

# The Many Faces of Oncology Nursing

Oncology Nursing Society 27th Annual Congress  
April 18–21, 2002, Washington, DC



## Abstracts Accepted for Podium and Poster Presentations

For your convenience, all Podium and Poster Abstracts have been indexed according to subject (page 385) and author (page 389).

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Abstracts that are not being presented do not appear.

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## ABSTRACTS TO BE PRESENTED AT PODIUM SESSIONS

### 1

**END OF LIFE (EOL) NURSING EDUCATION CONSORTIUM (ELNEC).** Rose Virani, RNC, MHA, OCN<sup>®</sup>, Betty R. Ferrell, PhD, FAAN, and Marcia Grant, DNSc, FAAN, City of Hope National Medical Center, Duarte, CA.

Previous research has demonstrated that nursing education has not prepared nurses to provide optimum EOL care; and yet, care of patients at the EOL is contingent on adequate preparation of healthcare providers. To date, there has not been a unified or organized effort to broadly address the preparation of nurses in EOL care. The purpose of this Robert Wood Johnson Foundation-funded project (2000–2003) is to develop and implement a comprehensive national effort to improve EOL care by nurses through a joint collaboration between the American Association of Colleges of Nursing (AACN) and the City of Hope Cancer Center. Based on the AACN "Peaceful Death" document, the ELNEC curriculum focuses on nine EOL core areas: nursing care at EOL; pain management; symptom management; ethical/legal issues; cultural considerations; communication; grief, loss, and bereavement; preparation and care for the time of death; and achieving quality care at the EOL. This project is a synthesis of research and knowledge in EOL care and is intended to assist clinical nurses with implementing scientifically based care in practice. Eight national training courses follow the development of the core training curriculum to enhance EOL expertise in faculty in undergraduate nursing programs (five courses) as well as in continuing education programs (two courses) and the National Council of State Boards of Nursing, Inc. staff and state boards (one course). Development of the ELNEC program includes detailed teaching materials to integrate EOL content into existing nursing curricula and clinical teaching. The projected outreach is to 135,000 registered nurses who will receive EOL training/education through schools' or agencies' educational programs as a result of these eight training programs. This presentation will provide description of evaluation methods as well as preliminary results for the five undergraduate courses: standard course evaluation summaries; curriculum surveys conducted pre-course and at 12 months; and participant goals conducted pre-course, immediate post-course, and at six and 12 month post course. This national organized effort is a major step toward preparing nurses in EOL care to improve care of the dying.

### 2

**IMPROVING CARDIOPULMONARY RESUSCITATION SERVICES IN A COMPREHENSIVE CANCER CENTER.** Karen Jones, RN, MS, CPHQ, Shawn Elliott, RNC, MSN, CNS, and Beverly Nelson, RN, MS, University of Texas M.D. Anderson Cancer Center, Houston, TX.

The management of cardiopulmonary resuscitation (CPR) is challenging in a comprehensive cancer center. Most patients who arrest are experiencing end-stage disease and multi-system failure. Therefore, post-code survival is generally poor. Even so, MDACC is committed to continuously improving CPR services.

In 1999, anecdotal reports suggested possible problems related to timeliness of code blue team response. At the same time, JCAHO published new standards requiring effective CPR services and outcome measurements.

A multidisciplinary team was formed whose first accomplishment was to map the code blue process in order to identify problematic areas. The document revealed process steps, participating disciplines, functions with unclear assignment of responsibility, and delays in the process.

The JCAHO standards and process map were used to develop an aim statement and establish priorities.

The MDACC outcome and process measures developed by the multidisciplinary team were derived from the "In-Hospital 'Utstein Style'" guidelines recommended by the American Heart Association (AHA). The key measures led to the development of data collection tools, specifically, the Code Blue Documentation form, the CPR QI Data Collection Tool, and the Post-Code Blue Evaluation survey. The first two instruments provided objective data and the latter tool provided qualitative information about the code.

We have experienced numerous improvements to date. The response processes have been expedited using new pagers and an improved paging system. Code team membership was expanded to include the police to direct the responders, a chaplain to support the family, and a phlebotomist to hand carry specimens for immediate processing. All crash carts were replaced and contents were updated to meet standards. An orientation program for the code team was developed. We established our status as an AHA community CPR training center to increase our ACLS and PALS certified personnel. Finally, AEDs have been placed throughout the institution in non-patient care areas.

