancer Center, Houston, TX.

The positive effect of family caregivers in improving patients' well-being and quality of life is well documented. The stress and anxiety that caregivers experience about their new role and their uncertainty about the future have also been documented. Oncology nurses can help diminish caregiver stress by implementing a family caregiver pathway.

The purpose of this project was to provide the information, support and tools necessary for family caregivers to maintain a "life balance" as they adjusted to their new role in the cancer experience. A verbal survey of 24 family caregivers indicated that they lacked knowledge and support, had anxiety, and were unsure what their role should be while in the hospital and at home. They were afraid of hurting or damaging the patient and concerned about the future. Twenty-three of these caregivers indicated that they could be the patient's best caregiver if they had the necessary knowledge.

To address these issues, a family caregiver pathway was developed and implemented to provide information and support in a manner that encouraged the family caregiver to do a self-assessment, to be vigilant about their state of physical, emotional, and psychosocial health, and to maintain a life balance by using the pathway tools during their caregiving experience. [Family caregivers were introduced to the pathway concept, its components, and its use while in the hospital. The importance of self-care was stressed, and specific tools were developed for continued use after the patient was discharged.

A survey of caregivers after discharge was used to evaluate the success of the Family Caregiver Pathway. To date, all caregivers had positive comments about continued use of the caregiver pathway. We will continue to collect data from 100 caregivers and use the information to update the specific pathway tools.

Since implementation of the caregiver pathway, our oncology caregivers have exhibited greater understanding of required care, increased their "hands on" involvement in care, and expressed confidence in their ability to provide care when the patient is discharged. This tool may be useful if implemented in other oncology settings.

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FAMILY PRESENCE: OPENING THE DOOR IN ONCOLOGY. Patricia Spellman, RN, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

Allowing families to be present for invasive procedures and cardiopulmonary resuscitation is a controversial topic among healthcare providers. Although this concept has received attention in the critical care and emergency settings, it is not mentioned in the oncology literature. At this NCI-designated cancer center, a survey was given to clinical ICU staff to explore knowledge and attitudes regarding family presence (FP) in the oncology setting.

Family Presence (FP) is defined by the Emergency Nurses Association as the presence of family in the patient care area, in a location that affords visual/physical contact with patients during invasive and/or resuscitation efforts.

Oncology patients undergo invasive and resuscitative procedures; however FP has not been explored in this setting. The main purpose of this project was to obtain baseline data regarding staff attitudes on FP in the oncology setting and to educate staff on issues related to FP.

Nursing and medical ICU staff were surveyed with a fifteen item questionnaire to elicit information regarding attitudes and beliefs about FP. The survey looked at the practitioners' opinion of FP as it related to their patients, themselves and their own families. Once staff was surveyed, an inservice was provided which included a review of the literature, historical perspective and discussion about the pros and cons of FP.

To date, approximately half of the ICU staff have been surveyed (n = 38). Preliminary results reveal that 32% of the respondents were in favor of FP for invasive procedures and 47% were in favor of FP during resus-

citation. The majority of nursing staff opposed FP which is inconsistent with the critical care literature, which suggests that nurses view FP more favorably. Staff hesitation about FP was related to concerns about psychological trauma for the family, fear of family interference and potential for malpractice/litigation. Interestingly, 61% of respondents were in favor of having their own family present if they were the patient.

This project has increased awareness and stimulated discussion among the clinical oncology staff. FP has been implemented in many settings. It is important to explore whether FP is appropriate in the oncology setting as well.

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ENHANCING STANDARDS OF CARE: AN ONCOLOGY CLINICAL PRACTICE COUNCIL. Sheree Dunn, RN, OCN®, Duke University Medical Center, Durham, NC.

Faced with a constantly changing health care environment, oncology nurses are challenged to provide exceptional care across a variety of settings. In a large complex system, a barrier is the challenge of fragmentation of care. Using the institutional model of the clinical practice council, a specialty clinical practice council for oncology was developed to standardize oncology care. Members practicing in both adults and pediatrics are represented with the goal to assure that evidence based practice policies are the basis of oncology practice.

As new practice settings were added to the health system, it became apparent each setting had its own history and way of practicing. Yet as part of a diverse health care system, we are held accountable to providing the same quality patient care regardless of setting. Creating the Oncology Clinical Practice Council presented an opportunity for collaboration and consistency in policies endorsed by our system. The purpose of this poster is to discuss the creation, challenges and accomplishments achieved over the past two years.

The council is represented by nurses and pharmacists from all areas of oncology. The composition includes staff nurses, research clinicians, advanced practice nurses, infusion nurses, administrators and faculty. Monthly, clinical issues are brought to the committee by an individual or group. Depending on the issue, individuals or a group review the issue and propose solutions for the Oncology CPC to consider. Once the Oncology CPC makes a recommendation on practice, this recommendation goes forward to the Hospital CPC for final approval and education.

Outcomes achieved since formation of the council include an online spill policy including handling of hazardous materials, a chemotherapy self learning module for off service areas, a standardized plan of care for chemotherapy administration along with a structured focus note.

Since there is representation across all settings, the council is able to achieve the goals set forth by the group. Staff feedback has been positive. Other institutions may benefit from the creation of a specialty council.

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AN INNOVATIVE LEADERSHIP APPROACH DURING A WORLD WIDE NURSING SHORTAGE. Saundra Johnson, RN, BSN, MS, Trisha Bucklen, RN, BSN, Christa Babbitt, RN, BSN, Melanie Michel, RN, MSN, MPH, Mary Melvin, RN, Laurie Riismandel, RN, BSN, and Wendy Warrell, RN, BSN, Johns Hopkins Hospital, Baltimore, MD.

The world is experiencing a critical nursing shortage that is only expected to worsen. Recruitment of staff nurses is challenging, particularly for inpatient and specialty care units. This shortage is more acute for administrative nursing roles, such as nurse managers, where there are even fewer qualified candidates. This dilemma is particularly evident in areas such as oncology nursing and blood and marrow transplant (BMT) because of the distinct skills and knowledge base necessary for these specialties.

Our comprehensive cancer center BMT unit created an innovative, shared-governance approach to manage the unit using the experienced Nurse Clinician III (NCIII) group in the absence of a nurse manager (NM). With the guidance of the oncology Director of Nursing, Assistant Director, and other oncology NMs, this group of seven RNs fully shared the role and responsibilities of a NM. They worked together for 20 months as joint managers of the unit and personnel, until a smooth transition was made to a new NM.

The NCIII group created a model covering all of the NM responsibilities. The NCIII group maintained professional nursing standards and safe staffing levels; chaired and co-chaired hospital, department, and unit

based committees; and supervised both licensed and unlicensed personnel. Examples of other tasks included scheduling and payroll, performance improvement activities, problem-solving with other departments and disciplines, and budget development.

Through their leadership, the NCIII group was able to achieve full staffing, reduce agency usage, decrease staff turnover, and increase staff morale. The NCIII group developed a higher level of professionalism through their management experiences and participated in leadership activities in the oncology center.

Specialty units may benefit from innovative leadership models such as this shared management model. The experience and professionalism of the senior NCIII group were essential to their success in maintaining the integrity of the BMT unit. The skill and expertise of the clinical nursing staff, coupled with the support that they gave the NCIII group, ensured that the level of patient care and satisfaction remained high. The success of this model is instructive and can provide guidance for other units during times of management transition.

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RESTRUCTURING A ROLE: USING STAFF INPUT TO DEFINE CLINICAL LEADER RESPONSIBILITIES. Josephine Visser, RN, BSN, OCN®, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL.

Professional practice, autonomy, and self-governance are ideals of Oncology Nurses in the twenty-first century. Allowing staff at our institution to restructure a Clinical Leader role to fit their needs demonstrated that with the support of management, practicing professionally can be a reality.

The purpose of this project is to describe a process used to evaluate and update the essential components of an existing Clinical Leader Role. Relocation of the outpatient Infusion Center at our NCI Comprehensive Cancer Center resulted in changes in the patient flow and delivery of care. Ultimately these changes contributed to diminished effectiveness of our Clinical Leader role. After adapting to the new location, the staff requested clarification of the Clinical Leader role.

The Clinical Leader Committee was committed to developing a role that satisfied everyone. A detailed list of possible role components was generated, with input from the staff, and transformed into a 5 point Likert-type scale. The survey was distributed to all Clinical Leaders and the manager for completion. The group decided that any component with an average score of 2.5 or less would be eliminated from the role. Components that scored an average of 4.0 and above were automatically included. The Committee discussed, in great detail, those items that fell between 2.5 and 4.0.

Based on the survey results, the Clinical Leader Committee defined role components and developed guidelines, which included how the nurses rotate through the role and specific expectations. One important aspect of the role the group elected to retain was that of fostering autonomy of the Infusion Center staff and maximizing their participation in decision-making. Both Clinical Leaders and staff were oriented to the new role components. Implementation of the clarified Clinical Leader Role had a positive impact on the unit. Staff autonomy was maintained, and there was increased commitment to the role since everyone participated in its development. Additionally, experienced nurses have helped to precept newer nurses into the role.

Leadership while maximizing autonomy and professional practice can be a reality. Including staff in refinement of role components of nursing leaders helps ensure success of those in the role.

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A CARE GUIDE FOR THE NEWLY DIAGNOSED CANCER PATIENT. Carol Hazelett, RN, OCN®, and Wendy Beck, RN, Skagit Valley Hospital Cancer Care Center, Mt. Vernon, WA; and Margaret Perry, BSN, MBA, Skagit Valley Hospital, Mt. Vernon, WA.

The staff of Skagit Valley Hospital Cancer Care Center were greatly aware of the difficulties patients experience navigating the medical system. For the newly diagnosed, with multiple medical appointments, scans, labs, chemotherapy and radiation therapy, along with learning an entire new language can be very disconcerting to a patient and their family.

To address these concerns the multidisciplinary education committee suggested a care guide and reviewed the following tasks:

1. Obtain administrative and financial approval of this project.
2. Determine the content of a care guide.

3. Author and select pre-printed materials.

The committee developed the "Patient Care Guide." This was a three ring binder which follows patients throughout their treatment course and addresses the following issues:

1. Assessment of patient knowledge and psycho-social needs.
2. Introduction of staff and defining services provided by the clinic.
3. Demonstration and encouragement of recording lab values, chemotherapy regimens, with dates and dosages.
4. Identifying the operational aspects of the clinic.
5. Promising our patients symptom management and introducing our methods of evaluating symptoms.
6. Development of local, county, state, and national resources and referral list.

This program was introduced in 1998 and continues to the present. The patient's second visit was determined to be the opportunistic time to present the binder. The specific contents evolved with verbal feedback from physicians, nurses, receptionists, and administration.

The "Patient Care Guide" success has been measured by our cancer center questionnaire and via hospital "Comment Cards." This written input from patients covers a range of subjects including the "Patient Care Guide." The majority of our patients, approximately 70%, use this guide on a regular basis. Comments have been overwhelmingly positive.

Our nursing staff has been able to return some of the control the patients lost with their diagnosis. The guide also promotes timely, realistic and easily documented patient education.

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EDUCATING PATIENTS ON THE NEW AND IMPROVED CHEST TUBE DRAIN TO MANAGE PERSISTENT AIR LEAKS AT HOME. Maureen Jingeleski, RN, and Wendi Stone, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

Newer technology has made it safer for patients to be discharged to home with a mobile chest drain. Successful transition to home relies on the skills and techniques used by the inpatient nurse to educate the patient on proper management of the drain.

Persistent air leaks are bothersome complications following thoracic surgery. Patients at high risk for air leaks include males, smoking history, severe COPD, steroid use, and status-post lobectomy. These air leaks result in prolonged hospital stay, increased hospital costs, and increased risk of nosocomial infection. Previously, few options were available which allowed patients to manage an air leak at home. The invention of the Pneumostat Chest Drain® by Atrium Medical Corporation has built on predecessors concept of a drainage system that patients can manage at home. The Pneumostat® is a small, latex free, lightweight one-way, closed system valve with a built in collection chamber and a single connection site. Being discharged to home can be frightening for patients, especially when they are leaving with medical equipment, therefore the nurse must provide education to prepare the patient for the management of a previously hospitalized complication.

The nurse is responsible for educating the patient and caregiver. After the drain is placed, the nurse introduces and explains the drain. Initially the nurse provides the care for the drain, showing the patient and the caregiver proper technique. As a supplement to the one on one patient education, a fact card was created to provide written information to the patient. This card includes caring for the valve, emptying drainage, assessing the air leak, signs and symptoms, and when to call the doctor. After several repeat demonstrations can be performed by the patient, both the nurse and patient feel competent for discharge and the patient is able to manage the valve at home.

The education that the patient receives from the nurse ensures for proper and safe self care at home. This allows for a shorter length of stay, increased sense of patient independence and improved quality of life.

The nurse plays a pivotal role in the patients transition from hospital to home with a mobile chest tube drain. This presentation will review the Pneumostat® Chest Drainage system, essential educational needs and share the education materials that were developed by this institution.

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THE BRAIN & SPINE CENTER HANDBOOK FOR PATIENTS WITH NEUROFIBROMATOSIS. Rochelle Manning, RN, Sur Min, MSN, NP, Donna Suckow,

LMSW, ACP, John Slopis, MD, Terri Armstrong, MSN, NP, CS, and Tran Le, RN, BNS, M.D. Anderson Cancer Center, Houston, TX.

Neurofibromatosis is a genetic disorder causing tumors to grow on the nerves, tissues, skin, and bones. It is one of the most common genetic disorders affecting more than 100,000 Americans making it more prevalent than Cystic Fibrosis, hereditary Muscular Dystrophy, Huntington's disease, and Tay Sachs combined. Though some symptoms of Neurofibromatosis can be mild to moderate, it can also lead to serious problems such as blindness, hearing loss, brain and spinal tumors, and loss of limbs. The role of the oncology nurse is to assess any needs of the patient from nursing care to social services, and collaborate with the physician, patient's family, and the other members of the healthcare team to plan the care and evaluate patient outcomes.

Though the incidence of neurofibromatosis is high, many oncology nurses are unaware of this disorder. The purpose of this handbook is to provide comprehensive educational materials to this patient population.

A multidisciplinary team was formed to develop the handbook for Neurofibromatosis patients. The contents include general information on the M.D. Anderson Adult NF Clinic at the Brain & Spine Center including how to make appointments, staff members' names and contact numbers, how to schedule tests, sending diagnostic studies for review, and obtaining prescription refills. Educational sheets are also included which consists of common signs and symptoms of NF1 & NF 2, other conditions associated with NF 1 & NF 2, and description of diagnostic tests commonly ordered. Additional information on applying for disability, returning to work, assistance with housing and travel, contact information for non-profit organizations, and websites are also included.

The evaluation plan includes follow-up phone calls to patients to ensure that the information provided is adequate and understood.

Even though Neurofibromatosis is one of the most common genetic disorder, there is a limited educational and resource materials available. The purpose of this handbook is to provide educational materials and resources.

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EXTENDING AND EVALUATING TELEPHONE EDUCATION WORKSHOPS IN AN UNDERSERVED POPULATION: HELPING HISPANIC PATIENTS NAVIGATE NEW CANCER KNOWLEDGE. Moyra Rondon, MSW, CSW, Deidre Patterson, MPH, Essie Day, MSW, and Susan Grober, PhD, Cancer Care, Inc., New York, NY.

CancerCare, a national non profit social service organization, uses free telephone education workshops (TEW) to meet the educational needs of oncology patients. Attempts to use this highly accessible intervention with Hispanic and other underserved communities has been more challenging. A United Hospital Fund grant enabled CancerCare to identify and address the cultural, language and learning barriers preventing Hispanics with cancer from attending and benefiting from TEWs. This poster seeks to increase awareness for oncology nurses of a newly designed, culturally sensitive educational tool to enhance cancer knowledge for Hispanics.

In a climate of limited available resources, this modality of service delivery can maximize the quality and quantity of cancer specific information available for underserved patient populations.

The study involved 4 focus groups with Hispanic patients (N = 35) who were asked to provide feedback on how to make a standard TEW on treatment related infection more culturally customized, appealing and user friendly for their community. The most salient, culturally consonant and educationally sound modifications were then incorporated into a newly redesigned Spanish language TEW. Additionally, new educational materials were created to complement the enhanced program.

Analysis of surveys and qualitative data collected indicated that 100% of these Hispanic patients felt it was important to learn more about cancer, how it's treated and how to cope with it. Furthermore, 83% felt that TEWs were a good tool for learning more about cancer and how to take better care of themselves. One attitudinal suggestion offered by surveyed patients was that having "true" stories about patients coping with problems in the TEW would make them more interesting to their community. 100% of surveyed patients reported greater interest in participation post implementation of modifications. 83% of these patients indicated they felt much more comfortable speaking to their doctor/nurse team about treatment related infection after listening to modified TEW.

Integration of cultural sensitivity into development of TEWs increases access for Hispanics to quality health information and to becoming knowledgeable consumers able to choose among treatment options. Oncology nurses can use TEWs as a tool to enhance Hispanic patients' understanding of clinical options.

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UTILIZING A MULTIDISCIPLINARY PSYCHOSOCIAL APPROACH TO SUPPORT FOR THORACIC ONCOLOGY PATIENTS. Keri Wagner, RN, OCN®, and Richard Hara, PhD, MSSW, Memorial Sloan-Kettering Cancer Center, New York, NY.

On the thoracic oncology medical/surgical unit patients expressed a feeling of inadequate preparation for discharge and a need for additional information. As a result, multidisciplinary psychosocial support groups for medical and surgical patient populations have been developed and implemented.

Literature shows that patients diagnosed with lung cancer often have a variety of fears. It is also known that information and discussion groups provide both education and support. Thoracic patients, and their family members, possess a variety of needs that can greatly differ depending on staging, illness trajectory, and psychosocial factors. Prior to the formation of the medical and surgical in-patient support groups, information was given by the different disciplines on multiple occasions.

The intent of the support groups was to better prepare patients for discharge and decrease patient fears. The groups were developed and implemented by the Nurse Clinician and Social Worker. This mix of professionals blends unique clinical knowledge and allows the patients to draw upon the experiences of both. The medical support group focus varies from signs and symptoms of disease, chemotherapy, treatment plans, discharge options, to palliative care. The surgical support group topics range from surgery issues, emotional and physical recovery, to discharge and follow-up. Patients in each group initiate conversations and topics and then are facilitated by the professionals.

The support groups have been in place for 3 years. Staff, patients, and families have found these groups to be informative and rewarding. Patients benefit not only from the staff but also are able to draw upon the experiences of other patients. As a result we have been able to identify common themes, screen patients for specific needs, direct patients to appropriate interventions, transition them from inpatient to outpatient services, and have decreased the number of follow-up phone calls to the ambulatory nurses.

Patients now verbalize better understanding of the information discussed, nurses are reporting easier discharges and a retrospective review of patient charts has shown a reduced in number of calls to the ambulatory setting.

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DEVELOPMENT OF MULTILINGUAL LOW LITERACY TEACHING MATERIALS IN A DIVERSE COMMUNITY BASED HEALTH CARE SYSTEM. Eric Cohen, RN, BSN, OCN®, and Lisa Cawthorne, RN, BSN, Life With Cancer, Inova Fairfax Hospital, Falls Church, VA.

Community based oncology nurse educators develop and implement multilingual low literacy chemotherapy teaching materials for use in a diverse patient population.

The purpose of this project was to develop and provide take home teaching materials which are easily understood by both English and non-English speaking people undergoing chemotherapy treatment.

Fairfax County, Virginia is the 4th most ethnically diverse community in the United States. According to the most recent (2000) census, nearly 30% of the county's residents report speaking a language other than English at home. Even with the advent of the Internet, cancer related materials in other languages are virtually non-existent (Spanish is the exception).

A second problem exists in that most cancer related teaching materials are developed at high school and college reading levels. Low literacy is a concern in the United States.

Low literacy teaching sheets were developed for Neutropenia, Anemia, Thrombocytopenia, and general chemotherapy side effect management. Specific directions on "When to call the doctor" were included. All sheets were limited to one to two pages and were translated into seven languages identified as most commonly needed.

To fulfill the needs of the community, the teaching materials will be available for use in all patient care settings. Materials are in the process of being translated at this time. Evaluations will include the discharge survey currently being used for Inova Health Care System and feedback from discharge follow up phone calls.

Oncology nurses express frustration and concern with the lack of material to teach specialized populations. Patients may not fully understand side-effect profiles, instructions, or self care measures because of anxiety, linguistic barriers, and reading level limitations. This presents a whole realm of discussion concerning the ethical and legal ramifications surrounding informed consent. It is the hope of the authors that these teaching materials will make patients and their families less anxious, better informed, and more able to participate in their care.

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STRATEGIES TO PROMOTE SPIRITUAL WELL-BEING IN PATIENTS WITH CANCER. Esther O'Dette, RN, and Michael McElhinny, M.Div, Mass General Hospital, Boston, MA.

Spirituality is an important and challenging aspect of providing care to cancer patients. Patients have diverse spiritual responses depending on their socio-cultural backgrounds and life experiences. Moreover, a diagnosis of cancer often is a catalyst for significant change in a patient's spiritual domain, requiring astute assessment, communication, and planning skills on the part of the nurse.

Meeting spiritual needs is an important aspect of caring for patients in the cancer center of an academic medical center. The purpose of this presentation is to articulate nursing strategies for meeting patients' spiritual needs.

Nurses and chaplains met to identify ways of integrating spirituality into patient care using the nursing process. Recognizing that discussions related to spiritual experiences may be difficult to initiate and implement, the group recommended strategies aimed at engendering spiritual support, even when the patient denied having spiritual needs. Nurses should be aware of the importance of establishing a therapeutic relationship, ascertaining the patient's perception of what is most important in his life, understanding what the patient's illness means to him, and determining what spiritual concerns the patient may not be sharing. Analysis should focus on understanding the patient's spiritual interpretation of the cancer experience and how his spiritual resources help (or interfere) with his ability to cope with cancer. Nursing diagnoses include high risk for spiritual distress related to life-threatening illness and altered coping related to interruption of religious routines.

There is increased documentation of spiritual aspects in patients' records. In addition, the oncology chaplains report increased requests for consultation and referral.

Spiritual care remains an important focus of oncology nursing and can often make the difference between ongoing unresolved crisis for the cancer patient or a growth experience for both the patient and the nurse.

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RICHER DEFINITIONS OF QUALITY OF LIFE (QOL) USING CLASSIC LITERATURE AND FILM TO EXPAND PERCEPTIONS. Ellen Carr, RN, MSN, AOCN®, Rebecca and John Moores, UCSD Cancer Center, La Jolla, CA.

Great literature and film provide our culture with rich definitions of QOL and elegant examples of the human spirit. For cancer patients and the nurses who care for them, excerpts from classic literature and film can create a frame of reference for QOL . . . and a way to expand perceptions.

King et al (2002) suggest that QOL measures are minimally important because clinical nurses rely on their relationships with patients to assess and support the patient's perceptions of QOL. Therefore, discussions of classic film and literature contribute to the building of relationships. Lane (1987) identifies QOL elements and manifestations of the spirit as (1) transcending, (2) connecting or belonging, (3) giving life, (4) being free.

At an ONS local chapter meeting, the author presented a one-hour, multi-media review of classic literature and film, which showed how QOL has been defined and how literature/art illustrate the human spirit. (Among literature examples included: Ulysses, On the Road, Old Man and the Sea, Leaves of Grass; among film excerpts included: Talk to Her, Hear My Song, Cinema Paradiso, To Kill a Mockingbird). Using a pre-presentation self-report survey and two post-presentation self-report surveys, 30+

oncology nurses identified their own definitions of QOL, new perceptions of QOL (based on just-seen selections from literature/film) and strategies to expand perceptions of QOL in discussions with their patients. The one-three month post-presentation survey also documented patient-care strategies used to help patients define and expand their perceptions of QOL based on literature and film.

Three sets of self-report surveys were analyzed using descriptive statistics. Outcomes documented pre- and post-presentation definitions and perceptions of QOL in oncology nurses and post-presentation strategies used in patient discussions about QOL.

Based on pre- and post-presentation data, the presentation prompted clinical nurses to clarify and expand their own definitions of QOL and spur on fresh discussions with their patients. The presentation provided a basis for enhanced, individualized care to patients, which broadened discussions with patients about perceptions of QOL and manifestations of the human spirit.

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CONCERNS OF SURGICAL UROLOGY PATIENTS: A COMPARISON OF PATIENTS AND NURSES PERSPECTIVES OF PSYCHOSOCIAL AND SEXUAL ISSUES. Salvacion Ramirez, RN, BSN, OCN®, and Rosanne Arlington, RN, MSN, CNS, OCN®, U.T. M.D. Anderson Cancer Center, Houston, TX.

Lack of inquiry, personal bias or lack of knowledge by nurses regarding the importance of sexual function and urinary incontinence in patients of all age groups can mean that some issues that are of significant importance to oncology patients and their partners are not addressed or not addressed in a sensitive, helpful way. Open discussion of patient concerns regarding sexuality and incontinence is an important first step to effectively deal with these issues with the patient.

The purpose of this project is to identify the perception of importance of sexual function and urinary continence to the surgical urologic oncology patient and to determine if the views of the patients and nurses are congruent. Observation of staff practice indicated a need for change in staff practice.

Interventions included establishment of baseline information that reflected concerns about sexuality and urinary incontinence and congruity of their importance with patients and nursing staff; review of the literature; discussion with the staff regarding the findings of the assessment; and establishment of a program that includes routine assessment and discussion of issues related to sexuality and incontinence of urology patients regardless of age.

The outcome is measured by surveys of nurses and patients to determine congruity of patient and staff perceptions of the importance of sexuality and urinary incontinence to the patient before and after implementation of the program.

Initial results have revealed that the perception of the importance of sexual function and urinary continence to the surgical urology patient was incongruent with staff perceptions. Patients consistently identified that they were very concerned about potential changes in sexual function, loss of ability to have/sustain an erection and becoming incontinent. They rated these areas 8–10, regardless of age. Nurses consistently rated the importance of these areas lower than patients excepting for patients whose age was less than 30 years. Both patients and staff identified that the primary concern was to not have further recurrences of the cancer. We will continue to collect data for 100 patients. This tool and information gained from this process may be helpful to oncology nurses in other settings.

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CARE OF THYROID CANCER PATIENTS RECEIVING A SYSTEMIC DOSE OF IODINE-131. Kathleen Schardien, RN, BSN, MSN, AOCN®, and Tracey Liucci, RN, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

Following a total thyroidectomy, select patients with primary and metastatic thyroid cancer are treated with systemic doses of Iodine-131 (I-131) to ablate thyroid function and decrease the rate of recurrence. Because these patients are radioactive after receiving their treatment expert inpatient nursing care is essential in ensuring patients safely receive the care they need.

Iodine-131 is administered orally and metabolized systemically and contaminates body fluid, excreta, and hair. Following ingestion of I-131,

the radioactive iodine travels through the patient's body and is taken up by any remaining thyroid cells. As the I-131 decays, it releases small amounts of radiation and kills the cells.

At this center approximately 350 patients are admitted to the hospital each year for treatment with I-131 at doses that require inpatient care and isolation in a private room. This presentation will outline nursing care for patients following I-131 treatment and highlight the utility of I-131 in treating thyroid cancer.

On this inpatient head and neck medical surgical oncology unit, the inpatient nurse is deemed competent to care for this patient population by going through an orientation which includes videos and reading materials on radiation safety and by reviewing policies and procedures on exposure principles and care of radioactive patients. Nursing care and patient teaching focus on isolation precautions, safe handling of bodily fluids, side effect management and the importance of the low iodine diet.

Special precautions for these patients include a private room, restricting visitors, use of only essential personal items, safe handling of bodily fluids, use of disposable food trays and limiting staff exposure by grouping care activities and rotating staff. The Radiation Safety Officer supports the work of the inpatient nurse by maintaining the patient's environment, monitoring staff exposure to radiation and providing education about radiation precautions.

The expertise of the nursing staff ensures patients receive skillful nursing care which consistently incorporates radiation safety principles. The education the patients receive prepares them for both their inpatient treatment with I-131 and their postdischarge course.

Oncology nurses can emulate this care model when caring for patients treated with various systemic radiopharmaceuticals.

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SETTING THE PACE IN RADIATION ONCOLOGY. Jayne Waring, RN, BSN, OCN®, Duke University Medical Center, Durham, NC, and Tracy Gosselin-Acomb, RN, MSN, AOCN®, Duke University Health System, Durham, NC.

The American Cancer Society reports that cancer accounted for approximately 23% of all actual deaths in 2001. Yet cancer deaths ranked second to fatalities resulting from heart disease. Of the estimated new cancer cases predicted for 2004, nearly 400,000 cancers will arise in the thorax. Correspondingly, the American Heart Association reports that more than 2 million Americans experience cardiac arrhythmias, many of which can be managed with the use of implantable cardiac devices (such as pacemakers or cardioverter-defibrillators). It is the combination of cancer within the thorax and an implanted cardiac device that is a concern for the radiation oncology professional. Therapeutic radiation doses to the lung and breast may include the area surrounding the implanted device resulting in damage to the device from continued exposure to high-energy radiation. Effective clinical procedures must be in place for the achievement of safe treatment for these selected patients. The radiation nurse is in a unique position to guide and implement safe clinical care.

The purpose of this project is to educate the radiation oncology staff regarding the plan of care developed for the radiation therapy patient with an implantable cardiac device.

Our department physicist was interrogated regarding any research that might already have been accomplished in this area. An extensive literature review was performed looking at the correlation between pacemakers and radiation therapy. The electrophysiology (EP) lab was approached to inquire about varieties of pacemakers used at this institution. Finally, the technical services department of each manufacturer was contacted for information regarding therapeutic limits of each device as well as professional and patient education tools.

A group consisting of a radiation physician, physicist, therapist and nurse evaluated the updated clinical procedure. The restructured procedure allows for the planning and delivery of care . . . in a safe and timely manner.

Careful scrutiny toward safety is essential and since the procedure is infrequent, the policy needs to be easily accessible and understandable by the entire staff. Nurses, valued for attention to safe clinical practice, are in a position to initiate change and improvement in care. Other institutions may adapt the procedure, utilizing their available resources.

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CREATION OF A PEDIATRIC PROGRAM IN AN ADULT RADIATION CENTER. Lenise Taylor, RN, OCN®, and Tami Robison, RN, OCN®, University of Washington Medical Center, Seattle, WA.

The creation of a pediatric oncology program within an existing adult radiation oncology center requires teamwork and perseverance from both the radiation and pediatric oncology RN staff.

Caring for a child in a pediatric system allows the child and his parents to have their unique needs addressed by specially trained professionals. Unfortunately, due to budgets constraints and equipment availability, many children requiring radiation therapy must be treated at an adult facility. Our urban tertiary care center has created a program which allows for the continuation, rather than the transfer, of care from the regional Children's hospital to our center. In the process, we have successfully met the standards of pediatric care, and have done so in a more "child-friendly" environment.

The goal for change began three years ago when a pediatric specific radiation oncology RN case manager was hired. Following this, pediatric specific education and documentation forms were created, weekly attendance at the pediatric tumor conferences was initiated and RN's began monitoring patients post anesthesia for radiation therapy. In the following year, a pediatric specific room for anesthesia recovery and procedures was completed and the use of the Children's electronic chart was granted, enabling the RN's at our institution access to information acquired at Children's as well as to chart information from our center.

The evaluation has been based on patient satisfaction surveys and staff response. The children's hospital staff and returning patients have confirmed that the area is much more inviting and appropriate for pediatric patients. The most significant change, however, has been the radiation RN's ability to collaborate with the oncology nursing staff at the children's hospital and consolidate the care the child receives so he is required to go to fewer appointments during radiation treatment and has fewer treatment delays.

This poster will demonstrate how a pediatric program can be successfully integrated into an adult radiation center. Other institutions can use this as a model for instituting change in their own areas to not only make an area more appropriate for children, but also create a more collaborative team between facilities for both children and adults.

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BUILDING AN ALLIANCE: COLLABORATING THE CARE OF PEDIATRIC RADIATION PATIENTS BETWEEN A CHILDRENS HOSPITAL AND AN URBAN ADULT TEACHING HOSPITAL. Tami Robison, RN, BSN, OCN®, and Lenise Taylor, RN, BSN, OCN®, University of Washington Medical Center, Seattle, WA.

This poster presentation will describe the radiation oncology nurses' role in promoting continuity of care for pediatric radiation patients between a regional children's hospital and an urban adult hospital. The goal of the nurses at each facility is to provide a seamless experience for pediatric cancer patients.

Children requiring radiation therapy often receive treatment at an adult facility due to lack of specialized equipment at the children's hospital. Coordinating the timing and care of patients with combined modality treatment between two facilities necessitates a strong system of collaboration between oncology nurses. In our experience, children's hospital nurses understood little about radiation timing, side effects, and other aspects of what patients experienced while undergoing treatment. This lack of knowledge led to an increase in anxiety for patients, incorrect timing of radiation treatment and inappropriate symptom management, including skin care. The increase in collaboration of the oncology nurses at the children's and adult facility has had a tremendous impact on the quality of care our patients receive.

Three years ago, a dedicated pediatric RN radiation oncology case management position was created for the adult hospital. A system of collaboration was developed by nurses at each facility to include joint access to patient electronic charts, standards for communication, and ongoing staff education by the radiation RN for the children's staff. Shared facility forms were created to reflect this collaboration. Weekly joint nursing attendance at pediatric tumor boards was instituted. Nurses at both facilities developed a child life position that serves as a bridge between cancer centers.

Evaluation is based on feedback from patients, physicians and children's hospital staff. Yearly meetings occur between the children's and radiation nurses to discuss outcomes and future directions. A more formal system of evaluation is being developed to track treatment delays, side-effect profiles and patient satisfaction surveys.

Oncology nurses can use these interventions to design a system of collaboration between a radiation facility and a separate oncology practice. Communication and coordination of care will ultimately increase patient satisfaction, adherence to oncology protocols and appropriate radiation symptom management.

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LEARNING ONCOLOGY NURSING FROM THE EXPERTS: USING ONS MEMBERS TO TEACH BSN STUDENTS. Judith Gentry, APRN, MSN, OCN®, LSUHSC School of Nursing, New Orleans, LA, and Lisa Schulmeister, RN, MN, OCN®, LA.

Since 1994, "N4349: Nursing Care of the Oncology Patient" has been offered as a nursing elective at LSUHSC School of Nursing. This one credit course includes didactic lectures delivered by local ONS chapter members, a clinical preceptorship at area oncology centers and student presentations. Each semester, 8 chapter members teach 15-30 students.

Chapter members delivering lectures follow the Core Curriculum for Oncology Nursing and incorporate examples from their daily practice to illustrate key points. For clinical preceptorship, each student spends a day in the community with a practicing oncology nurse. This produces RNs better prepared to care for cancer patients and influences their decision to go into Oncology nursing when they graduate.

Interventions include didactic teaching, showing videos, including "America's Oncology Nurses"; preceptorship in areas including clinical trials, outpatient clinics, radiotherapy centers and hospice.

Students describe their field experiences during class presentations, write a formal paper, and deliver a small group presentation on current legal or ethical issues in oncology.

Presently, this is the only educational program developed by an ONS chapter that has members of the chapter presenting didactic lectures in a BSN program and has additional chapter members mentor students in the community. Other ONS chapters may wish to consider offering similar courses in conjunction with schools of nursing in their communities.

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INTRODUCING STUDENT NURSES AND TEENS TO THE SPECIALTY OF ONCOLOGY NURSING: A MENTORSHIP OPPORTUNITY. Barbara Rowland, RN, BS, OCN®, CCRP, St. Thomas Hospital, Nashville, TN.

The United States is in the midst of a nursing shortage that is expected to intensify as baby boomers age and the need for health care grows. One of the Oncology Nursing Society's strategic goals is to facilitate mentorship at the local and national levels of the organization. The Middle Tennessee Chapter of the Oncology Nursing Society (MTCONS) developed and implemented an evening mentorship program showcasing oncology nursing. The audience included student nurses and teens from area high schools.

The purpose of this program was to introduce oncology nursing and professional mentorship to high school and nursing students.

Student nurses and area high school students were provided dinner and an interactive forum that included a panel of eight expert oncology nurses who described their roles and shared their personal experiences of oncology nursing and the value of mentorship. The panel members represented positions in oncology research, advanced practice, management, academia and outpatient nursing. The panel shared stories of the challenges and rewards of their careers. Nursing recruiters from three area hospitals were available to provide information on hospital benefits for interested nursing students.

The audience consisted of approximately 56 teens and nursing students, plus local chapter members. The nursing students' response was favorable. Several students even took the time to send emails stating the information presented was very helpful and encouraged them to add oncology nursing to their myriad of career opportunities. An added bonus was that it left the oncology nurses in the audience feeling re-energized about the work they do. The departure from typical MTCONS meetings was refreshing for the local members.

The panel discussion and interactive forum was a story telling opportunity that allowed future nurses to see through the eyes of a seasoned nurse; to hear about the personal commitments, struggles and rewards of a career in oncology nursing. This story telling forum can serve as a great mentoring tool for students making choices about their nursing careers.

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ASSESSMENT OF MORAL DISTRESS EXPERIENCE OF NURSING STUDENTS AND ONCOLOGY STAFF NURSES IN CARING FOR PATIENTS AT END OF LIFE. Gina DeGennaro, MSN, AOCN®, University of Virginia School of Nursing, Charlottesville, VA.

Assessment of available resources for nursing students and oncology nursing staff in managing the stress of caring for patients nearing end of life.

Nurses provide guidance to patients and families at end-of-life. Few studies indicate identification and education regarding managing death anxiety at student or staff nurse level. Nursing students reported difficulty coping and managing distress while caring for dying patients. On the acute care oncology unit, students observed nurses providing care for several patients each even when a patient expired. Students discussed overwhelming grief, reported listening to patients' life stories, and described sadness when death came. It was a life-changing experience, and a thought-provoking look at career choice. Some offered insight into this intimate part of life, and the opportunity they had to positively impact care for patients and families. They believed they might have benefited from additional discussion, debriefing, and perhaps even opportunity for bereavement.

After contemplating student responses, and discussion with faculty, staff nurses and chaplains, a focus group was convened consisting of undergraduate and graduate nursing students, oncology staff nurses, and chaplains, who provided insight regarding the support they might provide students and nurses. Discussion focused on identifying resources for nursing students facing end-of-life issues during clinical experiences, and identifying support for nursing staff, including examples of how they currently provide support and cope with loss. A list of suggestions was compiled, including: the establishment of available human resources for immediate debriefing; formal connections between the School of Nursing and Chaplaincy Department; integration of grief material into student competencies; quantifying caregiver response with surveys; evaluation of nurse role-modeling.

Clinicians, chaplains, and Nursing Faculty, are interested in maximizing the ability of nursing students and staff nurses to understand and cope effectively with end-of-life situations. Goals include facilitating competence and confidence in providing end-of-life care. Measurement with validated tools will occur.

Faculty are interested in student and nursing feedback, and have incorporated several initial suggestions. Ongoing work includes additional focus groups, development of suggested materials, review of measurement tools, and expansion of systems to assist students and staff nurses in managing death anxiety.

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GROWING OUR OWN ONCOLOGY NURSES. Brandi Handel, MSN, RN, Robert Wood Johnson University Hospital, New Brunswick, NJ.

The role of the oncology nurse leader is pivotal in recruiting, training, and retaining oncology nurses.

Oncology nursing is greatly impacted by the nationwide nursing shortage. Evidence suggests that nurses in leadership positions need to implement recruitment, training and retaining programs specific to this specialty. The oncology nursing service at Robert Wood Johnson University Hospital was experiencing the ramifications of the shortage in 2003. The 100+ bed Cancer hospital had just opened; many new nurses needed training; they were using purchased labor to fill vacant positions; and they were competing with several other local cancer programs to recruit oncology nurses. The oncology nursing leadership team identified that in addition to recruiting nurses externally, they also needed to implement initiatives to recruit from within and to grow their own non-oncology nurses into oncology experts.

Recruitment initiatives implemented included: oncology-focused open houses with free CEU's and food, the development of an Oncology Nursing Fundamentals program and Oncology Nursing course at Rutgers Uni-

versity. Educational strategies implemented include: a needs assessment; Oncology Nursing Fundamentals program, an innovative chemotherapy skills lab and certification practicum, a Bone Marrow Transplant education and consultation program, and an oncology competency orientation manual. Retaining initiatives implemented include: flexible scheduling, rotation between inpatient and outpatient settings, oncology-specific float pool, ethics rounds, utilization of chemotherapy administration safety products, complementary therapy, staff support groups, team building sessions and paid seminar days. They also met weekly to evaluate the outcomes of these initiatives. In addition oncology nursing leadership team formed a Continuity of Care Committee with nursing leadership from local cancer programs.

From start of implementation to current date, the Oncology service vacancy rate decreased from 30% to 2%. Purchased labor usage decreased from 20 FTE's to 0. Nursing chemotherapy certification increased from 48% to 62%. Nurses on the clinical ladder increased from 27% to 39%.

These results suggest that Oncology nursing leadership should implement initiatives to address the shortage of oncology nurses and to develop their own non-oncology nurses into oncology experts; Oncology nurses should continue to develop their knowledge and skills; and academic institutions should include oncology nursing in their curriculums.

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FROM CONGRESS TO HOME: IMPLEMENTING IDEAS LEARNED AT ONS CONGRESS AT YOUR OWN INSTITUTION. Colleen O'Leary, RN, BSN, OCN®, Northwestern Memorial Hospital, Chicago, IL; Jamie VonRoenn, MD, Northwestern Memorial Faculty Foundation/Northwestern Memorial Hospital, Chicago, IL; Nicole Woods, MEd, Northwestern University, Chicago, IL; Jane Hawksley, RN, MS, APRN-BC, Ralph Schwab, LCSW, and Cynthia Barnard, MBA, MSJS, CPHQ, Northwestern Memorial Hospital, Chicago, IL; and Kathy Johnson Neelly, MD, Northwestern Memorial Faculty Foundation/Northwestern Memorial Hospital, Chicago, IL.

ONS Congress gives nurses the unique opportunity to attend a comprehensive event designed to meet all of their learning needs. If there is not a way to apply the information one gains from such a conference, then it's purpose goes unfulfilled.

A benefit of attending Congress is learning about programs that might not be offered at your own institution. Applying that information is one of the purposes of Congress itself. After hearing a presentation at ONS Congress about Schwartz Center Rounds, I did just that. Schwartz Rounds are an open forum for interdisciplinary team members to discuss the emotional and psychosocial aspects of caring for patients. The oncology team had been looking for ways to support the members with the difficult issues that arise from caring for our patients. The Schwartz Center Rounds was a method of doing this.

I gathered as much information as possible, including contact information, while I was at Congress. I met with both my clinical nurse manager and director to discuss how the Rounds could meet the needs of our team. I contacted the Schwartz Center and spoke with their representative. A team was developed to begin the process. The Ethics Committee was brought in and we chose a facilitator and a physician leader. Together we were able to implement this program at our institution.

Each month we ask the participants to complete an evaluation. This covers areas including relevency, knowledge gained, dealing with colleagues, presentation, discussion, facilitator effectiveness and plans on attending again. We ask at the beginning of each rounds if it is anyone's first time and each month we are finding repeat attendees as well as new. We are finding that attendees are telling us that this has not only enhanced the relationship and understanding between disciplines but also between patients and caregivers.

Knowledge can only be beneficial if we use it. If we don't take information we've learned and apply it to our own situations the knowledge dies. It's our responsibility to keep that going. There is always something you can learn at Congress that you can apply to your own setting. Keeping your mind open to the possibilities and taking the steps to bring them to life keeps the knowledge alive.

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LESSONS FROM THE GROUP: THE BENEFITS OF PSYCHOEDUCATIONAL SUPPORT GROUP LEADERSHIP FOR ONCOLOGY NURSES. Janet McKi-

ernan, RN, BSN, OCN®, and Rachel Odo, CSW, Memorial Sloan-Kettering Cancer Center, New York, NY.

Much has been written about the benefits of support groups for oncology patients. Support group studies have demonstrated an overall improvement in psychological well-being for patients, a reduction in feelings of social isolation and helplessness, enhancement in quality of life, exchange of health-related information, improvement of psychological adjustment to a diagnosis of cancer and empowerment of the group's members. Very little, however, has been noted about the benefits experienced by staff involved in leading oncology support groups.

The purpose of this presentation is to delineate the advantages one oncology nurse has received as a result of co-leading a Head & Neck (H&N) oncology survivors' support group in collaboration with an oncology social worker within a major comprehensive cancer center. Much of the knowledge obtained through this experience has altered nursing practice in relation to patient education and disease counseling.

Monthly H&N support group meetings are conducted in a major comprehensive cancer center by the Post Treatment Resource Program (PTRP). The PTRP provides education, professional consultations, peer support and advocacy services to guide and assist patients after cancer therapy. The H&N support group meeting was implemented over 15 years ago due to the focused insistence by a small group of H&N cancer survivors.

The knowledge gained by an experienced H&N oncology nurse, through co-leading a H&N support group, has altered her nursing practice and patient education. This has mainly revolved around recurring statements of patients' need for more information about their disease process initially including psychological sequelae of treatment modalities and supportive services available to patients. The presentation will also reveal how an educational H&N resource booklet, written for patients by members of the PTRP H&N support group came to fruition.

This presentation will discuss the mutual benefits for staff and patients involved in a H&N oncology support group. It will also review the collaborative model utilized by this institution of coupling an oncology nurse and an oncology social worker. This model can be applied to other oncology practices and demonstrate the reciprocal benefits for both patients and staff.

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DEVELOPMENT OF A REVIEW PROGRAM DESIGNED TO ASSIST NURSES IN PREPARING FOR ONCOLOGY CERTIFICATION EXAMINATION. Kate Babock, RN, BSN, William Beaumont Hospital, Royal Oak, MI.

Nursing certification enhances professional practice and promotes nursing excellence. For many nurses, certification leads to improved job satisfaction, self-confidence, and career enhancement.

To develop a program to assist nurses in studying for the Oncology certification exam. Core curriculum reviewed, and handouts and lecture material developed to aid in the review process.

Sign-up sheets were posted in the staff conference room and interested staff members were identified from in-patient, outpatient, and physician offices on the hospital campus. Nurses were given a review book and a CD-ROM with practice questions prior to the beginning of the study program. Classes are being held in a private conference room free from distraction for one hour once a week and lunch is provided. Nurse managers, nurse clinicians, staff nurses, and physicians are presenting a topic each week. Handouts of lecture are given to attendees to aid in the review process. Practice test will be given each week with new material.

Outcome of study program is pending as the program is still in progress. A practice exam will be handed out one week prior to the last study session and the answers and rationale will be given on the day of the last study session. The exam will be taken in October 2004.

To enhance professional practice and promote nursing excellence, a program was developed to assist nurses in preparing for the Oncology certification examination. By offering a review program once per year we are hoping to promote certification of nurses. This program can be used by all oncology nurses to provide an easy and accessible method for studying for the certification exam.

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USING A WORKING GROUP TO ENCOURAGE AND FACILITATE SCHOLARSHIP AMONG NURSE CLINICIANS AND MANAGERS. Marsha Fonteyn, RN, PhD, Margaret Vettese, PhD, RN, Carolyn Hayes, PhD, RN, Diane Hanley,

MSN, RN, and Susan Bauer-Wu, DNSc, RN, Dana-Farber Cancer Institute, Boston, MA.

Fostering clinical scholarship is an important goal that can be a labor-intensive and time-consuming activity that often competes with a myriad of other demands for time and resources. A working group, where nurse scientists and educators act as facilitators while clinicians and managers learn from and help each other, with scholarly activities is an efficient and productive way to foster and support scholarship among nurses in a cancer care facility.

At the Dana-Farber Cancer Institute (DFCI), interest in scholarly activities is steadily increasing among nurse clinicians and managers, enhanced by strong administrative support, a comprehensive cancer care education department and a research center committed to increasing and enhancing research and scholarship in nursing and patient care services.

To maximize the resources and time of the nurse scientists and nurse educators while promoting and supporting the growing interest in scholarly activities at DFCI, a self-help meeting was established: "Scholarship for Clinicians and Managers: a Working Group." Meetings are held bi-monthly at times that are the most convenient for busy nurses. Attendees have come to the meetings with a variety of needs: to brainstorm about an idea, to obtain suggestions prior to submitting an abstract or manuscript, to practice before giving a presentation, and to get help designing and carrying out a quality improvement project.

Since the group's inception in the beginning of 2004, feedback from clinicians and nurse managers has been very positive, attendance at the meetings has steadily increased, and the number of scholarly activities has grown significantly. A formal evaluation of the working group is planned, at the end of the year.

Creating a working group where nurse clinicians and managers can receive ongoing help and support with their scholarly activities is an excellent method for maximizing the time and resources of nurse scientists and educators in a cancer center. Equally as important, such a group encourages mentorship and promotes collegiality among oncology nurses.

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FOSTERING PROFESSIONAL DEVELOPMENT IN AN AMBULATORY SETTING. Christine Liebertz, RN, CS, MSN, AOCN®, Theresa Sinopoli, RN, MSN, AOCN®, and Maryellen O'Sullivan, RN, MSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

Nursing recruitment and staff retention are directly impacted by leadership support and opportunities for staff development. Developing a series of educational sessions with professional staff growth in mind is one way to address this demand.

At this Comprehensive Cancer Center a new facility was opened dedicated to genitourinary cancers. As part of our disease management team, nursing leadership developed a series of educational sessions which supported opportunities for individual growth and development of staff. These sessions fostered networking opportunities and enhanced cohesiveness of this newly formed team which now consisted of medicine, surgery and chemotherapy nurses.

Annual needs assessments identified times, days and topics which best met the needs of staff. Sessions were coordinated by advanced practice nurses (APN's) who were available to mentor staff. A bimonthly educational lunch session was developed to expand knowledge, improve quality patient care, and provide an opportunity for communication and interaction amongst the nursing staff.

Nurses volunteer for presentations, select the topic based on their area of expertise or based on the needs assessment. The format is informal to decrease anxiety although formal presentation is encouraged. The APN's have used this venue to encourage other types of activities for professional development such as abstract submission, presentations for congress and professional certification. In addition other nursing services and disciplines were invited to address the multiple needs of staff.

This venue has been successful in assisting and motivating nurses to develop skills and confidence in presentation, literature reviews, and evidence based projects and has provided a forum for meeting objectives for clinical promotions and career development.

Since the opening of this clinical site in June, 2002 we have had 51 presentations, submission of 16 abstracts for Oncology Nursing Society Congress with acceptance of 13 for poster/podium presentation along with improved retention of staff. Also, 11 nurses were promoted.

A structured educational and supportive nursing environment is a way of encouraging staff professional development and growth. This presentation will share our experience in developing a program that may assist other oncology nurses to develop leadership skills, network, increase knowledge base and improve quality patient care.

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TAKETEN: AN E-LEARNING BREAK FOR ONCOLOGY NURSES. Edwin Garcia, RN, BSN, and Carole Elledge, RN, MSN, AOCN®, U.T. M.D. Anderson Cancer Center, Houston, TX.

E-learning is becoming increasingly recognized as a viable means of presenting educational content to nurses. The "just-in-time" approach afforded by e-learning offers the learner the opportunity to access content they value without barriers such as instructor, classroom or materials availability. At the University of Texas MD Anderson Cancer Center, the Nursing Professional Development and Education Department (NPD&E) is charged with meeting the orientation and ongoing education needs of over 1800 nurses in clinical, research, and other practice roles. In developing the "TakeTen" program, the E-learning team developed a strategy to offer core and cutting-edge oncology content in an interactive format to nurses across the institution.

The objective for this offering is to describe the "TakeTen" program from inception to implementation and evaluation.

The program was initiated in May 2004 and is planned so participants should only need approximately 10 minutes to complete each session. Each offering addresses a single oncology topic and is comprised of four multiple-choice questions, answer and rationale, references, and additional resources. The "TakeTen" link is sent to all nurses at U.T. M.D. Anderson biweekly via email. Archived offerings can be accessed via the intranet. A database tracks number of correct responses, evaluations, and topic recommendations. Topics presented to date include Chemotherapy Induced Nausea and Vomiting, Obesity and Cancer, Acute Lymphoblastic Leukemia, and Superior Vena Cava Syndrome.

To date, the site has incurred over 2000 "hits" and completed evaluations for each offering have been highly favorable. A program evaluation is planned for October 2004. This online Likert-style evaluation will include nurses' satisfaction level with the method of content delivery, participants' perception of value of the offering in meeting their educational needs, and impact on clinical practice.

E-learning offers a flexible and interactive means of delivering a wide range of information to nurses in diverse practice roles. The "TakeTen" program was created to enhance the nurses' knowledge of oncology content in a highly palatable manner. The planned evaluation will provide insight into the learners' perceived effectiveness of this teaching model and hopefully, guide us in developing additional e-learning offerings.

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DEVELOPING A PERSONAL DIGITAL ASSISTANT (PDA) REFERENCE TOOL FOR ONCOLOGY NURSES: PROCESS, OUTCOME AND DISSEMINATION. Diane Paolilli, RN, MSN, AOCN®, CNS, Memorial Sloan-Kettering Cancer Center, New York, NY; Elizabeth Gomez, RN, MSN, Putnam Hospital Center, Carmel, NY; Diane Meunch, RN, PEPID RN, Chicago, IL; Karen Abbas, RN, MSN, AOCN®, Dyson Cancer Center, Poughkeepsie, NY; and Barbara Sigler, RN, MNEd, Oncology Nursing Society, Pittsburgh, PA.

Integrating the use of personal data assistant (PDA) based reference tools into the delivery of patient care is a rapidly evolving area within nursing.

The purpose of this task force was to develop a PDA resource for the oncology nurse. While many general PDA based nursing resources exist, it was observed that a number of nurses were not familiar with the PDA and its applications. In addition Oncology Nursing Society (ONS) members indicated that a handheld resource tailored to oncology was needed.

A project team of oncology nurse experts was established to create an outline, evaluate content, and edit material for a PDA reference tool. A partnership was formed with PEPID LLC, a digital media concern for the production and dissemination of the actual product. PEPID is an established company that had already developed a basic nurse reference tool. The content outline included: most common cancers, current treatments, side effects, symptom management, clinical trials and complementary therapies. Content was developed from existing peer reviewed sources

previously produced from ONS. The project was divided into phases and managed by the Editor-in-Chief via the internet, e-mail, and conference calls with the group meeting face to face at the onset and at the conclusion of the project.

Launched in 2004, the completion of this project provides oncology nurses in the clinical setting a valuable resource. Facilitating the use of programs such as PEPID RN + ONS will assist the oncology nurse to incorporate the PDA into daily practice.

Future project direction includes maintenance of the current content, development of new content and an introductory educational program for the PDA novice. This presentation will introduce the PDA as a clinical resource tool, discuss the development of the PEPID RN + ONS content and present an overview of the resources available for the PDA naive nurse.

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LAYING THE GROUNDWORK: THE IMPORTANCE OF STAFF AND PATIENT EDUCATION IN IMPLEMENTING A NEW TREATMENT MODALITY. Rachel Behrendt, RN, C, BA, and Tracey Malast, RN, BSN, MSN, Robert Wood Johnson University Hospital, New Brunswick, NJ.

Malignant pleural effusion (MPE) is common Oncologic complication. Once MPE develops, palliating symptoms and maximizing quality of life become prime concerns. A new treatment modality that enables self-drainage of MPEs was recently implemented at Robert Wood Johnson University Hospital. This modality requires nurses to conduct educational assessments, teach complicated skills, and provide reassurance and troubleshooting assistance during the patient's 24 hour hospitalization.

To describe this treatment modality, discuss patient and nursing education initiatives regarding pleural catheter care, and initial challenges encountered as well as strategies undertaken to improve the nursing process in this patient population.

Implementation involved an extensive multidisciplinary team approach. Members of all disciplines participated to develop standardized physician order sets, patient discharge instructions, nursing policies; patient teaching portfolio containing both print and video instructions, a nursing educational program, and competency evaluation tool for nurses enabled a comprehensive focus to be maintained.

The most common complications from home use of a pleural catheter relate to improper drainage or site care. An adverse event would indicate incomplete education of patient and caregiver. To date, there have been no readmissions for catheter or site related complications in patients with a pleural catheter. On-going evaluation through follow-up telephone contact and review of readmission records indicate our method of instruction continues to accurately address learning needs.

Education of staff nurses was performed using print and video media. Patient education, performed prior to and following catheter insertion is standardized in its approach while allowing for individualization for each patient and caregiver. Education involves discussion of the catheter, the purpose and benefit of home drainage, steps involved supplies, and troubleshooting. After viewing a video showing the procedure, the catheter is inserted. Post-insertion drainage of the effusion is witnessed by the caregiver; return demonstration is performed by them the following day prior to discharge. This approach fosters patient and caregiver confidence while allowing ongoing nursing assessment of skill acquisition.

This modality has enhanced our ability to offer effective palliative care options. The educational model that was used has proven successful and could be used when implementing this treatment modality in addition to other educational applications.

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CHEMOTHERAPY-RELATED COGNITIVE DYSFUNCTION: AN EDUCATIONAL NEEDS AREA IMPROVED BY A SINGLE INTERVENTION. Irene Perez Vetto, RN, MN, ANP, AOCN®, Oncology Education Services, Inc., Pittsburgh, PA, and John T. Vetto, MD, FACS, Oregon Health and Science University, Portland, OR.

Chemotherapy-related cognitive dysfunction (CRCDD) is increasingly recognized as an important cause of post-treatment morbidity, with significant impact on quality of life. Further, effective behavioral and pharmacologic interventions have recently been elucidated.

The purpose of this work was to evaluate the level of need for and awareness of information regarding CRCDD among nurses involved with the care of persons receiving chemotherapy. We also hypothesized that

educational interventions are useful in this increasingly important area of oncology nursing.

Fifty-three chemotherapy providers were surveyed regarding CRCD beliefs and skills; 60% were RNs, 22% BSNs, and 13% NPs. An average of 85% of their clinical work was oncology related, and 44% were ONS members. The survey measured comfort/agreement level with 8 CRCD issues on a 1–5 likert scale (LS), where 1 indicated least comfort/agreement, and 5 indicated most. A subset of 20 individuals attending a CRCD educational session underwent pre- and post-testing to assess CRCD knowledge.

Respondents reported that CRCD is a serious problem (mean LS = 3.8). While they were neutral regarding comfort with existing CRCD assessment and support skills (mean LS = 3.0), areas suggesting need (lower comfort/agreement) included general CRCD education, diagnostic skills, knowledge regarding behavioral and pharmacologic interventions, and availability of adequate CRCD practice protocols (mean LS = 2.5–2.7). With a single educational intervention, post-test scoring improved over pre-test in 65% of subjects, with the overall mean scores improving from 63% to 74%.

CRCD is a nursing education need area among nurse chemotherapy providers; specifically, our results suggest the need for education in CRCD diagnosis, intervention, and protocol development. A single educational intervention improved knowledge. Our work underscores the importance of CRCD education for the Oncology Education Services (OES) and other oncology nurse educational resources.

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CROSS CULTURAL EDUCATION: IMPLICATIONS FOR ONCOLOGY NURSING PRACTICE. Sharon Perryman, BSN, MHA, RN, Dana-Farber Cancer Institute, Boston, MA.

Cancer is the 2nd leading cause of death in the United States for all groups, but among minority groups, the number of people who die from cancer and its complications is sometimes as much as twice as high as that of Whites. Cultural competence might help diminish this disparity.

Racial and ethnic minorities are disproportionately burdened by cancer in the United States. A primary goal of Healthy People 2001 is to increase the health and longevity of minority populations and to eliminate health disparities. Thus, cultural competence is essential for oncology nurses and support staff.

To meet the need for cultural competence among Nursing and Patient Care Services (NPCS) staff at Dana-Farber Cancer Institute, the Cross Cultural Education Program was developed, guided by the Capinha-Bacote Model of Cultural Competence. This model defines the process of cultural competence in the delivery of healthcare services as: the process in which the health care professional continually strives to achieve the ability and availability to effectively work within the cultural context of the client (family, individual or community). The Cross Cultural Education Program was designed to increase the knowledge of health disparities among NPCS staff, and to increase their awareness of the importance influence that culture and race/ethnicity has on patient and family encounters.

The Cross Cultural Education Program was evaluated using, a pre/post test to assess the improvement in attendees' knowledge about health disparities and the cultural and communication needs of patients and families from specific ethnic and racial minorities. Participants also completed a Diversity Self-Awareness questionnaire prior to attending the educational session.

Knowledge of the impact of health disparities in cancer care and an understanding of the cultural needs and communications patterns of specific ethnic and racial minorities is essential for cultural competence. The creation of a Cross Cultural Education Program provided a means for oncology nursing and support staff to develop the knowledge and communication skills required for cultural competence, and subsequently improved their ability to provide better care to minority populations.

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A NURSING RETREAT: A TIME TO TEACH, STRENGTHEN, AND RENEW THE RADIATION ONCOLOGY NURSE. Cynthia Briola, RN, OCN®, Carole Sweeney, RN, MSN, AOCN®, Jean Holland, RN, MSN, AOCN®, Mariellen Smith, RN, BSN, OCN®, and Joanne Mc Garvey, RN, BSN, MSN, Fox Chase Cancer Center, Philadelphia, PA.

Oncology nurses are faced with multiple stressors on a daily basis. Increasing patient acuity, insufficient staffing which leads to overtime,

miscommunications, ambiguity of nursing roles, and rapid changes in both technology and healthcare delivery systems are only a few of the several stressors identified in the literature. Studies also show that these stressors have negative consequences that affect not only the physical and psychological health of the oncology nurse, but also affect patient outcomes.

The purpose of this retreat was to bring the radiation oncology nurses from a major comprehensive cancer center together for a weekend that would advance their clinical knowledge, renew their spirit, while strengthening their commitment to maintaining quality patient care. Subsequently, interdisciplinary and multidisciplinary teamwork would improve. It was felt that this type of format away from the work place was needed due to the multiple interdepartmental changes and interruptions which included increased case loads and patient acuity, extended overtime, staff changes, along with no available time to meet, let alone eat.

A funding proposal was approved and presented to the department chairman describing the rationale and objectives of the retreat. An educational needs assessment and questionnaire was developed and distributed to the radiation oncology nurses for completion. The nurses participating in the retreat gave presentations related to radiation nursing practice issues and teambuilding. Self care activities that included massage, aromatherapy, nature walks, and spiritual care were incorporated throughout the weekend.

Post retreat evaluations, were obtained three months later. Team building issues were discussed at a follow-up staff meeting. The one-year anniversary of the retreat is approaching and plans are underway for a mini onsite retreat. Assessment of learning needs was obtained. Identified topics will be discussed.

The retreat proved quite beneficial. The new knowledge gained has improved patient outcomes. The teambuilding activities have enabled us to have a greater respect for each other, however, this is an ongoing process. A nursing retreat format is an ideal way for other oncology nurses to come together, share their knowledge, build stronger bonds and engage in self-care activities that ultimately promote quality patient care and outcomes.

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ASSESSMENT OF A PATIENT IN AN ACUTE PALLIATIVE CARE UNIT. Cathy Tilley, RN, BS, University of Texas M.D. Anderson Cancer Center, Houston, TX.

In order to provide effective symptom management and control, one must perform a thorough and comprehensive assessment. Using assessment tools developed to assess symptom distress is paramount. The tools assess mental status, coping skills, and symptoms such as pain, fatigue, delirium, dyspnea, appetite, anxiety, wellbeing, depression, nausea and sleep.

The purpose of this presentation is to educate oncology nurses on the varied tools used to perform an accurate assessment of patients admitted to an acute palliative care in-patient setting. By using evidence-based tools, a plan of care is formulated to effectively manage a patient's symptoms.

On admission to the unit, the patient undergoes a head-to-toe physical assessment, vital signs, the mini-mental screen, the Anderson Symptom Assessment Scale, (ASAS), and Cage. These tools assess major symptoms, mental status, and coping skills. One of the most important tools is the mini-mental. The mini-mental is most effective in identifying the patient's level of mental competency. If the patient achieves a low score this usually indicates delirium. When delirious, a patient becomes disinhibited and will manifest symptoms such as total body pain instead of pain in a specific area. Delirium devalues the ASAS. If not correctly identified as delirium, adding opioids will only make the delirium worse and add to the distress of the patient. The ASAS identifies symptoms most distressing for the patient. The Cage is important in identifying coping skills. Used together, the tools identify an accurate plan of care for the patient.

After initial admission, administering the ASAS daily, trending results and utilizing the mini-mental when cognitive changes are noted will assure effective symptom management and control.

Through appropriate assessment, symptoms can be identified for the palliative care patient, and a treatment plan is developed. It is imperative that the right symptoms are identified so that treatment can be focused and implemented as soon as possible to relieve the distress of the patient and family.

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THE NURSE AS DETECTIVE IN ASSESSING FOR PSYCHIATRIC ILLNESS AND DETERMINING THE NEED FOR REFERRAL OR CONSULTATION IN THE ONCOLOGY SETTING. Sharon Van Fleet, MS, APRN-BC, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL.

Although reported rates vary, a significant number of oncology patients experience emotional distress at some point during their illness and treatment. Unfortunately fewer than 10% of cancer patients requiring psychiatric intervention receive appropriate care. While numerous factors contribute to this problem, nurses are in a key position to improve detection of problems requiring psychiatric evaluation and intervention, on account of nursing's central involvement across the care continuum and the quality of the nurse-patient relationship.

Some nurses, however, experience discomfort in regards to performing psychosocial assessment, and many lack the knowledge required. Research has demonstrated that psychiatric illnesses are often not detected by oncology practitioners, and consequently few of those patients receive referrals. Given the pressures faced by nurses and other oncology professionals, psychiatric concerns may be devalued in the context of immediate treatment demands. Negative attitudes and misconceptions on the part of both professional and patient regarding psychiatric illness and treatment also serve as barriers to detection and optimal intervention. The purpose of this presentation is to provide oncology nurses with information needed to effectively screen for problems requiring psychiatric intervention.

General psychiatric assessment guidelines will be presented. Basic diagnostic criteria will be reviewed for psychiatric disorders most common in the oncology setting. Risk factors will also be identified. Common medical, cancer- and treatment-related factors potentially contributing to psychiatric presentations will be listed. Guidelines will be offered to aid in distinguishing non-pathologic grief from depressive disorders requiring intervention. Guidelines for assessment of suicide potential will be emphasized. Practical recommendations will be offered to assist in determining the need for staff consultation or patient referral. Suggestions for sensitively addressing psychosocial concerns will be provided. Strategies to overcome patient resistance to assessment and referral will also be given.

As a result, nurses will gain increased awareness of possible signs and symptoms warranting further evaluation and possible referral. Enhanced awareness may contribute to earlier detection and intervention, thereby limiting patient distress and other consequences of untreated psychiatric illness, as well as improving quality of life.

With enhanced knowledge regarding psychiatric assessment and referral, nurses can improve detection and facilitate appropriate, timely intervention.

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AN EDUCATIONAL PROGRAM TO INCREASE STEM CELL TRANSPLANT NURSES KNOWLEDGE OF INFECTIOUS ISSUES IN THE COMPROMISED HOST. Angela Johns, RN, BSN, MPA, OCN®, Duke University Medical Center, Durham, NC.

Infectious complications continue to be the leading cause of treatment related morbidity and mortality in stem cell transplant patients. Reducing infectious risks is a major role for transplant nurses. The nurse is the principle educator of patients and families and takes the lead role in assuring that infection control guidelines are followed.

Immunocompromised patients are at significant risk for nosocomial infections. The nursing staff caring for immunocompromised patients need to have a strong knowledge base in immunology, infectious pathogens and infection control practices. The Center for Disease Control (CDC) and the American Society of Blood and Marrow Transplantation (ASBMT) published evidence based infection control guidelines in 2000.

This educational activity is designed to increase the nurses knowledge of the immune system, microbial pathogens, infection control measures, and drug therapies to prophylax and treat infections. We will use the training the trainer model to increase involvement in the teaching process by staff nurses and to develop clinical experts at the bedside.

The Clinical Director will provide the education and educational materials to six staff nurses who have expressed interest in the topic, a desire to teach and volunteered to participate in the project. The materials will be reviewed by the BMT Infectious Disease consultant, the BMT faculty and the BMT Pharmacist. The lecture series will include 3 monthly sessions

covering the topics of (1) Basic immunology (2) Microbial Pathogens (3) Infection Control Standards and Patient Education. An educational packet including powerpoint handouts will be provided for each trainer. Each month the nurse will be expected to provide the same information to a peer group of 4-6 staff members.

A pre and post test will be given with each teaching session. The goal is to increase staff knowledge and to reduce infections in the ABMT patient. Infectious complications are recorded in the ABMT data base and can be compared pre and post educational intervention.

Increased knowledge of infectious risks and management will enhance adherence to infection control standards and standardize patient education. We will establish a baseline knowledge and competency for all nursing staff caring for stem cell transplant patients.

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YOGA AT YOUR DESK: SELF CARE AND STRESS MANAGEMENT FOR THE BUSY CLINICIAN. Mary Jane Ott, MN, MA, APRN-BC, Dana-Farber Cancer Institute, Boston, MA.

Successful stress management is a critical skill for busy oncology nurses that can improve performance during patient care. Enhanced recruitment and retention and prevention of burnout are related to improved staff performance and positive patient outcomes. Studies have demonstrated the efficacy of yoga for stress management, self care and as an adjunct treatment for illnesses.

Increasing patient acuity, decreased work force, diminished resources and increasing demands on staff have led to increased staff distress and burnout (Aiken). Yoga is an ancient practice of breathing, gentle movement, meditation, chanting and relaxation that supports health and healing can be a useful intervention. The skillfulness, health and well being of staff have a direct impact on that of patients (Curley).

With support from nursing education and human resources, a series of 6 - 1 hour yoga classes were developed and offered to the interdisciplinary staff in a large academic cancer treatment center. The classes could be taken individually or as a series. They were designed to promote breath awareness, abdominal breathing, gentle physical movement and relaxation. They could be done at the desk and throughout the busy clinical day. An advanced practice nurse who was a registered, certified yoga instructor taught the classes.

Participants evaluated each class session as to its effectiveness and transferability to the clinical setting. Classes were consistently rated as very good or excellent and comments strongly recommended that such classes be continued. Staff reported relief of specific physical and emotional symptoms as the classes progressed. Skills taught in the classes were identified as personally helpful and transferable to the clinical setting. The breathing, selected gentle movements and relaxation were seen as useful to share with patients.

As oncology nurses we are constantly faced with the challenge of finding safe, innovative ways to manage our stress and to assist our patients in managing theirs. Yoga can be a valuable stress management strategy that promotes self care, that will decrease symptom burden and improve quality of work life. This presentation will provide an experience of yoga as part of the presentation.

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CRITICAL THINKING THROUGH CHEMOTHERAPY ADMINISTRATION. Ellen Cowan, RN, MSN, OCN®, and Judy Prewitt, RN, MSN, ANP-C, AOCN®, Duke University Hospital, Durham, NC.

The Institute of Safe Medication Practice outlines the importance of standardized order sets to prescribe chemotherapy. Oncology Nursing Society (ONS) has guidelines for safe administration of agents. However, the nurse must identify whether an order is written correctly or in need of clarification. The nurse may have questions related to appropriate fluid volumes, supportive medications or dose. At Duke University Hospital (DUH), a quality improvement project through the Oncology Clinical Practice Council (OCPC) proposed the use of an algorithm to define the difference between orders that require written physician clarification versus those that allow telephone clarification with other providers, thus allowing timely administration.

In conjunction with DUH Pharmacy Department, OCPC outlined which components of the chemotherapy order set were essential for the safe and accurate administration. This process was done in ac-

cordance with ONS Guidelines, DUH Nursing Process Standards and DUH Pharmacy Policy & Procedures. This joint effort identified which elements of the chemotherapy order were within the scope of Pharmacy and/or Nursing to clarify and which elements required orders to be rewritten by the physician. It was determined by review of standards set by licensure to practice, current literature and physician collaboration that only a physician could prescribe for the drug, dose or route of administration.

An algorithm was then constructed to assist the nurse to understand when a chemotherapy order required physician rewrite and when the nurse or pharmacist could safely clarify the order. The algorithm was implemented throughout DUH following approval by the OCPC. Education then proceeded as part of the yearly chemotherapy competency revalidation process.

Review of medication incidents revealed a 75% reduction in delay of treatment. A survey of nurses demonstrated increased satisfaction related to defining the nursing role in verifying a safe order.

The outcome of this project was to foster consistent and timely chemotherapy administration across all areas within DUH. More importantly, there was a significant decrease in Adverse Drug Events related to chemotherapy administration. This was attributed to the improved communication and critical thinking related to the use of the algorithm.

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CLORETAZINE (VNP40101M): A NOVEL THERAPY FOR ACUTE MYELOID LEUKEMIA AND MALIGNANT GLIOMAS. Kara Penne, RN, BSN, OCN®, The Brain Tumor Center at Duke, Durham, NC; James Vredenburg, MD, and Michael Badruddoja, MD, Duke University Medical Center, Durham, NC; Ann Lee Cahill, PA-C, VION Pharmaceuticals, New Haven, CT; and Susan Schneider, RN, CS, PhD, Duke University School of Nursing, Durham, NC.

Cloretazine (VNP40101M) is a novel alkylating agent with broad activity in acute myeloid leukemia and myelodysplastic syndrome. This agent inhibits the DNA repair enzyme O6 alkyl guanine-DNA alkyl transferase (AGT) that is thought to be a major mechanism of chemoresistance. Cloretazine has been shown to cross the blood brain barrier. It has received fast track designation from the U.S. FDA for relapsed or refractory AML. It is currently under investigation to establish efficacy in malignant gliomas.

The purpose of this presentation is to make oncology nurses aware of a new innovative therapy for acute myeloid leukemia and malignant glioma and its implications for practice.

This presentation will discuss mechanism of action, side effects, nursing implications and current results of clinical trials in acute myeloid leukemia and malignant gliomas. Adverse events noted in AML trials include infusion related reaction including facial flushing, headache, nausea, dizziness, and/or hypotension (50%, grade 1; 13%, grade 2) and myelosuppression greater than 28 days (16%). The dose limiting toxicity was myelosuppression occurring at the 708 mg/m² dose level (Giles, Thomas, Garcia-Manero, et al., 2004). Complete response was achieved in 2 patients. Median survival for all AML patients was approximately 9 weeks. It is currently being evaluated for use in recurrent primary malignant gliomas. A different toxicity profile has been found in malignant glioma treatment with Cloretazine. Adverse events include thrombocytopenia, neutropenia, infusion related reaction, seizures, and cerebral edema.

This poster will present a comparison of the toxicity profiles in patients with AML and malignant gliomas. Nursing implications for patient care in each population will be discussed, including a check list for patient assessment and guidelines for symptom management.

Cloretazine has received fast track designation from the U.S. FDA for relapsed or refractory AML. This presentation will include the mechanism of action of Cloretazine, administration, side effects, nursing implications, and clinical trial information for use in AML and malignant gliomas. It is crucial that oncology nurses gain knowledge regarding this new and innovative cancer therapy and how to care for those patients who receive it.

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DEVELOPMENT OF AN INTRANET WEBSITE TO DISSEMINATE EVIDENCE-BASED PRACTICE INFORMATION. Liz Cooke, RN, MN, AOCN®, ANP, Sharon Steingass, RN, MSN, AOCN®, Michael Mora, MBA, PMP, Grace Dean, RN, PhD, Robin Gemmill, RN, MSN, Nancy Kuntz, RN, MSN, Shirley Otis-Green,

MSW, Virginia Sun, RN, MSN, Elizabeth Wood, and Cynthia Smith-Idell, RN, BA, MSN, AOCN®, City of Hope Medical Center, Duarte, CA.

Topic

There are many barriers to incorporating evidence-based practice (EBP) on inpatient nursing units. Several reasons why nurses are unable to bring research to the clinical setting involves: climate of research importance, time constraints, limited access to the literature, and lack of confidence with research utilization skills.

Purpose

The purpose of this abstract is to present information on the development of a nursing intranet website to address these barriers in disseminating EBP information to staff nurses.

Interventions

The website was developed by six advanced practice nurses (APN) who meet monthly for a practical evidence-based practice discussion on rotating nursing units called "Research to Practice." This website was a tandem outcome of this program to assist with enhancing the goal of bringing research to the clinical setting in a practical manner. Information on the website includes: calendar of monthly EBP events, links to several oncology and EBP journals, and helpful websites, summary of last month's EBP discussion with pertinent articles, quality of life model used for assessing patient issues, and a method for asking a clinical question. The "Ask a Question" piece sets it apart from other known websites that only offer EBP information rather than an interactive learning piece. It involves a method for any staff nurse within the institution to anonymously submit a clinical question to an APN. The goal is for the APN to respond to the clinical question using evidence from the literature within 1-2 business days. Answers to the anonymous questions are posted on the website for 30 days and then cataloged under website-accessible clinical headings such as chemotherapy, disease, ethical/legal, transplant, psychological issues, surgery, radiation, spiritual, symptom management and venous access devices.

Evaluation

Evaluation includes data collected from the clinical headings to identify clinical needs of the nursing staff such as number and character of questions in each category. This data will be used as a needs assessment.

Discussion

This project is one medical center's attempt to incorporate a unique method to bring research to the clinical setting which effectively addresses many of the barriers listed by nurses to the use of evidence-based practice care.

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BRIDGING THE GAP: RURAL ONCOLOGY NURSING EDUCATION. Kristi Orbaugh, RN, MSN, AOCN®, Community Cancer Care, Inc., Indianapolis, IN; Debra Scachill, RN, MSN, Genentech, San Francisco, CA; Susan Walker, RN, BS, OCN®, Community Cancer Care, Inc., Indianapolis, IN; and Gena Middleton, MS, CNS, AOCN®, Genentech, San Francisco, CA.

Community Cancer Care relies on over 100 oncology nurses throughout the state of Indiana to provide quality care to varied patient populations at multiple locations. Geographic constraints restrict on-site educational opportunities and can impede implementation of updated standards of care. It is imperative that staff nurses receive timely, targeted education on cutting-edge cancer treatments.

The purpose of this project is to design a series of educational offerings to meet the needs of rural staff nurses with varied levels of expertise. All programs will be conducted via teleconferencing.

A needs assessment was completed to determine program topics and preferred schedule. Based on staff response, a pilot teleconference facilitated by a network nurse practitioner was conducted for one site with 5 nurses and a pharmacist participating. The second program offering was expanded to 4 rural sites on two separate dates. To facilitate logistics, site liaisons were responsible for advertising, monitoring calls, and completing paperwork. Improvements during Phase II included the addition of contact hours, handouts and extended discussion time. To foster professional development, nurse educators from within the network have been identified for speaker development. Future topics and content will be consistent with the network philosophy. Treatment guidelines, practice standards, safety data and research updates will be incorporated. This is an ongoing novel program designed to meet the unique needs of a rural outreach network. Evaluations will be reviewed to ensure continuous quality improvement.

Providing workplace education for oncology nurses practicing in rural settings must overcome time and distance constraints. To date 4 teleconferences have been conducted at 4 sites with 30 participants. Future programs are currently being planned and will include inservice and continuing education offerings incorporating peer-to-peer education as well as presentations by invited physician and nursing experts.

Nurses working in rural areas must provide expert nursing care to oncology patients, yet may have limited access to educational opportunities. A teleconference format is an inexpensive, adaptable way to provide education for nurses who care for patients with cancer. The long-term challenge for this program is to remain flexible in an environment of rapid change.

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OUTPATIENT EXPERIENCE FOR INPATIENT NURSES ON A LEUKEMIA UNIT: A SIMPLE STRATEGY TO PROVIDE A COMPREHENSIVE INTERPRETATION OF THE HEALTHCARE CONTINUUM. Janet Briel, BSN, MBA, OCN®, Anita Reedy, BSN, MSN, OCN®, and Amy Emerling, RN, BSN, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD.

Nurses working on an inpatient leukemia unit see a limited portion of the patients' healthcare continuum. Inpatient therapy is arduous and lengthy. Nurses often view the consequences of this treatment as outweighing the benefits for some patients. A strategy to provide these nurses the opportunity to spend time with patients and the oncologist in the ambulatory setting can contribute to a more comprehensive interpretation of the inpatient experience.

The purpose of this project was to develop and implement a program that provides nurses on an inpatient leukemia unit in a comprehensive cancer center an opportunity to observe and participate in the ambulatory clinical care of patients with leukemia. Encountering patients at different stages throughout the care continuum broadens the clinical nurse's knowledge base and perspective, thus improving his/her practice. Prioritizing and supporting this aspect of personal and professional growth for nurses can be accomplished in a limited time period.

The strategy was implemented by coordinating scheduling between the units and physicians to provide a four hour rotation. Objectives were developed to guide the experience. Nurses were able to review bone marrow smears and participate in consults with physicians, gaining advanced knowledge and insight into the patients' "big picture." Feedback was elicited from both nurses and physicians regarding their perceptions of the experience.

The outcome of the project has been overwhelmingly positive. Nurses have summarized their experience as "enlightening" and "educational." Interacting with patients during ambulatory clinic visits helped them to see the broader perspective of the disease trajectory and thus adjust their perspective of the inpatient experience. From the physician's viewpoint, it provided a more controlled environment to educate nurses, as well as improve communication and establish a personal rapport.

Personal and professional growth is facilitated by a variety of learning experiences within the continuum of care. Providing opportunities for nurses to move outside their immediate environment has the potential to improve care, and to provide a forum for essential relationship building between nurses and physicians.

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THE MISSING LINK IN NURSING ORIENTATION: INTRODUCING CLINICAL RESEARCH TRIALS. Regina Smith, RN, BSN, and Carolyn Kay Buscemi, RN, BSN, OCN®, M.D. Anderson Cancer Center, Houston, TX.

The purpose of this presentation is to report on an educational module designed to provide an orientation to the clinical nurses' role in the implementation of research protocols. Nurses completing the general orientation often cannot define their role in research trials. Yet, clinical nurses implement significant portions of the experimental plan and provide significant pieces of the assessment and documentation.

Nursing orientation provides a systematic overview of skills and knowledge necessary to practice at a given hospital. Published literature supports a proliferation of information on clinical trials, patient education, and research, yet there is limited information on educational preparation for clinical nurses working with patients on research trials. As regulations surrounding the implementation of trials proliferate, the assessment and documentation by clinical nurses working with patients on protocol

become increasingly important. Much of the information obtained during a clinical trial is limited to the integrity of the research nurse data and some of the data may be missed because the clinical nurse is unaware of the importance of reporting this data. New strategies and education of the role of the clinical nurse will decrease protocol violations and improve outcomes.

An assessment was completed with all registered nurses during orientation to determine baseline knowledge of clinical trials. Using this data and the information required for primary investigators and collaborators, an introductory learning module was developed for orienting nurses. The module is available in hard copy and can be presented in seminars. An online version will be developed.

Orienting nurses will be assessed for baseline knowledge prior to reviewing the materials. Upon completion of the module, nurses will complete a test covering the clinical trial process. The test will be re-administered three months after module completion and learning strategies implemented. (Results from this first administration will be available in January of 2005 for this presentation.)

The use of clinical trials in the oncology setting is common and the presence of such trials in the community is becoming more prevalent. The evidence found in this assessment will be valuable to the education of nurses working in all arenas of oncology.

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THE IMPORTANCE OF A GN ORIENTATION PROGRAM IN CANCER CARE: AN INTERNATIONAL PERSPECTIVE. Katie Snell, RN, BSN, OCN®, Presbyterian St. Lukes Medical Center, Denver, CO.

Research indicates that novice nurses are inadequately prepared to work in speciality areas. However, novice nurses are recruited into specialities due to the nursing shortage. The ED, ICU and Obstetric areas have adressed this issue by developing structured orientation programs involving theory and clinical practice in order to attract, prepare and retain novice nurses.

Despite the specialized nature of Oncology, little research is available on the benefits of a Cancer orientation program for novice nurses. Graduate nurses are inadequately prepared to perform basic oncology skills since Oncology is not included in many college curriculums.

As an Oncology educator in the UK, the author observed that Novice nurses employed across Oncology units left after several months primarily due to inadequate support and a lack of knowledge which hindered them in their care of patients. A structured orientation program was designed to provide theoretical knowledge and clinical expertise resulting in positive outcomes. After emigrating to the USA, the author noted similar issues with Novice nurses and developed an Oncology orientation program to assist nurses transition to professional oncology practice.

Based on guidelines from the English national board and OCN recommendations, a template for an Oncology orientation program was developed. The curriculum included information on a wide range of Oncology issues. In the UK and USA the nurses rotated through Oncology, Hematology and BMT so inclusion of information relevant to these areas was imperative.

The 12 week program consisted of a clinical practicum and 6 hours per week of classroom teaching to integrate theory and practical components of care. Students presented a case study at program completion to demonstrate competence.

Qualitative data collected in the UK and USA indicates the nurses found the program beneficial by improving confidence, knowledge and skills in Oncology care delivery. Managers and preceptors noted improved critical thinking skills. Novice nurse retention rates after completion of the program were improved.

A structured Oncology orientation program positively impacts the recruitment, retention and satisfaction of novice nurses in both the UK and USA.

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DEVELOPMENT AND IMPLEMENTATION OF ONCOLOGY FOCUSED NURSE INTERNSHIP. Kimberly Catania, MSN, RN, AOCN®, Pauline James, MSN, RN, CNS, OCN®, Cheryl Huang, MSN, RN, AOCN®, Misty Ohr, MSN, RN, CNS, AOCN®, Gail Havener, MS, RN, AOCN®, James Cancer Hospital, Columbus, OH.

Review of literature revealed that Nursing Intern Programs improve nurses satisfaction and are effective in recruiting and retaining quality nurses.

Dissatisfaction with current University Hospital based Nurse Internship Program coupled with the desire to improve care of the oncology patient population, led the James Cancer Hospital and Solove Research Institute CNS group to develop and implement an oncology focused nurse intern program. This involved determining feasibility, prioritizing needs, effective use of resources and incorporating input from administration, former interns and preceptors.