Our quarterly data reveal that our post-CPR survival rate remains stable, the response time appears to have improved, and implementing ACLS guidelines is more consistent. Following the dissemination of outcome information, the number of post-code DNR designations increased to ninety-one percent (91%).

### 3

**EVALUATION OF LEADERSHIP STRATEGIES UTILIZED WHEN COMBINING TWO POPULATIONS OF CRITICAL CANCER PATIENTS.** Laura Espinosa, RN, MSN, CS, and Cynthia Segal, RN, MSN, CNOR, University of Texas M.D. Anderson Cancer Center, Houston, TX.

In December of 1999, the combination of two distinct cancer patient populations in the critical care units (CCU) of The University of Texas M.D. Anderson Cancer Center (MDA) required special attention and leadership skills. Historically, the surgical intensive care (SICU) and medical surgical care (MICU) units were managed and located on separate floors. As MDA embarked on the utilization of a group of critical care physicians for medical management of the 42-bed CCU, the challenge for cancer nurses was to unify and enlist a true sense of teamwork among these very clinically different and once separate services. Using Deming's theory of teamwork as a conceptual framework for the combination of these two units, unique management skills balanced the staff's strengths and weaknesses.

Initially, the name was changed from SICU and MICU to critical care unit (CCU). A nurse manager was hired to lead the unification of the units. With her goal of providing 24-hour management leadership, the single assistant nurse manager (ANM) position was increased by three, while clinical expertise was supported with two clinical nurse specialists (CNS). Agency nurse utilization was eliminated through aggressive hiring to meet core staff levels. Professional teambuilding consultants were enlisted to create a shared vision and mission for the CCU. Subsequent teambuilding events were directed toward establishing common rules and a mutual language to gain a collective CCU ownership and pride.

The impact of two years of teamwork resulted in a significant reduction of personnel turnover rates in the CCU. The 1999 CCU separation rate reduced from 16.6% to the 12.5% in 2000.

Moreover, the CCU internal personnel transfer rates decreased from 17.7% in 1999 to 8.9% in 2000. Total personnel cost was decreased by \$95.00 per patient day. Additionally, the average variable cost per patient day has decreased by \$90.00 per patient day.

A shared vision, common patient goal, teamwork, and collaboration created a successful environment in which to care for the critically ill cancer patient.

### 4

**UTILIZING JCAHO STANDARDS TO ACHIEVE PAIN MANAGEMENT.** Kristin Feldkamp, BSN, RN, and Barbara Schroeder, MS, RN, Mayo Clinic, Rochester, MN.

Despite the availability of highly effective therapies for pain, research suggests that 42% of cancer patients do not receive adequate treatment of their pain. Their fear of pain is so great that 69% report they would consider suicide if their pain reached unacceptable levels. Although patients are highly motivated to seek out effective pain management, personal barriers often hinder them. After evaluating the current practice on a large medical center's oncology unit, it was found that patients using opioids often fear possible addiction, side effects, and appearing "weak" or "bothersome" when asking for pain medications. Though nursing staff verbally reassured patients and families about misconceptions and concerns, no written pain education materials were consistently provided. To address these concerns, a two-goal project was formulated.

To enhance effective pain management communication between nurses and patients, an educational card was developed. The key components of this card, taken directly from the Joint Commission on Accreditation of Healthcare Organization's 2001 pain standards, explains the rights and responsibilities of the patient concerning pain management and includes the numeric, facial, and color pain scales. These pain scales were also laminated and placed in each patient's room.

To assist in providing a more comprehensive educational resource, *Pain Control, A Guide for People with Cancer and their Families* was used to address barriers patients have to taking pain medication and non-drug therapies for pain management.

To evaluate outcomes, a pre-pilot audit was done on 30 charts to assess patient pain scale ratings on admission and discharge and nursing interventions. During the pilot, nearly 70% of nurses stated that the materials led to further discussion with their patients. They also felt patients were more willing and able to rate their pain due to the posting of the pain scales. A post implementation chart audit revealed increased utilization of educational resources and a decrease in patient-reported pain levels.

The importance of controlling cancer pain merits high priority. This project has demonstrated that patient education may decrease patient barriers, resulting in pain being more effectively treated.