The program was divided into three phases. Phase I, an 8 week segment, included didactic classes specific to care of the cancer patient. During Phase I each intern spent two weeks on four different oncology specialty units. A consistent dedicated preceptor was identified for each unit with the focus being skill acquisition and care of unit specific oncology populations. Phase II lasted six weeks and was dedicated to developing higher level clinical skills of organization, prioritization, delegation, clinical judgment, and critical thinking. The goal of Phase II was to prepare the intern to effectively manage a full oncology patient assignment and apply for permanent unit placement. Having the intern follow the schedule of their assigned preceptor and limiting classes during this phase increased preceptor and patient continuity. Weekly progress evaluations and peer support meetings were included in Phase I & Phase II. Phase III was identified as a two month segment of time focused upon the intern becoming fully competent in management of a specific patient population through the continuum of care. Phase III was identified as a two month segment of time focused upon the intern becoming fully competent in management of a specific patient population through the continuum of care.

Plans to expand this program will be based on feedback from the interns, preceptors, Program Director, Nurse Managers, Clinical Nurse Specialists, administrators and recruiters. Outcomes measures will include Intern, staff and patient satisfaction as well as retention of interns within the system.

If the outcomes of this program are positive, it will be expanded to include larger numbers and perhaps oncology specialty units.

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PLANTS USED IN CONVENTIONAL CANCER THERAPY. Cathy Fortenbaugh, RN, MSN, AOCN®, APN-C, Pennsylvania Oncology Hematology Associates, Philadelphia, PA.

Nurses new to Oncology within the University of Pennsylvania Health System must complete a 3 day didactic course followed by a practicum before they can administer chemotherapy. Much material is packed into the course. Educators are challenged with including interesting relevant information that can be recalled with accuracy.

The purpose of the project was to use pictures and discussion about the plants that plant alkaloids are derived from to help course participants develop a mental image that can be used as a springboard for more relevant administration and side-effect information. In addition this information can be used to engage the participants by helping to hold their attention.

Literature revealed adequate information about the plants that plant alkaloids were derived from. Adequate pictures of the plants were obtained or photographed. Pictures and plant information for Vinca alkaloids, Epipodophyllotoxins, Taxanes, and Camptothecins were integrated into the plant alkaloid lecture.

Very positive course and Instructor evaluations and positive comments from course participants were received.

Educators may want to include pictures and brief discussion of the plants that plant alkaloids are derived from in their lectures pertaining to plant alkaloids. Participants report that they can use the image of the plant as a mental springboard for more relevant administration and side-effect information.

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CANCER SYMPTOM MANAGEMENT: A DIFFERENT WAY OF LEARNING. Lesley Tokarz, RN, BSN, Colleen O'Leary, RN, BSN, OCN®, Deborah Mast, RN, BSN, OCN®, and Barbara Gobel, RN, Northwestern Memorial Hospital, Chicago, IL.

Cancer symptom management was identified by nurses at Northwestern Memorial Hospital as an area in which they needed additional education and review to best care for their patients. With limited time and resources, a delivery model needed to be developed to meet their needs.

A staff survey was conducted to identify educational needs. Cancer symptom management was identified on all units in oncology services.

Because there was little time available for staff to be away from patient care a lunch and learn model was chosen. By meeting these needs we hope to make a difference in nurses' practice and knowledge.

The education/leadership team developed a list of 11 topics under cancer symptom management. A different topic is addressed on each session day. Sessions are offered three times a day every other week. These times allow for all shifts to be involved. Topics are presented by both members of the leadership group as well as staff nurses.

A pre-test and post test is given with each topic. These are recorded and averaged showing the percentage of increased knowledge after each educational session. A chart audit will be completed at varying times throughout the process to evaluate changes in practice. This affords a great opportunity to evaluate clinical practice.

Once staff has identified what their educational needs are it is important to find a way to meet those needs. In a busy and fast paced environment it is not always easy for the staff nurse to be away from their patients for any length of time. Offering short informational sessions at varying times throughout the day helps to meet the staff needs while not interrupting patient care. Presenting smaller portions of information not only helps the nurse to gain a better knowledge of the topic but to integrate that into practice. Presenting the information with pre- and post test format can easily determine the amount of knowledge gained from the teaching session. Actual clinical practice changes will be monitored via the chart audits. Monitoring both practice and knowledge will help to determine any additional educational needs.

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RECOGNIZING THE NEED TO DEVELOP A NUTRITION SUPPORT PROTOCOL FOR HEAD AND NECK CANCER PATIENTS. Sharon Stager, RN, MS, CS, FNP, AOCN®, University Medical Group, Providence, RI.

The need for developing a protocol for the nutritional support of HNC cancer patients undergoing treatment was identified for further research. Nurses are in the forefront for providing guidance and partaking in the management of the nutritional program.

Annually, approximately 30,000 patients will be diagnosed with head and neck cancers (HNC). The anatomic location of HNC presents inherent difficulties for maintaining quality nutritional status. Prior to treatment, many patients present compromised nutritionally due to weight loss, dysphasia, and odynophagia. The treatments: radiation, chemotherapy, and surgery, and the side effects: nausea, emesis, diarrhea and/or constipation, further compromise nutritional status. HNC patients are coupled with oral cavity dysfunction, mucositis, candidiasis, and, based on the locality and extent of the cancer, radiation and surgical disfigurement. No standardized guidelines for the treatment of anorexia and weight loss during chemotherapy and radiation therapy existed in our facility. The findings of a retrospective review of 12 HNC patients revealed no systematic management of nutritional needs. Two patients presented with an approximate 20 lb. weight loss prior to diagnosis. All patients received a gastrostomy tube prior to treatment. All patients lost weight during treatment. Other than height and weight, none of patients were evaluated with laboratory analysis, anthropometric measurements, or quality of life assessments. Charting did not include documentation as to the nutritional supplementations used. For those patients who refused to utilize the gastrostomy tube based on personal or symptomatic reasons, impact on quality of life was devastating.

A pilot protocol has been designed based on weight loss, actual ideal body weight, laboratory data, symptoms, treatment side effects, and quality of life for nutritional supplementation. The patients will be initiated on a high caloric intake protocol and managed based on symptoms, quality of life and laboratory data.

LEARNING OUTCOME: To develop a protocol for providing nutritional support to head and neck cancer patients undergoing chemotherapy and radiation treatment.

Once the protocol is completed, oncology nurses and advanced practice nurses will have a guideline to follow to assist in managing nutritional supplementation in the head and neck cancer patient undergoing cancer therapy.

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INNOVATIVE PRACTICE: ESTABLISHING A PALLIATIVE CARE CLINIC FOR OLDER ADULTS IN A COMPREHENSIVE CANCER CENTER. Susan Derby,

RN, MA, CGNP, and Jose A. Contreras, MD, Memorial Sloan-Kettering Cancer Center, New York, NY.

Recognition that the palliative care needs of the older patient with cancer are different from younger patients was the pivotal force behind the development of a palliative care ambulatory clinic for older patients at this NCI-designated comprehensive cancer center. These differences include extensive psychosocial needs, complex symptom management issues, and issues related to polypharmacy.

The Ambulatory Pain and Palliative Care Clinic at this institution sees approximately 30–40 patients per month and it is to this population the clinic is being targeted. A Certified Geriatric Nurse Practitioner (CGNP) as part of an interdisciplinary pain and palliative care team provides and facilitates ongoing expert care. The domains of care include symptom management, advance care planning, education, continuity and coordination of care across practice settings, and end of life care.

This presentation will (1) describe the integration of an older adult palliative care clinic into mainstream outpatient care, (2) highlight issues and barriers in providing palliative care to this population and (3) identify strategies that have been implemented in the provision of palliative care to this population.

Interventions include a one hour initial assessment, and a 30 minute follow up utilizing established pain and palliative care evidence-based guidelines. All patients are initially seen by the CGNP and the physician. Depending on need, referrals are made to other members of the interdisciplinary team. Ongoing assessment of need in the home is the responsibility of the CGNP.

Preliminary data collection of this program, as a precursor to in-depth evaluation of outcome measures will take place at 3 and 6 month intervals, including number of referrals, pain and symptom diagnosis, interventions, effectiveness of pain relief and symptom control, and more global quality of life measures.

Delivering palliative care to this population means overcoming patient, clinician and institutional barriers, understanding the impact of cancer and treatment on the older patient and their caregiver, and providing for ongoing care in the home setting. This clinic has been designed to address these barriers and needs.

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TOOLS UTILIZATION IN THE COMPREHENSIVE ASSESSMENT OF CANCER-RELATED FATIGUE. Rosalie Valdres, RN, MSN, University of Texas MD Anderson Cancer Center, Houston, TX.

Fatigue is the most common symptom of patients with cancer and has been described in various populations. It occurs in 60%–90% with the rates of > 75% in patients with metastatic disease. Comprehensive fatigue evaluation using reliable and validated tools are critical in the management of cancer-related fatigue.

The purpose of this project is to:

1. Teach health care providers appropriate clinical and diagnostic tools in fatigue evaluation.
2. Correlate objective measures of fatigue using various tools
3. To discuss research data on CRF
4. To Improve patient's quality of life.

Interventions:

Include baseline assessment data, utilize how tools are used in the trade, case studies and research data application for the management of fatigue.

Clinical patient outcomes through follow up and research data may improve the quality of life of these patients. Clinical predictors identified will be utilized in early identification of fatigue. Educating the health care providers will assist in better outcome.

Utilization of tools will enhance the fatigue evaluation through thorough and comprehensive assessment covering every aspect of patient care. Health care providers may adopt or modify tools and incorporate in their practice, thus improved quality of life.

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TAKING THE PAIN OUT OF CHEST TUBE REMOVAL. Mary Coady, RN, OCN®, Sheila Koreck, RN, BSN, OCN®, and Linda Schiech, RN, MSN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA.

Concern over poor pain control at the time of chest tube (CT) removal prompted staff nurses on a thoracic surgical oncology unit of a Compre-

hensive Cancer Center to attempt to develop a new practice standard. Chest tube pain has been deemed one of the worst and negative ICU experiences of many hospitalized patients.

Literature on CT removal was reviewed and a decision was made by the nurses to collect Quality Improvement (QI) data to determine if there were changes in practice that may facilitate the improvement of the patients' experience.

QI data was collected over several months regarding pain levels on a rating of 0–10 before, during and after CT removal. Included also was information regarding any premedication with an analgesic including the name, dose and time of the medication. Simultaneously, the nurses reviewed the literature and found that topical application of analgesics such as EMLA cream or ice and/or premedicating with a parenteral non-steroidal anti-inflammatory medication were the most beneficial to the patients prior to having a CT removed. While collecting the QI data, the nurses also observed that a suture at the CT site, tightened at the time of CT removal, could be increasing the pain the patients are feeling at the time of CT removal.

The overall goal of this project was to approach the surgical attending physicians with recommendations leading to development of a standard using the criteria of time (notification prior to CT removal), premedication with an analgesic, and/or topical application of a local anesthetic and standardization of CT removal with improvement of patient outcomes. The surgical oncology nurse will continue to be supported in his/her role as a patient advocate during the traumatic CT removal.

Having the bedside oncology nurse to act as a patient advocate to create a new standard and support the patient will improve pain control in patients who are hospitalized with a CT and decrease the negative perception that these patients hold regarding CT removal.

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PAIN (THE FIFTH VITAL SIGN): ADVANCED CANCER CARE AT END-OF-LIFE IMPLICATIONS FOR NURSING. Lisa Mulhearn, RN, and Natasha Ramrup, RN, MSN, Memorial Sloan-Kettering, New York, NY.

Pain is the most feared and common symptom experienced by cancer patients. Approximately 70%–90% of patients with advanced cancer experience pain and 25% of all cancer patients die with inadequate pain control despite clear guidelines for pain management at end of life. The patient's pain may increase in intensity, frequency and duration as the disease progresses. Pain is a subjective multidimensional perception which can be directly related to disease, sequelae from treatments, and co-morbidities. An effective pain management plan is of utmost importance in the proactive management of this patient population in an acute care setting. Astute nursing assessment, knowledge, and education are imperative to help cancer patients die with peace, dignity, and comfort.

Undertreated pain may lead to functional impairment and poor quality of life. Unfortunately, care is focused on life prolonging intervention and cure, not palliation. Care for end of life patients should be holistic in nature and focused on the physical, emotional, and spiritual needs.

Pain "the fifth vital sign" may contribute to unnecessary suffering when aggressive pain management strategies are not effectively implemented. Myths, misconceptions, side effects, cultural background, and beliefs may impinge on effective interventions for managing pain. If the multidimensionality of pain is not considered, the patients' attempts to communicate pain may be unsuccessful. This NCI designated comprehensive cancer center, was the first cancer center in the United States to have an interdisciplinary service devoted specifically to treating cancer pain. This service incorporates the principles of palliative care into the care of all patients with cancer from the time of diagnosis to the advanced stages of the disease.

Nurses are pivotal to the multidisciplinary team to educate about the pathophysiology of pain, pharmacological options and goals of treatment. An idea individual pain management plan should include the patient/caregiver and the multidisciplinary team.

This presentation will (1) describe current pain management modalities and its side effects, (2) discuss barriers to effective pain management, (3) provide an overview of the nurse's role in pain management, (4) outline the multidisciplinary team involved in pain management, and (5) review theoretical and pharmacological management.

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PARAVERTEBRAL BLOCK: PROMOTING SATISFACTION OF BREAST CANCER PATIENTS IN THE AMBULATORY SURGERY SETTING. Brett Dickinson, RN, OCN®, Karen Nielsen, MD, and Susan Steele, MD, Duke Ambulatory Surgery Center, Durham, NC.

The growth in outpatient surgeries includes many procedures done for breast cancer. Breast cancer patients not only have fears relating to their surgery, but also complaints about nausea and vomiting after general anesthesia. In the outpatient setting, a regional anesthetic technique, the paravertebral block, can minimize the side effects associated with general anesthesia.

The purpose of this project is to evaluate the patient data pertaining to pain and nausea when breast surgery is performed under paravertebral block. General anesthetics are associated with increased opioid requirements post-operatively, which consequently increases nausea and sedation. Regional anesthetic techniques allow the same procedure to be performed, while minimizing unwanted side effects, which improves the patient's perception of this first phase of cancer treatment.

Various surgeries for breast cancer are performed under paravertebral block in the ambulatory surgery setting. Pain and nausea are managed aggressively per ASC standards. The database for pain and nausea is completed within the first 24 hours, while the patient satisfaction database is completed in 24 hrs and 7 days.

Outcomes of the project are measured by a retrospective database of breast cancer patients in the Duke Ambulatory Surgery Center from 7/13/1998 to 2/13/2004 (N = 3450). Pain was rated \leq VAS 3 in 76.5% of the patients. Nausea was rated \leq VAS 1 in 81.2% of the patients. Patient satisfaction scores remain $>$ 97% regarding anesthesia and ASC experience, with 98% recommending this type of anesthesia to others.

Alternative anesthesia techniques for breast surgery in the ambulatory setting offer potential benefits for patients. Paravertebral block minimizes pain and nausea, but more importantly, decreases sedation which facilitates early discharge teaching. The caregivers are able to interact with the patient soon after surgery, decreasing stressors for both. Diet can be advanced more rapidly after surgery, with little fear of nausea, promoting a sense of "returning to normal." Potential changes in self-image can be addressed early during the recovery period. It is our hope that a positive surgical experience will reduce anxiety for future medical interventions.

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THE ROLE OF NURSES IN MANAGING TELEPHONE CALLS FOR SYMPTOMS AND CHEMOTHERAPY TOXICITY. Zubin Ferzandi, RPh, Astra Liepa, PharmD, and Shanti Pruitt, RN, MSN, Eli Lilly and Company, Indianapolis IN; and James Piercy, and Gareth Lane, Adelphi International Research, Macclesfield, Great Britain.

In addition to routine scheduled appointments, cancer patients can also require impromptu support for the management of symptoms and toxicities. Such support is by definition spontaneous and unpredictable, and may distract clinic staff from scheduled activities. Some complaints may be managed completely by nurses, while others require involvement of other clinic staff, lead to referrals to other health care practitioners, or necessitate hospitalization.

The purpose of this project was to evaluate: (1) the frequency of spontaneous calls to clinics for symptom or toxicity management; and (2) level of involvement of nurses in their management.

Telephone calls to outpatient cancer clinics were logged. Information collected included nature of complaint(s), clinic staff involved in the call, and follow-up actions.

At 16 outpatient clinics in Canada, France, and the United Kingdom, 185 telephone calls were logged, approximately one call for every 8 patients receiving chemotherapy in the clinic on those days. Nurses were involved in 93% of telephone calls. The majority of complaints were assumed to be toxicities of chemotherapy. Complaints classified as toxicities were more likely to involve more than nursing staff. The top five complaints (i.e., nausea, fatigue, constipation, diarrhea, and fever) accounted for 56% of all calls. Nausea, constipation, and diarrhea were handled over the phone $>$ 70% of the time and, in most cases, nurses were the only practitioner involved. Although fatigue was most commonly handled over the phone, patients were frequently referred to other practitioners or hospitalized. In the case of fever, although the nurse was generally involved in the call, clinic oncologists were included in 60% of the telephone calls received, with nearly 90%

of cases requiring the patient to be hospitalized, to be further evaluated at the clinic, or to be referred to another health care provider.

Nurses are central to the management of spontaneous reporting of symptoms and toxicities. Nurses typically manage disease symptoms and common gastrointestinal complaints on their own, but will include other health care providers in the management of more serious toxicities such as fever.

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NEW PAIN CONSCIOUSNESS RATING: DECREASING OPIOID RELATED ADRS. Tina Mason, ARNP, MSN, AOCN®, H. Lee Moffitt Cancer Center, Tampa, FL, and Hector Vila, Jr., MD, University of South Florida College of Medicine, Tampa, FL.

Oncology nurses are on the forefront of pain management and, thus, often are the first to detect subtle changes related to adverse effects. A challenge exists for relieving pain while avoiding changes in consciousness such as over-sedation and respiratory depression. An interdisciplinary team lead by the program leader of anesthesiology conducted a retrospective chart review and found an increase in the rate of significant narcotic over-sedation events in our hospital since pain assessment was elevated to the status of a vital sign. Pain was managed with a common one-dimensional numerical pain rating and treatment algorithm. Nearly all of the affected patients had a decreased level of consciousness reported in nursing notes prior to respiratory events. To compare ADRs to other hospitals, the Medmarx database (an anonymous, Internet-accessible, standardized program employed by hospitals nationwide to report and track medication errors) was examined. The database reflected an increase in opioid-related errors in the last two years as compared to data from 2000. The purpose of this abstract is to describe the implementation of a revised pain scale, which incorporates consciousness assessment, at our NCI-designated comprehensive cancer center.

A new pain-consciousness rating scale was designed to reflect the subjective patient report (rating 0–10) and an assessment of consciousness: A = awake/alert; B = sleeping, but easily aroused by voice/light touch only; C = consciousness impaired, arousal only by vigorous/painful stimulation; or D = disoriented/confused. Parameters for assessing patients with a pain rating greater than four and assessment of C and D were developed. Nurses, technicians, physicians, pharmacists, etc. were educated by various venues and the scale was implemented. Staff report ease in scale use. Heightened awareness has led to C and D patient identification earlier avoiding critical care transfer. A significant decrease in opioid ADRs is also noted. A repeat study will be conducted after one year.

Pain management presents a challenge for most oncology patients and nurses. This scale is used with all routine vital signs and can easily be incorporated into any setting. Oncology nurses play a vital role in detecting early changes in consciousness and can help divert patients from untoward effects and costly stays in critical care.

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THE SIGNIFICANCE OF HAIR CHANGES ASSOCIATED WITH CETUXIMAB. Patricia McLaughlin, RN, MSN, AOCN®, CINJ at Cooper University Hospital, Voorhees, NJ.

Oncology Nurses are in a unique role to identify the side effects of new therapies as they are being tested. Often, it is the nurse who will observe potential relationships that may exist between the agent and the side effects and response.

Cetuximab (Erbitux) was recently FDA approved for Irinotecan refractory metastatic colorectal cancer. One of the most prevalent side effects that has been observed in the majority of patients is an acniform rash. Although little has been published to date, many believe that there is a positive relationship between response and occurrence of the rash. While this has been most notable, an extension of this side effect, hair changes has rarely been mentioned.

Our site participated in an access protocol where heavily pre-treated patients received single agent cetuximab therapy. In 5 of 27 patients treated, there were significant hair changes noted. Among these were extreme lengthening and curling of eyelashes, development of course hair, eyebrows, and facial hair, and changes in hair color.

In all but one patient, the time to disease progression was longer in this group of patients than in the general population of patients treated. There is virtually nothing in the literature to date addressing this.

The observations we noted were purely anecdotal, however they were observed by oncology nurses. Because of the lack of empirical data, it would seem prudent to study these side effects in a controlled setting. In addition, defining the mechanism of action, and the possible correlation to response would provide a greater understanding of the drug and possibly others in similar categories.

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CONCURRENT CHEMORADIOTHERAPY FOR LUNG CANCER: THE MULTI-FACETED ROLE OF THE AMBULATORY CARE NURSE IN PATIENT CARE. Kim Plastini, RN, BSN, OCN®, and Elizabeth Pena-Greenberg, RN, BSN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Lung cancer (LC) is the leading cause of cancer death in men and women in the U.S. In 2004 an estimated 173,770 new cases will be diagnosed and 160,440 deaths will occur. Concurrent chemoradiation is used to treat locally advanced non-small cell LC and limited stage small cell LC as it increases locoregional control and improves survival. However, toxicities of this treatment are significant and pose a challenge for the oncology nurse caring for these patients.

This presentation will discuss the rationale and benefits of concurrent chemoradiation, potential side effects and toxicities of treatment, and the multi-faceted nurse's role in providing care to these patients.

The oncology nurse fulfills many roles when caring for patients with lung cancer receiving chemoradiation. Assessment: Nursing care begins with a comprehensive assessment to identify existing and potential problems. Once treatment is initiated ongoing assessments are done, supplemented with telephone triage. To assess effectively, the nurse must know potential side effects of treatment, including myelosuppression, dysphagia, odynophagia, cough, dyspnea, fatigue, and skin changes. Education: Patients and families are educated using a multi-modality approach, including verbal instruction, written materials, and audiovisual aids (e.g., videos, CD-ROMs). Information is provided on the rationale of treatment, potential side effects, and symptom management strategies. A calendar outlining the treatment plan is reviewed and provided. Coordination: Once the treatment plan is established the nurse participates in coordinating care. This includes confirming the start date of treatment, ensuring diagnostic tests are completed and results reviewed, initiating referrals to other disciplines as needed (e.g., social work, nutrition). Coordination begins prior to and is ongoing throughout treatment. Psychosocial support: Support is provided to address concerns and questions throughout treatment. This includes individual counseling, family counseling, support groups, community referrals, and practical assistance.

Through assessment, education, coordination, and psychosocial support, the oncology nurse has been pivotal in minimizing adverse side effects, treatment breaks, and hospitalizations.

This presentation will outline the multi-faceted role of the ambulatory nurse caring for LC patients receiving chemoradiation. This model can be used by all oncology nurses working with patients receiving combined modality therapy.

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INTEGRATING ONCOLOGY AND NEUROLOGY NURSING TO CARE FOR MYASTHENIA GRAVIS PATIENTS TREATED WITH HIGH DOSE CYCLOPHOSPHAMIDE. Kristen Barton, RN, BSN, and Helen Yee, RN, BSN, Johns Hopkins Hospital, Baltimore, MD.

High dose cyclophosphamide has been demonstrated to increase the likelihood of achieving remission in myasthenia gravis and other autoimmune diseases, particularly for those patients whose disease is refractory to other treatments. Some patients are unable to completely respond to standard therapies; therefore these patients are ideal candidates for cyclophosphamide.

The objective of this presentation is to increase awareness of the care required by myasthenia gravis patients receiving high dose cyclophosphamide among oncology nurses. In our institution, refractory myasthenia gravis patients are admitted to the bone marrow transplant unit for four days of cyclophosphamide, then discharged and followed daily in the Inpatient/Outpatient clinic during their immune system recovery for supportive treatment. The chemotherapy regimen is intense, and patients experience various side effects as well as the potential for difficulties related to their underlying disease. Caring for these patients has been challenging for our staff, most of whom were unfamiliar with

myasthenia gravis. Nurses were required to manage chemotherapy-induced side effects and assess for symptoms of myasthenic crisis simultaneously.

Nursing education was essential in this endeavor, and has included tutorials and self-education on neurological nursing practices, such as respiratory measurements. The nurses collaborated with a large multi-disciplinary team to develop the plan of care for these patients. Patient education has also been crucial, specifically regarding chemotherapy during treatment, side effects, count recovery, and growth factor infusions. Similar to other chemotherapy regimens, these patients are at risk for developing infections due to prolonged neutropenia. Like newly-diagnosed oncology patients, myasthenia gravis patients who receive their first chemotherapy treatment require increased support and understanding from their nurses.

With the knowledge gained by our nurses from independently acquiring information and collaborating with other healthcare disciplines, clinical practice standards in oncology have been developed for the care of myasthenia gravis patients. Oncology nurses can now more confidently take care of these patients throughout their complicated treatment and recovery process.

As chemotherapeutic research progresses, oncology nursing will be asked to continue to include other disciplines, such as neurology. Oncology nurses must use our expertise in chemotherapy administration and symptom management to expand our practice to include other specialties.

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VIDEO ASSISTED THORACIC SURGERY (VATS): AN INSIDE VIEW OF THE NURSING MANAGEMENT. Karin Holt, BSN, RN, and Gina Szymanski, MS, RN, The Johns Hopkins Hospital, The Sidney Kimmel Comprehensive Cancer Center, Baltimore, MD.

Video-assisted thoracic surgery (VATS) has become an increasingly popular method for performing thoracic surgery using minimally invasive technique. Minimally invasive surgeries have become the gold standard for procedures such as gallbladder surgery. VATS results in decreased pain and recovery time compared with an open thoracotomy. Oncology patients benefit from this procedure for diagnosis and staging of thoracic tumors including lymph node staging, excision of cancerous masses, lobectomies, surgical repair of collapsed lungs or treatment of chronic pleural exudate. Risks associated with VATS are similar to traditional thoracotomy including prolonged air leak, pneumonia or infection, bleeding, stroke, myocardial infarction and death.

This presentation will discuss the nursing care of oncology patients undergoing VATS including a description of how VATS is performed, which oncology patients are candidates for VATS versus traditional thoracotomy, pre-operative preparation for surgery, critical pathways for post-operative care including signs of potential complications, and patient education before and after the procedure.

Nursing care of patients undergoing VATS requires a thorough understanding of how the procedure is performed; the risks and complications associated with VATS, postoperative patient care and patient education topics to ensure optimal patient recovery. Documented risks specifically associated with VATS include severe bleeding requiring emergency thoracotomy and tumor seeding as cancer specimens are removed through the small incisions created to access the thoracic cavity. Post-operative nursing care of patients may include chest tube monitoring, supplemental oxygen support, patient ambulation, incentive spirometry, and monitoring for bleeding, pneumonia and surgical site infections.

New procedures such as VATS have significant implications for oncology patients. Interventions such as staff education and critical pathway development increase nursing knowledge related to care of the VATS patient pre and postoperatively and facilitate positive patient outcomes.

The use of VATS for cancer patients is increasing. This minimally invasive surgical technique has potential benefit but requires careful assessment, thorough patient education, and skilled post-operative management. Standardized guidelines for care and staff education allow the oncology nurse to expertly manage patients pre and postoperatively to ensure quality care.

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THE NURSES ROLE IN SYMPTOM MANAGEMENT AND FOLLOW UP OF PATIENTS WITH HEAD AND NECK CANCER RECEIVING MULTI-MODAL-

ITY THERAPY. Amy West, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

Cancer of the head and neck account for 3.7% of all cancers. These cancer patients require debilitating surgery, treatment with radiation, chemotherapy or both. Oncology nurses play a significant role in educating, managing and supporting this patient population known to have multi psychosocial needs often attributed to their alcohol and tobacco use.

Our comprehensive cancer center plays a pivotal role in treatment of head and neck cancer patients who are referred locally and nationally. Many of these patients present with complex needs such as poor nutrition, socioeconomic concerns and a high potential for non compliance. In order to address these needs and reduce morbidity, a coordinated effort is made by all members of the nursing team to ensure safe and positive patient outcomes. This presentation will share our experiences in managing patients receiving concomitant therapy and the importance of follow up in maximizing quality of life.

Combined chemotherapy and radiation treatments improve tumor control rates however side effects of radiation are potentiated. Patients are assessed prior to and frequently throughout the course of treatment. Severe symptoms of mucositis, skin irritations, salivary gland dysfunction, nausea, infection, constipation, and pain are often experienced by patients. The oncology nurse provides careful observation and early interventions in the management of these side effects. Comprehensive nutritional assessment is done to address the anticipated dysphasia and potential placement of a percutaneous endoscopic gastrostomy tube. This strategy will minimize dehydration and decrease the possibility of hospitalization. Educational materials are provided to patients addressing potential and expected side effects of treatment as well as symptom management. Oral care, mouth sprays, narcotics and comfort measures are provided routinely to alleviate symptoms.

Nursing interventions and education are integral components in determining patient's outcomes and potential morbidities. Based on our aggressive assessment, education, follow up and multidisciplinary team approach, problems are addressed early and outcomes improved.

Nurses play an integral role in assessing and educating patients. This presentation will provide strategies for patient education, symptom management, and tools that nurses can use in their own setting to manage the patient with head and neck cancer receiving multi-modal-ity therapy.

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DENDRITIC CELLS: EMERGING ROLES IN TUMOR IMMUNOTHERAPY. Elaine DeMeyer, RN, MSN, AOCN®, Creative Cancer Concepts, Rockwall, TX, and Jason Rothaermel, RN, BSN, OCN®, Cleveland Clinic Foundation, Cleveland, OH.

Although significant strides have been made over the past decade to improve life expectancy and maximize quality of life for patients with cancer, more effective and less toxic approaches are needed. Research is focusing on methods of manipulating and enhancing the body's innate immune system to treat cancer through dendritic cell (DC) stimulation and DC based vaccines as a form of tumor immunotherapy.

The purpose of this abstract is examine the rationale and clinical uses of tumor immunotherapy approaches focusing on myeloid related dendritic cells (DC1s) in vivo or ex vivo using GM-CSF as a single agent or in combination with other cytokines, targeted therapy, chemotherapy, or biochemotherapy.

DC tumor immunotherapy involves stimulating DCs from either circulating blood, or bone marrow progenitor cells of the myeloid cell lineage. GM-CSF has been shown to promote maturation, mobilization, and antigen presentation through upregulation of DC cell surface markers and costimulatory molecules. DC stimulation can be in vivo with GM-CSF alone or ex vivo as a therapeutic vaccine using various cytokines. Investigation of cancer vaccines has been spurred by the ability to cultivate, culture, mature, and precharge large numbers of DC1s from monocytes or CD 34+ cells for use in a variety of cancer including malignant melanoma and prostate cancer. Once stimulated, these immature DCs are then pulsed with a specific tumor antigen and re-introduced to the host where they present the tumor antigen to naive T cells initiating an immune response. For example, several studies using autologous and allogeneic DCs are emerging the the setting of androgen independent metastatic prostate cancer.

Besides DC1 stimulation, the other anti-tumor properties of GM-CSF include direct cytotoxicity, antiangiogenesis properties, and potential upregulation of antibody dependent cellular cytotoxicity (ADCC).

Along with the emergence of new therapies such as tumor immunotherapy, comes the responsibility of the oncology nursing profession to be kept well informed and on the forefront of this cutting edge technology. Through continued self-education and understanding of ongoing clinical trials and advances in the field can oncology nurses provide hope, education, and advocacy for their patients.

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NEW THERAPIES FOR TREATMENT OF MYELODYSPLASTIC SYNDROME. Karen Rose, RN, Jan Davis, RN, ADN, BSBA, and E. Suzan Kaled, RN, MS, NP-C, M.D. Anderson Cancer Center, Houston, TX.

Myelodysplastic Syndrome (MDS) refers to a group of heterogeneous hematopoietic disorders for which the standard therapy has been supportive care. Recently 5-azacytidine has been approved for the treatment of all patients with Myelodysplastic Syndrome. Current trials are also under evaluation for another hypomethylating agent, decitabine. It is important for oncology nurses to identify and become familiar with new therapies for their patients, especially a population with very few options.

To provide an overview for oncology nurses about two new treatment programs, for a previously untreatable disease.

The content of this presentation will include the pathophysiology, incidence of the disease, the new International Prognostic Scoring System (IPSS) for MDS, and an overview of two new treatment modalities, one newly approved and one in Phase II clinical trials.

The presentation will provide an overview of current strategies for evaluation, potential uses, and rationale for design of protocol.

The presentation will include an overview of the use of the recently developed International Prognostic Scoring System (IPSS) for MDS, the oncology nurse will be able to assist in educating their patients about their risk of disease progression and different treatment options. Additionally, in-depth information concerning two new therapies for the treatment of MDS will be included.

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HIGH DOSE INTERLEUKIN—THERAPY DELIVERED COMPETENTLY AND CONFIDENTLY USING THE CAT TOOLS (COORDINATED, ACCURATE AND TIMELY). Nancy Steward, MSN, RN, CRNI, Cindy Waddington, RN, MSN, AOCN®, and Elizabeth West, RN, MSN, OCN®, Christiana Care Health System, Newark, DE.

Administration of High Dose Interleukin-2 (IL-2) is a complex, structured process involving interrelated disciplines. Prior to implementation of the new therapy our program development committee acknowledged the need to empower nurses into the development of confident and competent administrators of High Dose IL-2. The CAT tools will support coordination of multiple interventions, accurate assessments, timely communication and management of this therapy.

Crucial components of this therapy were identified to facilitate the collaborative efforts of multiple disciplines. Components necessary to direct the nurse throughout the patients hospitalization are admission orders, nursing assessments, administration policy and a reference binder.

Focus meetings were held with the multi-disciplinary team which included the Clinical Nurse Specialist, Care Coordinator, Nurse Manager, Pharmacists, and Staff Development Specialist. Key components of the therapy were identified and project assignments were distributed for tool development. The completed forms and policy were submitted to appropriate committees for review and approval. Staff were educated on the use of the new forms.

Staff input was solicited. Recommended changes were incorporated. Positive outcomes were reported by the nurses who were involved in the care of these patients. A data bank was established and data is currently being collected to allow for easy identification of patient symptoms which required intervention and management. Data will be reviewed and policy revised if findings indicate more effective management strategies are required.

Standardized admission order sets were developed to facilitate accuracy, consistency and efficiency as well as decrease transcription errors. Orders for management of anticipated side effects were included. The nursing assessment flow sheet assists the nurse in completing a comprehensive pre dose decision making assessment which is consistent throughout each shift

and allows for accurate documentation and communication of this assessment to the physician. The policy was developed to define the Christiana Care Health System guidelines of the administration of IL-2. The nursing reference binder allows the nurse quick access to detailed information for clarification and confirmation of issues related to this therapy.

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ELIMINATE MEDICATION ERRORS: A QUALITY IMPROVEMENT INITIATIVE. Hyacinth Gordon, RN, MSN, and JoAnn Mick, RN, MSN, MBA, AOCN®, M.D. Anderson Cancer Center, Houston, TX.

To Err is Human, the report by The Institute of Medicine (1999) indicated that medication errors cause over 7,000 deaths each year. In the United States, morbidity and mortality due to medication errors cost hospitals more than \$136 billion annually. Medication errors can occur during prescribing, ordering, dispensing, administering and monitoring. Though most errors are not harmful, patients and caregivers can be adversely affected and the potential number of deaths is alarming. It is believed that many medication errors are preventable.

An informal survey done on our 32-bed surgical urology and orthopedic unit revealed that 80% of the nurses had made minor errors or had identified and/or corrected potential errors. A quality improvement project was implemented to provide education about medication errors and how to prevent them.

We implemented a Medication Safety Patrol system using a CPR (Caught–Plea–Reward) model to identify and offer tips to prevent medication errors. The acronym ELIMINATE was developed to educate nurses who administer and monitor medications: E—eradicate old habits that do not support 100% safety; L—learn to ask coworkers for help to maintain safe practices; I—inquire about unclear medication orders; M—maintain consistent 100% compliance with JCAHO and institutional standards/guidelines; I—initiate a “Medication Safety Patrol Program”; N—never make assumptions; A—act on first impulse to seek clarification; T—talk about medication safety constantly; E—educate patients and professionals about medications and the measures to ensure safety.

Unit survey results have shown that the Medication Safety Patrol System has increased nurses’ awareness of each of the topics outlined by the ELIMINATE acronym. Chart audits and direct observations have identified causes of errors, including: wrong patient, medication, dose, and time. Surveys are conducted every 4 months for ongoing monitoring of our unit’s success using the CPR strategy for elimination of medication errors.

Eliminating medication errors reduces morbidity and mortality and the associated costs. It improves patient outcomes and staff satisfaction. Nurses are in a unique position to ensure that necessary steps are taken to ELIMINATE medication errors.

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NY-ESO-1. A NOVEL VACCINE TRIAL FOR UROTHELIAL CANCER. Mary Boyle, RN, Memorial Sloan-Kettering Cancer Center, New York, NY.

A novel vaccine therapy using NY-ESO-1 protein in combination with BCG and GM-CSF is under investigation at our NCI designated cancer center for patients with urothelial cancer. This disease is one of the few solid human malignancies in which immunotherapy has proven to be effective. Bacillus Calmette–Guerin (BCG) is the most effective treatment for superficial bladder cancer. This is the first vaccine trial for this patient population in the United States. The nurse plays an important role in screening, educating and managing these patients.

Urothelial cancer is one of the most common malignancies in this country with a predicted 57,400 new cases in 2004 and typically presents in the seventh decade. Despite aggressive surgical resection, 50% of patients with muscle invasive transitional cell carcinoma (TCC) who receive no further therapy will develop metastatic disease within 2 years and die. Chemotherapy has an unproven role in this setting and can be toxic in this older population. Therefore new treatments are needed. The purpose of this presentation is to share our experience with this new approach and the nurse’s critical role.

The objective of this trial is to determine an immunologic response by generating antibodies targeted towards specific antigens on the cell surface and hopefully prevent disease recurrence. Eligibility for the trial requires a positive expression of NY-ESO-1 on the tumor’s surface. The vaccine is administered intradermally weekly for six weeks. Side effects may include pain at the injection site, flu like symptoms and malaise. The nurse as-

sesses patients on a weekly basis and instructs them on self injection techniques and adherence to the complex treatment schedule.

Comprehensive patient education is essential to protocol adherence. With strong nursing support, patients have been successfully treated with minimal side effects. Accuracy of self-administration and overall comfort levels of the patient is key to achieving optimal patient outcomes.

Vaccine therapies are being developed for many cancers and nurses play an important role throughout the spectrum of care. This presentation will explain vaccine therapy in urothelial cancer and the expert nursing knowledge necessary in order to manage these patients.

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DEVELOPMENT OF A STRATEGY TO SUCCESSFULLY CONVERT AN AMBULATORY INFUSION CENTER FROM PROCRIT (EPOETIN ALFA) TO ARANESP (DARBEPOETIN ALFA). Viki Longfield, RN, MSN, AOCN®, Missouri Baptist Medical Center/Barnes-Jewish-Christian Healthcare System, St. Louis, MO; and Brenda Gebhart, RPh, and Lynn Hayward, RN, OCN®, Missouri Baptist Medical Center, St. Louis, MO.

Anemia is common among cancer patients receiving chemotherapy. Anemia can negatively impact quality of life and social function of patients. Traditional treatments for chemotherapy-induced anemia (CIA) include transfusion of red blood cells and erythropoietic therapy, such as epoetin alfa. Darbeпоetin alfa is a novel erythropoiesis-stimulating protein to treat CIA that has a 3-fold longer half-life than epoetin alfa which allows for less frequent administration (Egrie, 2003). Oncology nurses are in a unique position to examine the advantages and disadvantages of implementing this new therapy and to develop guidelines for safe administration. Since costs associated with treatment of CIA have a significant budgetary impact on infusion centers, nurses must take a proactive role in evaluating less costly interventions. Here we describe one ambulatory infusion center’s experience in converting anemia-directed therapy from epoetin alfa to darbeпоetin alfa.

To evaluate the logistical implications of converting a large patient population in a busy ambulatory infusion center from epoetin alfa to darbeпоetin alfa, as measured by monitoring physician compliance with the new guidelines and cost of each erythropoietic agent.

A multidisciplinary team reviewed the literature and NCCN guidelines on treatment of CIA before drafting guidelines specific to our clinic and study objectives. Staff was educated on the efficacy and indications for each agent. Data supported the use of darbeпоetin alfa every 2, or 3 weeks and less frequent dosing was emphasized with patients and their caregivers (Vansteenkiste, 2002).

Physician compliance was 85% at 3 months and 98% at 6 months. Hemoglobin and dose information was obtained by retrospective chart review of 197 patients who were converted from epoetin alfa to darbeпоetin alfa. Darbeпоetin alfa maintained hemoglobin within the target range of 11 to 12 g/dL. We observed a cost savings of five hundred thousand dollars per year.

Our strategy for implementing a new erythropoietic therapy resulted in greater compliance and fewer incomplete orders placed by physicians. Nurses play an essential role in implementing and monitoring the financial and clinical outcomes associated with new guidelines. This strategy is adaptable and can be used by nurses in other ambulatory infusion settings with other supportive therapies.

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INTERDISCIPLINARY MANAGEMENT OF THE PATIENT RECEIVING HIGH DOSE INTERLEUKIN 2: DEVELOPMENT OF A CLINICAL PATHWAY. Olukemi Ogunyemi, RN, BSC, and Adonica Jones, RN, MSN, Emory University Hospital, Atlanta, GA.

High Dose Interleukin 2 (IL2) is indicated for Metastatic Melanoma and Renal Cell Carcinoma. Assessment and nursing care of patients receiving this biotherapeutic drug requires a thorough understanding of the immune response and toxic effects of the drug. Astute evaluation and communication of these effects assists the physician in determining if the patient will receive treatment. Obstacles to providing quality care for these patients include nurses verbalizing apprehension in caring for this patient population secondary to the protocol’s complexity and management of the toxicities. An increasing number of patients referred to Emory University Hospital for treatment necessitated an educational process and a simplified documentation tool for the interdisciplinary team.

The purpose of developing a clinical pathway was to improve inpatient nursing knowledge and care of patients receiving High Dose IL2. The purpose was to also facilitate effective communication in the care of the patient population. Management of the multiple toxicities and effective reporting to the physician continued to be a challenge with only 3 RN's and the Clinical Coordinator receiving specialized training on the protocol. Staff Inservices were also provided. The committee was composed of five Hematology, Leukemia and Bone Marrow Transplant nurses, a Clinical Coordinator, two Medical Oncologists and an oncology Social Worker.

Interventions included review of current administration guidelines, comments and suggestions from staff. The committee met monthly to develop the tool. Progress was communicated through monthly staff meetings and inservices. One on one feedback from the committee and staff currently care for patients was also included. Staff were inserviced on the completed draft prior to piloting the documentation tool.

Outcomes were measured by auditing documentation on the pathway of 10 patients. Individual feedback from the staff and physicians was positive. Nurses verbalized an increase in comfort level caring for the patients. Physicians verbalized improvement in quality of care. Nurses displayed confidence in caring for the patients.

A clinical pathway enhances the nurses knowledge base, comfort level and overall care of patients receiving High Dose IL2. This pathway may be adopted in other clinical settings that treat or are considering treating this patient population.

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NON-ALLERGIC ACUTE INFUSION REACTIONS: MECHANISM OF ACTION, PREVENTION, AND MANAGEMENT GUIDELINES. Catherine Handy, PhD, RN, AOCN®, St. Vincent's Comprehensive Cancer Center, New York, NY.

Acute infusion reactions are observed with many chemotherapeutics, affecting approximately 5%–15% of patients. Oncology nurses are integral in identifying patients at risk for such reactions and managing these reactions if they occur.

While symptoms of infusion reactions (e.g., facial flushing, chest tightness) often mirror those of hypersensitivity reactions, different mechanisms may be involved. For example, infusion reactions (5%–10%) occurring with pegylated liposomal doxorubicin (Doxil®) may be complement-mediated activation related to the liposomal formulation. These reactions have been directly correlated with too rapid an initial infusion rate, and are observed primarily with the first administration. Recent data also suggest that infusion reactions (20%) seen in patients receiving docetaxel (Taxotere®) are non-allergic in etiology. This presentation will compare institutional strategies for prevention and management of pegylated liposomal doxorubicin-induced acute infusion reactions.

This poster will discuss institutional protocols for identifying pegylated liposomal doxorubicin-induced infusion reactions and patients at risk for these events, as well as appropriate management of these reactions. Current prescribing information for pegylated liposomal doxorubicin suggests infusion at an initial rate of 1 mg/min, which can then be increased to complete administration over 1 hour if no infusion-related events occur. In patients developing a reaction, the infusion should be stopped immediately. After a short delay, the majority of patients can be successfully re-treated, further supporting the hypothesis that this is a complement-mediated reaction, as a true hypersensitivity reaction could not be re-treated.

Several institutions, including our group at St. Vincent's Comprehensive Cancer Center, have developed treatment guidelines for nurses to reduce the incidence of and/or manage infusion-related reactions when they occur. We identify patients who may be at risk for reaction, and typically infuse their first dose at twice the usual infusion rate. Similarly, at M.D. Anderson Cancer Center, the first dose of pegylated liposomal doxorubicin is administered over 2.5 hours—the first 25% over 1 hour, and if no problems occur, the remainder over the following 1.5 hours.

This presentation will compare clinical guidelines from several institutions for the management of acute infusion reactions, as well as highlight the important role of the oncology nurse in these treatment protocols.

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NURSING CHALLENGES FOR TREATING RELAPSED MULTIPLE MYELOMA WITH BORTEZOMIB (VELCADE) COMPARED WITH HIGH-DOSE DEXAMETHASONE. Kathy Kelly-Colson, RN, BS, BSN, Dana-Farber Cancer Institute, Boston, MA.

Multiple myeloma is an incurable hematologic malignancy—a cancer of the plasma cells—from which patients eventually relapse following initial treatment. Bortezomib has recently demonstrated clinical benefit over the standard of care, dexamethasone, in relapsed myeloma.

Discuss the current approach for treating relapsed myeloma with the novel agent bortezomib.

Patients with relapsed myeloma were randomized to receive intravenous bortezomib or high-dose oral dexamethasone in a phase 3 trial (the APEX study). Assessment and management of side effects were prospectively defined.

At the interim analysis (Richardson et al. *Proc Am Soc Clin Oncol*. 2004; 23: 558), bortezomib was reported to be significantly more effective than high-dose dexamethasone based on improved time to progression and survival. The side effects of both therapies were manageable, with a trend toward more serious infectious complications with dexamethasone.

The most common category of grade 3 or greater toxicity reported for bortezomib was hematologic; these events appeared to occur at a higher rate than with dexamethasone and were primarily driven by thrombocytopenia, which tended to be transient. The next most common category of toxicity was general (e.g., asthenia, fatigue, pyrexia, lethargy), followed by neurologic, primarily driven by peripheral neuropathy, and then gastrointestinal. A schema was defined for dose modification or holding of bortezomib for toxicities. The use of patient questionnaires to assess toxicity and guidelines related to the use of supportive therapies will be described. Case studies illustrating treatment and outcome with bortezomib will be presented.

For patients receiving high-dose dexamethasone, common categories of toxicity included metabolic events, psychiatric events such as steroid-induced psychosis, and hematologic, musculoskeletal, and infectious events. All the aforementioned side effects except hematologic events tended to occur at a higher rate in the dexamethasone-treated arm. Guidelines for the management of patients with dexamethasone-related toxicities were also prespecified and will be discussed.

Bortezomib is available as a treatment for patients with relapsed myeloma that was refractory to the last treatment; results of the APEX study support the use of bortezomib in relapsed disease. Nurses need to educate patients about possible side effects, anticipate patients' needs, and act quickly to manage symptoms that may arise.

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IMPROVING CHEMOTHERAPY/BIOTHERAPY ADMINISTRATION: A TEAM APPROACH. Laurie Dohnalek, RN, MBA, CNA, and Gail Thurkauf, RN, MS, CCNS, Georgetown University Hospital, Washington, DC.

Describes a nurse-led Chemotherapy/Biotherapy Administration Taskforce whose purpose was to streamline ordering and administration processes and improve patient safety.

Georgetown University Hospital has a large population of oncology patients receiving complex chemotherapy/biotherapy regimens, inpatients and outpatients. The hospital serves a diverse group of physician specialists, adult and pediatric, who use many different types of chemotherapy regimens. The doses and types of drugs are often altered in response to changes in patient condition, side effects and toxicities. The Chemotherapy Administration Task Force was organized with the goal of making chemotherapy ordering, processing and administration an efficient, cost-effective and safe process. This group was nurse-driven and nurse-led. Several issues led to the creation of this task force: patient dissatisfaction, safety, delayed discharges, nurse and physician frustration, inefficiencies and cost.

The task force included all disciplines involved in the care of oncology patients. Meetings were held weekly while the problems, their origins and possible solutions were identified. A preliminary audit was conducted to look at completeness and accuracy of chemotherapy orders and measure the time lapse from patient admission to initiation of therapy. The results of that audit identified the major causes for delay and dissatisfaction. A new chemotherapy order form was created along with a Chemotherapy

Administration Policy and Procedure. During the initiation of this ordering form and policy, the task force monitored order completeness and accuracy and time from patient admission to initiation of the chemotherapy regimen. They compiled information on medication occurrences, documentation, patient and staff complaints.

Outcomes:

- Medication occurrences decreased
- Audit of documentation showed improvement in legibility and completeness of required information
- Time from admission to initiation of chemotherapy decreased from a range of 4–24 hours down to 2.5–5 hours
- Patient satisfaction improved relative to wait times/treatment delays
- Staff satisfaction increased

This process of pooling data and soliciting contributions from many disciplines to achieve a common goal improved staff and patient satisfaction and safer patient care. The chemotherapy form has provided a consistent, specific and uniform document for ordering treatment while following a concrete policy. This is a model that other specialty groups may use to address obstacles to quality patient care and improve chemotherapy/biotherapy administration.

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CASE REPORT: THE ZEVALIN TREATMENT REGIME IS SAFE AND EFFECTIVE IN RENAL IMPAIRMENT. Mary Beth Riley, RN, MSN, AOCN®, Robert H. Lurie Comprehensive Cancer Center, Chicago, IL.

Zevalin® is an emerging treatment for relapsed or refractory B-cell NHL. This case study discusses the administrative and safety issues pertaining to the delivery of Zevalin in a patient with renal insufficiency, highlighting the challenges faced by oncology nurses, who play a key role in managing patient coordination, safety, and follow-up.

Previously, Zevalin administration was limited to patients having acceptable renal function at treatment initiation because of concerns about safety and altered biodistribution. A 64-year-old male with a history of type II diabetes presented with progressive NHL. The patient had chronic renal insufficiency with hypertension and multiple renal cysts. Upon evaluation, the patient met all the criteria for receiving Zevalin therapy except for impaired renal function, for which he was undergoing thrice-weekly hemodialysis.

After patient training and careful planning across all departments, standard Zevalin therapy was initiated in August 2002. Special attention was given to the timing and volume of rituximab infusion. Whole blood clearance of the imaging Zevalin dose was within the expected range for patients with normal renal function. Platelet count and ANC nadirs occurred at 8 and 10 weeks post therapy and grade 3/4 cytopenia lasted 6 and 12 weeks, respectively. Blood product and growth factors were given to support hematologic recovery.

Overall, the patient was very compliant and enthusiastic about treatment. He later exhibited a partial response to Zevalin therapy. However, some months afterward there was evidence of disease progression, for which the patient received additional therapies—rituximab alone, then chlorambucil and prednisone. In November 2003, the patient died of sepsis.

Minimal safety precautions were required for Zevalin administration. Consequently, shielding of hospital personnel was unnecessary. Substantial coordination with the nephrologist and dialysis staff was needed for scheduling dialysis and patient monitoring.

Zevalin therapy was feasible in this patient with relapsed B-cell NHL who had concurrent chronic renal failure. Radiation safety concerns were minimal and easily managed. The role of the oncology nurse in this setting was critical in coordinating Zevalin therapy and dialysis, necessitating a multidisciplinary approach to treatment.

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A TARGET IS NOT A TARGET: TRENDS IN TREATMENT, ADMINISTRATION, PATIENT EDUCATION; MANAGEMENT OF SIDE EFFECTS. Deborah Rust, RN, MSN, CRNP, AOCN®, Genentech BioOncology, Pittsburgh, PA.

Four of the top five cancers have demonstrated a monumental leap in cancer treatment. Conventional chemotherapy and radiation therapy work with the cells microenvironment and are designed to disrupt cellular processes especially the DNA. To increase tumor sensitivity, chemotherapy and radiotherapy have been combined with emerging targeted therapies like tyrosine kinase inhibitors, monoclonal antibodies and antiangiogenic

agents. It proves a principle and demonstrates that highly specific non-toxic therapies are possible.

Oncology nurses can assist their colleagues and their patients who are prescribed these molecular and target therapies by understanding the mechanism of action, administration issues, and by having a repertoire of interventions for the expected side effects. Numerous targeted therapies have become available in the past decade.

Targeted therapies can be administered orally or intravenously. As with any new therapeutic modality, scientific rationale related to the mechanism of action must be appreciated by the nursing staff before administration to build a solid foundation for patient education and management of treatment related effects. Discussion of the treatment related effects that occur while receiving these therapies is necessary to ensure proper management of these symptoms and the patient's quality of life.

Although observed side effects are different than conventional therapies, both expected and life threatening adverse events such as anaphylaxis, cardiotoxicity, hemorrhage and infusion related reactions may be observed with single targeted agents of with adjuvant therapy. Astute clinical assessment skills are critical in the success of administration of many emerging therapies in cancer. The benefits of using new targeted agents in patients with breast, colorectal, lung and non Hodgkin lymphoma include monthly interval monitoring of patients by the nurse and accurate assessment of tolerance.

Educating nurses regarding the mechanism of action relative to the target location, effective administration issues, and strategies to manage expected side effects, different from chemotherapy, ensures proper use and maximizes the tolerability and clinical outcomes of these treatments. As oncology nurse are challenged to keep up with the explosion of technology and novel agents, through practice, education and understanding the research, nurses can help to bring the new science and evidence to their practice.

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STRATEGIES FOR PREVENTION OF CHEMOTHERAPY MEDICATION ERRORS. Melissa Kratz, RN, MSN, AOCN®, Patricia Shearburn, RN, MSN, AOCN®, Janine Barnaby, RPh, Gregory Harper, MD, PhD, and Marlene Ritter, RRT, BA, Lehigh Valley Hospital and Health Network, Allentown, PA.

Chemotherapy related errors continue to be associated with life threatening side effects. Complexities of antineoplastic therapy afford unlimited opportunities for system failures. The Institute for Safe Medical Practice, American Society of Health System Pharmacists (ASHP) and the Oncology Nursing Society continue to stress the importance of practice standardization, ongoing reviews of chemotherapy errors and interdisciplinary communication as means to reduce chemotherapy related errors. In October 2002, an organizational initiative to evaluate the process of antineoplastic treatment was conducted.

The purpose of this project was to identify all potential areas for error in the antineoplastic flow process and to develop and implement systems for error reduction. A systematic analysis of the antineoplastic process was performed leading to the creation of a flow chart for the antineoplastic administration process.

Several key strategies were implemented: (a) Standardized policy and procedures for chemotherapy/biotherapy ordering, preparing and drug delivery across all practice settings with centralized access through the intranet. (b) Development of a specific chemotherapy/biotherapy event report (c) Education to increase reporting of potential errors (d) event review process changed to include: risk management, pharmacy, oncology nursing leadership and oncology administration with a feedback loop to the staff (e) development of a chemotherapy/biotherapy safety check list.

As expected, "near miss" chemotherapy events have increased with enhanced reporting mechanisms creating the ability to proactively address issues and revise processes and policies as needed. Six-Sigma methodology was selected in consultation with management engineering as the standard by which all future antineoplastic medication events will be measured. Ongoing staff education, protocol development and monitoring and reporting of medication events have been embedded in Cancer Services operations to ensure sustainability.

A collaborative, interdisciplinary team with an involved team leader is ideal to streamline antineoplastic practices and ultimately reduce error risk. The institution utilized in house consultants to enhance teamwork and facilitate successful completion of the project. Individual vigilance as well as a clearly defined process is imperative to safe administration of antineoplastic therapy.

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EXTRAPLEURAL PNEUMONECTOMY FOR MESOTHELIOMA: SPECIALIZED NURSING CARE IS ESSENTIAL TO MINIMIZE POSTOPERATIVE COMPLICATIONS. Catherine Wickersham, RN, BSN, Keri Wagner, RN, BSN, OCN®, Diane Paolilli, RN, BSN, AOCN®, and Raja M. Flores, MD, Memorial Sloan-Kettering Cancer Center, New York, NY.

Malignant Pleural Mesothelioma (MPM) is a rare disease of the pleura. Multimodality therapy can result in prolonged survival. Oncology nurses play a crucial role in the pre and post operative setting. A proactive nursing approach minimizes potential complications.

The incidence of this aggressive neoplasm is rising. Currently, approximately 3000 patients are diagnosed each year. From 1990 to 2004 approximately 1000 patients have been treated at our institution. Surgical resection was performed in 400 cases; surgical options with curative intent include pleurectomy/decortication, removal of the pleura or extrapleural pneumonectomy (EPP), a radical procedure involving the removal of the lung, lining of the pleura, pericardium and diaphragm. Increasing nurses' knowledge and diligent nursing care is required to identify complications which include atrial fibrillation, pneumonia, respiratory distress, aspiration, hemorrhage, mediastinal shift, deep vein thrombosis and hypotension.

The nursing plan of care for these patients begins preoperatively with patient education about exercise, deep breathing, smoking cessation and preparation for the postoperative regimen. Many patients receive neoadjuvant chemotherapy and maximizing performance status through this period is essential. At our institution, postoperative patients are managed on a designated thoracic oncology telemetry unit. Aggressive pulmonary toileting begins immediately by the nurse and includes coughing, deep breathing, incentive spirometry, chest PT, postural drainage and ambulation.

Understanding the disease, potential complications, and surgical procedures is vital in the management of the MPM patient. A standard for managing these patients focuses on prevention of known complications. Identifying associated warning signs can lead to earlier interventions and better outcomes. A review of the literature revealed a few references, one which states complications following EPP (Sugarbaker, 2004). The uniqueness of this disease and the lack of evidence-based interventions create the need for a standardized approach to achieve optimal outcomes.

Meticulous nursing care and awareness of complications help to decrease patient's level of stay and improve patient outcomes. At this NCI designated cancer center our current multimodality approach has shown promise in the treatment of MPM. Our nursing commitment to these patients during their tenuous hospital course is crucial to help them overcome these potentially morbid surgical procedures.

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LATEST SURGICAL INTERVENTION FOR PROSTATE CANCER: LAPAROSCOPIC RADICAL PROSTATECTOMY. Dominique Depalma, RN, OCN®, MA, and Anna Giallo-Uvino, RN, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

This presentation will inform oncology nurses about the latest surgical technique for clinically localized prostate cancer called the Laparoscopic Radical Prostatectomy (LRP). Oncology nurses play a vital role in educating patients about this new and evolving surgical intervention. This presentation will provide an overview of the LRP and the patient education required in the preoperative and postoperative phase of care.

American Cancer Society predicts there will be approximately 230,900 newly diagnosed cases of prostate cancer this year. Treatment modalities for prostate cancer include surgery, radiation, hormonal and expectant therapy. Standard practice for those men opting for surgery is the Retropubic Radical Prostatectomy (RRP), which is removal of the prostate gland, seminal vesicals and the surrounding tissue. Now patients have the option of choosing the most recent surgical intervention, the LRP, which is removal of the same anatomical structures as the RRP but is done under the magnification of a laparoscope. Studies indicate that this approach offers a precise operative dissection that is proven to be comparable to the RRP for local tumor control and biochemical recurrence. Advantages of the LRP over RRP include decreased blood loss, less pain, smaller incisions with a shorter hospital stay and recovery time.

Nursing education is essential to prepare patients on what to expect postoperatively. Educational components include an overall description

of the procedure, postoperative care and follow up plan. It is essential that oncology nurses thoroughly review with the patient the possible treatment complications specific to the LRP. The most frequent complications similar to the RRP are urinary incontinence and erectile dysfunction.

Nursing education is fundamental in improving patient outcomes for patients undergoing LRP. Patients who are educated on the surgical pathway will take part in preventive measures to decrease postoperative complications and seek early intervention, if needed.

The LRP approach in experience hands offers adequate tumor control and a quality of life similar to open surgery. Oncology nurses need to be current on the LRP which is the most up-to-date surgical intervention available for clinically localized prostate cancer. Nurses that are well informed can adequately educate patients throughout the spectrum of care.

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NURSING CONSIDERATIONS FOR ROTATIONPLASTY IN TUMOR SURGERY. Jody Pollack Roth, RN, MPH, OCN®, Moira Higgins, RN, Margaret Nawaly, BSN, and Ursula Quigley, BSN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Rotationplasty removes a malignant tumor around the knee with wide surgical margins, transplants the lower leg to the thigh, and rotates it 180°. This shortens the leg and the rotated ankle-foot functions as would a knee joint. Rotationplasty has many advantages, including relatively low complication rates, accommodation for further growth of extremities and no phantom pain. Patients use a prosthesis which is functionally comparable to a below knee prosthesis, allowing for participation in diverse athletic and recreational activities. Recurrence rates are comparable to other types of wide resections. The functional outcome is exceptional, though the appearance of the residual limb is extremely unusual. Oncology nurses in this setting recognize that education, preparation and support of patient and family are crucial to acceptance of the procedure and achievement of a positive outcome.

The orthopaedic-oncology ambulatory nurse (OAN) prepares and supports patients by identifying appropriate nursing interventions, and addressing nursing concerns unique to this population. Dissemination of this knowledge will enable other health care professionals meet the physical and psychological needs of this select group of cancer patients, facilitating acceptance and easing the transition back to their community.

The OAN provides pre and postoperative education and psychosocial support through office visits and phone contact. The OAN serves as a resource providing links to physical therapists, prosthetists, patient-patient contacts as well as appropriate referrals. Despite the advantages, acceptance of rotationplasty by the patient and family is very difficult because of the visual impact of the residual limb. Cultural attitudes towards body image, gender, age and emotional maturity are addressed preoperatively. Practical concerns regarding prosthetic use and rehabilitation are assessed and continually reevaluated.

4/4 of our rotationplasty patients seen in recent followup expressed that they have no limitations, illustrating that patients who are adequately prepared and supported have positive outcomes and adapt well physically and emotionally to the procedure.

This presentation will (1) discuss rotationplasty, (2) define the role and responsibilities of the OAN in educating and providing psychosocial support for the patient undergoing rotationplasty, and (3) increase awareness among health care professionals involved with the care of these patients.

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FATIGUE, INSOMNIA, AND DEPRESSION: A SYMPTOM CLUSTER DURING BREAST CANCER THERAPY. Andrea Barsevick, DNSc, AOCN®, Fox Chase Cancer Center, Cheltenham, PA; Hee Ju Kim, RN, University of Pennsylvania, Philadelphia, PA; and William N. Dudley, PhD, University of Utah, Salt Lake City, UT.

Individuals undergoing cancer treatment may experience multiple symptoms. Yet, most research has examined individual symptoms. Understanding the relationships among and the effect of symptom combinations is critical for better symptom management.

This secondary data analysis examined the clustering of three symptoms (fatigue, insomnia, and depression) and identified clinical/demographic antecedents and clinical consequences of clustered symptoms.

The updated Theory of Unpleasant Symptoms provided a conceptual framework for the analysis.

Data were derived from a randomized clinical trial of a fatigue intervention during cancer treatment. The sample for this secondary analysis consisted of 282 breast cancer patients undergoing chemotherapy or radiotherapy. Data were collected prior to treatment and at two follow-up points. For chemotherapy, follow-up data were collected 48 hours after the second and third chemotherapy treatments. For radiotherapy, follow-up points included the last week of treatment and four weeks after treatment ended. Measures of fatigue (General Fatigue Scale), insomnia (Pittsburgh Sleep Quality Index), depression (Profile of Mood States Depression Scale), and usual functioning (Functional Performance Inventory) are valid and reliable measures.

Data analysis used correlation, t-tests, and multiple regression and analysis of variance.

Fatigue, insomnia, and depression were moderately correlated at each data point. Performance status and other symptoms were antecedents and usual functioning was a consequence of each symptom at each data point. Controlling for performance status and other symptoms at each data point, the combined symptoms of interest accounted for 35% (baseline), 37% (follow-up 1), and 39% (follow-up 2) of the variance in usual functioning. These results indicate that even after accounting for other symptoms and functional status before treatment, the symptoms together predicted poorer functioning during cancer treatment. It is possible that treating cancer symptoms can help reduce or prevent functional decline. It may also be necessary to address directly the threat of functional decline. More research is needed to examine the nature of the relationship between and among specific symptoms during cancer therapy.

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THE RELATIONSHIP OF SOCIAL SUPPORT, PERSONAL FACTORS, PSYCHOLOGICAL AND PHYSICAL STATES AMONG JAPANESE WOMEN WITH BREAST CANCER: A PREOPERATIVE PHASE. Reiko Makabe, RN, PhD, Fukushima Medical University, Fukushima-shi, Japan; and Tadashi Nomizu, MD, Mie Sato, RN, Yoko Komiya, RN, and Junko Kikuchi, RN, Hoshi General Hospital, Kooriyama-shi, Japan.

In Western cultures, it is known that breast cancer patients have stressful life experiences, and social support effects on psychological states, especially in their preoperative phase. It is important for Japanese oncology nurses to gain knowledge to provide care for Japanese women with breast cancer.

Few studies of social support have conducted on Japanese women with breast cancer. The purpose of this study was to investigate the relationship of social support, personal factors, psychological and physical states of Japanese women with breast cancer before breast surgery.

This study was based on the House's social support framework, including social support (both positive and negative sides), personal factors, and health outcomes (i.e., psychological and physical states). Social support and personal factors have effects on health outcomes among women with breast cancer.

This study was part of a larger longitudinal study that examined the effects of social support on psychological and physical states of Japanese women with breast cancer. A convenience sample of 133 Japanese women with breast cancer participated in this study. The Japanese versions of the Interpersonal Relationship Inventory (IPRI), to measure support and conflict, and the General Health Questionnaire (GHQ), to measure psychological states, were used to collect data. Demographic and illness-related data were also obtained. Data were collected a few days before breast surgery.

Data were analyzed using Pearson product-moment correlation and stepwise multiple regression analysis.

Significant correlations were found between conflict and age ($r = -0.27, p = 0.002$), conflict and psychological states ($r = 0.19, p = 0.03$), marital years and support ($r = 0.22, p = 0.025$), marital years and conflict ($r = -0.26, p = 0.008$), marital years and psychological states ($r = -0.24, p = 0.014$), and psychological and physical states ($r = 0.38, p < 0.001$). Stepwise multiple regression analysis revealed that physical states ($\beta = 0.39$) was most influencing factor on psychological states, followed by conflict ($\beta = 0.20$). The findings suggested that social support and personal factors were important factors for the women's psychological states. Further longitudinal studies were needed to describe and to investigate relationships of social support, personal factors, psychological and physi-

cal states among Japanese women with breast cancer as a process of their breast cancer experience (Funded by Japan Society for the Promotion of Science #14572287).

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SYMPTOM EXPERIENCE OF BREAST CANCER SURVIVORS. Frances Cartwright, RN, MS, AOCN®, Valley Hospital, Paramus, NJ.

There is a growing number of breast cancer survivors (stage 0–IV) who are on observation, or a form of ongoing therapy (FOT) in recovery. Oncology nurses need to gain an understanding of these survivors symptom experience to plan education and supportive interventions.

Symptom experience related to stage of disease (SOD) and FOT is an important concern and is lacking in the literature. This study explored the symptom experience of women with breast cancer in recovery and its relationship to SOD and FOT.

Applying Lazarus & Folkman (1984) and Lazarus (1993) framework to breast cancer survivors in recovery, stress appraisal will influence perception of the symptom, the evaluation of the meaning of the symptom and the degree of distress that the woman experiences related to SOD and FOT.

Using a descriptive, correlational design, data was collected from 131 women with breast cancer (Stage 0–IV) in the recovery phase of breast cancer. Participants completed a self-administered questionnaire, the Breast Cancer Treatment Response Inventory (BCTRI), (Hoskins, 1990), a check-off for 23 symptoms, which are then rated on a scale of 0–3 for both severity of symptoms (SOS) and amount of distress experienced (ADE). SOD and FOT were recorded on the BCTRI.

Means, standard deviation, ranges and skewness for variables were calculated. First ten NOS reported were: Difficulty sleeping (58%), sweats (57%), fatigue (55%), emotional upset (52%), shoulder/arm discomfort (44%), vaginal dryness (44%), sexual problems (34%), difficulty concentrating (31%), pain (31%), numbness/tingling (28%). Pearson correlation coefficient indicated ADE is statistically significant to NOS ($r = 0.883, p = 0.000$) and to SOS ($r = 0.954, p = 0.000$). Two-way ANOVAs for NOS, SOS, and ADE revealed significant main effects ($p < 0.005$) for SOD and FOT, indicating that each influences NOS, SOS, and ADE.

The oncology nurse plays a pivotal role in assessing women in recovery who often need ongoing comprehensive information and support. The physical, psychological, and emotional symptom experience of breast cancer survivors do result in ongoing challenges. The findings of this study can be used to identify strategies that are conducive to problem-focused or emotion focused coping (Lazarus, 1993), or a combination of both.

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SECONDARY ANALYSIS OF LYMPHEDEMA INCIDENCE, PREVENTION AND MANAGEMENT IN BREAST CANCER SURVIVORS. Victoria Loerzel, MSN, RN, OCN®, and Karen Dow, PhD, RN, FAAN, University of Central Florida, School of Nursing, Orlando, FL; and Ganesh Subramanian, MS, and Sreeramen Ramaswamyathanam, MS, University of Central Florida, Orlando, FL.

Lymphedema has a significant adverse impact on quality of life among early stage breast cancer survivors. It is important for oncology nurses to recognize patients at risk for lymphedema and provide interventions that can prevent or manage lymphedema.

The purpose of this paper is to (1) describe the incidence of lymphedema occurring in women with breast cancer participating in a longitudinal, quality of life intervention research study; (2) discuss the use of self-care interventions to prevent and manage lymphedema among this population.

The study and intervention is based on a multidimensional quality of life framework.

A secondary analysis was used to examine the occurrence, prevention and management of lymphedema among 150 subjects with completed data.

Descriptive statistics were used. Analysis reflected a lymphedema prevalence rate of 21.5% ($n = 33$) of which 63.6% had mild problems with lymphedema while 24% ($n = 8$) had moderate to severe problems with lymphedema. Overall, 79.3% ($n = 119$) of subjects received lymphedema information and management tips. Of the 119 subjects, only 40.3% ($n = 48$) used the tips while 58.8% ($n = 70$) did not use the tips at all. Tips included basic strategies to avoid trauma to the affected arm in order to prevent lymphedema.

Subjects did not believe they were not at risk for lymphedema because: (1) they were unaware of the existence of lymphedema (2) their oncology team told them they were not at risk or (3) they had a personal belief that they were not at risk for lymphedema. The majority of subjects desired additional information concerning prevention and management of lymphedema. However, many did not use the information once provided to them. These findings are of concern. Given patients lack of knowledge about their risk for lymphedema and the lack of adherence to current lymphedema guidelines, future research about patient adherence to lymphedema prevention and management are needed.

Funding Sources: This study is supported by the National Institute of Nursing Research and the Office of Cancer Survivorship, National Cancer Institute (NR05332).

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UNDERSTANDING DELAY IN BREAST CANCER DIAGNOSIS IN DIVERSE YOUNG WOMEN. Shirley Manly-Lampkin, RN, PhD, All Health Care, Oakland, CA; Catherine M. Waters, RN, PhD, Marilyn J. Dodd, RN, PhD, FAAN, and Sally H. Rankin, RN, PhD, FAAN, University of California, San Francisco, San Francisco, CA; and Joan R. Bloom, PhD, University of California, Berkeley, Berkeley, CA.

Public and professional awareness about breast cancer is increasing because of educational campaigns that target women and health care professionals in diverse settings. Often, however, practitioners fail to validate self-identified breast cancer symptoms discovered by women, especially women under 40 years old. Therefore, a diagnosis of breast cancer is often delayed, and when it is finally diagnosed, it is late stage diagnosis.

Breast cancer in young women occur less often, but delays in breast cancer occur more often. The purposes of this study were to investigate delay in breast cancer diagnosis and describe the breast cancer illness experience of women 40 years old and younger. The specific aims: Describe young women's self-discovery of breast symptoms; describe their health-seeking path to breast cancer diagnosis. Determine if they experience delay; examine ways in which the initial breast cancer diagnosis influence subsequent breast health behavior; explore provider-patient relationships; and determine if delay in breast cancer diagnosis differs across race/ethnicity.

The study was grounded in human development, social behavior, and symbolic interactionism frameworks.

A descriptive, qualitative design was used. Face to face interviews using a Semi-structured guide was used to interview 30 ethnically diverse women 40 years of age and under diagnosed with breast cancer living in the San Francisco Bay Area.

The women's interviews were recorded, transcribed and analyzed using the narrative technique.

Findings revealed most young women discovered their breast symptom, as breast pain, they did not delay seeking medical attention; the breast cancer diagnostic pathways were inconsistent; the impact of a delayed diagnosis on subsequent breast health behavior varied; and the interval of delay lasted up to 5 years. Breast cancer diagnostic delays appear to be related to age, pregnancy, family history of cancer, negative patient-provider relationship, pain, and misinterpretation of a breast symptom as normal.

Conclusions of the study were breast symptoms for young women tend to be atypical; there is possibly a link between breast cancer delay and having a child; having a positive patient-provider relationship is important to early diagnosis and treatment. African American women were diagnosed younger, experienced longer delay, and were diagnosed at a late stage, even though a majority of them sought early attention.

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HOW DO NURSE CASE MANAGERS CARE FOR OLDER WOMEN WITH BREAST CANCER? Andrea Jennings-Sanders, RN, DR PH, Cleveland State University, Cleveland, OH; and Yong-Fang Kuo, PhD, Elizabeth T. Anderson, DrPH, FAAN, Jean Freeman, PhD, and James Goodwin, MD, University of Texas Medical Branch, Galveston, TX.

Older women's illness experience of breast cancer may differ substantially from younger women's in their personal reactions to, and needs resulting from, the diagnosis. Oncology nurse case managers can manage an episode of illness for this population.

Older women with breast cancer are faced with a multitude of physical and psychosocial problems associated with breast cancer. The purpose of

this study was to describe how nurse case managers care for older women with breast cancer.

The Nurse Case Management Model for Older Breast Cancer Patients served as the conceptual framework for this study. This model incorporates both the structure of nurse case management and the processes by which this structure addresses the entire care continuum.

This was a randomized prospective trial study. Older women (ages 60-89) newly diagnosed with breast cancer being cared for by 60 surgeons were recruited for this study. A total of 335 women (166 in the control group and 169 in the intervention nurse case management group) were included in the study. The nurses implemented multiple nursing interventions in each nursing process phase over a period of 12 months.

The mean number of contacts over 12 months for each type of nursing intervention on the nurse case manager checklist was illustrated. T-tests and Analysis of Variance (ANOVA) were used to estimate the difference in the number of nurse case management contacts by selected characteristics. Multiple regression models were developed to assess which characteristics (i.e., age, education, income, race, lives alone, needs assistance with ADL's, stage of cancer, attending a support group, CES-D, and MMSE) were associated with the number of nurse case management contacts in each of the nursing phases.

In each nursing phase, there were a greater number of nurse case management contacts in the first quarter. Bivariate analysis illustrated statistical differences between the following client characteristics with respect to mean amount of nurse case management: race, income, education, and living alone. Multivariate analysis revealed that the following client characteristics predicted nurse case management contact: age, income, living alone, and stage of cancer.

Based on the findings of this study, oncology nurse case managers can develop specific nursing interventions to meet the needs of older women with breast cancer.

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FAMILIAR DIFFERENCES AMONG WOMEN WITH AND WITHOUT A FAMILY HISTORY OF BREAST CANCER. Marcia Boehmke, DNS, ANPC, RN, and Suzanne Dickerson, RN, DNS, University at Buffalo, Buffalo, NY.

As women are diagnosed with breast cancer, oncology nurses need to be aware of the intense emotions experienced particularly in those women with no family history of breast cancer. Serious attention needs to be given to history taking as it clearly affects the woman's approach to the diagnosis and resulting treatment. Assessing distress in women with breast cancer, nurses need to be aware that a woman's view/perception of breast cancer affects their experiences and response to symptoms encountered.

The purpose of this phenomenological study was to investigate the attitudes and lived-experience among women recently diagnosed with breast cancer with and without a family history. Variables/Concepts Studied: (1) What are the common attitudes/experiences of women diagnosed with breast cancer who have relatives with breast cancer? (2) Are these attitudes/experiences different from those with no family history of breast cancer?

Hermeneutic phenomenology was the interpretive approach used.

Purposive sampling of 20 women, newly diagnosed with breast cancer, were recruited from a breast center in Buffalo, New York.

Hermeneutic phenomenology, that emphasizes the lived-experience holistically, guided interviews of women who were asked to tell their story about their breast cancer diagnosis. Interviews were audio-taped, transcribed.

Data analysis consisted of thematic analysis of the narratives and review with a nurse experienced in this research method.

Three themes emerged: (1) Women with a family history of breast cancer had a more optimistic/hopeful view of the diagnosis of breast cancer, focusing on survivorship; (2) Women with a family history of breast cancer approached the diagnosis with a "when, not if" manner; (3) Women with no family history were shocked by the diagnosis and experienced a precipitous change in life from health to illness overnight.

Implications: Women newly diagnosed with breast cancer who had a family history dealt better with the diagnosis and viewed it as a short-term problem in their life. Relatives had survived and they felt they would

do likewise. Women with no family history were unsuspecting and had a difficult life transition that affected not only the symptom experience but their quality of life.

Funding Sources: Western New York Susan G. Komen Foundation

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HEALTH BELIEFS AND PRACTICES RELATED TO BREAST CANCER SCREENING IN FILIPINO, CHINESE, AND ASIAN INDIAN WOMEN. Tsu-Yin Wu, PhD, RN, and Yu-Wen Chen, MSN, RN, Eastern Michigan University, Ypsilanti, MI; and Clara Hergert, RN, MSN, OCN®, University of Michigan, Ann Arbor, MI.

Cultural-appropriate strategies can be designed to promote cancer screening if the unique needs and characteristics of ethnic groups are identified. Most of the data available for Asian immigrants living in the U.S. has been aggregated under the Asian American/Pacific Islanders (AAPI) ethnic category.

This paper reports examined cancer-related practices and beliefs among three subgroups (Filipino, Chinese, and Asian Indian) of Asian American women (N = 125). Self-administered questionnaire assessed screening practices (i.e., breast self-exam, clinical breast exam, and mammography), related beliefs and knowledge.

The current study used the Health Belief Model to guide our work to identify differences between three groups of Asian-American women (i.e., Chinese, Filipino, and Asian Indian) on perceived susceptibility, perceived seriousness, perceived benefits, and perceived barriers for engaging in breast cancer screening after controlling for income level.

The current project used a cross-sectional, correlational design. Self-administered questionnaire that assessed women's screening practices (i.e., breast self-exam, clinical breast exam, and mammography), related beliefs and knowledge were developed and pilot tested in a previous study.

The survey was either mailed to study participants or filled out by subjects at the locations where recruitment took place. The convenience sample consisted of 125 women whose age ranged from 31–78 years (mean = 50.2 years, s.d. = 11.1).

Data were coded and entered into the Statistical Package for Social Sciences (SPSS) version 12.0. Data were analyzed using two-way Analysis of Variance (ANOVA) and Logistic Regression were performed to test the hypotheses.

The results showed the strong influence of ethnicity in perceptions of susceptibility and seriousness related to breast cancer and interaction effect on perceived barriers with ethnicity and income. The results also indicated that there were three common barriers were reported and three unique barriers were identified by Chinese and Asian Indian women. Results can be used to develop intervention targeted special characteristics for women of different Asian groups.

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WOMEN WHO SAY NO TO MAMMOGRAPHY. Cathleen Michaels, PhD, RN, FAAN, University of Arizona College of Nursing, Tucson, AZ

This qualitative research study is relevant for clinical practice, specifically dialogue with women related to self-care practice of regular mammograms. Mammography is not a self-care practice for all insured women, despite growing public knowledge of the importance of screening. Understanding why is significant for women's health, because early detection improves treatment outcomes. Although phenomenology could document thoughts and feelings related to screening, no studies were identified in the literature. This study was designed to explore the meaning of not regularly participating in mammograms by insured women with a mammography benefit.

The philosophical frame of reference was existentialism which informs hermeneutic interpretive phenomenology.

Ten women, forty years and older were recruited as a convenience sample and interviewed about their mammography and health practices.

Audio-taped interviews were transcribed, reviewed and analyzed using the hermeneutic interpretive method. Central concerns were constructed for each participant. Shared meanings were then identified across participants and an overall interpretive meaning was identified that reflected the analyzed data. To augment trustworthiness, a consultant reviewed and concurred with the analyzed data.

Participants consciously decided if and when to get mammograms and desired to be acknowledged for health decisions and practices. Shared

meanings included the following: belief in being at low risk, trusting own conclusions, self as expert, responsibility for own health, broadly defining health, and the mammogram process as a deterrent. Overall, the shared meaning of not participating in mammography on a regular basis reflected each woman's individuality and her confidence in her own decisions. The results of this study offered insight into individual perspectives and self-care shaped by the value for self, a mode of inquiry and personal health. This study affirms the value of nurses and other clinicians engaging women in meaningful dialogue to understand individual perspectives, to offer the latest scientific rationale for mammograms in the information mode most valued by each woman, and to negotiate the most protective self-care practice while respecting each woman's perspective, values and beliefs.

Funding Sources: Sponsored by ONS Foundation and Bristol-Myers Community Research Grant.

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DETERMINANTS OF SELF-EFFICACY IN EXERCISE AMONG BREAST CANCER SURVIVORS. Hsin-Tien Hsu, RN, PhD(c), University of California at San Francisco, San Francisco, CA; Chiun-Sheng Huang, MD, PhD, National Taiwan University Hospital, Taipei, Taiwan; Geraldine V. Padilla, RN, PhD, FAAN, Marylin J. Dodd, RN, PhD, FAAN, and Kathryn A. Lee, RN, PhD, FAAN, University of California at San Francisco, San Francisco, CA; Shiow-Li Hwang, RN, PhD, National Taiwan University, Taipei, Taiwan; and Noreen C. Facione, RN, PhD, FAAN, Loyola University, Chicago, IL.

Breast cancer is the second leading cause of cancer in Taiwanese women. Exercise has been empirically demonstrated to improve overall quality of life in cancer patients. Exercise self-efficacy has been the strongest and most consistent predictor of exercise behavior. However, its predictive value is seldom examined with respect to which factors influence self-efficacy and how self-efficacy changes over time. The purpose of the study is to examine the relationships among exercise self-efficacy at Time 1 (after treatment completion-baseline), selected demographic, medical, psychosocial factors at Time 2 (three month follow-up) and exercise self-efficacy at Time 2 among breast cancer survivors in Taiwan.

Self-Efficacy Theory

The data presented here is from a prospective, longitudinal, repeated measures study in progress.

Descriptive statistics, Pearson correlation, multiple regression analysis.

A total of 139 women with breast cancer responded to questionnaires. On average, subjects were 48.12 ± 9.78 years of age, 73.4% were married, 41.0% were homemakers, 41.7% were Buddhist, and 38.9% were college educated. The majority of the women were diagnosed as having stage I (26.5%) or stage II (52.9%) breast cancer. All subjects had surgery and received chemotherapy (46.8%), radiotherapy (12.8%), or both (40.4%). Results indicated that Time 1 exercise self-efficacy, exercise barriers, social support, mental health, and exercise outcome expectancy were significant predictors of Time 2 exercise self-efficacy, accounting for 47.7% of the total variance. Time 1 exercise self-efficacy explained 26.8%, exercise barriers 13% and social support for exercise 4% of the variance in Time 2 exercise self-efficacy. Beta weights show higher levels of Time 1 exercise self-efficacy, lower levels of exercise barriers and greater social support related to higher levels of Time 2 exercise self-efficacy. Demographic and medical factors did not contribute significantly to the variance in Time 2 exercise self-efficacy.

The longitudinal data indicates that promoting higher exercise self-efficacy during the initial stages of rehabilitation is an effective strategy for increasing exercise self-efficacy three month later. Findings from this study will contribute significantly to the literature on psychosocial and exercise aspects of breast cancer survivors in Taiwan.

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RELIABILITY AND VALIDITY OF THE M.D. ANDERSON SYMPTOM INVENTORY (MDASI-BT) IN THE PRIMARY BRAIN TUMOR PATIENT POPULATION. Terri Armstrong, MS, APRN-BC, and Tito Mendoza, PhD, M.D. Anderson Cancer Center, Houston, TX; Marlene Cohen, RN, PhD, FAAN, UT-Houston School of Nursing, Houston, TX; and Marilyn Morrissey, PhD, Charles Cleeland, PhD, and Mark Gilbert, MD, M.D. Anderson Cancer Center, Houston, TX.

The occurrence of multiple symptoms has been shown to impact patient outcomes, such as quality of life, mood, disease progression,

and survival in other solid tumor patients. The occurrence of multiple symptoms in patients with primary brain tumors has not been routinely measured. Tools specifically designed to measure multiple symptoms in persons with cancer have been developed for use in patients with other solid tumors. No instrument has been validated which includes both neurologic symptoms and symptoms commonly associated with cancer and its treatment.

The aim of this study is to validate the M.D. Anderson Symptom Inventory-Brain Tumor Module (MDASI-BT) in patients who have primary brain tumors and to evaluate the occurrence and severity of selected symptoms in this patient population.