This produces a higher quality of life for each patient.

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**5**  
**HEALING TOUCH AND REIKI: INDEPENDENT NURSING FUNCTIONS TO SUPPORT CANCER PATIENTS.** Cynthia A. Teague, RN, BSN, CPON, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Touch therapies have been used for centuries to relax patients and promote healing. Therapeutic touch, from which many aspects of Healing Touch are derived, was formally introduced into nursing in the early 70's by Delores Kreiger. She developed a research base, and taught nurses to use therapeutic touch to balance the body's energy field and restore harmony, allowing the patient to heal.

Reiki (ray-kee) is an ancient Japanese form of energy healing with the primary purpose of restoring the balance in the body to promote the individual's ability to heal. Both of these techniques are considered forms of energy healing. Theoretical work in energy healing was pioneered in nursing by Martha Rogers who described the body as an energy field in interaction with other energy fields and the global energy field. Although these therapies are ancient, the research base for them is still in its infancy. Benor (1993) reviewed 155 studies on energy healing and concluded that energy healing can be an effective treatment, especially for immune compromised conditions.

Healing touch has traditionally been a primarily nurse-initiated intervention and Reiki is becoming almost as popular among nurses who espouse energy healing. These therapies have been used with patients of all ages, including children, with a minimum effect of calming the patients, decreasing pulse rate, and increasing skin temperature. The stress reduction effect has obvious implications for cancer patients who experience stress-provoking events from diagnosis through the treatment and outcomes period. Of these therapies, healing touch and Reiki have the greatest potential as noninvasive techniques to be used on a regular basis by the clinical nurses as they provide daily care to the patient. This presentation will include an overview of Reiki and Healing Touch including the underlying tenets, available research to support its use, the techniques involved, and future directions.

**6**  
**REIKI TREATMENTS FOR PEOPLE LIVING WITH CANCER.** Lorraine M. Bossi, RN, MS, CS, Children's Hospital, Boston, MA; Susan DeCristofaro, RN, MS, OCN®, and Mary Jane Ott, RN, MN, MEd, CS, Dana-Farber Cancer Institute, Boston, MA.

**Background:** Reiki is a healing method that uses "laying on of hands" in a precise method that connects the universal energy with the body's innate power to heal. The goal of a Reiki treatment is to restore the harmonious balance of mind, body, and spirit. Reiki has been used with both adult and pediatric populations to achieve improved quality of life. Published reports describe the benefits of Reiki, including improvement in post-surgery pain.

**Program:** Reiki treatments have been integrated into the care of cancer patients at our institution, an NCI-designated comprehensive cancer center. Patients, who receive both standard and experimental cancer therapies, are generally self-referred for the Reiki and pay out-of-pocket. Attending physicians are notified about the scheduled treatments, allowing for dialogue with the Reiki practitioner. The treatment sessions take place in private clinic rooms and last 45–60 minutes, which differ from shorter, more impromptu Reiki treatments that may be offered during routine nursing care. Often these treatments are scheduled just before or after scheduled radiation therapy, chemotherapy, or a procedure. Description of the Reiki treatments, patient symptoms, and functional level are documented in the medical record.

**Evaluation:** Between November 2000 and July 2001, 82+ Reiki sessions were provided. Women utilized this service more than men (93% versus 7%), and most referrals (over 80%) were for symptom management. There were no reported side effects from any Reiki treatments. However there were many benefits that were voiced and documented: decreased pain and increased mobility with peripheral neuropathy; improved sleep patterns; and decreased anxiety about treatment options, helping with decision-making. Patients reported immediate results as well as some changes noticed hours after treatment. A formalized evaluation tool was implemented in August 2001 to provide additional descriptive data about the Reiki treatments.

**Discussion:** Reiki is safe and appears to provide symptom relief in many cancer patients. Many cancer patients are seeking out this alternative treatment that can be easily learned by oncology nurses and readily integrated into their practice. Reiki is another tool for oncology nurses to use as they care for and comfort cancer patients.