SCIENTIFIC FRAMEWORK: This study is guided by the Symptoms Experience conceptual framework. This framework views symptoms as the frequency, intensity, distress, and meaning of symptoms as they are produced, perceived and expressed. Symptoms are multiplicative and nature and may act as catalysts for the occurrence of other symptoms. Antecedents to the symptoms experience includes demographic, disease, and individual factors. Consequences include the impact on mood state, psychological status, functional status, quality of life, disease progression and survival.

The study will evaluate the reliability and validity of the MDASI-BT in 200 adult primary brain tumor patients. Demographic and disease related data will be collected at the time the MDASI-BT is completed.

Reliability will be assessed by calculation of Cronbach's alpha. Construct validity will be determined using confirmatory factor analysis. In addition, descriptive statistics will be used to describe how patients rate symptom severity and interference with function. Finally, we will examine the relationship of symptom severity to diagnosis, concomitant medications, Karnofsky performance status, and where the patient is in treatment.

Validation of a tool to measure the occurrence of multiple symptoms in the brain tumor population is the first step in a program of research concerning the evaluation of symptom clusters and the effectiveness of interventions in reducing or eliminating these symptoms.

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VIRTUAL REALITY INTERVENTION FOR CHEMOTHERAPY SYMPTOMS. Susan Schneider, RN, PhD, AOCN®, and Linda Hood, RN, MSN, AOCN®, Duke University, Durham, NC; and Marcia Grant, RN, DNSc, FAAN, City of Hope, Duarte, CA.

Successful completion of chemotherapy offers a greater chance of tumor non-recurrence and long-term quality of life. However, many patients have difficulty adhering to the prescribed regimen because of related symptoms. Virtual reality (VR) provides a distracting, immersive environment, which blocks out competing stimuli, ameliorates chemotherapy symptoms, and thus, helps patients tolerate their chemotherapy regimen.

This study explored VR as a distraction intervention to relieve symptom distress in outpatients receiving chemotherapy and to determine the post-treatment effect on symptom distress after 48 hours.

Lazarus and Folkman's Stress and Coping Model identifies interactive distraction as an emotion-focused coping strategy utilized by individuals experiencing a threatening situation. VR is an immersive and interactive intervention, which engages several senses simultaneously. The individual wears a headset that projects an image with the corresponding sounds of the environment. The sense of touch is involved through a computer mouse that allows image manipulation.

A crossover design was used to determine whether VR was effective in reducing chemotherapy-related symptom distress in patients and whether the effects last for two days. 120 adults receiving chemotherapy for breast, colon, or lung cancer at Duke University Comprehensive Cancer Center were randomly assigned to receive VR during one chemotherapy treatment and no VR (control) during an alternate treatment. The Adapted Symptom Distress Scale-2, the Revised Piper Fatigue Scale and the State Anxiety Inventory measured aspects of symptom distress for two matched chemotherapy treatments. All instruments have demonstrated reliability and validity in this population.

To date 92 subjects have been enrolled, with preliminary results demonstrating positive outcomes following VR use. Patients had an altered perception of time ($p < 0.001$) when using the VR which validates the distracting capacity of the intervention. Paired t-tests ($p < 0.05$) will be used to test for differences in symptom distress following chemotherapy.

Evaluation of the intervention indicated that patients thought the head mounted device was easy to use, they experienced no cybersickness, and $> 80\%$ would use VR again. Final results will be presented.

Nursing interventions, such as VR, designed to manage chemotherapy-related symptom distress can help to improve quality of life and enhance chances for cure.

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A BRIEF SLEEP INTERVENTION FOR FAMILY CAREGIVERS. Patricia Carter, PhD, RN, CNS, The University of Texas at Austin, Austin, TX.

Behavioral sleep interventions are effective in reducing insomnia, however, traditional delivery methods are not as effective for caregivers. This research presents a brief behavioral sleep intervention for use with caregivers of persons with cancer.

Family caregivers of persons with cancer report having severe insomnia as a result of caregiving. Insomnia has been linked to negative emotional and physiologic outcomes. Caregivers wish to continue to provide care; however in the face of chronic insomnia they may have that option taken from them.

This study uses the stress and coping framework of Lazarus and Folkman (1984). This framework provides information about how the stress laden process of caregiving influences caregiver physiologic and emotional responses to providing care to a loved one with cancer.

Experimental repeated measures design was used. Recruitment occurred at outpatient oncology centers. Data was collected and the intervention administered in caregivers' homes. Inclusion criteria were: > 20 years of age, co-residing with a cancer patient, fluent in English, and freely consenting. Exclusion criteria were previous diagnosis of sleep and/or psychological disorders. Following consent, caregivers were randomized to attention control and intervention groups. Sleep (PSQI & Actigraph), depression (CESD), and quality of life (CGQOL-C) measures were taken at weeks 1, 3 and 5 with follow-up measures at 2, 3, and 4 months. Twenty of the targeted 66 caregivers have completed the study. The Caregiver Sleep Intervention is a 5-week behavioral sleep intervention using Sleep hygiene, Sleep Restriction, Relaxation techniques, and goal attainment scaling.

Descriptive statistics were conducted for all variables. T-tests were conducted to explore differences between groups on variables of interest. Effect sizes were calculated.

Intervention caregivers' sleep quality and quality of life scores improved significantly more than did attention-control caregivers'. Depression scores improved for both groups; however no significant difference was noted between groups. Intervention effect sizes (d) for sleep quality, quality of life and depression ranged from 0.8-0.9.

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SYMPTOM CLUSTERS IN CANCER PATIENTS: IDENTIFICATION AND VERIFICATION. Mei-Ling Chen, RN, PhD, School of Nursing, and Chang Gung University, Tao-Yuan, Taiwan; and Ho-Ching Tseng, RN, MS, Chang Gung University, Tao-Yuan, Taiwan.

Cancer patients often experience multiple symptoms. Many symptoms have been reported to be correlated with each other. Whether there are underlying causes that clustering some of the symptoms together still unknown.

Using exploratory factor analysis approach, this study attempted to understand which cancer-related symptoms are clustered together and to test the conceptual meanings of the revealed symptom clusters.

The middle-range theory of unpleasant symptoms was used to guide this study. It is conceptualized that multiple symptoms can occur together and intercorrelated.

One hundred and fifty-one patients with various cancer diagnoses were recruited from a medical center located in northern Taiwan. The self-reported M.D. Anderson Symptom Inventory (MDASI) was used to assess patients' symptom severity (13 items) and symptom interference on daily functions (6 items). Patients' emotional status was measured by Hospital Anxiety and Depression Scale.

Symptom severity items were factorized using Principal-Axis Factoring method with oblique rotation. Only items with high inter-item correlations ($r > 0.4$) were included in factor analysis. Independent t test was applied to examine the expected differences in each symptom cluster's (factor) total scores between different known groups.

A three-factor solution was adopted with 55% variance explained. Based on the items in each factor, the three factors were named as pain-related factor (pain, fatigue, sleep disturbance, lack of appetite, and drowsy), chemotherapy-related factor (nausea and vomiting), and emotion-related factor (distressed and sad). To further verify the naming, we found that patients with pain (versus without pain) had a significant higher total score in pain-related factor ($t = -8.97, p < 0.001$). Patients under chemotherapy (versus other treatment) demonstrated a significant higher total score in chemotherapy-related factor ($t = -3.99, p < 0.001$). Patients with anxiety or depression problems also had a significant higher total score in emotion-related factor ($t = -8.43$ for anxiety and -4.27 for depression, $p < 0.001$). Knowing the symptom clusters may help us understanding the plausible mechanism that aggregate symptoms and paying special attentions to manage the underlying problems. However the generalizability of the study findings may be limited due to insufficient items included in MDASI. Further studies using symptom assessment tools containing more comprehensive cancer-related items are needed.

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ADVANCING OUR KNOWLEDGE OF SYMPTOM CLUSTERS. Marilyn Dodd, RN, PhD, FAAN, Maria H. Cho, RN, PhD, Bruce Cooper, PhD, Christine Miaskowski, RN, PhD, FAAN, Kathryn A. Lee, RN, PhD, FAAN, and Kayee Alice Bank, RN, MS, OCN®, CNS, University of California, San Francisco, San Francisco, CA.

Symptom clusters is an emerging area of study in symptom management and cancer care.

To explore the underlying dimensions and structure of concurrently-related symptoms and correlation with performance status in women with breast cancer over time.

Symptom Management Model

80 women with breast cancer, mean age 49 (SD = 9.6), completed an established Symptom Severity Checklist (26 items) and Karnofsky Performance Status (KPS) three times as part of an ongoing randomized clinical trial; T1 = baseline after first cycle of chemotherapy, T2 = completion of all treatment, and T3 = end of study at 4–6 months later.

An exploratory Principal Components Analysis with Varimax rotation and Pearson Correlation Coefficient were used.

Analysis suggested: T1, four components accounted for 50% of the variance [sensory (6-items), gastrointestinal-related (6-items), cognitive and respiratory (5-items), and pain and fatigue (6-items)]; T2, two components accounted for 54% of the variance [cognitive, pain and fatigue (12-items) and gastrointestinal-related component (9-items)]; and T3, four components accounted for 59% of the variance [cognitive, pain and fatigue (6-items), lower gastrointestinal-related (6-items), upper gastrointestinal-related (5-items), and sensory (6-items)]. Correlations between the mean severity score of several components and KPS were significant, specifically pain and fatigue (T1: $r = -0.48, p < 0.01$); and cognitive, pain, and fatigue (T2: $r = -0.55, T3: r = -0.39, p < 0.01$). This preliminary analysis provided longitudinal examination of concurrently-related symptoms. These findings are innovative in advancing our knowledge of symptom clusters research.

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PROFILE OF CANCER RELATED SYMPTOMS PRIOR TO CHEMOTHERAPY. Krista Rowe, RN, BSN, OCN®, Duke University Health System—Education Services, Durham, NC; and Susan Schneider, PhD, RN, CS, AOCN®, and Linda Edwards-Hood, RN, MSN, OCN®, Duke University School of Nursing, Durham, NC.

Management of patient symptoms is an integral component of oncology nursing care. Patient reports of symptoms are essential for guiding both the diagnosis and treatment of all types of cancer. The majority of literature on cancer patient symptoms focuses on treatment related side effects. Very little attention has focused on baseline symptoms that patients present with prior to the initiation of treatment.

This study is to identify a profile of symptoms experienced by patients with breast, lung, and colon cancer experience before beginning a chemotherapy regimen.

Symptom distress is defined as a general indicator of symptoms experienced by cancer patients (McCorkle & Young, 1978). Symptom distress or discomfort stemming from symptoms interferes with a person's ability to perform activities of daily living and affects quality of life (Grant, 1997; Macquart-Moulin, 1999; Pickett, 1991).

Secondary analysis of baseline data from an intervention study to reduce chemotherapy-related symptom distress in 90 adults receiving chemotherapy for breast, colon, or lung cancer at Duke University Comprehensive Cancer Center. Participants completed The Adapted Symptom Distress Scale-2 immediately prior to receiving their first chemotherapy treatment. Patients had not received any prior chemotherapy or radiation treatments. The ASDS-2 has demonstrated reliability and validity in this population.

Descriptive Statistics and frequency analysis used to identify the most commonly reported symptoms. Baseline symptoms for the three diagnoses that received a mean score of 2 or greater on a 0–4 scale were; pain distress, pain occurrence, sleep distress, vomiting occurrence, breathing distress. Profiles of symptoms for each diagnosis will be presented.

Symptom ratings were higher than anticipated in this treatment naive population.

Patients rated pain distress and pain occurrence as the most frequently occurring symptom regardless of diagnosis. Accurate assessment of baseline symptoms can facilitate oncology nurses in the management of symptoms thereby enhancing patients ability to tolerate treatments and improve quality of life.

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HEMOGLOBIN (HB) RESPONSE AND IMPROVEMENTS IN QUALITY OF LIFE (QOL) IN ANEMIC CHILDREN WITH CANCER RECEIVING MYELO-SUPPRESSIVE CHEMOTHERAPY (MCT). Pamela Hinds, PhD, RN, CS, St. Jude Children's Research Hospital, Memphis, TN; Marilyn Hockenberry, RN, Texas Childrens Cancer Center, Houston, TX; James Feusner, Childrens Hospital Oakland, Oakland, CA; Jeffrey D. Horde, Childrens Hospital Medical Center of Akron, Akron, OH; Wayne Rackoff, Johnson & Johnson PRD, Raritan, NJ; and Bassem I. Razzouk, St. Jude Childrens Research Hospital, Memphis, TN.

Oncology nurses who treat children with cancer are involved with aspects of patient care related to QOL during MCT. CT-induced anemia, which impacts QOL in adults with cancer, is prevalent in these children.

In a randomized, double-blind study of children (5–18 yrs) with cancer and anemia receiving MCT, epoetin alfa (EPO) increased Hb but provided no benefit overall for the primary endpoint, self-reported QOL using the Pediatric Quality of Life Inventory (PedsQL-I) (Proc ASCO. 2004; 23: abstract 8527). This post-hoc analysis of data from that study examined whether a difference in QOL was observed in children who were Hb responders (greater than/equal to 2-g/dL increase from baseline after Day 29).

A randomized, placebo-controlled study was warranted to assess effects of IV EPO on QOL in children receiving MCT.

Children receiving MCT for malignant solid tumors (ST), Hodgkin's disease (HD), acute lymphocytic leukemia (ALL), or non-Hodgkin's lymphoma (NHL) and anemic at study entry (Hb <12 g/dL for boys >12 yrs, < 11 g/dL for girls > 12 yrs, < 10.5 g/dL for children 5–12 yrs) were stratified by tumor type (ST/HD or ALL/NHL) and randomized 1:1 to receive EPO 600 IU/kg or placebo IV weekly for 16 weeks. The dose was increased to 900 IU/kg weekly after 3–4 weeks if Hb increased < 1 g/dL. QOL was assessed at baseline, Weeks 4/5, 9/10, 13, and 16.

Mean change from baseline to study end for PedsQL-I and Hb response was calculated for all patients with data after Day 29. P values were calculated using paired t-test. Repeated-measures analysis was performed taking into account QOL collected at multiple study visits.

For this QOL analysis, 94 EPO and 86 placebo patients (of 222 enrolled) had data available. Hb responders had significant QOL improvements from baseline at study end (EPO, 11.3 ± 20.7 ; placebo, 9.7 ± 13.3 ; $p < 0.001$ for both treatment arms) versus nonresponders (EPO, 1.8 ± 16.0 ; placebo, 3.6 ± 15.9). Results from repeated-measures analysis confirmed these findings ($p < 0.0001$ for Hb responders). Further studies are warranted to optimize Hb response, QOL, and long-term outcomes with EPO in these children.

Funding Sources: This study was supported by Ortho Biotech Clinical Affairs, LLC.

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SYMPTOMS, SELF-CARE AND QUALITY OF LIFE OF DISADVANTAGED CHINESE-SPEAKING CANCER PATIENTS: A PILOT STUDY. Fang-Yu Chou, RN, PhD, Marylin Dodd, RN, PhD, Donald Abrams, MD, and Geraldine Padilla, PhD, University of California, San Francisco, San Francisco, CA.

As the ethnic and cultural compositions of populations in the United States become more diverse, the attention to studying health care experiences in minority groups has been increasing. The impacts of cancer treatments on patients' symptom management and quality of life had been documented in the literature, however, up to dates few studies examined symptom experience and quality of life in disadvantaged minority groups.

The purpose of this study is to explore and examine the symptom experience, self-care strategies, and quality of life among Chinese-speaking cancer immigrants/Americans during their outpatient chemotherapy. This presentation summarizes the preliminary results of the study.

UCSF Symptom Management Model.

A descriptive, longitudinal design was used. Chinese-speaking cancer patients were recruited during one chemotherapy cycle at a county medical center in Northern California. Participants were asked to fill out questionnaires of basic demographic data, Suinn-Lew Acculturation Scale, weekly Memorial Symptom Assessment Scale and Self-Care Diary for three weeks, and Multidimensional Quality of life Scale-Cancer numeric scale and Short-Form 36 at the start and the end of the cycle. Study instruments were translated into Chinese. Both Chinese and English versions of questionnaires were provided and participants could choose either version to complete.

Descriptive statistics were used to summarize the preliminary results.

The mean age of the sample ($N = 19$) was 51.16 years old ($SD = 8.65$), and 68% were male. All of the participants were first generation immigrants with low level of acculturation ($M = 1.40$, $SD = 0.35$), and 63% of them do not speak or read English. In average, participants reported about 15 symptoms (range = 0–32) weekly. Hair loss, lack of energy, dry mouth, sleep difficulty, and loss of appetite were the symptoms frequently reported. In average about 2 self-care strategies per symptom (range = 0–5) were reported, but overall with low to moderate level of effectiveness. 20% of the sample listed Chinese medicine as other self-care strategy. Moderate levels of quality of life were also reported. Results suggested that symptom management and enhance self-care are imperative in providing quality cancer care in disadvantaged groups.

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PATIENTS UNDERGOING RADIATION TREATMENT WERE CLINICALLY EVALUATED FOR SKIN INTEGRITY, PAIN AND ITCHING IN A PRELIMINARY TRIAL USING RADIAPLEXRX GEL CONTAINING 0.2 HYALURONIC ACID. Katen Moore, MSN, APRN, BC, AOCN®, DVA, NJHCS, East Orange, NJ; Marilyn Haas, PhD, ANP-C, Mountain Radiation Oncology, Asheville, NC; and Kimberly Purdy Lloyd, MS, MPM Medical Inc., Irving, TX.

Acute radiation dermatitis is a side effect of radiotherapy. It has been estimated that approximately 95% of radiation therapy patients treated for cancer will experience a skin reaction and 87% of women receiving radiation treatment for breast cancer will develop radiation dermatitis (Prorock et al., 1999; Fisher et al., 2002). Peer-reviewed clinical trials are sparse and inconsistent on efficacy of topical treatments for radiation dermatitis, leaving the patient and practitioner without a solution as to an effective treatment (Wickline, 2004).

Studies have suggested that hyaluronic acid and mannan polysaccharides reduce acute radiation-induced dermatitis. RadiaPlexRx™, a topical gel composed of these ingredients, was clinically evaluated for efficacy in radiation dermatitis.

Hyaluronic acid, 0.2%, was shown clinically to significantly improve radiation dermatitis as compared to placebo cream (Liguori et al., 1997). Hyaluronic acid may support skin because it is a natural component of the extracellular matrix of the dermis.

A pilot study was conducted on 20 patients who were receiving radiation treatment for breast cancer, chest wall after a mastectomy, thorax and abdomen, forehead and rectum. 60% of patients received radiation dosages of 6040 cGy or higher. Patients were instructed to apply gel three times daily.

Nurses assessed patient dermatitis using the NCI Common Toxicity Criteria. Patients reported their evaluations using a Patient Survey Questionnaire. Data was entered into SPSS and descriptive statistics calculated.

Results showed 90% of patients clinically evaluated experienced no dry desquamation or severe erythema. 85% of patients experienced no itching and 70% of patients experienced no painful skin problems. 75% experienced increased moisturizing effects. 100% of patients stated they would recommend it to others undergoing the same treatment. Further studies are warranted as the gel seemed to be well tolerated, non-irritating and may help prevent dry desquamation. RT nurses need to feel comfortable recommending a well-tolerated and effective treatment for their patients during the radiation treatment phase and for home care. This gel offered a potential solution for treating mild to medium dermatitis associated with most radiation protocols, bearing in mind that each case required individual assessment.

Funding Sources: MPM Medical provided products for pilot study.

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SYSTEMATIC REVIEW OF THE EFFECTS OF MASSAGE ON CANCER PAIN IN ADULTS. Sui-Whi Jane, Doctoral Candidate, Chang Gung Institute of Technology, Kwe-Shan, Tao-Yuan County, Taiwan; Diana J. Wilkie, PhD, RN, FAAN, Professor, and Randal D. Beaton, Research Professor, University of Washington, Seattle, WA; and Jyhun-I Chen, Lecturer, Chang Gung Institute of Technology, Kwe-Shan, Tao-Yuan County, Taiwan.

Despite the scientific understanding of pain, 51%–77% of patients with cancer experience moderate to severe intense pain at some time in their illness trajectory. Theoretically, 90% of cancer pain can be adequately relieved with medical interventions; however, in practice, less than 50% of cancer patients actually achieve effective pain relief. Massage has been used as a means of promoting relaxation responses to reduce pain. Within scientific realms, it is crucial to validate the efficacy of massage with rigorous evaluation processes aimed at implementing this intervention concurrently with pharmacological treatment.

To date, the results of massage yield inconsistent, partially due to methodological flaws. More importantly, none of the existing published meta-analyses specifically examining massage effects on cancer pain from a methodological perspective. The purpose of this study is to systematically review the effects of massage in managing adult cancer pain.

Nursing is a practice profession, thus, it is obligated for clinicians and researchers to generate a knowledge base for its practice derived from rigorous research.

The systematic review was used to summarize and analyze studies on massage effects resulting in a total of six studies with full text from 1985 to 2004 in English were identified upon the inclusion criteria. A designed tool containing 21 items was employed to systematically evaluate studies.

The frequency distribution of the characteristics of study was used and effect size of pain variable and retrospective power analysis were further calculated.

Evidence from this review indicates that massage consistently demonstrates an immediate or short-term effect on decreasing pain and anxiety and improving physiologic relaxation. Whereas the longer-term effect on pain, anxiety, quality of life, and activity level yielded inconsistent results. These discrepancies may be related to the lack of a consistent theoretical framework, rigorous inclusion criteria, and a standardized intervention protocol, sensitivity of selected measures, adequate statistical power, consistent effect sizes, and consideration of potential confounding variables and placebo effects. Additionally, future research efforts should focus on examining the underlying mechanisms of massage from the psycho-neuro-immunological perspectives, optimum strength of massage, the length of massage effects, effects on muscle relaxation and sleep, and cost-effectiveness studies. In practice, these findings will provide clinicians with appropriately implemented this intervention, thereby enhancing pain management.

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COMPLEMENTARY AND ALTERNATIVE MEDICINE: ONCOLOGY NURSES KNOWLEDGE, ATTITUDE, AND EXPERIENCE. Teresa Rojas-Cooley, RN, BSN, Marcia Grant, RN, DNSc, FAAN, Gloria Juarez, RN, MSN, PhD, and Martin Perez, PhD, City of Hope National Medical Center, Duarte, CA; and Georgia Decker, RN, MS, CS-ANP, AOCN®, Integrative Care N.P. P.C., Albany, NY.

Complementary and Alternative Medicine (CAM)

CAM use in the oncology population has increased from 30% to 83% yet disclosure rate to the healthcare professionals by patients has not. Interference, adverse effects, or injury may occur when there is a failure

to discover a patient's use of CAM with conventional treatment. Primary reasons reported by patients for nondisclosure are lack of professional inquiry and/or fear of disapproval. Paucity exists in the literature that describe the pattern of communication between nurses and patients. The aim of this study is to describe the knowledge, attitude, and experience of the oncology nurse with CAM.

Principles of Adult Education, CAM Therapy Content, and Change Theory provide direction in the development and implementation of this study and will contribute to the long-range goal of education.

This descriptive study used a one-time self-administered mailed packet that included an invitation to participate, demographic questionnaire, and the Nurse Complementary and Alternative Knowledge and Attitude Survey (Nr CAM K&A). It was mailed to a random sample of Oncology Nursing Society Registered Nurse members who are involved in direct patient care.

A total of 3,637 packets were mailed. 865 were received and 850 were analyzed. Initial results indicate a majority of direct patient care nurses are uncomfortable answering questions about CAM therapies and do not assess patients for CAM use yet they believe patients have the right to integrate conventional medicine with CAM therapies. In addition, a majority of participants believe CAM therapies have a role in their nursing practice and deem CAM education to be very important even though a vast majority were unfamiliar with the ONS CAM position statement or their Board of Registered Nursing CAM advisory statement.

Direct patient care nurses need to support the growing numbers of cancer patients already using CAM. The priority for direct patient care nurses is education to help integrate evidence-based CAM therapies into standard oncology nursing practice. Prepared with the right knowledge, not only can the oncology nurses assess for potential problems with CAM usage but also support safe therapies that promote increased quality of life to their patients.

Funding Sources: Oncology Nursing Society Foundation/Ortho Biotech Novice Researcher Grant. May 2003-05.

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COMPLEMENTARY THERAPIES USED BY HISPANIC WOMEN WITH BREAST CANCER. Barbara Owens, RN, PhD(c), University of Texas Health Science Center S.A., San Antonio, TX.

Little data exist specifying the variables associated with complementary and alternative therapy (CAT) that link with health maintenance or increase in health-related quality of life for Hispanic women during breast cancer treatment in South Texas.

The purposes of this exploratory research study were to describe: (1) the manner CAT potentially influences the positive relationship between perceived side effect burden and uncertainty, and (2) the efficacy of CAT as a self-care outcome during the treatment experience.

Six hypotheses were posed that derive from Braden's Self-Help theoretical model.

A total of 137 Hispanic women completed a self-report questionnaire. All of the women were receiving outpatient medical treatment for breast cancer. Of the women in this sample, 25% completed the instrument in Spanish; 75% chose English. The mean age was 53.93 years, mean educational level was < 10 years, and median income level was < \$20,000 per year.

The instruments included: Side Effect Burden, Center for Epidemiologic Studies Depression, Uncertainty in Illness, Self Control Schedule, Psychological Adjustment Inventory Scale, Inventory of Adult Role Behaviors, Self-Care Wellness Promotion Rating, CAT Use and CAT Efficacy, Quality of Life Index, and Index of Well Being. The theoretical tests consisted of determining model parameters by forced entry of variables in the order specified by the staged model for regression analysis.

In this sample, there was no relationship between side effects and CAT as a resource and reduction in uncertainty. When used as a type of self-care during breast cancer treatment, CAT accounted for only a small amount of the variance that contributed to quality of life. The presence of greater enabling skills positively affected CAT self-care. Women involved in adult role activities, including self-care and CAT self-care, had higher quality of life. For the Modified Self-Help Model with CAT, the findings did not support the efficacy of CAT as a significant mediator of side effect burden. More work is necessary to clarify CAT as a resource that can act to effect change in side effects experienced by women receiving breast cancer treatment.

Funding Sources: ONS Foundation/Aventis New Investigator Award

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CANCER PAIN EXPERIENCE AS EXPRESSED BY PATIENTS THROUGH AN ONLINE FORUM. Joyce Neumann, RN, MS, AOCN®, Robin Page, RN, MS, CNM, and Eun-Ok Im, RN, PhD, MSPH, CNS, The University of Texas–Austin, Austin, TX.

A lack of knowledge and respect for the cancer patients' own views and lived experience with cancer pain and its management are reasons for frequent miscommunication. It is imperative to explore how cancer patients themselves experience cancer pain assessment and management in order to provide healthcare professionals with additional information.

The purpose of this study was to explore cancer patients' own experiences with pain and pain management processes through an online forum.

This study was based on a feminist approach that seeks to gather information from the views, perspectives, opinions, and experiences of the research participants.

This is a cross-sectional feminist qualitative study through an online forum. Twenty-five self-identified White cancer pain patients were recruited using a convenience sampling. Nine topics on cancer pain experience, assessment and management were used for the online forum. The participants were provided an access code to enter the site and asked to post their responses. One to two topics were posted every month, and data collection occurred over 6 months. All information about the study including the informed consent was shared through a secured website.

Thematic data analysis was performed, beginning with line-by-line coding using N-6. Then, categorization of the codes and idea categories were identified. Research group discussions were also conducted to extract categories and themes.

Four major themes were identified. The first was "emotional pain" that they and their families experienced related to the disease processes. The second was uncertainty related to diagnosis, future, and significance of the pain. The third was "stigma" associated with the diagnosis and chronic pain. A related theme was "indifference or lack of acknowledgement" by friends and family. The fourth theme was "defining the cancer experience." Most participants indicated their acceptance of their diagnoses and desire to confront the facts. The findings suggest that health care providers need to respect cancer patients' own experiences related to pain, and consider contextual factors circumscribing cancer pain experiences. The findings also suggest that online forums are an excellent method for qualitative data collection among cancer patients and serves as a support network for the shared experience of cancer patients with pain.

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INTERNET COMMUNITIES/GROUPS FOR ETHNIC MINORITIES. Enrique Guevara, MSN, RN, COHN-S, CM, Applied Materials, Austin, TX; Hsiu-Min Tsai, MSN, RN, Melinda Bender, MSN, RN, Robin Page, MSN, RN, ChingYu Cheng, MSN, RN, and Nam Mi Kang, PhD, RN, The University of Texas at Austin School of Nursing, Austin, TX; Sandra Jenkins, MSN, RN, Prairie View A&M University School of Nursing, Houston, TX; Wonshik Chee, PhD, The University of Texas at San Antonio, San Antonio, TX; and Eun-Ok Im, PhD, RN, MPH, CNS, The University of Texas at Austin School of Nursing, Austin, TX.

Internet Communities (ICs) have been used as research settings for data collection. Recent studies have indicated that ICs tend to serve highly educated, high-income White males who have easy access to computers. However, those who are not part of this dominant group (e.g., ethnic minorities, women) are marginalized, and their issues are either not considered relevant for study or not reflected accurately in research and health care practice.

The purpose of this presentation is to analyze ICEMs (Internet Communities Ethnic Minorities) searched through Google.com, Yahoo.com, MSN.com., and AOL.com and provide directions for future oncology nursing research.

A feminist perspective was used to analyze ICEMs.

Using the Internet search engines, the websites of 1,588 ICEMs (632 for African Americans, 222 for Asians, and 734 for Hispanics) were searched. During the analysis process, research staff wrote memos regarding the issues related to ICEMs, and conducted email group discussions.

Written memos and email discussion messages were analyzed using the content analysis by Weber.

First, authenticity issues were found. 80% of ICEMs were not for ethnic minorities although they claimed they were. About 10% of the websites no

longer existed. Information provided on some websites was not accurate and current (20%). Second, intersubjectivity issues were raised. 10%–15% of ICEMs were focusing on match-making (e.g., males seeking females). Webmasters of ICEMs rarely responded to the research staff (5% response rate). Third, gender-related issues were found. Some of the ethnic minority sites had sexual content ranging from 10 to 20%, depending on the ethnic group. The female prevalent ICEMs tended to focus on getting emotional and informational support. Finally, ICEMs tended to aim at selected target groups, depending on the ethnic group. For example, about 60% of African American groups aimed at only African American women (e.g., African American Moms, Sisters, etc). The eligibility of the group members was monitored by the moderators in 50% percent of the ICEMs. The analysis suggests the need for development of ethnic-specific support groups for ethnic minorities, standards and policies regulating contents and contact information of ICEMs, quota sampling in Internet recruitment, and education programs for moderators and facilitators.

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DECISION SUPPORT COMPUTER PROGRAM FOR CANCER PAIN MANAGEMENT: APPROPRIATENESS, ACCURACY, AND ACCEPTABILITY. Eun-Ok Im, PhD, MPH, RN, CNS, The University of Texas, Austin, TX, and Wonshik Chee, PhD, The University of Texas at San Antonio, San Antonio, TX.

For culturally competent cancer pain management, it is imperative to develop a decision support system that can help nurses to consider ethnic diversities in cancer pain experience. A decision support computer program for cancer pain management was recently developed by Im and Chee, but its accuracy, acceptability, and acceptability have rarely been evaluated yet.

The purpose of this study was to evaluate the appropriateness, accuracy, and acceptability of the decision support computer program by Im and Chee through an Internet intervention study among nurses working with cancer patients.

Fuzzy logic (that was originally used for the development of the decision support computer program) guided this study as a theoretical basis.

103 self-identified registered nurses with active status working with cancer patients in clinical and/or home care settings who could read and write English were recruited through the Internet and real health care settings. A project website was used for evaluation of the decision support computer program. When the participants agreed to participate, they were asked to register by entering their answers for the questions for registration through the Internet. Then, they were asked to answer the questions for refinement and to generate cancer pain management strategies by using the decision support computer program. After generating the strategies, the participants were asked to answer the evaluation questions on appropriateness, accuracy, and acceptability of the decision support computer program.

The data entered for refinement were automatically uploaded and used to upgrade the decision support computer program through the self-adaptation module. The data entered for registration and evaluation of the DSCP were analyzed using descriptive statistics.

The decision support computer program was successfully upgraded and refined with the data from 103 nurses. 89% of the participants evaluated the decision support computer program as appropriate; 90% evaluated it as accurate; and 97% reported it as acceptable. The findings suggest that the DSCP will provide appropriate, accurate, and acceptable guidelines for cancer pain assessment and management.

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RECRUITMENT OF ONCOLOGY NURSES THROUGH THE INTERNET. Wonshik Chee, PhD, The University of Texas at San Antonio, San Antonio, TX, and Eun-Ok Im, PhD, MPH, RN, CNS, University of Texas at Austin, Austin, TX.

Much of the information regarding the usage of computer and Internet technologies in research is still anecdotal, and little research has been conducted related to nurses' or patients' use of computer networks. Therefore, very little is known about the effectiveness of recruitment of oncology nurses for research through the Internet.

The purpose of this presentation is to provide future directions for recruitment of oncology nurses for Internet research based on the issues raised in an Internet survey study on cancer pain management.

A feminist approach guided the analysis process.

Throughout the research process, the research staff recorded issues as they arose and wrote memos regarding the recruitment issues and possible reasons for the issues. Weekly group discussions were conducted, and written records of these discussions were kept.

The written memos and records were reviewed and analyzed using the content analysis suggested by Weber. The unit of analysis was individual words, and the memos and written records were analyzed using line-by-line coding. Then, the codes were categorized according to the contents, and idea categories were developed from the categorization process.

The idea categories included "a low response rate," "flexibility required," "mutual trust," "a selected group of oncology nurses," and "changing Internet dynamics." The response rate of oncology nurses was about 3%. Among a total of 257 nursing professional organizations, only 6 actually announced the study. Because of the low response rate, flexibility in the recruitment strategies was essential in the recruitment process. Mutual trust was one of the difficult aspects of the recruitment because Internet interactions are based on non face-to-face interactions. Most of the participants were highly educated oncology nurses with a master degree in a high administrative position. Online populations in these days tended to chat in chat rooms rather than posting messages through message boards. With the increasing number of spam mails, people tended not to open emails sent by a stranger. For future Internet research, we suggest: (a) recruitment through multiple Internet and real settings, (b) the usage of various strategies, (c) quota sampling method, and (d) creative motivation strategies.

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ADVANCES IN CONDUCTING RETROSPECTIVE CHART REVIEW STUDIES: USE OF ELECTRONIC REPORT FORMS AND DATABASE IN A COMMUNITY STUDY IN ANEMIC PATIENTS WITH MYELODYSPLASTIC SYNDROME (MDS). Toni Sullivan, RN, and Jeffery F. Patton, MD, Tennessee Oncology, Nashville, TN; and Yong Mun, and Joel F. Wallace, Amgen Inc., Thousand Oaks, CA.

Retrospective chart review studies provide important insight to oncology nurses into the current and optimal clinical practices of new therapies.

Conducting chart reviews are typically difficult, due to nonprospectively planned methods/endpoints and arduous labor spent searching for and entering data into spreadsheets. Improvement of this process is a recognized need and welcomed among study nurses.

In anemic patients with MDS, we implemented new guidelines to substitute darbepoetin alfa 200 mcg Q2W for current epoetin alfa regimens. To evaluate the impact of switching to darbepoetin alfa, we designed a retrospective cohort study and developed an electronic database and data forms to efficiently capture prespecified hematologic endpoints and drug usage data.

Patients who started epoetin alfa between May 2003–January 2004 were categorized into 1 of 2 patient groups: darbepoetin alfa (received prior epoetin alfa, switched to darbepoetin alfa after guideline implementation) and epoetin alfa (received prior epoetin alfa, continued epoetin alfa after guideline implementation). Patient data was extracted for 16 weeks before and after the switch to darbepoetin alfa. The database and electronic forms were created using Microsoft Access. At baseline (the time of the switch) and at all timepoints, data for each patient, including demographics, hemoglobin levels, erythropoietic agent dose and schedule, and transfusions, were entered. Data were analyzed for efficacy and drug utilization.

The electronic data forms were efficient and convenient to use, with data entry for each patient averaging approximately 3 minutes. Reports of patient data were easily accessible and queries were easily resolved. Within 2 weeks of the last patient data entry, data of all prespecified endpoints were analyzed. Hemoglobin response (e.g., hemoglobin increase $>_1-2$ g/dl) and transfusion rates were either improved for darbepoetin alfa or similar between treatment groups.

Using electronic data capture, evaluation of our therapeutic substitution guidelines was achieved with minimal errors and substantial convenience to nurses. By participating in retrospective studies, nurses can increase their knowledge of available treatment options for patients and become patient advocates to physicians about the effectiveness of new

therapies. Therapeutic substitution with darbepoetin alfa in patients with MDS offers the convenience of less-frequent dosing to patients and caregivers.

Funding Sources: This abstract and study were sponsored by Amgen Inc.

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A STUDY OF SUN PROTECTION PRACTICES IN STATE LICENSED DAY CARE CENTERS. Carolee Polek, PhD, RN, University of Delaware, Newark, DE.

In 2004, over 1 million people will be diagnosed with skin cancer in the U.S. It is critical that those in charge of children that are unable to care for themselves, in locum parentis, be knowledgeable regarding sun safety while they are taking care of these children. It is also critical that owners of the centers understand the state regulations with regard to providing sun safety and that dissemination of that information be provided to the children's parents and the staff at the centers.

The purpose of this pilot study was to further explore sun safe related issues that were identified in the PI's previous work with regard to children in daycare centers. Significant barriers were identified at daycare centers preventing sun safe care on a routine basis. This study sought to determine the parents perspective on sun safe practices while their children are at the centers. Additionally, the study sought to assess the parents and owners knowledge, attitudes and beliefs with regard to sun safety.

A cross-sectional design in the form of a survey was used to investigate the subjects during the summer of 2003. The sample selection was obtained from the State of Delaware Department of Services for Children, Youth, and their Families, Division of Family Services–Licensing Services. One hundred thirty seven parents and fifteen daycare owners completed the survey. A modified existing tool with established content validity was utilized. Questions ranged from general demographic about the daycare center to more specific questions about the knowledge, beliefs, practices, barriers, and information sources regarding skin cancer and sun protection.

Descriptive statistics along with correlational statistics are currently being computed.

Prevention is key in reducing the rates of skin cancer. Healthy people 2010 goal (3–8) sets out to reduce the number of skin cancer deaths by 11%. Nurses can be instrumental in meeting this national goal if they educate the daycare population about the importance of sun protection and the implementation of sun-safe programs into the daycare setting.

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BASELINE EVALUATION OF ASSESSMENT, INFORMATION, AND MANAGEMENT PATTERNS IN A NATIONAL QUALITY IMPROVEMENT PROJECT (AIM HIGHER). Gina Johnson, MSN, APRN-BC, Accelerated Community Oncology Research Network, Memphis, TN; Kurt T. Tauer, MD, The West Clinic, Memphis, TN; Kelley Moore, RN, Barry Fortner, PhD, and Qian Mao, MS, Accelerated Community Oncology Research Network, Memphis, TN; and Lee S. Schwartzberg, MD, The West Clinic, Memphis, TN.

The AIM Higher Initiative is a national quality improvement program designed to improve assessment, patient information, and management of five core chemotherapy-related symptom clusters: nausea/vomiting, diarrhea/constipation, depression/anxiety, anemia and neutropenia.

This report provides results from baseline data derived from patient interviews and medical chart review.

We interviewed and reviewed the charts of 350 adult cancer patients regarding the occurrence of the target symptom areas, occurrence of risk and symptom assessment, occurrence of patient information provision, and occurrence of symptom management.

Subjects were primarily female (70%), Caucasian (89%), and married (73%), with greater than high school education (64%). A significant portion of patients reported experiencing target symptoms in the chemotherapy cycle immediately prior to the time of the interview ranging from 14% for both fever and vomiting to 80% for fatigue. Risk assessment was rarely performed ranging from 6% for anxiety to 24% for anemia. Presence of symptoms assessment ranged from 26% for feeling sad or blue to 80% for nausea, and a substantial portion of the patients who had reported experiencing a particular symptom had no conversation with a clinician regarding that symptom at the doctor visit

immediately subsequent to the cycle in which it occurred. For patients reporting symptoms, patient information was provided at the subsequent doctor visit ranging from 6% for feeling sad or blue to 36% for nausea. Symptom management occurred at a rate ranging from 5% for feeling sad or blue to 63% for nausea.

The findings of this study are consistent with previous studies suggesting the need for improvement in supportive care. The AIM Higher Initiative is a quality improvement program designed to improve supportive care, and future analysis will determine if the program is able to improve care over these baseline levels.

Funding Sources: Amgen Inc.

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LUNG CANCER PATIENTS PERCEPTIONS OF THEIR AWARENESS OF TREATMENT OPTIONS, SELF-ASSESSMENT OF KNOWLEDGE AND LEVEL OF SATISFACTION WITH PRETREATMENT EDUCATION. Judith Petersen, RN, MN, AOCN®, and Beverly Davis, MSN, NexCura, Inc., Seattle, WA.

Treatment decision-making is complex. It is important for oncology nurses providing education to newly diagnosed patients of varying age, education, and socioeconomic status to understand patients' experiences and factors influencing treatment decision-making.

Lung cancer patients, families, and caregivers make important treatment-option decisions at the time of diagnosis. Limited research is available to explain their treatment decision-making process and informational needs. Multiple factors may influence access to information, satisfaction with information provided, and treatment choice. This study was initiated to describe patients' perceptions of knowledge and satisfaction with treatment-options education.

The ONS Position Paper on Patients' Bill of Rights for Quality Cancer Care affirms patients' right to access the full spectrum of appropriate treatment options with active, informed participation in treatment decision making.

Respondents were invited to complete an online survey about their level of knowledge and satisfaction with education regarding various treatment options. The population was developed by e-mail invitation to registrants of NexCura's online NexProfiler™ Treatment Option Tool for Lung Cancer, sent 3–9 months after patients' use of the tool. New registrants will be invited to take the survey 3 months after using the Tool until March 2005.

Patient responses will be compared across treatment type, stage, age, education, and income level.

671 of 6000 surveys (13% of NSCLC registrants, and 9% SCLC) were completed and returned within 2 weeks. We anticipate another 600 completed surveys by March 2005 totaling approximately 1300 responses. Preliminary findings: Patients over the age of 70 felt well or very well informed less often than patients under 70 (42% vs. 50%). Patients felt more informed about chemotherapy than other modalities (age > 70, 59% felt informed; age < 70, 69%) and least informed about investigational drugs (age > 70, 16% vs. age < 70, 23%). From survey participants' comments (N = 467), 3 themes emerged: (1) a plea for greater compassion from healthcare professionals; (2) frustration and misunderstandings reflecting ineffective communication between providers and patients; and (3) a request for truth telling and honesty regarding treatment side effects and prognosis.

Awareness of factors that influence access to and satisfaction with information can help nurses tailor individual patients' learning experience.

Funding Sources: NexCura is a health care education and information company that develops Web-based, clinical decision-support applications called NexCura NexProfilers™. The authors are clinical specialists employed by NexCura, Inc.