**7**  
**PATH TO HEALING WITH CANCER: AN INNOVATIVE SUPPORTIVE GROUP USING EXPRESSIVE AND CREATIVE THERAPIES, MEDITATION, AND MASSAGE.** Martha W. Healey, RN, MSN, FNP, Susan Bauer-Wu, DNSc, RN, Dana-Farber Cancer Institute, Boston, MA; and Elana Rosenbaum, MS, MSW, LICSW, University of Massachusetts Medical School, Worcester, MA.

**Background:** Many cancer survivors want to learn new tools to enhance their recovery and live well beyond cancer. Studies have documented the benefits of support groups,

mind-body techniques, massage, and expressive therapies. Traditionally these different interventions have been offered separately to patients, rather than integrating them within one therapeutic format. Recognizing the value of each of these interventions, coupled by patients' requests for "more than a typical support group," an innovative "supportive" group, Path to Healing With Cancer (PHWC), was created.

**Intervention:** PHWC is a monthly group for persons with cancer. Two healthcare professionals facilitate the group; one, an advanced practice oncology nurse with training and experience in expressive therapies and meditation, the other, a clinical social worker who is also a cancer survivor and meditation instructor. The group, held at Hope Lodge, an American Cancer Society "home-away from home" for cancer patients, takes place from 6–9 pm. Cancer patients in the community as well as those at Hope Lodge attend. The evening combines guided meditation, gentle body movement, art, writing, and dialogue. Each session has a theme, usually consistent with the seasons (i.e., "planting our seeds and blossoming"). After two hours, massage, Reiki, and reflexology are offered, without charge, by certified professionals who volunteer their services. The evening ends with informal sharing and light refreshments.

**Evaluation:** Since its inception in December 1999, the group has grown with approximately 12 participants each month, many coming since its inception. Some participants travel over an hour to attend this group. Although formal evaluations have not been conducted, consistent participation and verbal feedback are indicative of its benefits: "This is the one thing I do for myself each month that I never want to miss." "This group gives me strength and peace of mind more than any other group I've attended."

**Interpretation:** Success of this innovative group is evident. Cancer patients are seeking group interventions that incorporate various integrative therapies to enhance their recovery. PHWC is a unique group and provides a model for oncology nurses and other professionals to refer or offer such programs to complement the care of their cancer patients.

**8**  
**OUTCOMES OF A SLEEP INTERVENTION FOLLOWING ADJUVANT CHEMOTHERAPY.** Ann M. Berger, PhD, RN, AOCN®, University of Nebraska College of Nursing, Omaha, NE; Patti Higginbotham, MS, RN, OCN®, Wings of Hope Cancer Center, Council Bluffs, IA; Susanna VonEssen, MD, MPH, UNMC-Pulmonary, Omaha, NE; Brett Kuhn, PhD, UNMC-MMI, Omaha, NE; Barbara Piper, DNS, RN, AOCN®, FAAN, UNMC-CON, Omaha, NE; and Sangeeta Agrawal, MSc, UNMC-CON, Omaha, NE.

**Significance:** Fatigue and difficulty sleeping are frequent and distressing symptoms in women during and following adjuvant breast cancer chemotherapy (ABCC). Poor sleep adversely affects daytime activity and mood and leads to more intense and distressing symptom clusters. Interventions need to be tested to modify sleep and fatigue and promote recovery following ABCC.

**Problem and Purpose:** There is a high prevalence of fatigue and insomnia in women treated with ABCC. This study examined the outcomes of a sleep intervention consisting of sleep hygiene counseling, relaxation therapy, sleep curtailment, and stimulus control methods following ABCC.

**Theoretical Framework:** Components of Piper's Integrated Fatigue Model (innate host factors, patterns of sleep/wake, activity/exercise).

**Methods:** A prospective, repeated measures design was used for this feasibility study developed by a multi-disciplinary team. Caucasian women (N = 21) had surgery for stage I or II breast cancer followed by adriamycin-based chemotherapy (eight also had Taxol, 10 had radiation, 18 were taking Tamoxifen). They had no unstable co-morbidities, they were between the ages of 43–66 (X = 55.3), most of them had some post-secondary education, and most were married and employed. Reliable and valid instruments were used: Daily Diary, Pittsburgh Sleep Quality Index (PSQI), wrist actigraphs, and Piper Fatigue Scale (PFS). An Individual Sleep Promotion Plan (ISPP) was negotiated by the researcher and each woman at 30, 60, and 90 days after the last chemotherapy dose, and reinforced one week later. Follow-up occurred one year after the first treatment.