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YOU JUST HAVE TO BE STRONG. Margaret Rosenzweig, PhD, CRNP-BC, AOCN®, University of Pittsburgh, Pittsburgh, PA; and Rachael Rosenfield, RN, BSN, and Heather Alt, University of Pittsburgh School of Nursing, Pittsburgh, PA.

Mortality rates of African American (AA) women continue to exceed that of white women. There is consensus that survival equalization efforts should be focused on ensuring racially equivalent breast cancer treatment intensity.

The specific aims of the study were: (1) To identify the patient based barriers (PBB) to symptom management strategies perceived by patients with MBC and (2) To determine if PBB to symptom management strategies differs according to income and/or race.

One potential cause for healthcare disparity is such as adherence to appointments, prescriptions and advice. This explanation is best derived from the individual's own words and experiences.

The findings from this study begin to describe the PBB to treatment and symptom management adherence according to race (White (W) or AA) and income (2003 Health and Human Services Income Guide) for women with MBC. This beginning explanatory model will help to tailor interventions so that intensive palliative chemotherapy and/or supportive care be can ensured for all women with MBC.

Qualitative research methodology based on open ended interviews of fourteen women with MBC (8 white—6 high income (HI), 2 low income (LI), 7AA—2 (HI), 5 (LI)) undergoing MBC therapy was conducted. The interviews were transcribed and analyzed for recurrent themes exploring possible patient based barriers to treatment adherence or symptom management using investigator coding and Ethnograph qualitative software (v.5).

In this preliminary analysis two overarching themes for all women and three racially differential themes served as explanatory models for PBB to treatment and symptom management adherence in MBC.

The overarching barriers to treatment and symptom management adherence were (1) questions of treatment futility for metastatic disease (2) symptom distress (pain and depression) and (3) time and expense of health related care. The racially specific barriers to treatment and symptom management for LI AA women were

1) need for minimization of symptoms (multiple roles and family optimism) and

2) stressors of poverty.

Both HIAA and LI AA women noted

1) poor understanding of illness severity.

This analysis is rich with cancer nursing implications. Interventions to increase adherence need to have particular attention to the differential burden that sociodemographic factors bring to the MBC experience.

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CHARACTERISTICS OF LUNG CANCER SCREENING PARTICIPANTS. Margaret Joyce, MSN, RN, AOCN®, The Cancer Institute of New Jersey, New Brunswick, NJ.

Individually, and as a group, the participants of lung cancer screening programs are of interest because they comprise a population that shows interest in health promotion but may continue unhealthy behaviors such as smoking. Participant contact with a health professional during the screening is a golden opportunity for health education and promotion.

Despite the fact that multiple lung cancer screening programs have been completed since the 1970s, little aggregate information about the participants is published. The purpose of this systematic review was to examine the research on lung cancer screening programs to describe the characteristics of the participants. Specifically, this review addresses: (1) participant recruitment process, (2) participant demographic profile (3) compliance with follow up screen and (4) participant smoking status.

A search of computerized databases from 1966 to June 2004 was conducted using the keyword screening combined with lung neoplasm and smoking. Forty-two citations were found that met the inclusion criteria of an empiric study that described a lung cancer screening program. Studies were excluded if they described non-volunteer screenings.

This review examines 26 reports of clinical studies that screened individuals for lung cancer. Eleven studies used a chest radiograph (CXR) and 15 studies involved spiral low dose computed tomography (LDCT) as the primary screening intervention. The findings are organized according to the review objectives.

Aggregate data about the characteristics of lung screening participants are sparse. Little demographic information besides gender and age is known. The reported lung cancer screening population is mainly homogeneous comprised of white males age 50 and above. Socioeconomic information is missing. In general, compliance with annual screening was high. Although smoking status was missing in most studies, six studies reported that a majority (range 61 to 86%) of the participants were current smokers.

It is recommended that descriptive participant data from the National Lung Screening Trial and future lung cancer screenings be reported

robustly and described in detail along with the screening outcome. Researchers and health care practitioners who wish to tailor smoking cessation interventions or target this group for health education would benefit from a greater understanding of lung cancer screening participant characteristics.

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SLEEP DISTURBANCE IN KOREAN GASTRIC CANCER PATIENTS AND THEIR FAMILY CAREGIVERS. Maria Cho, RN, PhD, Marilyn Dodd, PhD, RN, FAAN, Kathryn Lee, PhD, RN, FAAN, Geraldine Padilla, PhD, and Rob Slaughter, PhD, University of California, San Francisco, San Francisco, CA.

A change in sleep quality is a significant complaint frequently reported by cancer patients and their caregivers and affects their quality of life.

Sleep research in the Korean cancer patient and caregiver populations, specifically prevalence and symptom presentation, is limited. To describe and compare sleep quality and quality of life (QOL) in Korean gastric cancer patients and their family caregivers.

Symptom Management Model, focusing on symptom experience and outcome.

Descriptive, cross-sectional study design. A paired sample of outpatient gastric cancer patients receiving chemotherapy with their family caregivers (N = 103) participated. Demographic profile, Pittsburgh Sleep Quality Index, Center for Epidemiological Studies of Depression, Lee Fatigue Scale, and Quality of Life-Cancer were used.

A descriptive, paired t-test, Pearson correlation coefficient, and multiple regressions were used.

Both patients and caregivers had poor sleep quality, specifically difficulty falling asleep and maintaining sleep. Patients had poorer sleep than caregivers based on a significant difference in sleep quality ($t(102) = 3.4, p < 0.05$). Patients and caregivers reported moderate fatigue, depressive symptoms, and average QOL; no significant differences. Patients' QOL had significant correlation with the caregivers' QOL ($r = 0.28, p < 0.01$). Symptoms (i.e., sleep, depression, and fatigue) and demographic variables (i.e., gender, financial status, perception of health status) had equal variance in determining the patient's QOL. In light of a different cultural background, demographic variables still accounted for 30% of variance in the QOL of caregivers. Korean cancer patients and caregivers experienced poor sleep quality and related symptoms consistent with previous sleep studies in the U.S.

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DEVELOPING AND IMPLEMENTING A PSYCHOSOCIAL CARE PROGRAM IN A COMMUNITY ONCOLOGY PRACTICE. Greta Dudley, RN, OC, Central GA Hematology Oncology, Macon, GA, Cheryl Krawchuk, RN, BSN, OCN®, Southeastern Gynecologic Oncology, Atlanta, GA; Alice Quargnenti, RN, BSN, CCRC, and Bernie Crook, RN, OCN®, The West Clinic, Memphis, TN.

It is estimated that 25%–40% of patients with cancer are significantly distressed, and only 10% of these patients are properly referred for psychosocial care. Untreated, distress can affect patients' quality of life and ability to adhere to their treatment schedule, possibly affecting survival as well. In addition, patient education may take place in a busy treatment room—where the proximity of other patients, noise level, and nursing tasks may interfere with adequate patient and family teaching.

To develop a program for promoting psychological and social well-being and providing individualized chemotherapy education for patients with cancer and their families.

Team members at two community oncology practices participating in AIM Higher, a quality improvement program, identified the need for improvement in meeting psychosocial and educational needs of cancer patients.

A 30-minute wellness evaluation by a clinical health psychologist consists of an evaluation of patient's coping skills, assessment of available social support, and introduction of stress management techniques. Immediately following this session, an individualized chemotherapy education session by a nurse educator begins the learning process and covers the treatment plan, expected side effects, and strategies to prevent or minimize side effects. A plan for reimbursement and coding is developed.

To date over 300 patients have been evaluated by this process and expressed satisfaction with this program. Evaluation will continue throughout the patient's course of care. Patients will be redirected to psychologists as their routine psychological assessment indicates worsening of anxiety

and depression. This model allows patients to feel safe in discussing psychosocial concerns that may otherwise go unaddressed in a busy practice setting. Recognizing the need for treatment of the whole person has improved communication between the patient and medical staff.

In this era of managed care, certain aspects of patient care are often neglected. Addressing emotional and physical needs is essential for improving the care we provide and enhancing quality of life for cancer patients. An integrated approach using the physician, psychologist and nurse educator for assessment and management of psychosocial distress is the most efficient way to accomplish these goals.

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OUTCOMES FROM 5 YEARS OF CANCER PREVENTION AND SCREENING EDUCATION. Joyce Dains, DrPH, JD, RN, FNP, BC, NAP, Faye Gregory, RN, MSN, FNP, BC, and Carol Dallred, RN, MSN, WHCNP, The University of Texas MD Anderson Cancer Center, Houston, TX.

Supported by a grant from Texas Cancer Council, we conducted an educational outreach program to address the goal of decreasing the burden of female cancers in rural and/or medically underserved areas of Texas. The program focused on improving cancer prevention and screening knowledge and practices of nurses in those areas.

Primary prevention may reduce the cancer burden by as much as 50%, and screening is associated with reduced mortality rates. Because Texas is a multicultural society, it is imperative that prevention and screening activities are conducted by persons who can communicate and interact effectively with members of their community.

Through community-based workshops nurses were taught to incorporate female cancer prevention and screening into their clinical practice. All workshop participants received an entire day of classroom training. A subgroup received additional clinical training along with a training videotape. During the 5-year period workshops were conducted at 25 sites in Texas.

Knowledge: Baseline knowledge was assessed by a pretest; the same instrument was administered as a posttest. Posttest scores were significantly higher than pretest scores, ($p < 0.001$) for each grant year and for all years combined ($N = 387$). The clinical subgroup ($n = 88$) retook the posttest one year after completion of the workshop to assess knowledge retention. Mean scores were lower than the immediate posttest scores but remained significantly higher than the pretest scores ($p < 0.001$).

Practice: Participants were followed for the duration of their grant year to quantify their cancer prevention and screening activities. During the 5 year period approximately 450 program participants conducted cancer prevention and screening activities with almost 40,000 women in rural and/or medically underserved Texas. Activities included patient education as well as cancer screening procedures such as clinical breast examination.

Prevention and screening play critical roles in cancer control. Nurses cite lack of knowledge as a primary barrier to cancer prevention education and screening. This program provided an important service to nurses and patients in rural and medically underserved Texas. Participants used their improved knowledge to impact the health care of almost 40,000 Texas women.

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CLINICAL TRIALS AND THE ELDERLY: AN EVIDENCED-BASED PROTOCOL. Judith Payne, PhD, RN, AOCN®, Duke University School of Nursing, Durham, NC.

Patients who are 65 years of age or older are the fastest growing segment of the US population. As the number of older Americans continues to grow, the prevalence of cancer in that population will also increase. While the need for more research on cancer in the older population is apparent, few older patients are being offered information or enrolled in clinical research trials.

The purpose of this presentation is to identify and examine reasons why older persons with cancer are not engaged in clinical research trials, and present an evidenced-based protocol to encourage practice that includes older persons in clinical trial participation. Specific aims are: (1) identify numbers and indicators of older patients with cancer who are eligible for clinical trials but are not enrolled, (2) examine reasons for not participating, (3) explore patients' and healthcare providers' perceptions of existing barriers, and (4) examine an evidenced-based protocol for

optimal participation in research. Concepts central to evidenced-based practice theory provided a guiding framework for the project.

An evidenced-based protocol for screening, recruiting and enrolling older patients with cancer in clinical research trials.

Indicators used to evaluate the project included a literature review and an assessment of whether and to what extent knowledge and practice changed after the evidenced-based protocol was developed and utilized. The anticipated outcome was an evidenced-based protocol, useful as a guideline for clinicians to engage older persons with cancer in clinical research trials. Outcome indicators included whether there was an increase in the number of older persons with cancer offered information as well as an increase in the number enrolled in clinical trials.

Nurses are key to educating healthcare providers, patients, and the public to increase awareness of the lack of research occurring in the older cancer population. Implications include changing the mindset of clinicians who are reluctant to offer research trials to older patients for reasons that are not supported by the literature or evidenced based, and to provide current, state-of-the art care. Research suggests that clinical trials provide better care, including comprehensive follow-up surveillance. An evidenced-based protocol will help healthcare providers by offering guidelines for use when presenting the option of clinical trial participation to the elderly when study criteria are appropriate.

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METHODS AND OUTCOMES FOR RECRUITMENT OF CASES AND CONTROLS FOR A BRAIN TUMOR EPIDEMIOLOGY STUDY. Peggy Lyons, RN, BSN, Duke University Medical Center, Durham, NC; Faith Davis, PhD, University of Illinois at Chicago, Chicago, IL; Darell Bigner, MD, PhD, and Henry Friedman, MD, Duke University Medical Center, Durham, NC; Bridget McCarthy, PhD, and Garth Rauscher, PhD, University of Illinois at Chicago, Chicago, IL; Nicholas Vick, MD, and Nina Paleologos, MD, Evanston Northwestern Hospital, Evanston, IL; Sandra Tourt-Uhlig, RN, BSN, Duke University Medical Center, Durham, NC; and Pat Lada, RN, BSN, Evanston Northwestern Healthcare, Evanston, IL.

Successful recruitment of eligible cases and controls in epidemiology studies is key to determining causative factors of gliomas. A subject who feels confident in the purpose of the study will more likely consent to participation and provide accurate lifestyle information.

This study examines the response rates to requests for interviews and biological specimens of cases and controls at the time of recruitment through study completion.

Based on Jean Watson's "Human Science and Human Care," nurse and client interactions will be studied with specific interest in the development of a helping/trusting relationship in order to assist in increasing subjects' response rates.

This prospective study involves enrollment of patients with newly diagnosed gliomas, initiated in August, 2003. A research nurse assessed interest level, fully informed, and consented patients within two weeks of first neuro-oncology clinic encounter. Telephone and web-based surveys were presented as interview options due to the limitations involving cognitive impairment in this patient population. Recruitment of patients' siblings and friends as controls was initiated due to difficulty with obtaining a valid control group because of extensive referral patterns of specialty clinics. Demographic data and response rates for interviews and biological specimen sampling have been collected in both patient and control groups.

Frequency analyses of all demographic data and response rates for interviews and biological specimens will be performed. Exploratory analyses and Pearson's correlations will be used to assess the relationship between variables. To date, out of 487 eligible subjects, 441 subjects initially said they were interested in participating (90.5%). Out of 487 eligible subjects, 309 have consented (63.4%), 120 are pending consent (24.6%) and 12 have refused consent (2.5%). Best case consenting scenario would be 84% if all subjects pending consent choose to sign consent. Further descriptive statistics and analyses are pending.

The development of helping/trusting relationships and the use of multiple interview options increases enrollment and continued participation through study completion. Enrollment of patients' siblings and friends as controls optimizes scientific validity for epidemiology studies. This study demonstrates that the use of multimedia options to maximize the enrollment in epidemiology studies for patients with gliomas is appropriate and can be translated into other vulnerable populations.

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TAKING IT TO THE STREETS: OPENING CLINICAL TRIALS SITES IN THE COMMUNITY. Patricia Green, MSN, MHSA, Audria Crowder, BS, and Norma Sheridan-Leos, RN, MSN, AOCN®, CPHQ, Curtis and Elizabeth Anderson Cancer Institute, Savannah, GA.

All of the new anti-cancer agents are developed through clinical trials. Unfortunately, not all patients are aware of or participate in clinical trials. This hinders the introduction of new agents to patients that need them. Taking clinical trials to community oncologists' offices may significantly increase recruitment and participation for both patient and physician.

This poster will describe the work of a nurse-led research team to open two community clinical trials sites in Southeast Georgia. Details will be provided for replication purposes.

In April of 2004, a medical oncologist expressed an interest in participating in clinical trials at his community office, but did not have the resources to manage this process. A nurse-led clinical trials team from a local cancer center devised and implemented the process for effective recruitment and data management. Specific interventions included: (1) Cost benefit analysis of implementing a clinical trials site in the office, (2) Review of the potential number of study subjects, (3) Education of the community office staff in clinical trials processes, (4) Development of standardized recruitment processes, (5) Quality Control system for data submission from the community office to the sponsors, and (6) Provisions for regulatory compliance.

This project is ongoing. Within forty-five days, the office was ready to recruit subjects. Due to the success of this endeavor, a second oncologist approached the nurse-led team to assist in opening a clinical trials site at his office.

Clinical trials are vital to advancing cancer care. Nurses are able to lead teams that are effective in bringing clinical trials to settings that are closer to the patient's residence. Having a convenient clinical trials locations results in:

- 1) Increased patient/physician awareness of clinical trials;
- 2) Improved recruitment efforts;
- 3) The elimination of transportation issues; and
- 4) Better support for patients during the clinical trials process, which results in study completion.

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CLINICAL TRIAL RECRUITMENT: THE IMPACT OF THE ONCOLOGY NURSE. Deborah Braccia, RN, MPA, OCN®, Schering Plough, Kenilworth, NJ.

This presentation will focus on the importance of clinical trials and the role of the oncology nurse in clinical trials recruitment.

Slow accrual in OCT can result in increased OCT costs and more importantly, considerable delays in getting important new treatments to patients. Currently only 20% of OCT finish on time. Despite the importance of OCT and the increased patient requirements, participation remains low with only about 3%–5% of eligible cancer patient participation. There are a number of factors impeding OCT including: lack of awareness by patients, need for increased numbers of patients, lack of diversity of participants and newly enacted HIPAA privacy regulations. Each of these factors is indicative of the need for oncology nurses to expand their role and take accountability for OCT awareness and recruitment efforts.

The oncology nurse must work collaboratively with physicians and research teams to increase awareness and accrual to OCT. By educating patients on the principles of clinical trials and referring patients to appropriate resources, nurses can significantly impact OCT accrual. To assist with this effort, oncology nurses are able to utilize resources including patient education materials and website OCT clinical trial search engines.

Patients that are aware and educated on the principles of clinical trials are more apt to seek and participate in OCT, providing access to potentially beneficial treatments not otherwise available to them. Additionally, with oncology nurses from diverse practice settings taking accountability for OCT awareness and recruitment, it is expected that the more minorities, woman and elderly will be reflected in the patient population of OCT.

The timely completion of clinical trials can assist in getting potentially new beneficial treatments to patients.

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ASK ME ABOUT CLINICAL TRIALS: A PROMOTION TO INCREASE STAFF, PATIENT AND COMMUNITY AWARENESS ABOUT CLINICAL TRIALS IN A COMPREHENSIVE CANCER CENTER. Darryl Somayaji, RN, MSN, CCRC, Denise Rutkowski, MS, RN, CRC, Carol Sherer, RN, and Megan Battaglia, Roswell Park Cancer Institute, Buffalo, NY.

Approximately 4% of adults with cancer participate in a clinical trial. Knowledge deficits and preconceived ideas about clinical trials are barriers to accrual. Education provided by oncology nurses increases awareness of clinical trials, including treatment, prevention, screening, quality of life, risks and benefits associated with treatment.

The purpose of "Ask Me About Clinical Trials" is to promote a plan within a comprehensive cancer center (CCC) that will increase awareness about clinical trials. The goals and objectives of this promotion are to educate staff, patients, and community by integrating educational opportunities within the CCC, and outreach to the community. The intent is to stimulate interest and commitment to clinical trials as a viable option for cancer treatment.

Staff and patients will wear logo buttons with "Ask Me About Clinical Trials" on them. Effective teaching and learning strategies are being implemented in the following areas:

1. Employee orientation
2. Inpatient and ambulatory:
 - Collaborative in-service training for nursing and health care professionals within the CCC.
 - Clinical trials "updates" are presented in the form of clinical trial implementation and clinical trial outcome sessions.
 - Informal lunchtime presentation for CCC staff about clinical trials at Rowell Park Cancer Institute (RPCI)
3. Patient education
 - Clinical trial brochures
 - Bookmarks with RPCI website information
 - Information about clinical trials will be included in patient information folders.
 - Informational sessions with support groups

The promotion is being evaluated on the new employee evaluation form, and in-service sessions for staff. Requests to the Ask RPCI hotline inquiring information about clinical trials will be evaluated. Clinical trial accrual will be monitored in each clinical center in a quarterly report.

The "Ask Me About Clinical Trials" promotion provides the opportunity for staff, patient, and community to develop a basic understanding of how research moves from the laboratory to patient, and the importance of prevention and early detection information. Oncology nurses understanding the clinical trial process, provides the opportunity for patients to make an informed decision regarding care and to have access to CCC resources.

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CLINICAL RESEARCH NURSING CHALLENGE: CALMING NURSES FEARS WHEN USING SMALLPOX VACCINE AS CUTTING EDGE CANCER THERAPY. Damiana Maloof, RN, BSN, OCN®, Jennifer Lowell, RN, BSN, and Judy Prisky, RN, BSN, Dana-Farber Cancer Institute, Boston, MA.

Nurses are faced with the dilemma of administering new biologic therapies, e.g. recombinant smallpox vaccine (vaccinia), in clinical trials that may greatly benefit their patients, yet at times place themselves at risk from exposure. The clinical research nurse is the ideal individual to provide the support and education necessary to enable staff nurses to safely administer these cutting edge therapies.

The purpose of this presentation is to share the experience gained by nurses and other staff at the Dana-Farber Cancer Institute who are involved in conducting cancer clinical trials with the biohazardous agent vaccinia. This information can help to allay other healthcare providers' fears and enable them to administer this agent in a safe environment.

A multidisciplinary team was convened to explore the risks of exposure to the patients receiving vaccinia (the research subjects), other patients at Dana-Farber—many who were immunocompromised, and to the staff. A policy and procedure for safe administration was developed, based on the limited evidence currently available in the literature and information obtained from phone calls to other cancer centers. Educational classes were held to teach healthcare providers how to protect themselves while

carrying out the protocols for research using vaccinia. The risks to the staff nurse were examined and discussed in a supportive environment. Literature was provided to assist in risk analysis. Safety strategies were described and explained. Health screenings were arranged through occupational health to identify those personnel who should avoid exposure to this biologic agent.

Clinical research nurses are the ideal individuals to provide the support and education about the safe administration of potentially hazardous biologic agents such as recombinant vaccinia-based vaccines. Staff nurses who are well informed about the risks of these biologic agents will feel more comfortable administering them once their concerns about safety have been addressed.

Nurses who are on the forefront of new biologic (and at times, potentially hazardous) therapies may be unprepared to safely administer them. This presentation will provide specific strategies, supported by evidence from the literature and from the clinical experience of peers, about how oncology nurses can safely administer these agents.

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NAVIGATING THE POTHoles ALONG THE RESEARCH HIGHWAY: IMPLEMENTING A RESEARCH STUDY. Myra Woolery-Antill, MN, RN, Ellen Carroll, BSN, RN, Gwenyth Wallen, PhD, RN, Paul Jarosinski, PharmD, and Barbara Corey, MSN, RN, National Institutes of Health, Bethesda, MD; and Holly Wieland, MPH, RN, and Ramzi Dagher, MD, U.S. Food and Drug Administration, Rockville, MD.

Recurrent symptom of constipation in pediatric oncology patients receiving vinca alkaloids, opiates, or a combination of both was identified the multidisciplinary team. A nurse Principal Investigator headed the research group that developed a pilot study to evaluate constipation assessment tool in our pediatric oncology population. This study will be used to illustrate the various challenges of implementing a research study and strategies to overcome.

A pilot study to assess the validity of a utilization tool to determine stages of constipation in the pediatric oncology population. A Constipation Assessment Tool (CAS) to define stages of constipation in the pediatric oncology patient was developed based on a tool used in the adult population. The CAS is currently being tested among the pediatric population fitting the inclusion criteria for the study. Implementing such a project presented various challenges to the group including patient accrual, data collection, confidentiality, communication, and reporting of findings.

The CAS was modified with age appropriate wording. Pediatric subjects entered in the study were asked eight questions from the CAS at data points defined in the protocol. Along with the CAS subjects were asked to keep a daily bowel diary. Nursing staff obtaining the CAS were instructed related to the protocol and data collection technique was validated by the research team.

It is important to outline an implementation plan when designing a research study. The plan should include educating the interdisciplinary team members about the study, training those involved in data collection, and developing the process for managing the data once collected. Issues such as maintenance of confidentiality, management of forms, development of a data base, and follow-up of data collection need to be included in the implementation plan.

A review of literature and medical records revealed little is documented related to assessment and management of constipation in the pediatric oncology population. With the development of a valid tool for children, the nurse will be able to intervene earlier. Many challenges arise when implementing a research protocol. The research group used a variety of strategies to handle the challenges. Time spent proactively planning should make the implementation process easier to navigate.

The goal of the multidisciplinary group is to develop additional studies to examine constipation.

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INITIATING NURSING RESEARCH AT YOUR INSTITUTION: INQUIRING MINDS WANT TO KNOW. Sheila Ferrall, RN, MS, AOCN®, Mary Beth Reardon, RN, MS, CNA, and Terry Sylvanus, MSN, APRN, BC, AOCN®, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL.

Initiating a Nursing Research Program, without a dedicated Nurse Researcher, presents a challenge for institutions interested in pursuing nursing research questions.

Nursing Leadership at our 162-bed NCI Comprehensive Cancer Center has always valued nursing research and supported nurses interested in conducting research. In the past, the institution has been the site for projects conducted by graduate students and faculty from an affiliated university. However, nursing research conceived and conducted within our facility has been limited. The purpose of this project is to describe the process used to develop and implement a Nursing Research Program at our Cancer Center.

Participation by a nurse at an ONS sponsored Evidence-Based Practice Workshop sparked interest in formalizing our commitment to nursing research. The VP for Nursing appointed this experienced staff nurse as chair of a Nursing Research Committee in January 2004. Before the first meeting, an article outlining our institution's nursing research history was published in a newsletter with an invitation to all interested nurses to attend the meeting. Notices were posted on each unit, and nursing faculty from an affiliated university were invited to attend. Additionally, the Cancer Center Medical Librarian was invited to participate.

The first meeting was an overwhelming success with 20 attendees, including staff nurses, advance practice nurses, nurse managers, university faculty and the VP for Nursing. The group has since met monthly with an average attendance of 17. Several sub-committees have met more frequently. The Nursing Research Committee has adopted guidelines/goals and two nursing research proposals have been written and submitted for grants. A six-week nursing research class has been scheduled and interested nurses encouraged to apply. Library usage by nurses has increased by 42%. Our VP for Nursing has demonstrated support of Senior Management by attending the Committee meetings, has offered three mini-grants to further stimulate interest, and has successfully budgeted a position for a part-time Nurse Researcher.

Implementing a Nursing Research Program is an exciting and ambitious endeavor. By coordinating the efforts of many interested nurses, we have realized the potential that exists to enhance our daily practice and the care we deliver to our oncology patients.

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THE IMPACT OF SCREENING PATIENTS FOR CLINICAL TRIALS: RESOURCES AND COSTS. Caryn Steakley, RN, BSN, National Cancer Institute, Bethesda, MD; Sawsan Sahin, MS, Orkand-Harris Informatics Corp., Falls Church, VA; and Allison Wise, RHIM, and Frank Balis, MD, National Cancer Institute, Bethesda, MD.

Patients' willingness to participate in clinical trials is a critical component of developing optimal therapies and gaining a better understanding of diseases. Current estimates indicate nearly 80% of clinical trials are delayed due to slower than expected patient accrual. One role of the clinical research nurse is to ensure that patient recruitment strategies will not only result in adequate numbers of subjects, but also assure their eligibility for the clinical trial and their understanding of the commitments required for participation.

The purpose of this project was to determine why patients who came to the NIH Clinical Center for screening did or did not enroll onto a clinical trial and to quantify the tests performed and the costs associated with the screening process.

A questionnaire to assess the outcome of the screening process was developed and sent to the research nurses who screened the potential patients. We utilized Medicare rates (Maryland) to assess the cost of screening tests performed to determine patient eligibility for our clinical trials. Data collection occurred between January 1, 2004 and July 31, 2004.

There were a total of 341 patients who were screened during the identified time period. 321 patients were prescreened by telephone interview. A total of 187 patients were entered onto a treatment clinical trial, 20 were entered onto a Natural History/Tissue Procurement study, 95 were found to be ineligible and 43 declined treatment at the NCI.

This poster will display much of the information we have collected to provide more insight into the costs and factors that influence patients to enroll (or not) onto clinical trials.

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CLINICAL STUDY PATIENT CARE COORDINATION—IT IS POSSIBLE! Kris Kipp, MSN, RN, The Ohio State University, Columbus, OH; and Donna Madlener, BSN, Karen Kuhns, BSN, Polly James, MSN, and Kim Catania,

MSN, Arthur G. James Cancer Hospital at The Ohio State University, Columbus, OH.

The coordination of the clinical study patient's admission and plan of care requires intensive communication and planning by a multi-disciplinary team of professionals led by the Registered Nurse.

The volume of Phase One clinical study inpatient admissions dramatically increased at The James Cancer Hospital in January, 2004 following the closure of the inpatient research unit at University Hospital. Prior to this unit closure, Phase 1 inpatient cancer studies were conducted in the research unit.

Under the leadership of the Director, Inpatient Nursing, a multi-disciplinary team convened to develop clinical study inpatient admission and staff education guidelines. A shared drive was implemented on the nursing computer network to provide inpatient study admission information access by multiple professionals. An inpatient research study acuity system was developed and implemented to provide registered nurse staffing guidelines and financial measurement of study support. Weekly inpatient admission planning meetings were implemented and are attended by research nurses, clinical nurse specialists and nurse managers.

January, 2004–June, 2004 nursing hours of care for Phase One inpatient admissions totaled 915 hours. The average weekly admission rate for Phase One study inpatients is 4–6 patients. Due to the pre-admission planning, computer study census tracking and weekly team meetings, no Phase One study patient admissions have been cancelled because of lack of bed availability.

The Registered Nurse is responsible for the coordination of the oncology study patient's admission and plan of care development and implementation. Successful strategies to enhance such coordination of care include the development of written admission guidelines, computerized patient tracking processes, development of a study patient acuity system and conducting weekly study patient admission planning meetings.

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TECHNIQUES TO DECREASE ATTRITION IN CLINICAL STUDIES. Mary Alice Tinari, MSN, RN, and Katie Stewart, MSPH, Health Educator, Fox Chase Cancer Center, Philadelphia, PA.

Symptom management of the cancer patient who is undergoing adjuvant therapies such as radiation and chemotherapy is a challenge and adversely affects quality of life (QOL). QOL research of cancer patients is often hampered by symptom burden resulting in high attrition rates. The attrition rates may reflect the burden of the symptoms being examined. Therefore, attention to attrition in symptom burden studies requires consideration.

The purpose of this presentation is to describe techniques to lower attrition in studies involving patients with high symptom burden and comorbidities. Attrition rates involving such patients deserve special attention in study designs. Effectiveness of interventions in a cancer patient population may be questioned with high attrition rates.

In an educational intervention study involving the management of fatigue and sleep disturbances, patients undergoing chemotherapy are being recruited. Retaining patients in this longitudinal study with complex data collection has been problematic for researchers. Consideration has been given for techniques to decrease attrition. Some of the steps taken are: providing subject a calendar of participant activities, color-coding questionnaires, and regular telephone contact with patients throughout study period to emphasize importance of adherence to study design (which also increases rapport of researcher and participant). Attrition rates will be evaluated on an ongoing basis in this study.

Reasons for patient withdrawal as well as patient complaints were considered. In addition, a literature review was performed regarding attrition in longitudinal studies. The literature confirmed the difficulty of retaining patients in complex and costly longitudinal studies. Practical suggestions are sparse in the literature. Researchers in the present study modified delivery of questionnaires and relationship to the subject without modifying study design.

Research of subjects suffering from life-threatening diseases is necessary to ease symptom burden. However, high attrition rates threaten validity of results and further emphasize the threat of symptom burden on quality of life. Creative and flexible study design is required to lessen patient burden when examining their disease experience.

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THE ROLE OF THE NURSE PRACTITIONER IN CERVICAL CANCER DETECTION—SERVING THE UNDERSERVED. Tuong-Vi Ho, RN, MSN, Alma Sbach, MSN, Karen Rabel, MSN, Michelle Follen, MD, PhD, Andrea Milbourn, MD, and Judith Sandella, MSN, M.D. Anderson Cancer Center, Houston, TX.

Cervical cancer is the second most common malignancy in women in the world. It is a major health problem in developing countries and especially in the underserved population here in the United States. Socio-economic status, language barriers, and lack of access to health care can have a great impact on the early detection and treatment of this potentially curable disease in the underserved population. Innovative methods are needed to provide this population with cervical cancer screening, risk identification, and education about risk-prevention and risk-reduction behaviors.

The purpose of this study was to evaluate the effectiveness of nurse practitioners' educational and cervical cancer detection clinical activities in the underserved populations.

A program was developed utilizing nurse practitioners (NPs), under the direction of a medical director, rotating to the county district hospital, women's clinic, and The University of Texas M.D. Anderson Cancer Center, where patients in the underserved population would likely seek health care.

Over a 6 month-period, NPs have evaluated 811 patients at the above sites. A total of 497 pap smears were performed, 40% of which had abnormal results. A total of 233 colposcopic directed biopsies were performed for abnormal pap smears and abnormal lesions, 67% of these biopsies had abnormal results. Seven cervical cancers were detected. Most patients diagnosed with high-grade dysplasia were treated onsite by the NPs with the loop electro-surgical excision procedure. A careful follow-up schedule was implemented for the patients, depending on the severity of the dysplasia. Cancer cases were referred to the gynecologic oncologist for treatment. NPs educated patients on health promotion, health-risk reduction, cancer prevention, and early-detection methods.

Oncology nurse practitioners can effectively educate and detect early cervical cancer in these at-risked and underserved populations. Although more research and innovative methods are still needed for a greater impact on these populations, it is clear that NPs can play a major role in their health care. This study can be served as a model for other intervention programs.

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ONCOLOGY NURSE PRACTITIONER FIRST RESPONDER PROGRAM. Jill Nelson, APRN-BC, OCN®, Caroline Kuhlman, APRN-BC, AOCN®, Jennifer Tenhover, APRN-BC, AOCN®, Erika Barrett, APRN-BC, Jeanne Griffin, APRN-BC, Nina Grenon, APRN-BC, Walter Howard, PA-C, Tracey Lafferty, APRN-BC, Thomas Lynch, MD, and Elizabeth Yung, APRN-BC, Massachusetts General Hospital, Boston, MA.

Oncology Nurse Practitioners/Physician Assistants can play a valuable role in the management of outpatient telephone triage in a very busy Boston hospital cancer center.

Massachusetts General Hospital Cancer Center is part of a large Boston teaching hospital. Over the last three years there has been tremendous growth and development in inpatient centers. At present there are over 40 full time clinicians, 10 oncology nurse practitioners, 2 physician assistants. Outpatient visits to the Cancer Center average 70,000 per year. The Cancer Center prides themselves in their multidisciplinary program for oncology fellow and prior to the establishment of the first responder program. The oncology fellow on call for the weekend, was responsible for all calls from 5 pm Friday–8 am Monday, averaging 200 calls/weekend. In addition to this they were responsible for new oncology and hematology consults, emergent admissions, and outside hospital transfers. The oncology nurse practitioners/physician assistants were approached with the thought of a pilot of having NP/PAs cover some of the call responsibilities. It was found that the majority of calls on weekends are for side effects, symptom management, and prescription refills, an area the oncology nurse practitioners specialize in. The pilot ran for 1 month, and was quickly adopted with great response.

A group of 3 nurse practitioners and 1 physician assistant met and volunteered to pilot the program for 1 month. The Cancer Center had established a bonus amount of pay for weekend coverage. The covering NP/PA, covers

all outpatient calls from 10 am–3 pm, allowing the fellow to do consults, admissions and transfers. Duties of the covering NP/PA include: answering phone calls in a timely basis, pain management, nausea and vomiting control, relief of constipation, speaking with hospice nurses in the field, triage of patients to the emergency room or outpatient infusion room.

At the year anniversary formal evaluation will be conducted of physicians, fellows, infusion nurses, and patients. The criteria will include: patient satisfaction, communication between patients and staff, staff satisfaction, outside agency collaboration, and care for emergent visits to Massachusetts General Hospital or outside hospitals.

Oncology Nurse Practitioners are uniquely skilled in symptom control and able to treat in a holistic manner. Large teaching institutions that have a fellow program could benefit from this type of weekend coverage.

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HOW THE ROLE OF A WOCN IN AN AMBULATORY CANCER CARE CENTER IMPACTS A PATIENT'S QUALITY OF LIFE. Beth Sferrazza, RN, BSN, CWOCN, Memorial Sloan-Kettering Cancer Center, New York, NY.

A WOCN (Wound, Ostomy and Continence Nurse) in an ambulatory cancer care center improves patients' quality of life by providing continuity of care. A WOCN specializes in the care of patients with ostomies, wounds, fistulas, vascular ulcers, pressure ulcers, and urinary and fecal incontinence. Many cancer patients have surgeries that lead to the creation of an ostomy. Some develop chronic wounds and/or fistulas from treatment or disease. Others develop wounds from incontinence, pressure ulcers or other co-morbidities such as diabetes or vascular disease.

The purpose of an ambulatory WOCN is to serve as a resource for patients in the home setting. The WOCN teaches, counsels, and treats difficult problems via consultative services to patients, clinical staff and community nurses. In a retrospective review of 164 patient's charts, Duchesne, Wang, Weintraub, Boyle and Hunt demonstrated a sixfold decrease in stoma complications where 95% of the patients were cared for by an E.T. nurse, also known as a WOCN. Similarly, Crumbley illustrated that a nurse managed outpatient wound care clinic an improvement in patient compliance, satisfaction and outcomes related to number and length of hospitalizations, decreased use of skin grafts and success in management of diabetic foot ulcers.

Preoperatively, the WOCN teaches basic ostomy care and marks for stoma placement in order to prevent stoma complications that can negatively impact a patient's quality of life. Postoperatively, the WOCN provides psychosocial support and teaches patients about ostomy management and diet, and suggests the best treatment for difficult or challenging wounds. The WOCN provides follow up care as needed.

Positive feedback from patients, physicians and nurses at a NCI designated cancer center has verified the positive impact of the ambulatory WOCN role.

Oncology patients often have chronic wound and ostomy needs requiring specialized care over a prolonged period of time. The ambulatory WOCN has the expertise to manage these conditions and is in a unique position to provide continuity of care on an outpatient basis. Access to the WOCN's direct patient care, consultative services, resources and information can be pivotal in improving a patient's quality of life.

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CRITERIA FOR THE ONCOLOGY NURSE PRACTITIONER TO WRITE ONGOING ANTINEOPLASTIC ORDERS. Sue Gardner, CRNP, AOCN®, Hematology-Oncology Associates, Allentown, PA.

The PA Nurse Practice Act allows nurse practitioners who are awarded prescriptive privileges to write antineoplastic drug orders. The employing institution of the nurse practitioner must also have policy/procedures allowing this process.

At Lehigh Valley Hospital, Allentown, PA, a multidisciplinary committee including medical oncologists, pharmacists, risk management and nurses was formed. The purpose was to review all policies and procedures affecting inpatient and outpatient chemotherapy/biotherapy orders. Rationale for the review was to look at every step of the process: from the writing of orders, to transcription, safe preparation and handling, through delivery to patients. The committee also sought to update forms and checklists, review credentialing of those involved in the process of writing orders, preparing and administering chemotherapy. The goal was to standardize care, and improve safety in each step of the process. Part of

the project was to develop criteria for nurse practitioners to write ongoing antineoplastic orders.

Five areas of NP expertise were listed for the committee to review: (1) Education and Licensure, (2) Certification, (3) Supervision, (4) Experience, (5) Quality Assurance.

After Risk Management reviewed the NP order-writing criteria, the Chemotherapy/Biotherapy Safety Assurance Committee approved the plan for NPs to write ongoing antineoplastic medication orders ("ongoing" defined as following the original treatment plan prescribed by the oncologist. The Medical Executive Committee then voted to add "writing ongoing antineoplastic orders" to the job description of NPs who meet the criteria and apply for such privileges.

Many nurse practitioners are employed in oncology care. Writing antineoplastic orders for cancer patients is an enormous responsibility. With stringent guidelines, nurse practitioners with the appropriate education, experience, and credentials can increase their utility to their employers/institutions by being approved to write ongoing antineoplastic orders. Such a project was undertaken by a committee at Lehigh Valley Hospital, Allentown, PA, with guidelines being developed as part of a total chemotherapy/biotherapy assurance project.

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ONCOLOGY APNS: IDENTIFYING AND BRIDGING THE GAP BETWEEN MEDICINE AND NURSING IN INPATIENT ONCOLOGY CARE. Judith Much, CRNP, AOCN®, Jennifer Henry, BSN, and Nicole Reimer, BSN, Lehigh Valley Hospital and Health Network, Allentown, PA; Patricia Shearburn, MSN, CNS, AOCN®, and Melissa Kratz, MSN, CNS, AOCN®, Lehigh Valley Hospital and Health Network/John and Dorothy Morgan Cancer Center, Allentown, PA.

With decreased funding for oncology care and the continuing nursing shortage, the gap between nursing staff and medicine on the inpatient unit is widening. Unfortunately, the patient "lives" where the gaps occur. Oncology APNs can provide a valuable service by identifying and bridging gaps.

In order to improve coordination of inpatient cancer care, this major community teaching hospital joined with its affiliated cancer center to support the hiring of an oncology NP. The role of the NP was to develop, pilot, and implement a collaborative practice model on the inpatient oncology unit where two private oncology practices (9 physicians) provide coverage. Evaluable outcomes include decreased costs, decreased variability between the two medical practices, improved clinical outcomes, decreased LOS, and improved patient, family and provider satisfaction.

An integral part of the role has been identification of areas where one could enhance both nursing practice and consistency of medical practice through the implementation of clinical pathways and order sets. After an initial observation period, the NP identified areas that could benefit from this structure. Questions of role overlap and differences between house staff, other oncology APNs and RN staff were addressed through the development of a collaborative practice model which was presented to a variety of key stakeholders. Implementation of the collaborative role began July 1.

Pre-intervention satisfaction surveys were developed and data analyzed from both patient/families and providers. Surveys from the provider group revealed areas of dissatisfaction with inpatient care practices. The surveys also indicated broad based support for and interest in the project. Pre intervention financial data has also been analyzed. Post intervention data will be collected in 6 months.

Oncology NPs can join with their CNS colleagues and other care team members to close the gap in care, coordination, and communication created by the nursing shortage and financial constraints. Outcome data gleaned from APN interventions will make an important contribution to the Oncology Nursing literature.

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IMPROVING CARE DELIVERY: THE ROLE OF THE ADVANCED PRACTICE NURSE IN PERFORMANCE IMPROVEMENT. Darcy Burbage, RN, MSN, AOCN®, and Stephanie Cooper, BS, RT, Christiana Care Health System, Newark, DE.

The role of the Advanced Practice Nurse (APN) continues to evolve with choices in practice settings as well as in role delineation. Oncology APNs serve in many capacities, such as in clinical practice, education,

research, and management. One role that links each of these areas is in the realm of performance improvement (PI). The Joint Commission on Accreditation of Healthcare Organizations (JCAHO, 2000), defines PI as "a process by which specific, meaningful, high-priority outcomes are achieved through a carefully chosen, strategically driven, values-based, systematic, organization-wide approach."

In an effort to improve the care of persons with breast cancer at Christiana Care Health System (CCHS), the role of the performance improvement coordinator was developed. Prior to the development of this role, the ability to monitor patients throughout the continuum of care was only possible through manual systems on a case by case basis or via electronic systems that did not interface with each other.

Utilizing the Plan, Do, Check, Act (PDCA) model, an interdisciplinary team was formed to develop and implement an electronic database to address this issue. Under the leadership of the Oncology APN, the team requested that all patient information be available in one system where clinicians, management, and database analysts can easily access this information. Phase One monitors patients who have screening and diagnostic studies performed. Phase Two follows the atypical and malignant cases through definitive surgery, adjuvant therapy, rehabilitation, and end of life care.

Since the development of this system, the team has been able to electronically monitor the percentages of sentinel lymph node biopsies performed, the number of breast re-excisions performed, and side effects experienced. Because of the ability to collect data in real time, we have been able to assist the tumor registry in their regulatory requirements thus saving time and improving resource allocation. In addition, newly diagnosed patients with breast cancer are being seen earlier by supportive services, allowing for prompt intervention.

Future plans of the database are to design patient education materials relevant to the standards of care defined by CCHS as well as to revise our breast cancer report card.

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CNS AND NP COLLABORATION FOR DEPRESSION MANAGEMENT. Caryl Fulcher, MSN, RN, CS, Duke University Health System, Durham, NC.

It is not uncommon to see patients being treated for depression concurrent with their cancer treatment. Often the antidepressant medications are prescribed by oncology providers, rather than by mental health providers. Therefore, it is especially important to assure that attention is given to managing the patient receiving medication for depression.

A psychiatric Clinical Nurse Specialist (CNS) working in an oncology setting is in an ideal position to assist the oncology Nurse Practitioner (NP) in the management of cancer patients with comorbid depression. Specifically, these two professionals can collaborate to stay abreast of new psychiatric medications, to select appropriate medication, and to monitor for side effects and therapeutic results.

In the adult stem cell program in our university medical center the day-to-day management of the patients is by NPs under the supervision of an attending physician. Some of the patients come to transplant already taking an antidepressant; others are identified as depressed and in need of one during the course of their treatment. Although the NP orders this medication, systematic dose adjustments and objective symptom assessment is often not the priority for the busy NP during the complex transplant trajectory. Often few antidepressant dose adjustments are made.

This abstract describes a collaborative model to treat depression in an adult stem cell transplant population.

Documented target symptoms and antidepressant medication data was collected on patients receiving antidepressants for a one-month period. Individual interviews with the oncology NPs were then conducted identifying learning needs and perceived areas for collaboration. A class was planned to provide information about new antidepressant medications and practice guidelines for prescribing and discontinuing the medications. Handouts were provided, and ways of utilizing the CNS's assistance were reinforced.

Following the class, data were again collected for one month to determine changes in practice. Results of this analysis will be shared.

A collaborative approach involving the NP and psychiatric CNS to assess the patient for depression, determine past psychiatric history, identify target symptoms and assist in the selection and dose adjustment of appropriate medication allows for successful depression management in cancer patients.

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NEW PRODUCT INTRODUCTION: THE PHARMACEUTICAL CLINICAL EDUCATOR'S ROLE. Susan Temple, RN, MSN, AOCN®, GlaxoSmithKline Pharmaceutical Company, Philadelphia, PA; Barbara Poniatowski, MS, RN, C, AOCN®, GlaxoSmithKline, Baltimore, MD; and Cynthia Umstead, MS, RN, OCN®, GlaxoSmithKline Pharmaceuticals, Townsville, NC.

Recent advances in the management of oncology patients includes new chemotherapeutic and biologic agents with novel mechanisms of action. Nurses responsible for administering and managing these patients must have a comprehensive understanding of these agents including dosing, mechanism of action, side effects, and management of side effects. The Pharmaceutical Clinical Educator (PCE) plays a key role in assuring that correct information is disseminated to customers both internally and externally.

It is critical that healthcare professionals preparing and administering new drugs and the consumer receiving a new drug receive accurate and timely information about a new product. The Pharmaceutical Clinical Educator (PCE) plays a key role in assuring that correct information is disseminated to customers both internally and externally.

Prior to a new drug launch, the PCE assists in preparation of materials/programs to educate sales representatives who distribute the majority of information about the new product to health care practitioners. An assessment of sales representative's educational needs drives the preparation of these materials/programs. The materials focus on epidemiology and physiology of the disease state, identification of appropriate and inappropriate patients who may have an indication for the drug, healthcare professionals preparing and administering the drug, drug indication, clinical trials outcomes, and adverse event data. Prepared materials are presented to sales representatives through numerous venues—didactic presentations, discussion groups, role-play scenarios, and written modules. The goal of training is to prepare the sales representative to provide accurate, detailed information to healthcare professionals and consumers. In conjunction with and after completion of the sales representatives training, the PCE's focus includes healthcare professional and advocacy group education. Continuing education programs are developed by the PCE and presented to a variety of healthcare professionals including nurses, pharmacists and physicians. Patient education focused materials and programs are also developed.

Program development and interventional strategies are defined; programs delivered are evaluated and tracked.

Through the organized efforts to educate sales representatives, healthcare professionals, and advocacy groups, products are introduced in a process that promote safe and effective use of a new drug or product.

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NURSING IMPLICATIONS IN MANAGING GRAFT VERSUS HOST DISEASE IN NONMYELOABLATIVE HLA-HAPLOIDENTICAL TRANSPLANTS IN THE OUTPATIENT SETTING. Sallie Brovitz-Palmer, RN, BSN, OCN®, and Mary Ellen Reese, RN, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; and Michele Phelps, RN, BSN, The Johns Hopkins University, Baltimore, MD.

Standard allogeneic transplant can be used to treat a variety of hematologic malignancies. However, this is not an option for many patients because they lack an HLA-matched donor or the toxicity of the procedure outweighs the benefit. Nonmyeloablative HLA-haploidentical (mini-haplo) transplants offer patients another option. The preparative regimen of these transplants uses combinations of chemotherapy and/or radiation to suppress the patient's immune system sufficiently to allow engraftment of donor cells alongside recipient stem cells. Mini-haplo transplants rely mainly on graft versus leukemia (GVL) phenomenon for their anti-tumor effect. The outward sign of GVL is often graft versus host disease (GVHD). The nurse's ability to recognize and respond to GVHD is essential in caring for these patients in the outpatient setting.

The purpose of this presentation is to heighten awareness of GVHD as an issue for mini-haplo transplants in the outpatient setting. These patients do not always present with typical GVHD. Through education of both patients and families and by using a multidisciplinary team approach, GVHD can be effectively detected and treated in the outpatient setting.

In our outpatient mini-haplo transplant program patients are managed by the multidisciplinary GVHD team. Families and patients are

taught signs and symptoms of GVHD as well as skin care. Lab values and immunosuppressive drug levels are closely monitored. Skin assessments are performed at each appointment and biopsies are obtained as warranted. Prompt grading and treatment is done using the modified keystone criteria.

Nurses analyze patient data, assess patient/family ability to learn, and their understanding of individual treatment and needs to determine if further assessment and referrals are needed. By detecting and treating GVHD early, mini-haplo transplant patients are more compliant with their treatment, have less sequelae, use fewer resources, and have an overall higher satisfaction level secondary to remaining in the outpatient setting.

With expert oncology nurses promoting awareness and early detection of GVHD as part of a multidisciplinary team, mini-haplo transplant patients can be safely managed in the outpatient setting.

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THE ROLE OF PHOTOPHERESIS IN MANAGING CHRONIC CUTANEOUS GRAFT-VERSUS-HOST-DISEASE IN ADULTS AND CHILDREN. Maryanne Bardsley, RN, BSN, OCN®, and Kathleen Stiffler, RN, BSN, Tufts-New England Medical Center, Boston, MA.

Graft-versus-Host-Disease (GVHD) is a life threatening complication of hematopoietic stem cell transplantation. Early recognition and treatment strategies are essential to improve outcomes, and enhance quality of life. Nurses play a significant role in the early detection and management of these patients.

The purpose of this presentation is to describe the mechanism of photopheresis in targeting GVHD. It is believed that the persistence of host dendritic cells is responsible for severe acute and chronic GVHD. Photopheresis modulates both active T cells and host dendritic cells to produce an overall decrease in TH1 inflammatory cytokine production resulting in little or no GVHD.

To address cutaneous GVHD in our institution, we administer photopheresis to patients for months to years with excellent clinical outcomes. Photopheresis is administered to steroid and immunosuppressant refractory patients experiencing acute and chronic GVHD. Photopheresis is an extracorporeal leukopheresis treatment performed through a large bore catheter. Nursing care involves careful patient assessment and monitoring to ensure a successful treatment.

It may take months (3–6 months) to see a response and treatment may last up to 2 years. Although evaluation is subjective, patients in our institution have progressed from debilitating contractures to complete mobility. This improvement in functional status is critical to quality of life for our patients.

GVHD occurs in 30%–80% of patients depending on HLA matching, age, and relationship to the donor. Early recognition of GVHD includes rash identification, mucosal dryness or scleroderma type skin changes. We will show via case study the therapeutic benefit of photopheresis. Early recognition and treatment is key to improving and sustaining quality of life. Nursing research is needed to develop a standardized assessment tool to evaluate cutaneous changes during this therapy. Photopheresis offers new hope in treatment of GVHD, with virtually no adverse effects. It needs to be considered as a viable treatment option for cutaneous GVHD.

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ANALYSIS OF THE INPATIENT NURSING MANAGEMENT OF PATIENTS UNDERGOING NONMYELOABLATIVE CONDITIONING AND PARTIALLY HLA-MISMATCHED BONE MARROW TRANSPLANTATION. Jody Acheson, RN, BSN, and Tracy Douglas, RN, MSN, OCN®, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; Michele Phelps, RN, BSN, The Johns Hopkins Hospital, Baltimore, MD; Saundra Johnson, RN, MS, The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, Baltimore, MD; and Ephraim Fuchs, MD, The Johns Hopkins University, Baltimore, MD.

Standard allogeneic hematopoietic stem cell transplantation (HCT) requires high dose conditioning regimens that may result in severe organ toxicity. Non-myeloablative allogeneic HCT minimizes the toxicity from the preparative regimen by using less toxic doses and drug combinations. Less than 50% of potential HCT candidates are transplanted due to the lack of available human lymphocyte antigen (HLA) matched sibling donors. The use of partially HLA-mismatched, or haploidentical, donors expands the donor pool and allows more patients an HCT treatment

option. Our comprehensive cancer center is participating in a National Cancer Institute-sponsored phase I/II trial, non-myeloablative haploidentical HCT. These transplants occur in an outpatient setting; however, a majority of these patients are admitted at various points during their transplant course.

Inpatient nurses who practice in HCT are continually challenged by new research and expansion of this treatment option. The purpose of this presentation is to outline the reasons for patient admissions, which lead to inpatient nursing management after non-myeloablative haploidentical HCT.

We identified the reasons for admission and associated nursing problems for patients that had undergone non-myeloablative haploidentical HCTs between January 2000 and June 2004 in our outpatient transplant clinic.

Approximately fifty outpatients underwent non-myeloablative conditioning and received haploidentical HCT from January 2000 until June 2004. The majority of these patients were admitted for short periods of time for acute management of fever and neutropenia, graft-versus-host disease, documented infections, comorbid disease processes, disease relapse or progression, and unusual presentations of common transplant-related complications.

Patient admissions after non-myeloablative haploidentical HCT have created new nursing challenges. These patients are often admitted unexpectedly in the middle of their treatment plan. The inpatient nurses help patients and families adapt to inpatient norms while preparing patients for discharge once acute symptoms are managed. As a result, standard nursing care of common complications becomes more complex as inpatient nurses must coordinate physical and psychosocial care for patients in a new setting in the middle of their treatment plan. Identifying complications leading to admission helps nurses understand and respond to the needs of this growing HCT population.

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EFFECTIVE MANAGEMENT OF CHRONIC GRAFT VERSUS HOST DISEASE (GVHD) IN THE ALLOGENEIC BMT PATIENT. Denise Rutkowski, MSN, RN, CRC, Pam Pappham, MSN, and Karen Monaco, RN, Roswell Park Cancer Institute, Buffalo, NY.

Chronic GVHD can affect as many as 50%–60% of allogeneic BMT patients. After the first 100 days of transplant is when the disease is defined as chronic. There is a higher incidence for the development of chronic GVHD in those who have had acute GVHD. The degree of HLA matching and age of the recipient can impact the development of chronic GVHD.

- Patients with limited chronic GVHD have a much favorable prognosis and outcome.
- Patients with extensive chronic GVHD have a much less favorable outcome. There is multi organ disease involving the liver with aggressive hepatitis, necrosis or cirrhosis.
- The most important complication associated with chronic GVHD is immunodeficiency. This leads to the susceptibility of a wide range of opportunistic infections and frequently to death.

The purpose of this abstract is to outline the integral role of the outpatient oncology nurse in managing the side effects of Chronic GVHD.

1. Administration of standard immunosuppressive drugs
2. Strict monitoring of blood levels to maintain therapeutic levels of immunosuppressive drugs maintaining normal blood chemistry levels along with normal hemoglobin and platelet counts.
3. Thorough nursing assessment of the patient looking for abnormalities or changes associated with chronic GVHD.
4. Use of antimicrobial, antiviral and antifungal prophylaxis to prevent and/or minimize infectious complications that may prove to be catastrophic to the patient.
5. Supportive care measures to help maintain quality of life.
6. Educating the patient and family regarding signs and symptoms of chronic GVHD and the importance of immediate intervention.

The allogeneic BMT patients will be evaluated to determine if chronic GVHD has impacted their Quality of Life. Evaluation will include close monitoring of the patients' physical and psychological condition along with re-admission data. Evaluation may include review of alternate therapies for managing side effects. The Oncology Nurses role in the outpatient setting is critical to assisting the patient to optimize self care activities and quality of life.

Managing the severity of the side effects can impact the outcome of GVHD. Most patients recover from chronic GVHD, some symptoms may persist even after the disease has been completely resolved. There is continual investigation in new ways to prevent and better manage chronic GVHD.

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MENOPAUSAL CONCERNS OF BREAST CANCER SURVIVORS: CLINICAL EXPERIENCE AND REVIEW OF THE LITERATURE. Martha Beck, RN, MS, FNP-C, M.D. Anderson Cancer Center, Houston, TX; Pamela Schultz, PhD, RN, New Mexico State University, Las Cruces, NM; and Rena Sellin, MD, M.D. Anderson Cancer Center, Houston, TX.

Because of the continuing progress in diagnosis and treatment, more cancers can be cured and cancer survivors are living longer. Survivors are encouraged to have cancer-specific medical evaluations to monitor and treat long-term side effects resulting from cancer therapy. Treatment of menopausal symptoms in breast cancer survivors by the advanced practice nurse helps to define outcomes in a clinical practice and creates a partnership for future research.

The purpose of this paper is to describe long-term follow up breast cancer survivors in the context of a specialized medical clinic at the University of Texas M.D. Anderson Cancer Center known as Life After Cancer Care (LACC). Three learning objectives are:

(1) to recognize climacteric symptoms and menopause related health conditions that treatment may present; (2) to describe appropriate follow up measures; (3) to provide long-term oncology follow up care, which is congruent with a holistic nursing approach.

Two hundred eighty eight menopausal breast cancer survivors were seen in the LACC medical clinic during a four-year period. The average age at diagnosis of breast cancer was 51, and the average age at clinical visit was 57. Each patient was clinically evaluated and appropriate laboratory and imaging studies were ordered as needed. The primary motivation for visiting the clinic was to address vasomotor instability, vaginal atrophy, and skeletal health issues. Non-hormonal treatment measures were initially suggested. Hormone replacement therapy was prescribed in unique situations.

Menopausal related health concerns are frequent in breast cancer survivors. Non-hormonal interventions generally provide sufficient treatment. This type of clinic falls under an advanced practice nursing role, however, there are implications for all nurses who work in a clinical setting.

Nurses should be better able to assess the patient's menopausal status and ask questions about issues such as vasomotor instability, genitourinary atrophy, and skeletal health. It is also important to note that the concept of menopause, and the premenopausal, perimenopausal, and postmenopausal stages are individual and differ from person to person. Therefore, nurses should assess for menopausal signs and symptoms regardless of the age of the patient, especially in the breast cancer survivor.

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PREFERENCES FOR ORAL VERSUS PARENTERAL ANTITUMOR THERAPY: A SURVEY OF PATIENTS WITH METASTATIC BREAST CANCER. Neil Love, MD, Research to Practice, Miami, FL; Karen J. Stanley, RN, MSN, AOCN®, FAAN, Self-Employed, Greenwich, CT; Jennifer Love, BS, and Richard Kaderman, PhD, Research to Practice, Miami, FL; Douglas Paley, BA, Self-Employed, Miami, FL; and Michelle Paley, MD, Research to Practice, Miami, FL.

Oral and parenteral therapies used to treat patients with metastatic breast cancer often have similar risk-to-benefit ratios, particularly in the context of palliative treatment. Oncology nurses often assume that patients prefer oral therapy because of perceived inconvenience and discomfort associated with parenteral therapy. However, the life circumstances and biopsychosocial milieus of patients with metastatic breast cancer are complex, and oncology nurses should explore treatment options with patients so needs and preferences can be individualized and honored.

The objective of this evaluation was to determine patient preferences with regard to route of administration. This information enables oncology nurses to assist in individualizing treatment, serve as effective patient advocates and educate patients regarding treatment options.

Patients with metastatic breast cancer—recruited nationally via oncology offices and support groups—voluntarily participated in a 250-item

anonymous telephone interview. Two new treatments of equal efficacy and tolerability were presented, and patients were asked their preferences for the route of administration. The survey attempted to correlate these preferences with lifestyle factors and attitudes.

154 patients with metastatic breast cancer (153 females, 1 male, mean age 56.7 years) were interviewed. Overall, 65% preferred oral chemotherapy, 28% intravenous chemotherapy, and 7% were neutral. Similarly, 56% preferred oral endocrine therapy, 35% intramuscular endocrine therapy, and 9% were neutral. Patients preferring parenteral therapy cited concerns about compliance (40%), dislike of oral medications (30%), the belief that parenteral therapy is more effective (61%), the emotional support received during parenteral therapy (61%), and convenience (72%). Patients who spent <15 minutes traveling to the oncologist's office were more likely to prefer parenteral therapy (47%) than those traveling >15 minutes (22%). No correlation was observed between patient age and treatment administration preference.

A substantial percentage of patients with metastatic breast cancer prefer parenteral therapy. The biopsychosocial determinants of these preferences are complex and not age-correlated. In situations in which two comparable treatment options are available, the oncology nurse must not presume patient preference but rather educate patients about available options, support informed decision-making and choice regarding treatment preferences.

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UNCERTAINTY: PATIENT DECISION MAKING IN BREAST CANCER. Deborah Arvidson-Hawkins, RN, BSN, ONC, H. Lee Moffitt Cancer Center, Tampa, FL.

Decision-making is a rapidly growing patient need. Historically, nurses have helped patients across a range of health issues, from acute care to self-care. Oncology nurses are challenged to assist patients to make informed and beneficial treatment decisions having uncertain outcomes.

The purpose of this presentation is to highlight the concept of uncertainty when educating patients. Randomized clinical trials have provided clear statistical estimates of cancer mortality and survival benefits. Clinical trial data is encouraging, however, complexity of decision-making has increased. Understanding numerous available treatment options can confuse patients. Understanding treatment risks and benefits to survival is integral in decision-making. Patient's perception of their role in decision-making is important in determining factors that, in their view, facilitate or restrict participation. Decisions are generally made immediately before or soon after surgery; a time of great stress. After the acute treatment phase, patients live with possible recurrence, and some with chronic illness. Preferences about degree of control over decision-making are difficult to determine; patients may not know. Patients look to oncology nurses for help understanding the choices offered by oncologists. Mishel's reconceptualized uncertainty in illness theory states that in the probabilistic paradigm, uncertainty is viewed as natural, and an inherent part of reality, life is not assumed to be determinable with precision. Accepting uncertainty opens doors to consider multiple possibilities since nothing is certain or universal.

A review of the literature revealed key points oncology nurses can consider when talking with patients; the role a patient wants or may feel they can take part in, determining patient understanding, recognizing opportunities to correct misunderstandings and misconceptions, building on patient's knowledge base, and work at understanding ways to communicate statistical benefits to survival.

Participants will gain understanding of the concept of uncertainty and develop strategies to improve comfort level with the decision-making process.

Patients are faced with treatment decisions that have uncertain outcomes. Survival benefits are changing. Today's choice may turn out to be better than, equal to, or not as good as others taken. Acknowledging uncertainty can remove barriers to trust, clearing the way for oncology nurses to communicate, teach, and guide.

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PROSTATE CANCER STAGING: ENDORECTAL MAGNETIC RESONANCE IMAGING. Mary Schoen, RN, MSN, MPH, OCN®, and Brooke Kaplan, RN, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

Prostate cancer staging is currently being done by digital rectal examination, serum prostate-specific antigen level, and imaging techniques such as

transrectal ultrasound and bone scan. Endorectal magnetic resonance imaging (EMRI) has emerged as another imaging tool, proven to be valuable in determining the location of the tumor, predicting the extent of disease, extracapsular extension, seminal vesicle invasion and lymph node involvement. Results of the EMRI can affect surgical and radiation treatment planning and guide the extent of cryotherapy. Nurses are integral in educating patients regarding the rationale of the EMRI and preparing them for the study.

The EMRI uses nonionizing radiation in the presence of controlled magnetic fields to produce high quality cross-sectional images of the prostate and periprostatic area. The balloon covered endorectal coils allow for even further enhancement. Historically, variable results had been reported for the use of the EMRI in staging prostate cancer. However, with the emergence of disease-targeted therapies such as interstitial brachytherapy, intensity-modulated radiotherapy, nerve-sparing surgical techniques and cryosurgery, the ability to pinpoint the location of the cancer within the prostate gained a new importance.

Nursing education before and after the EMRI is crucial. Well informed patients are better able to make treatment decisions. Nurses play a pivotal role by providing information in preparing for the EMRI and helping the patient interpret the physician's explanation of the test results.

The EMRI continues to evolve in the diagnostic evaluation of prostate cancer. Teaching the patient about how the EMRI is performed, the length of the procedure and the sensations that may be experienced during the test helps to reduce patient concerns and promote patient cooperation during the study.

This abstract is an overview of the EMRI, its application in prostate cancer and the role of the ambulatory care nurse, including the nursing education plan and the written patient education materials developed. As patients attempt to sort out the myriad of information given them regarding diagnosis, staging modalities, and treatment options, nurses have the opportunity to help the patient process the information, answer questions and be a focal point during an overwhelming time.

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IDENTIFYING COMPLEMENTARY & ALTERNATIVE MEDICINE (CAM) USE IN MEN: AN EVIDENCE BASED MODEL FOR PATIENT EDUCATION. Janet Cogswell, RN, MS, CNS, AOCN®, Shirley Hwang, RN, MSN, Lourdes Duque, RN, MSN, and Erma Morales, RN, MSN, VA New Jersey Healthcare System, East Orange, NJ.

Approximately 40% of cancer patients are reported to use CAM. The broad definition of CAM makes a comprehensive approach to patient education impractical. To develop an evidenced based patient education packet on CAM for veterans registered in the hematology-oncology clinics, a survey was undertaken to identify the scope and prevalence of its use and demographic data. Full Institutional Review Board approval and informed consent from each patient were obtained.

The purpose of this study was to improve patient education on CAM by developing materials based on a set of frequently used therapies which would then target the specific needs of the population served. This evidenced based approach maximizes the utilization of available resources of nursing time and the patient education budget while best meeting patient needs. In addition, if the demographic profile and CAM use by this population matched that in other studies, literature based strategies could be utilized in the future.

A convenience sample of 99 veterans in outpatient clinics and the inpatient ward were surveyed for the use of 99 specific therapies from 6 broad categories which had been identified through a literature search. Demographic data was collected for age, diagnosis, education level attained, CAM expense incurred, other patient education sources utilized and perceived patient needs regarding CAM.

Overall CAM use by male veterans was 50% which is similar to reported levels of use in general. The specific therapies used differed with the following prevalence and frequency identified: 1% alternative medicine, 2% nutrition and special diets, 5% manipulative & body based methods, 0% mind-body interventions, 44% biologically based therapies, and 0% energy based therapies. 75% of surveyed veterans identified CAM use as a patient education need they wanted the RN to address.

A specific set of CAM used by veteran cancer patients was identified. This data provided the basis for the development of materials which target biologically based therapies with an open-ended item for other therapies. Both the packet education packet and the nursing tool will be presented.

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THE NEW PRE-OPERATIVE SEDATION: IMPLEMENTATION OF AN INNOVATIVE MUSIC PROGRAM IN THE PRE-SURGICAL CENTER AT A MAJOR CANCER CENTER. Leonore DeLince, RN, BA, BSN, Christine Gillins-White, RN, BSN, and Kevin Browne, RN, MS, CCRN, Memorial Sloan-Kettering Cancer Center, New York, NY.

Music has long been recognized as therapeutic by healthcare practitioners. Aristotle used music to ease the suffering of psychiatric patients during acute manic episodes. Florence Nightingale noted that musical instruments capable of continuous sound could soothe the sick. Despite extensive pre-operative education, support and reassurance, patients continue to experience anxiety in the pre-operative setting.

At this NCI designated Comprehensive Cancer Center, the standard of care was to administer a pre-operative sedative on call to the O.R. The oncology nurses in the Pre-Surgical Center, who specialize in patient assessment, education and establishing plans of care, believed there was an alternative way to reduce patient anxiety in the pre operative setting. A team of perioperative nurses developed a music program as an alternative to prescribed sedation.

The music program consists of a music menu containing 44 selections, 8 CD players and request forms. Patients select from the music menu those CDs they would like to listen to during the perioperative experience. The menu's choices range from Classical, Relaxation, Religious, Subliminal, Popular and R&B.

Since January 2003, the Pre-Surgical Center nursing staff has provided more than 6,117 ambulatory surgical patients the option of our music program. To date 374 ambulatory patients have taken advantage of the program.

In June and July 2004 the staff provided a questionnaire to 25 patients who utilized the program. Of the patients who responded, 75% found the music program helped them relax, decreased their anxiety and served as a distraction in the pre operative setting. 13% suggested that we offer more variety.

Our "grass roots" music program is a non-invasive nursing intervention that reduces anxiety thereby helping patients in the pre operative setting. Billy Joel composer and musician said it best "I think music in itself is healing. It's an explosive expression of humanity. It's something we are all touched by. No matter what culture we're from, everyone loves music."

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CREATION OF A NEW ONCOLOGY NURSING CARE DELIVERY SYSTEM. Jane Caplinger, RN, OCN®, and Janice Ditri, RN, William Beaumont Hospital, Royal Oak, MI.

Inability to provide hospital equipment, supplies, services, and staff in close proximity to the patient is a common problem resulting in increased length of stay and reduced patient satisfaction. Barriers to provide patient focused care include hospital structure, resistance to change, complexity of the current hospital systems and cost. The Oncology Nursing Society's practice standards support evaluation and implementation of activities to enhance the effectiveness and quality of oncology nursing care. Effective nursing care delivery systems will improve efficiency, effectiveness, and quality of patient care.

The purpose of this project is to improve the delivery of patient care on a 48 bed adult inpatient oncology unit in a large metropolitan area teaching hospital through construction of a new patient care tower and an interdisciplinary approach to changing hospital systems. Aggregated patient satisfaction survey results identified the need for change in the nursing care delivery system. Patients' length of stay was higher than our peer group as reimbursement continued to decline. Quality indicators, including pain documentation and patient fall rates, reinforced the need to keep staff nearer the bedside. Increasing oncology patient acuity and complexity of care necessitated system changes to promote patient safety.

Interventions included baseline delivery system evaluation; interdisciplinary team formation; literature review of best practices; visiting hospitals with best practice standards; identification of space needs and system changes; piloting strategies designed to improve patient care delivery (pyxis medication administration, putting forms on line and eliminating paper stock, assignment and report redesign, implementation of nurse call system with cell phones, etc.); and extension of innovations throughout the institution.

Patient satisfaction will be measured by retrospective review of Press Ganey Survey results. Oncology Unit patient length of stay will be compared to pre-implementation statistics and peer group. Clinical and staff outcomes will be measured by retrospective audits of staff documentation (pain) and fall variance reports.

A well-designed nursing care delivery system enhances quality of patient care through implementation of structural and system changes to focus on the patient. Other hospitals may adopt this approach to create superior patient care outcomes, to improve nursing practice and patient satisfaction.

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BRIDGING THE GAP: DESIGNING AN ONCOLOGY NURSING CONSULT SERVICE. Janet O'Connor, RN, BSN, MHA, Brigham and Women's Hospital, Boston, MA; and Genevieve Conlin, MS/MBA, CCRN, Susan Decristofaro, RN, MS, Suzelle Saint-Eloi, MS, RN, Cinda Gaumer, RN, MS, and Patricia Reid-Ponte, RN, DNSc, FAAN, Dana-Farber Cancer Institute, Boston, MA.

Many of the educational and care provision needs of oncology patients are unique and require specialized nursing knowledge. When oncology patients are admitted to non-oncology units in a hospital, the availability of an Oncology RN Liaison can ease the anxiety of patients, their families and the nursing staff on those units.

Within the Dana-Farber/Brigham and Women's Cancer Care (DF/BWHCC) Program, an Oncology Nursing Consult Service team was established to identify and create mechanisms to support the ongoing healthcare needs of oncology patients and their families during the cancer care experience.

An ONSC team, consisting of representatives from the patient care services and the patient and family council from the DF/BWHCC, gathered and researched many aspects of the care experience of those patients admitted to the non-oncology designated beds at the BWH. Analysis of volume statistics, interviews of nursing staff, telephone surveys of patients post discharge and comparisons of patient satisfaction data, revealed the unique needs of these patients and their families. The team initially focused on the needs of the medical oncology patients admitted to the non-oncology patient units. There were issues concerning coordination of care, lack of visibility of specialized physicians and support services and disparity in the quality of nursing care and patient education.

The data showed that those patients located on non-oncology units did not receive the same level of oncology specific nursing care, education, support services and follow-up as those patients who were admitted to the (79) designated medical oncology beds at BWH. The ONSC team proposed that a full time registered nurse (RN) position be created that will provide a specialized RN liaison for patients admitted to the non-oncology units and their families. This liaison will evaluate these patients' clinical, educational and psychosocial needs, prioritize patient placement and coordinate educational activities.

An oncology RN liaison can play a pivotal role in ensuring that the quality of patient care and education is the same for all cancer patient within an institution, regardless of where (which type of unit) they are receiving care.

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CHEMOTHERAPY PATIENT CALL BACK QI PROJECT. Brenda Frye, BSN, OCN®, and Nellee Fine, RN, BSN, MA, AOCN®, Lahey Clinic Medical Center, Burlington, MA.

One of the primary roles of the Oncology clinic nurse is to assess patient's response to antineoplastic therapy. Nurses instruct patients to report treatment side effects and are reliant on patients to contact them appropriately for post therapy problems/concerns.

Phone calls from first time chemotherapy patients receiving have been increasing. From the questions these patients asked the Nurses suspected that the instructions given after therapy were not meeting the patients informational and emotional needs. A "Call Back Survey" of first time therapy patients was piloted. Data was gathered on patient post treatment response which after analysis provided strategies to improve care outcomes.

Nurses phoned first time treatment patient 48-72 hours post therapy and utilized a brief 8 item survey tool to structure phone assessment. The study period for this pilot study was 6 weeks and 32 patients response were reportable.

There were 5 care outcomes assessed: Wellness, Appetit, Nausea, Fluid Intake, and Sleep.

Results as followed, Wellness—60% felt well, 40% felt unwell, Of note—31% of patients who reported feeling "well" reported nausea. Nausea—26 out of 32 patients were given drugs of moderate to moderate-severe emetic potential, 14 out of 32 had nausea. Of Note—100% were given scripts and instructed to inform RN of nausea. 12 took no meds, 3 had nausea. Only 19 (59%) took meds as ordered, and 7 of the 19 compliant (38%) had nausea. Appetite and Fluid Intake—27 out of 32 reported adequate fluids. 25 reported good appetite. 7 had issues with eating and drinking. Sleep—11 out of 32 (35%) didn't sleep well. 5 unknown, 3 because of pain, 2 Nocturia, and 1 patient had a pump. Mouth care 50% were compliant with mouth care, 33% were not doing mouth care. Analysis from scheduled Call Back—Enhanced patient satisfaction, patients felt "cared for," Appreciated the "extra effort." 100% reduction of calls from first time treatment patients. which improved post-treatment management, Enhanced safe drug administration and patient monitoring by reducing interruptions. Plan to reassess the survey tool, and repeat study with larger population, and more defined questions. Example, ask patients why they did not take medication as prescribed, (40% noncompliant).

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AN EVALUATION OF NURSING ACTIVITIES DURING CHEMOTHERAPY INFUSION OF VARIOUS DURATIONS. Astra Liepa, PharmD, Eli Lilly and Company, Indianapolis, IN; James Piercy, Gareth Lane, Suzanne Finch, Adelphi International Research, Macclesfield, Great Britain; and Linda Battiato, RN, MSN, OCN®, Hoosier Oncology Group, Indianapolis, IN.

Administration of chemotherapy by nurses involves multiple steps. These include administering pre-medications, verifying drug doses, monitoring patients during infusion, and consultation. Nurses often perform other clinic tasks while attending to patients receiving chemotherapy, particularly during the infusion itself. While pre- and post-infusion activities and their durations are assumed to be similar, actual infusion times vary among regimens. The impact of differences in infusion time on nursing productivity is not well understood.

The purpose of this project was to evaluate nurse activities during chemotherapy administration of various durations of infusions.

This study was conducted by direct observation of nurses during administration of chemotherapy in outpatient clinics. Data collected included scheduled and actual infusion times, tasks performed by nurses, and the associated time spent in these tasks.

Chemotherapy infusions (N = 227) were observed in 16 clinics in Canada, France, and the United Kingdom. On average, the daily nurse to chemotherapy patient ratio was 1:6. The study focused on patients with solid tumors, and included mainly lung, colorectal and breast cancer patients. Only 8% were receiving chemotherapy for the first time. 49% received only a single drug on the study day; the others received a series of drugs. As expected, pre- and post-infusion times did not vary based on infusion duration, taking approximately 20 and 15 minutes, respectively. On average, infusions scheduled for <= 20 minutes were completed within 2 minutes of scheduled time, but those scheduled for 30-60 minutes took 7-10 minutes longer than scheduled. For infusions <= 15 minutes, nurses rarely performed activities not related to the patient. As infusion duration increased, nurses spent increasingly lower proportions of the total infusion time with the patient. With longer infusions, nurses attend to other patients and perform administrative tasks such as telephone calls and charting.

Chemotherapy with a short infusion appears to have more predictable nursing time with fewer interruptions in individual patient care. However, chemotherapy with a longer infusion allows nurses to attend to multiple patients and to perform other clinic tasks. Further research is needed to determine if multi-tasking impacts quality of care.

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THE BREAST CANCER JOURNEY: AN EVALUATION PROJECT. Nancy Gregorio, RN, MN, OCN®, CON(C), Princess Margaret Hospital/ University Health Network, Toronto, ON, Canada.

The Princess Margaret Hospital (PMH) Breast Cancer Site Group initiated a project to evaluate the current system for the treatment and management of patients with a breast cancer diagnosis from the perspec-

tive of patients and health care professionals. This quality improvement initiative was timely, as PMH/University Health Network (UHN) had just begun to implement a model of care called "Patient-Centred Care." In addition, the Canadian Cancer Society (CCS) report, "Breaking Down the Barriers: Study of Cancer Patient and Caregiver Needs in Ontario" (2003) established that there were gaps in the cancer system in Ontario identified by patients and caregivers. Both this new model of care and the CCS study findings support the need for this initiative.

The purpose of this poster presentation is to inform oncology nurses about the positive effect a small project can make to the quality of the care patients receive and towards bridging the gaps in the delivery of health care services. The objective of this project was to establish what and how we are doing in the care of breast cancer patients at PMH and to develop realistic recommendations to address the gaps in service, and consequently improve the quality of care provided to patients.

A total of 77 people who work directly or indirectly with breast cancer patients, including 4 patients, were interviewed and consulted in this project.

Data collection involved semi-structured telephone, face-to-face, and group interviews, clinic observations, site visits, and chart review.

Validated interview and observation notes were reviewed for commonly identified gaps and grouped into three themes. The three themes were gaps in communication and coordination of care, access to timely and accurate information, and availability and delivery of services.

This project is an initial step toward describing the current Breast Cancer Program at PMH and identifying what needs to be improved in the program. Quantitative data is needed to validate the findings in this project. It is evident that gaps exist in our current system and initiatives like this one ensures that the quality of care provided to our patients is maintained and optimized.

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COLLABORATIVE PRACTICE: MULTIPLE MODELS PRODUCE SIMILAR OUTCOMES. Andrea Smoots, RN, Lynette Guziatek-Trojniak, RN, MSN, CNP, Sheryl Smolarek, BSN, OCN®, and Melody Jolly, RN, ADN, Karmanos Cancer Hospital, Detroit, MI.

An NCI designated Comprehensive Cancer Center in a large urban community provides a wide range of services to the oncology population. Coordinating a client's care involves a team of health care professionals representing a variety of services, collaborating to formulate and deliver an effective plan of care. Adopting a process involving interdisciplinary teams unique to each unit-based practice, collaborating to identify and implement a plan of care had a great impact on both the delivery care and patient care outcomes.

The purpose of this project was to design a collaborative practice model that was unique to the needs of the three units involved, while encouraging teamwork and clinical decision making. A single collaborative model encompassing the ambulatory, surgical, and inpatient oncology setting was not feasible. Designing a multi-model collaborative practice was a challenge, but focusing on the goal of improved patient care made it easier to do.

Staff nurses and Advanced Practice Nurses (APN) formalized an integrated plan of care to meet the complex needs of oncology patients and their families/caregivers. Each unit put together their own collaborative team based upon the type of patient care required (i.e., surgical, ambulatory, or inpatient treatment). The three models have the commonality of formal documentation, patient teaching and education tools, and follow up procedures. Design and implementation of these tools was unit-based to provide high quality clinical care. Even though each unit used a different model to overcome fragmented and ineffective approaches to care, patient outcomes began to improve. Clinical rounds provide the opportunity for review and evaluation.

The design and evaluation of the collaborative model is a dynamic process. Continual review and discussion of the application of each model led by staff nurses and the APN ensures an integrated plan of care involving all team members to attain desired patient outcomes.

Developing a Collaborative Practice Model for a Comprehensive Cancer Center demands increased knowledge, integrated skills, and comprehension of data specific to each patient population. Even though multiple collaborative models of oncology practice were needed, nursing provided the coordination that resulted in improvement of patient outcomes.

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ACTUALIZING A WELLNESS PROGRAM AND WELLNESS ROOM IN THE ONCOLOGY SETTING: GETTING A PROGRAM THROUGH A LARGE INSTITUTION. Linda Galgay, RN, BSN, HNC, Shannon Swift, RN, BSN, ONC, Georgie Cusack, RN, MS, Antoinette Jones-Wells, RN, BSN, Priscilla Rivera, RN, MS, CNA, and Laura Chisholm, RN, MSN, The National Institutes of Health, Bethesda, MD.

The Clinical Center (CC) of the National Institutes of Health (NIH) is a hospital solely dedicated to conducting biomedical research. Participation in the rigors of a phase I or II clinical trial requires inner strength, support, and ability to follow through with the demands of research. Nurses on the Oncology, Experimental Transplant Unit at the CC acknowledge the special needs of their patients, caregivers and staff, and strive to find ways to lessen the impact of these demands. A group of oncology nurses at the CC formed a Complementary and Alternative Medicine (CAM) Cancer Nursing Interest Group. A review of the literature reveals that a focus on the psychological, social, physical, and spiritual needs of the patient promotes improved quality of life in oncology patients. The CAM Interest Group recognized the importance of integrative therapies as one strategy to assist patients to deal with their chronic illness.

This presentation will outline the development and inception of a Wellness Program to aid patients in dealing with chronic illness utilizing integrative therapies such as relaxation therapy, guided imagery, and a "Room for Silence." The Plan-Do-Check-Act serves as our conceptual model for development and evaluation of the program.

Benchmarking with preeminent institutions nationwide, and identification of key stakeholders within the institution, as well as the National Cancer Institute and the National Center for Complementary and Alternative Medicine was instrumental in the development of the program. With visionary nursing leadership and extensive collaboration with the CC interdisciplinary team, the program has been incorporated and follows the credentialing guidelines proposed by the CC's Integrative Medicine Taskforce. Self-care, empowerment, healing vs. curing, relaxation, and comfort are emphasized, and an examination of theories and models is used for health education and promotion. Dedicated space has been allocated for a "Room for Silence" which is designed for meditation, prayer, and journaling.

Patients and staff evaluate the Wellness Program on an on-going basis and changes are incorporated based on feedback. Incorporating a Wellness Program fosters improved patient outcomes.

The Wellness Program enhances quality of life for oncology patients and serves as a model for integrative care.

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BUILDING BLOCKS FOR A STRONG PATIENT CARE ENVIRONMENT. Kerry Morrison, RN, OCN®, St. Joseph Medical Center, Tacoma, WA.

It is the responsibility of the leadership structure to assess the needs of the staff and implement strategies that increase job satisfaction and retention. To assist in this assessment, a survey was distributed to the RN staff focusing on education, morale, and job satisfaction. Based on the results of the survey, strategies were implemented that addressed areas identified as significant by staff.

The purpose of this project was to assess the support and educational needs of the RN staff and implement strategies to improve morale, increase knowledge, and provide support. It is believed these strategies would increase job satisfaction and retention of experienced oncology nurses, leading to improved patient care.

Five areas of focus were identified after the initial survey was distributed. (1) The mentoring of staff was a priority. This included both new graduates and experienced nurses transitioning into new roles. (2) We needed to improve team dynamics, both within a shift and between shifts. (3) To prevent burnout, we would track nursing assignments and periodically rotate nurses out of high acuity areas. (4) Management would encourage oncology certification (OCN) by reimbursing the registration fee for those nurses taking the exam, purchasing review materials, and displaying a recognition plaque on the unit listing the certified nurses. (5) We would purchase new supplies/equipment to better enable staff to do their jobs.

Periodic reassessment surveys will be distributed on a biannual basis to meet the everchanging needs of the unit nurses.

Retention of experienced oncology staff enables a unit to provide consistent quality cancer care to patients. Assessment of needs with a posi-

tive response to issues identified can increase retention by giving staff an avenue to influence the operations of the unit and actively participate in positive change. This poster will display the ongoing needs assessment of the RN staff and show various strategies that were implemented based on the surveys distributed. Other institutions can use this model to develop similar programs on their nursing units.

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IMPROVING SATISFACTION OF IL-2 PATIENTS: LOCATION, LOCATION, LOCATION. Sharon Siegelski, RN, MS, and Lenore Rees, RN, BSN, OCN®, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL.

IL2 is standard treatment for melanoma and renal carcinoma. These patients require telemetry monitoring, but not necessarily a critical care environment. Managers and oncology nurses find treating IL-2 patients challenging and rewarding.