**Data Analysis:** Epi-Info, Action 3, and SPSS data programs.

**Findings/Implications:** Latency, time wake after sleep onset (WASO), sleep efficiency, total rest and feelings upon awakening data (diary & PSQI) demonstrated wide ranges, with means within normal limits for all except WASO. Actigraphic measures of mean activity (mesor and amplitude) slowly and steadily returned to normal by one year. Actigraphic measures revealed frequent (10–11) awakenings/night at early measures and less frequent (8.8) at one year. Fatigue (PFS) ranged from 3.2–3.4 early, and was down to 2.87 at one year. The intervention assisted in promoting activity, obtaining quality sleep, and keeping fatigue levels mild. Reductions in the time WASO are needed and will be tested using an experimental design and a larger sample.

**9**  
**NURSES CARING FOR THE SPIRIT: CANCER PATIENT AND FAMILY CAREGIVER EXPECTATIONS.** Elizabeth Johnston Taylor, PhD, RN, Loma Linda University School of Nursing, Loma Linda, CA.

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Oncology nurses are increasingly expected to provide spiritual care to their clients. Research findings underscore the need for nurturing client spiritual health, especially for cancer care recipients. Yet scanty and outdated evidence exists to document what spiritual care giving cancer patients and their family members expect from nurses. Understanding client perceptions can help oncology nurses to inoffensively and effectively provide spiritual care. One purpose of this cross-sectional, descriptive, qualitative study was to describe, from the perspective of patients and family caregivers, what are their expectations of nurses regarding having spiritual needs addressed. Conceptually, this investigation was influenced by several scholars (especially, Reed, Frankl, and Travelbee) who have theorized about how and why spirituality is important when living with a health challenge, and Clinebell who identified categories of spiritual need. Methods for collecting data included conducting audio-tape-recorded semi-structured interviews with 27 white or black cancer patients and family caregivers. Concurrent data analysis of transcribed interviews followed Miles and Huberman's approach to content analysis which includes data reduction (coding), data display (categorizing themes after constant comparative analysis), and verification. Results suggest a continuum of client responses regarding nurses providing spiritual care. This continuum was anchored by those who expressed open receptivity to nurses caring overtly for their spiritual health and by others who were adamant that a nurse should not meddle with client spiritual needs. Negative responses to nurses providing spiritual care often reflected confusion about any difference between spirituality and religiosity (e.g., informants frequently equated spiritual care with nurses initiating religious conversation or rituals). Findings also include nursing approaches identified by informants that would "boost the spirit," as well as those that informants perceived would not be helpful or even harmful. These results offer client perceptions about the role and practices of nurses regarding spiritual care. With these findings, nurses can be sensitive and informed while offering spiritual care. Nursing spiritual assessments, indeed, may need to include an assessment of client perceptions about nurses providing spiritual care. Client perceptions of what is spiritual care may need to be reshaped prior to any overt spiritual assessment or care activities. (Funded by the Oncology Nursing Foundation/Glaxo Wellcome Oncology Small Research Grant.)

## 10

**WHY HAVEN'T YOU GONE BACK? PREDICTORS OF NOT RETURNING FOR DIAGNOSTIC FOLLOW-UP AFTER AN ABNORMAL MAMMOGRAM.** Alexis Bakos, PhD, MPH, RN, C, National Cancer Institute, Bethesda, MD.