High-dose IL2 has shown a predictable set of side effects: time-limited diarrhea, fever/chills and hypotension. In critical care BMT, patients are on traditional monitors with restricted movement. This can lead to frustration and lower psychological tolerance for patients placed in critical care units.

Our challenge was to find a non-critical care setting that met both the physical and psychological needs for this special population. A medical-oncology unit was selected for subacute care. Acute patients remained in critical care BMT unit. This new patient population required in a change in nursing care. The purpose of this abstract is to review administrative support in preparing the staff to care for acute and subacute IL2 patients.

A phone survey was conducted to define practices at other NCI centers. A task force consisting of nursing, pharmacy, and medicine convened to develop standing orders and begin nursing education. Medical-oncology staff attended a 6-week telemetry course, a one-day seminar on care of IL2 patients, and ACLS certification. Patients were admitted to new telemetry unit on initial admission. In order to ensure patients received care from nurses with clinical expertise, admissions were limited to 4 patients, 2 each on Monday and Tuesdays. If hemodynamic deterioration occurred, patients transferred to critical care BMT unit for vasoactive medications. On subsequent admissions, these patients as well as those with low baseline blood pressure are admitted to BMT unit.

The result of the management effort to provide safe and satisfactory care for the IL2 patients included improvements in patient satisfaction as tracked on monthly patient surveys. Staff satisfaction was measured by decreased turnover rate and improved morale. Admissions now occur 7 days a week with a staff well versed in caring for IL-2 patients.

The implications for oncology practice include this experience as a model for change. It provided safety and satisfaction for the patients, as well as, satisfaction for nurses.

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A DATABASE APPROACH TO GRIEF AND LOSS PROGRAM MANAGEMENT. Susan Wintermeyer-Pingel, MS, APRN-BC, and Karen Hammelef, RN, MS, University of Michigan Comprehensive Cancer Center, Ann Arbor, MI; and Jason Engbrecht, PhD, St. Olaf College, Northfield, MN.

Providing support to those in the midst of grief and loss requires the compassionate skills of oncology nurses and other professionals who are routinely involved in participating in the emotional and social care of patients and their families. While compassionate care is the core of oncology nursing, managing and developing databases are not always part of the nurse's skill set.

The purpose of this project was to provide a tool to better manage the data that exists in managing a grief and loss support program. Providing support to those individuals navigating the transitions surrounding a terminal illness and death is dependent on a multitude of data points. The management and organization of these data can be cumbersome for the staff caring for cancer patients and their families. This is particularly challenging in a setting where bereavement care is coordinated through one central area resulting in an increased volume of data.

This NCI designated comprehensive cancer center sought to develop a tool for managing and shaping bereavement information in an organized and efficient manner. Utilizing Microsoft Access®, this database was developed to streamline data retrieval and entry for those individuals tracked by this grief and loss program. This presentation will describe the process for data entry, the categories of data used; and will provide examples of data queries, reports and communication provided to caregivers. Bereave-

ment focused queries will be reviewed including caregiver reports that detail number of deaths within a defined timeframe and grief and loss follow up status.

Database evaluation involves multidisciplinary input regarding the accuracy of data. Outcomes realized include the improvement of communication to clinicians, a decrease in rework and the streamlining of methods for monitoring bereaved individuals.

This presentation will discuss the positive implications for oncology nursing and examine future potential use of this information. The challenges faced as well as the benefits realized will be presented. The provision of compassionate care to those experiencing grief and loss is expected. This database allows the structure from which to do so allowing the nurse to encourage healthy coping and movement through the transitions of grief.

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A MULTIDISCIPLINARY APPROACH TO IMPROVING BED AVAILABILITY FOR ONCOLOGY PATIENTS. Vicki Marsee, RN, MBA, CNA, Mary Dorling, Environmental Services Supervisor, Needham McKinney, Director-Environmental Services, and Nadean Neal, Manager-Admissions, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL.

Oncology patients receive care across several specific services, including inpatient hospital episodes. Many times the need for such services is based on side effects or symptoms arising from their cancer treatments or therapies. Symptoms such as pain, nausea and vomiting, fever and other serious complaints must be addressed immediately, but challenges with bed availability may prevent this.

Historically, reasons for inpatient bed inavailability has been lack of an efficient process for communication about patient discharges, subsequent room cleaning including turn-around-times, and Admitting Department notification of room readiness so that new patients could be assigned.

Various methods of improvement had yielded minimal results. Lack of awareness among departments decreased productivity and increased costs. There were issues of multiple phone calls between housekeepers, unit secretaries, and nurses, as well as wasted pharmaceuticals and meal trays delivered to units after the patient was discharged. Role delineation was ineffective with nurses performing nonskilled tasks and the majority of discharges being performed by nurses and oncology technicians.

Mistrust among departments caused an extensive use of 'stat' requests and bypass of the Admitting Departments notification department happened almost half of the time.

A multidisciplinary team met in the fall of 2002 to define and analyze the problem. Using the Cancer Center's 4 C's + 1 Performance Improvement Process, the team developed a proposal to implement an electronic Bed Control System. Roles changes were developed and implemented with staff nurse involvement. Departments worked together to create a totally new and efficient communication methodology.

There were improvements in all measureable metrics as follows:

Stat calls: 82% reduction

Phone Calls: 92% reduction

Clean times: 44% improvement

PACU (Post Anesthesia Care Unit) transfer delays: 55% reduction

Bypass of Admissions Department notification: 51% reduction

Role development included Infection Control inservices of housekeeping staff to allow them to perform non-skilled tasks previously performed by nurses.

The nursing staff are very pleased with the process improvements realized from the work of the project team. Although the quantitative outcomes are very satisfying, the nurses feel the main reward is the improved patient care realized by making beds available to our oncology patients more quickly and efficiently.

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DEVELOPMENT OF A NURSE-SENSITIVE DASHBOARD TO IMPLEMENT THE STAFFING EFFECTIVENESS STANDARD IN AN OUTPATIENT ONCOLOGY SETTING. Suzelle Saint-Eloi, RN, MS, Elizabeth Tracey, RN, PhD, AOCN®, CS, Diane Hanley, RN, MS, BC, Genevieve Conlin, RN, MS/MBA, CCRN, and Stephanie Buia, CPHQ, Dana-Farber Cancer Institute, Boston, MA.

The Joint Commission on Accreditation for Healthcare Organizations' (JCAHO) requires the measurement and evaluation of data on clinical indicators that correlate with human resource indicators, such as turn-

over and vacancy, to assess staffing effectiveness. Oncology nurses want patient outcome indicators to be sensitive to nurses' unique contribution to quality patient care.

At Dana-Farber Cancer Institute, clinical growth and increasing patient complexity within our adult and pediatric programs has challenged us to elevate our standards of practice, and to develop a system that consistently and accurately tracks and evaluates the outcomes of patient care. To that end, we developed a computer database (dashboard) comprised of nurse-sensitive indicators of select patient-focused outcomes.

Many avenues were explored in the process of developing a dashboard that contained indicators that were nurse-sensitive. First, a presentation was given to nursing executive and leadership staff on the rationale for revising the outcome measurement system.

Next, unit based staff meetings were utilized to elicit feedback from staff. Subsequently, staff were charged with identifying what were the best practices in nursing that they wanted to showcase in the dashboard; what were concerns and what were areas for improvement that they wanted to be addressed through measurement and tracking. Many leaders from Nursing and Patient Care Services (NPCS) participated in sessions to identify the elements of best practice unit assessment, what metrics to monitor and how to collect, track, analyze and learn from the data that would be collected in the electronic file containing the dashboard.

After the dashboard was implemented, a six-month status report was presented to the nursing leadership group to solicit feedback and recommendations that were subsequently developed into an action plan. Quarterly reports are being generated and presented to leadership and frontline staff, and an annual report and evaluation of the dashboard is planned.

Lessons learned from the development and implementation of a dashboard to measure and track nurse-sensitive indicators of patient care can assist other oncology and ambulatory groups in their efforts to design and implement an effective method for measuring and tracking patient outcomes that are sensitive to nursing care provision.

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INTEGRATING VOLUNTEERS INTO THE ONCOLOGY TEAM: ROLES, RESPONSIBILITIES AND REWARDS. Kathy Kopec, RN, CRNI, OCN®, and Josephine Visser, RN, BSN, OCN®, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL.

Oncology nursing is a unique field in which volunteers can contribute relevant experiences to support patient care. Since many are former patients they have an ability to combine being a resource and emotional support to patients with traditional duties. Our outpatient Infusion Center realized the importance of evaluating, expanding and integrating the volunteer role to not only maximize their potential but also utilize their support to enhance the patient experience.

The purpose of this project was to both enhance the volunteer role and integrate their support to the oncology nurses in our outpatient Infusion Center. Several things triggered our interest in enhancing the volunteer role; relocation of the Infusion Center to a larger space resulted in a need to better utilize volunteer time, identified inconsistency in their role and also in their perception of the role, and desire to better utilize their uniqueness to have an increased impact on our patient care. Specific goals included integrating volunteer role into that of full team member, developing an official orientation so that the role was consistent, and acknowledging them for the time they spend supporting our patients and nurses.

A committee was formed to clarify the role of Infusion Center Volunteer. Participants included representatives from nursing, patient support staff and the volunteer office. The staff and volunteers were surveyed to determine what they wanted the role of volunteer to include. Policies and guidelines were reviewed to ensure the role components identified were appropriate for a volunteer. After the role and orientation were revised the staff and volunteers were educated about the new role. Finally, a celebration was planned to honor our volunteers.

The new volunteer program was reported by staff, volunteers, and patients to be a success. Consistency in the role has improved. The Infusion Center has had an increase in recruitment and retention of volunteers.

We have found integrating the volunteer into our patient care has had a positive impact on patient satisfaction. Our volunteers provide a number of functions, which contribute to the smooth operation of the Infusion Center, and in turn, increase nursing productivity.

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AMBULATORY ONCOLOGY NURSES: FACING EXTINCTION OR HERE TO STAY? Patrice Skjerve, RN, NSN, AOCN®, and Joan Strohm, RN, BA, OCN®, H. Lee Moffitt Cancer Center, Tampa, FL.

The role of registered nurse in the ambulatory oncology setting has undergone radical change in the past twenty years. In some areas, registered nurses have all but vanished from the outpatient setting, and have been replaced by unlicensed assistive personnel. Those few registered nurses who continue to practice in an ambulatory oncology setting wonder when and if they will be replaced. While seemingly cost effective, the replacement of registered nurses with unlicensed personnel has been lamented by physicians, nurses and administrators as diametrically opposed to continued excellence in oncology care. However, expense reduction is crucial to the financial health of ambulatory practice in the face of continued cuts in reimbursement. Therefore, it is critical to carefully define the role of registered nurses in oncology ambulatory care to eliminate duplication of services, maximize efficiency and ensure quality care.

The purpose of this project was to explore the current role of the ambulatory care nurse in our institution, and to develop a model of care delivery to ensure cost-effective, quality care.

The process of developing the role of ambulatory care nurses was linked to the development of an electronic medical record system customized to our patient population. Existing documentation was analyzed to determine if duplication of information existed and what gaps in documentation were apparent. New systems were then developed and analyzed, leading to detailed development of the registered nurse role. Finally, focus groups were held to discuss the newly developed role and implementation process.

Evaluation of this project is currently in process. Several quality measures will be used to assess the effectiveness of interventions. These quality measures include customer satisfaction, nurse satisfaction, financial stability and other process improvement projects.

This abstract presents the development of the role of the registered nurse and patient care delivery process in the ambulatory setting in a new way. The strategies presented here could be utilized in any institution that desires to retain the registered nurse as a key member of the outpatient team.

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NEEDS ASSESSMENT FOR DEVELOPMENT OF AN ONCOLOGY VOLUNTEER PROGRAM. Sandy Balentine, RN, OCN®, Nancy Librera, RN, Nancy Palumbo, RN, Maureen Flannery, LSW, and Fran Cartwright, RN, AOCN®, PhD(c), The Valley Hospital, Paramus, NJ.

A number of support services available for cancer patients and loved ones at community based cancer center. These include support groups, complementary therapies, cancer related events, one-on-one counseling and image recovery services. A standardized system would assure that nurse's education and treatment goals provide patients with information about these options. Access early in their cancer trajectory is important. Volunteers can bridge the gap between support services and the patients when health care providers perceive these as an appropriate option.

The purpose of conducting a needs assessment from providers and community members prior to developing this volunteer program is to: (1) identify existing support services, (2) evaluate present use of services that includes healthcare professional referral and self-referral, (3) identify barriers, (4) identify and implement strategies to decrease barriers, (5) identify need for additional support services and develop an action plan.

A task force was organized which included 19 oncology-related departments and agencies such as the ACS. Each representative was charged with assessing their area and listing patient support services. A list of barriers was also identified. This provided the topics for the needs assessment. The survey included a designation for (a) services currently used and not used, and (b) barriers to both.

The survey revealed the following. Key physician evaluation: (a) belief in the efficacy, but lack of time to refer, (b) lack of ongoing information regarding services available, and (c) distrust of some of the modalities. Key community comments: (e) lack of reimbursement, and (f) need for additional support services. An educational/informational program was developed to (a) address lack of information, (b) develop comfortable

criteria for offering support services for all healthcare providers, (c) seek funding sources, and (d) the use of volunteers as mentors and navigators to assist to assure patients are aware of services.

A well-designed oncology volunteer program provides patients with a stream-lined way to access support services at all points in the cancer care trajectory.

The oncology program volunteers navigate patients through the support services available, maintain the oncology resource center in order to increase use, assist in cancer related events, in addition to providing usual department support.

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ONCOLOGY NURSING CLINICAL INTERNSHIP IMPROVES RECRUITMENT AND RETENTION. Cindy Czaplinski, RN, MSN, and Constance Donovan, RN, MSN, FAAN, AOCN®, Yale-New Haven Hospital, New Haven, CT.

Recruiting and retaining oncology nurses is of paramount importance for every hospital. A well designed orientation program can attract and retain nurses.

Hiring experienced nurses has been a gold standard for specialty practice areas but is a luxury that most oncology units can not afford in today's environment. New models are required. At a NCI designated Cancer Center in the northeast, a Clinical Internship Program was created that effectively develops novice graduate nurses to become competent oncology nurses. The purpose of this Clinical Internship Program was to design and evaluate an orientation program that successfully prepares novice nurses to practice competently on an acute oncology unit.

There are three key components of the Clinical Internship: expanded length of orientation, weekly clinical seminars and consistent progress meetings. There is a twelve-week orientation. The first six weeks focuses on medical-surgical nursing tasks and skills and the second six weeks concentrates on oncology nursing practice. Weekly clinical seminars are held to advance the nurses' knowledge of cancer and the nursing care of cancer patients. Weekly meetings are also held between the orienting nurse, the preceptor, the Oncology Clinical Nurse Specialist and the Nurse Manager. These meetings are held to review nurses' progress, plan next steps and proactively address issues.

Nursing retention and recruitment were measured two years prior and two years post implementation. Since the implementation of the Clinical Internship Program on the oncology unit, over-all nursing turnover has decreased 25% and in nurses with < 3 years experience turnover has decreased 18%. Nursing recruitment has increased 37% since the inception of the program.

The Clinical Internship Program for an inpatient oncology unit has transformed a high turnover, undesirable unit to one that is stable and desirable. The combination of an extended orientation, weekly clinical seminars and systematic meetings between the orienting nurse, the preceptor and unit leadership have been the key elements to its success. Although recruitment has improved dramatically, continued marketing to Faculty and Students is necessary to shift the belief that oncology is a specialty practice that requires prior medical-surgical nursing experience.

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BUILDING RELATIONSHIPS WITH UNIVERSITIES TO PROMOTE ONCOLOGY NURSING. Maureen Mullin, RN, BSN, OCN®, Fox Chase Cancer Center, Philadelphia, PA.

In an effort to promote oncology nursing, this comprehensive cancer center hosted a symposium for local nursing education programs. This dinner meeting focused on issues facing local nursing programs and the exciting, diverse opportunities available to students at a Magnet designated cancer center.

As the nursing shortage escalates throughout the nation, specialty areas are finding it increasingly difficult to hire experienced nurses. Targeting student nurses and providing extensive orientation programs have become reliable recruitment methods. It was our goal to share with leaders in nursing education the rewards and challenges of oncology nursing. Oncology nursing may have a reputation among students as a "depressing" specialty, certainly an obstacle in recruitment efforts. Our objective was to begin with the educators and then actively participate in the trickle-down affect.

The symposium began with a delicious dinner and comfortable dialogue between the educators and our staff attendees. Our nurses then presented the following topics:

- Nurse Extern Program
- Graduate Nurse Transition Program
- Palliative Care and Pain Management
- Information Technology
- Continuing Education Programs

Our colleagues from academia presented on many topics including admission statistics, pass rates on licensure examinations, diversity of student population, and scholarship programs.

The program was a very successful endeavor as several opportunities to promote oncology nursing have evolved. One school, particularly interested in the speaker from the Palliative Care Program, collaborated with our hospice nurses so that students could shadow hospice nurses on home visits. This was a delicate situation because the patient-family-nurse bond is exceptionally close in this setting and "outsiders" may not be welcome. That was not the experience and student and staff participants found the shadowing experience an incredible opportunity. Another example demonstrating our success is a planned segment on oncology basics provided by our staff experts at the local community college. Inviting enthusiastic oncology nurses into the classroom and partnering students with staff nurses for diverse clinical experiences, may generate passion in oncology nursing.

By providing nursing educators with strategies to promote oncology nursing, we hope to see an increase in students pursuing careers in oncology.

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THE NURSING SHORTAGE: A COMPREHENSIVE CANCER CENTERS STRATEGY TO ATTRACT AND RETAIN ONCOLOGY NURSES. Mary Ann Long, BSN, RN, OCN®, Denise Rutkowski, RN, MSN, CRC, Elizabeth Owens, RN, MS, and Darryl Somayaji, RN, MSN, Roswell Park Cancer Institute, Buffalo, NY.

The nursing shortage exists in most areas of the United States. This shortage impacts oncology centers as significantly as other health care settings. There are numerous factors which differentiate this current nursing shortage from previous shortages including:

- a global shortage of nurses
- an aging workforce (the average age of a nurse nationally is 45)
- the image of nursing (hard work, lower pay, physical and emotional demands)
- increased professional opportunities for women
- less than satisfactory working hours (weekends, holidays, mandatory overtime)

The purpose of this abstract is to present the unique challenges in the retention and recruitment of nurses for both the direct care (inpatient and ambulatory) and clinical research positions at a comprehensive cancer center and strategies that are utilized to increase the recruitment pool. The challenges faced include recruiting nurses with oncology or research experience or nurses with a strong interest in oncology.

Successful strategies for retention and recruitment of oncology nurses that will be presented include:

- unique employment opportunities for undergraduate nursing students
- providing a strong clinical program for inexperienced nurses with a strong interest in oncology
- developing a strong retention and recruitment committee led by nursing staff members to plan numerous activities throughout the year to recognize and celebrate the nursing staff's contribution to the mission and success of the organization.

Strategies for successful retention and recruitment activities will be offered as part of this presentation. Evaluation methods include review of Registered Nurse Turnover Rates, evaluation of orientation, and overall nursing staff satisfaction.

Solutions to the oncology nursing shortage lie in recruiting new nurses to the specialty and retaining those nurses that are currently in practice. Because the nursing shortage shows no sign of abatement, strategies to meet the need for nurses must include new and innovative ideas that demonstrate the value of nurses. This presentation will illustrate the steps that have been initiated to attract and retain nurses at a comprehensive cancer center in Western New York.

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ONCOLOGY NURSE ACADEMY: A FRESH APPROACH TO RECRUITMENT AND RETENTION. Dawn Stefanik, AA, MLT, RN, BSN, OCN®, and Paula Schaffer, RN, BSN, OCN®, GBMC, Baltimore, MD.

GBMC like many institutions throughout the country is dealing with the effects of the nursing shortage and the competition to attract and retain nurses. The inpatient oncology unit has experienced vacancy rates up to 50%. With the increasing difficulty of recruiting new or experienced oncology nurses and the absence of a clinical nurse specialist, the staff's satisfaction and morale plummeted under the increasing stress of working with temporary staff. In addition the existing staff had expressed the need for on-going educational opportunities to enhance their knowledge of oncology and to become experts in their field. It was at this time that the concept of the Oncology Nurse Academy was developed.

The Oncology Nurse Academy was developed incorporating the ideas of a unique approach to unit-based orientation, including Basic Concepts of Oncology and coupling it with employee satisfaction and retention.

The 24-week orientation has both clinical and didactic components orchestrated by the Clinical Partner. The successful completion of the ONS Chemotherapy/Biotherapy Administration course is one of the goals of the extended orientation.

A parallel pilot program titled Team Work is Rewarding was rolled out at the same time with the academy to retain current staff and foster teamwork. The reward program was based on 4 criteria: 100% retention, compliance with JCAHO standards, favorable FTE productivity and positive new employee satisfaction scores. If these goals are met within a limited time frame the RN staff will receive a monetary reward.

To date we have recruited 5 RNs into the program with 2 who have successfully completed the program. The new employee survey was completed with positive results. There continues to be increased staff morale and teamwork since the inception of these programs.

In addition to providing a new training program that helps with recruitment, retention, and teamwork, the new program also indirectly impacts patient care by: increasing and reinforcing oncology concepts, improving patient outcomes by the use of critical thinking skills and astute assessment; enhancing patient education; improving the morale of all staff; retaining dedicated and qualified oncology nurses.

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BREAKING THE LANGUAGE BARRIER: THE NURSES ROLE IN TREATING NON-ENGLISH SPEAKING PATIENTS IN ONCOLOGY CLINICAL TRIALS. Wanda Honeycutt, RN, BSN, OCN®, Sherri Haley, RN, OCN®, Roxanne Truax, RN, BSN, OCN®, Jill Ashton, RN, BSN, OCN®, Shawna Savage, RN, BSN, and Deborah Chestnutt, RN, BSN, Duke Comprehensive Cancer Center, Durham, NC.

Clinical Trials are imperative in the development of novel therapeutic anti-cancer agents. At Duke University Medical Center, an NCI-designated Comprehensive Cancer Center, there are many clinical trials that are actively accruing patients. These clinical trials allow patients to gain access to new potentially beneficial treatments. The ability to have treatment through a clinical trial opens multiple possibilities otherwise not available. However, one factor that may inhibit a patient from accessing this type of treatment is a language barrier if they do not speak English. Nurses have been instrumental in exploring resources and procedures to make the possibility of participating in a clinical trial a reality for some of these patients.

In our experience of working with non-English speaking patients, there were many factors that presented difficulties, in both clinical care and research-related activities. It became evident that special consideration needed to be given to the way treatment is delivered to this patient population. Often there may be cultural influences that affect the way a patient interprets information and approaches their plan of care.

We developed a standard procedure for obtaining informed consent of patients that do not speak English. Nurses were educated on this procedure. Assessment of symptoms and patient education may be difficult to carry out and can potentially be inaccurate if translation is inadequate. Education was provided to help nurses clinically manage this patient population. This included patient education materials in other languages, side effect monitoring tools, and available resources for nurses and patients.

As these tools have been developed and implemented, we have found ways to improve our practice by reviewing the processes in place. We have been able to improve the translation procedure and possibly patient comprehension.

The purpose of this presentation is to describe the nursing role and patient outcomes when enrolling and treating non-English speaking patients in oncology clinical trials. Our goal was to develop a model that could be used to help nurses gain a better understanding of how to utilize these valuable resources. This will ensure quality care and access to clinical trials for this patient population.

Vested interest: The primary author is a regional nurse advocate.

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OPTIMIZING CHEMOTHERAPY-INDUCED ANEMIA (CIA) MANAGEMENT WITH THE USE OF PATIENT FLOW SHEETS. Loretta Morehead, RN, BSN, OCN®, Anne Zobec, RN, MS, NP, Camille Pacheco-Gach, RPh, Rosemary Glick, RN, BSN, and Schelijn Baker-Flippin, RN, BSN, Cancer Center of Colorado Springs, Colorado Springs, CO.

CIA is a complication of cancer treatment that can be difficult to manage, despite utilization of erythropoietic growth factors. Oncology nurses can play a key role in CIA management by ensuring appropriate administration of erythropoietin and continually assessing hematopoietic responses.

By participating in a national chart audit, our community oncology practice identified several problems related to erythropoietin administration including delayed initiation, failure to evaluate response, and poor or missing documentation. To improve CIA management, we needed to establish clinical guidelines and facilitate their implementation by having them readily available to staff at the point of care.

Clinical guidelines were developed after reviewing the latest NCCN, Medicare and pharmaceutical guidelines. Documentation important to optimal drug management was identified, and a flow sheet was created that incorporated the following parameters: initiation orders; drug titration guidelines; date/dose/initials; Hgb/Hct levels; prompts for additional lab work up; and authorization information. This form was submitted for physicians' approval, and in-services were conducted to instruct staff on use.

Implementation of this flow sheet increased staff awareness of appropriate initiation and maintenance of erythropoietin administration. It prompted clinicians to order additional workups for anemia evaluation. Response was easier to evaluate and doses titrated accordingly. Non-responders were identified earlier and brought to the physician's attention. However, chart audit results, obtained approximately 6 months after the form was implemented, revealed that staff failed to accurately follow guidelines about 35% of the time.

Incorporating clinical guidelines into flow sheet documents and making them immediately accessible at the moment and point of care can improve guideline implementation in oncology practice. As clinical guidelines are not usually provided on flow sheets intended for documentation, it may take a period of time for clinical staff to become familiar with this type of form, and consistently refer to the information provided. This may explain our initial low guideline adherence rate. Our clinic's subsequent participation in the AIM Higher Initiative will ensure continued critical review of this type of form and its potential to optimize not only CIA management, but also other supportive care modalities.

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DEVELOPMENT OF EVIDENCE-BASED BLEEDING PRECAUTIONS. Brenda Shelton, RN, MS, CCRN, AOCN®, and Trisha Bucklen, RN, BSN, Sidney Kimmel Comprehensive Cancer at Johns Hopkins, Baltimore, MD.

Oncology nurses possess the expertise to become institutional leaders in defining management of patients who are at risk for bleeding. None of the professional nursing organizations has a standard of care or management guidelines for bleeding precautions.

This major academic medical center cares for many patients who are at risk for bleeding. A nursing standard of care is necessary for optimal and consistent patient management. This abstract describes the process used to revise the institution's bleeding precautions nursing standard of care (SOC) based upon scientific evidence.

A thorough search of the oncology and non-oncology literature regarding bleeding risks, monitoring, and prevention yielded many opinions

and few evidence-based recommendations. Broader searching of the literature provided a number of case studies and best practice recommendations from hematology/transfusion medicine, cardiology and neurology specialties that could be incorporated into a general standard of care. This presentation outlines the process used to determine specific recommendations in a SOC for patients at risk for bleeding due to multiple coagulopathic disorders.

The revised bleeding precautions SOC is significantly different than the previous one. Although the interventions are not appreciably more time consuming for care, they require additional assessment and documentation, as well as a philosophical change in care. Staff education about the revised protocol is scheduled in the next two months. Feedback from the clinical staff, and chart audits will be available during the winter.

Standard bleeding precautions are necessary in all oncology practice settings where patients exhibit bone marrow suppression or liver toxicity. In addition, recent research has revealed a high incidence of venous thromboembolism among patients with cancer, requiring greater use of anticoagulant therapy throughout the disease continuum. Anticoagulant therapy administered to patients who may experience thrombocytopenia, or have other hemostatic abnormalities requires particular attention to their bleeding risk and adherence to evidence-based guidelines. This SOC can serve as an example for other oncology nurses to use to develop an individualized protocol for their institutions.

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IRON, FOLATE AND CANCER-RELATED ANEMIA: PERFECT TOGETHER. Vivian Gaits, RN, CS, MSN, AOCN®, CHPN, Anne Marie Shaffic, RN, MSN, and Janice Terlizzi, RN, MSN, AOCN®, Sr. Patricia Lynch Cancer Center at Holy Name Hospital, Teaneck, NJ.

Anemia is a frequently encountered problem in cancer care. It has well-documented adverse effects on patients' well-being and quality of life, and perhaps on treatment outcomes. Management of anemia requires proactive, collaborative intervention on the part of nurses caring for the patient.

Iron and folate are required in the process of erythropoiesis in order to make mature red blood cells that function efficiently. Iron and folate deficiency alone can cause anemia, or contribute to anemia related to cancer treatments. Many Americans are iron deficient prior to initiating cancer treatment. Increased erythropoiesis as a normal response to anemia, or as a result of the concomitant use of erythroid growth factors, raises the demand for iron and folate, and bodily stores of iron can become rapidly depleted. There is ample literature supporting the use of iron and folate supplements in patients receiving erythroid growth factors. Because of this, our cancer center infusion area includes a trigger to document the use of iron supplements in the growth factor flow sheet. However, the actual use of iron supplements to enhance response to growth factors has not been tracked, nor has their use been evaluated for efficacy. Use of mineral supplements has the potential to improve response to erythroid growth factors, preventing inappropriate increases in dose and thus reducing expense.

A retrospective chart review is being performed to analyze

(1) whether the trigger to ask about iron supplements is being completed (2) whether the trigger response matches the medication record that is maintained by the infusion room nurses, as well as the physician's records and (3) whether hemoglobin responses are seen in patients receiving iron supplements more often than in those who are not.

Data from the chart review will be presented, as well as processes either planned or implemented to enhance compliance with current literature.

Oncology nurses play a vital role in the comprehensive management of anemic patients. Processes used to evaluate the use of mineral supplements in anemic patients have the potential to improve treatment outcomes, be cost efficient and maintain or improve quality of life.

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RAPID RESPONSE—STANDING ORDERS FOR NEUTROPENIC FEVER. Linda Rice, RN, OCN®, Gene Wetzstein, PharmD, BCOP, John Greene, MD, Kathryn Gaudette, PharmD, and Bob Bradbury, RPh, BCPS, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL.

Neutropenia is the greatest single risk factor for development of infection in cancer patients. If untreated these infections can progress rapidly

and become fatal. Mortality rates increase substantially when appropriate therapy is not initiated in a timely manner. Given the severity it is imperative that all neutropenic fever patients be initiated on broad-spectrum antibiotics promptly.

Inconsistent responses to febrile neutropenic episodes prompted our institution to conduct a retrospective chart review to evaluate the "cycle time" for initiation of first antibiotic. Cycle time was defined as total time from admission to the first antibiotic administered. Potential confounding factors (allergies, renal insufficiency, workload, etc.) were identified and evaluated. Areas for improvement were recognized and incorporated into the newly developed "Rapid Response for Neutropenic Fever" order form. The purpose of this abstract is to describe the development and implementation of the order form at our NCI Designated Comprehensive Cancer Center and discuss the impact it has had on our patient population.

A multi-disciplinary task force, consisting of physicians, nurses, and pharmacists, was constructed to develop the order form. The time-limiting variables that were identified in the retrospective review were incorporated into the order form with step by step instructions to minimize delay in antibiotic administration. The form was approved by our Pharmacy and Therapeutics Committee and implemented for hospital-wide utilization. In-servicing pharmacy, nursing and physicians addressed educational needs. The forms are readily available on all nursing units as well as the pharmacy.

After a two-week trial period, the form began hospital-wide utilization. Data was collected prospectively on thirty patients over a three month period. This data was then compared to the historical control to evaluate if "cycle time" was reduced post-implementation of the "Rapid Response" protocol.

After implementation of the order form, we have decreased our "cycle time" by 33%. More importantly, no patients waited > 4 hours in contrast to nearly 15% prior to the introduction of the form. Our Rapid Response Standing Orders for Neutropenic Fever have enabled our center to consistently treat patients in a timely manner, giving a vulnerable patient population the best chance for a favorable response.

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ADMISSION AND CARE OF THE FEBRILE NEUTROPENIC PATIENT IN A COMMUNITY HOSPITAL SETTING. Mina Ford, MSN, RN, and Margaret Helsley, MSN, RN, Martha Jefferson Hospital, Charlottesville, VA.

Failure to administer antibiotics to febrile neutropenic patients within one hour.

Evaluation of time interval between admission to Martha Jefferson Hospital, and the receipt of initial antibiotic dose for patients presenting with febrile neutropenia. Chart audits were completed for patients admitted in 2003. Study criteria included: admitting diagnosis coded fever and/or agranulocytosis; direct hospital or emergency department admission; an underlying malignancy with or without prior chemotherapy; and a Grade 2, 3, or 4 ANC value based on NCI Common Toxicity Criteria. Average time for antibiotic administration in emergency department was 2 hours and 33 minutes; in oncology unit was 2 hours and 29 minutes. Surveys were completed by pharmacists, nurses, and oncologists to gather information about the standard of care for febrile neutropenic patients at Martha Jefferson Hospital. Survey results indicated no standard of care for patients with febrile neutropenia.

An interdisciplinary team used evidence-based research to develop an Emergency Department Suspected Febrile Neutropenia standing order set, a Chemotherapy-Induced Febrile Neutropenia order set, and a Chemotherapy-Induced Febrile Neutropenia clinical pathway for the hospital. A Febrile Neutropenia Pocket Reference was also developed by the team. This card will be given to all patients receiving chemotherapy and informs the patient to call their physician if they have a fever, to show the card upon entering the ED, and what information to provide the ED. Educational inservices are being provided throughout all patient care areas in the hospital. Upon completion, the intervention of order sets, pathway and pocket reference will be implemented.

Once the project has been implemented, monthly chart audits will be performed and results will be reported to each unit management and appropriate hospital committees. At six months we will repeat the survey. The above data will be collected for one year after implementation and changes will be made as needed.

Review of the process of how patients are currently admitted and treated for febrile neutropenia might present areas that need improvement. In order to measure effectiveness of interventions, continuing audits and data will be provided.

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PREDICTORS FOR CHEMOTHERAPY-INDUCED NEUTROPENIA AND ITS COMPLICATIONS BASED ON A PROSPECTIVE NATIONWIDE REGISTRY. Debra Wolff, MS, PCNP, University of Rochester, Albany, NY; Eva Culakova, PhD, and Marek Poniewierski, MD, MS, University of Rochester, ANC Study Group, Albany, NY; Gary Lyman, MD, MPH, University of Rochester, Rochester, NY; David Dale, MD, University of Washington, Seattle, WA; and Jeffrey Crawford, MD, Duke University, Durham, NC.

Chemotherapy-induced neutropenia, which can lead to febrile neutropenia and life-threatening infections, frequently triggers treatment delays and dose reductions that may compromise long-term outcomes. By identifying patients at risk of severe neutropenic events (SNE), oncology nurses can target supportive measures to those most likely to benefit, potentially improving outcomes.

Retrospective analyses identified factors associated with increased risk of SNE (severe neutropenia, fever, infection, or other neutropenic complications, e.g., chemotherapy dose reductions/delays). To overcome methodologic limitations associated with the use of retrospective data to develop predictive models, we established a prospective registry in 5 major tumor types (lung, breast, colon, ovarian, and lymphoma).

Detailed data on patient and disease characteristics, planned and delivered chemotherapy, and cycle-by-cycle SNE have been recorded.

To date, 3422 patients initiating a new chemotherapy regimen have been registered at 137 randomly selected practice sites. Of the first 2719 patients enrolled, age ranged from 18 to 97 years, 40% \geq 65, 62% stage 3 or 4 disease, and 90% ECOG performance status 0 or 1. Comorbidities were common, 8% and 12% having chronic pulmonary disease or diabetes, respectively. One-third of patients received less than 4 cycles of chemotherapy. Reasons for incomplete treatment included disease progression or change in regimen (53%); refusal, withdrawal, transfer of care or hospice admission (14%); death (10%); or other (23%). Overall, SNE were documented in 37% of patients, with incidence varying by disease: breast (48%), lymphoma (43%), ovarian (42%), lung (30%), and colon (20%). Risk for SNE was greatest in the first cycle for all tumor types, and overall, 64% of all SNE occurred in cycle 1. Significant predictors for SNE in multivariate analysis included tumor type, BSA, taxane- and anthracycline-containing regimens, and low baseline ANC.

The ultimate goal of this project is to develop and validate a reliable and practical risk model for SNE based on these predictors, which can be applied to all patients with cancer treated with systemic chemotherapy. Oncology nurses can use these predictors prior to the first-cycle of chemotherapy when the risk of SNE is greatest, allowing nurses to target appropriate supportive measures to patients most likely to benefit from them.

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A MULTIDISCIPLINARY APPROACH TO ESTABLISHING ANEMIA GUIDELINES. Donna Miskin, RN, OCN[®], and Cheryl Hoehner, Oncology Pharmacist, Beebe Medical Center, Lewes, DE.

Darbepoetin and Epoetin are beneficial but expensive treatments for chemotherapy-induced anemia. Prospective, head-to-head studies have shown them to be equivalent with an overall 60% response rate. However, physicians at our infusion center questioned the efficacy of these products. A small retrospective study revealed a 33% response rate, well below national average. It was determined that by establishing guidelines and developing a standard order form for darbepoetin (on formulary) we could improve clinical outcomes.

This project was designed to improve patient outcomes and clinical decision-making. A retrospective study demonstrated that darbepoetin and epoetin were equivalent in our patients with solid tumors undergoing chemotherapy treatment. Data revealed: (1) Darbepoetin and epoetin were initiated at very low Hgb levels 8.6–10 g/dl. (2) Regardless of the drug only a small percentage of patients responded. (3) More than 50% of the patients required blood transfusions. (4) Physicians failed to dose escalate. (5) Lack of orders for iron supplementation and iron studies. Due to cost of treatment averaging \$3,000–4,000 per patient improvements were essential.

To guide nurses and physicians in managing patients with anemia a multidisciplinary team met to discuss the issues. A standard order form, incorporating NCCN guidelines, was developed. A check-box approach allows autonomous physician ordering and provides recommendations on important ordering information such as: initiation when Hgb falls below 11 g/dl, iron studies, iron supplementation as needed, dose evaluations and escalation.

Preliminary data demonstrates the following clinical improvements: (1) Initiating use of darbepoetin at hgb levels below 11 g/dl., (2) Improved monitoring of hgb and iron studies. (3) Improved physician dosing. (4) Increased use of iron supplementation. (5) Reduction of blood transfusions.

A standardized order form for darbepoetin, incorporating national guidelines, improves management of patients with chemotherapy-induced anemia. It promotes consistency among prescribers and allows individualized dosing based on practice preference and patient characteristics. The form serves as a visual reminder of important considerations such as: when to initiate, when to consider dose escalation, importance of iron studies and supplementation, and when to hold or discontinue use of the drug.

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UTILIZING QUALITY OF LIFE (QOL) AS A FACTOR IN TREATMENT CHOICES FOR CHEMOTHERAPY INDUCED ANEMIA (CIA). Wendy Koopman, RN, MSN, OCN[®], FNP, and Shannon Iakiri, RN, MSN, OCN[®], FNP, Cancer & Hematology Centers of Western Michigan, Grand Rapids, MI.

Erythropoietic agents, including epoetin alfa (Procrit; EPO) and darbepoetin alfa (Aranesp; DA), are effective in alleviating CIA. The more recent approval of DA for CIA has led to choices in erythropoietic therapy use. Through evidence-based research, oncology nurses can now draw from comparatively effective anemia treatment strategies to focus on reduced injection burden and its ramifications on QOL of their CIA patients.

The purpose of this chart review study was to compare the efficacy and utilization outcomes of DA versus EPO for the treatment of CIA.

A retrospective chart review was conducted in a mid-western private oncology office. Hemoglobin levels were recorded over a 12-week period for patients receiving an erythropoietic agent. Data were abstracted from 141 cases; 65 received DA and 76 received EPO. All patients were actively receiving chemotherapy for various cancer diagnoses.

Mean (SD) hemoglobin values for the entire group at week 1 (N = 141) and week 12 (N = 39) were 10.2(0.9) g/dL and 10.9(1.5) g/dL, respectively. When mean (SD) hemoglobin at weeks 1, 6, 10, and 12 were compared across the two groups, there were no significant differences at any of these times between patients using DA and those using EPO; e.g., at week 12, the mean (SD) hemoglobin was 11.2(1.1) g/dL for DA and 10.8(1.6) g/dL for EPO (p = 0.5, unpaired t-test). An additional study calculated the time it took patient and caregiver to complete the appointments needed at an oncologist's office. Average time for a patient to come for a single erythropoietic injection was 1 hour 38 minutes. Sixty percent of patients needed caregiver assistance; their average time spent was 1 hour 14 minutes.

If there is not clinically meaningful difference in the mean hemoglobin response in patients receiving different erythropoietic products, then the frequency of administration may be a consideration for patients. EPO is routinely given on a weekly basis, DA on an every other week basis. The time spent for an injection visit could greatly affect patient's QOL. As advocates and coordinators of overall patient care, oncology nurses have new options in erythropoietic therapies that might contribute to an overall improvement in patient QOL.

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NEUTROPENIC DIET IN THE IMMUNOSUPPRESSED PATIENT: PROS AND CONS AND VARIATIONS IN THEIR TREATMENT PLAN. Marie James, RN, BSN, OCN[®], UT M.D. Anderson Cancer Center, Houston, TX.

The purpose of this presentation is to discuss neutropenic diet variations currently in use among clinicians who treat immunosuppressed patients. Opportunistic infections remain a significant cause of morbidity and mortality in the cancer patient population. Severe neutropenia is a critical side effect of chemotherapy and the major risk factor for sepsis. Current research indicates both controversy and significant variation in the use of neutropenic diet.

Review of the last 10 years of research, and clinical data regarding the use of neutropenic diet will be presented. The pro and cons based on valid, research studies will also be presented. Studies concluded that the neutropenic diet restricts food that could contain gram negative bacteria, molds and yeast. Dietary restrictions recommended in the literature include well-cooked foods and elimination of foods which may be potentially high in bacteria or spores, such as fresh fruits and vegetable, nuts, dates, herbs, and yogurt. Reducing patient exposure to bacteria during neutropenia will consequently decrease the incidence of infection. Since food intake is a vehicle for bacterial infection, the objective of a low bacterial diet is to limit the entry of microorganisms into the body by means of the gastrointestinal tract.

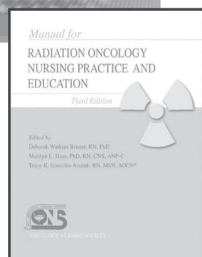
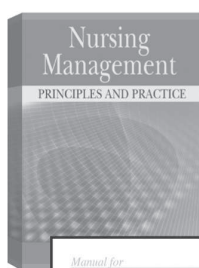
The majority of institutions use neutropenic diets for patients with neutropenia, whereas in other institutions dietary restrictions were placed

only on patients with leukemia. Conversely, some studies indicate no significant difference in infection rate of patients placed on a neutropenic diet versus a nonneutropenic diet. The belief is that this patient population receives intravenous antibiotics and thereby is protected from any bacteria ingested from a nonneutropenic diet. The patient therefore will not be at any greater risk for bacterial infection by being placed on non-neutropenic diet.

Based on completed published articles, and ongoing studies related to neutropenic diet, some preliminary conclusion will be presented and suggestion for future research.

The inconsistencies in the literature and limited published data available result in the many variations of the use of neutropenic diet among institutions. Hence additional investigation is needed in the development of infection in neutropenic patients placed on neutropenic diet.

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