Mammography is one of the most important means of breast cancer screening. It is estimated that as many as 60% of the women who have an abnormal mammogram do not return for further medical evaluation. The purpose of this study was to determine factors related to a woman's decision to obtain appropriate diagnostic follow-up after an abnormal screening mammogram. Cox's Interaction Model of Client Health Behavior was used as a conceptual framework to identify key predictor variables that are elements of client singularity and client-professional interaction. The study used a retrospective design. A convenience sample of 243 women with abnormal mammograms from two urban university medical centers was invited to participate in the study. The study sample included 75 women. Forty-four women who returned for diagnostic follow-up and 31 women who had not returned were interviewed using a telephone survey method to determine which variables predicted follow-up and most accurately classified women into either category. The ages of the women ranged from 29–85 years with a mean age of 52 (SD = 11) and 89% of the women were African American. A majority of women (69%) had insurance coverage for their mammogram. Telephone interviews assessed demographic variables (including social influences, previous healthcare experience, and environmental resources), cancer fatalism (Powe Fatalism Inventory,  $\alpha = .88$ ), anxiety (Trait Anxiety Inventory,  $\alpha = .91$ ), depression (Beck Depression Inventory,  $\alpha =$  unstable estimate), perceived cancer screening experience (Screening Satisfaction Scale,  $\alpha = .76$ ), and mammography induced pain (Painometer-Words, internal consistency reliability =  $n/a$ ). Data were analyzed using chi-square, ANOVA, and logistic regression to aid in prediction. The results suggest that women who had greater cancer fatalism and depression, experienced less mammography induced pain, were age 50 years or younger, and had less perceived breast cancer risk, had significantly greater odds of not returning for diagnostic follow-up (model chi-square = 47.94,  $df = 10$ ,  $p = .000$ ). The logistic regression model correctly classified 81% of the women on the outcome variable. The findings can be used by nurses in cancer detection to increase awareness of those at risk for not returning and test suggested intervention strategies to improve diagnostic follow-up after an abnormal screening mammogram.

## 11

**PHYSICAL AND PSYCHOLOGICAL HEALTH OUTCOMES IN PATIENTS WITH CANCER PARTICIPATING IN A STRUCTURED EXERCISE PROGRAM.** Stacey Young-McCaughan, RN, PhD, AOCN®, U.S. Army Medical Research & Materiel Command, Fort Detrick, MD; Stacey Dramiga, MA, Brooke Army Medical Center, San

Antonio, TX; Linda Yoder, RN, MBA, PhD, AOCN®, Walter Reed Army Medical Center, Washington, DC; John Caton, Jr., MD, Sonya Huizar, BS, Geneva Foundation, San Antonio, TX; and Mary Mays, PhD, Eagle Creek Research Services.

**Problem & Purpose:** Recent research studies that have investigated exercise rehabilitation in patients with cancer have documented dramatic improvements in physiological and psychological functioning. The purpose of this study was to investigate the capability of an exercise program patterned after a phase II cardiac rehabilitation program to improve selected physiological and psychological parameters of health in patients with cancer.

**Theoretical Framework:** The Roy Adaptation Model was the framework used for this study.

**Methods:** This prospective, repeated measures study enrolled 62 patients diagnosed with cancer within the previous two years into a structured exercise program patterned after a phase II cardiac rehabilitation program. Subjects met two days each week for 12 weeks for exercise and education. The dependent study variables were changed over time in exercise tolerance as measured with a graded exercise test, activity and rest patterns as measured with a wrist actigraph, and quality of life as measured with the CARES-SF.

**Data Analysis:** Descriptive statistics and repeated-measures analysis of variance were used to analyze the data.

**Findings:** Half of the participants were male and half female. Subjects were predominantly Caucasian, married, and well-educated, with almost three-quarters of the sample having college preparation. Ages of participants ranged from 24–83 (mean = 59). Participants had a wide range of cancer diagnoses. Most subjects had early stage I or II disease. Seventeen subjects were undergoing treatment when they were enrolled into the study. More than half of the subjects exercised prior to their cancer diagnosis, however, fewer than half of these patients were able to resume an exercise routine following their cancer diagnosis. Forty-six subjects were able to complete the 12-week exercise protocol. Significant improvements were observed over time in exercise tolerance and quality of life ( $p < .05$ ). Completed analyses will include an examination of sleep indices.

**Implications:** These findings indicate that patients with various types and stages of cancer can safely exercise using a cardiac rehabilitation model and that significant improvements in exercise tolerance and quality of life can be realized in this patient population.

(Funded by the Department of Defense TriService Nursing Research Program N98-051.)

## 12

**CARING FOR THE DYING: DEVELOPING NEW NURSES TO FACE THE CHALLENGE.** Caryl Fulcher, MSN, RN, CS, and Sheree Dunn, RN, Clinical Nurse IV, Duke University Health Systems, Durham, NC.

One of the experiences most feared by new nurses is that of caring for dying patients and their families. Often their nursing school experience has been limited in this area, and their curriculum content may have been minimal as well. Because death is so feared by many in our society, and because it is associated with so many personal, cultural, and spiritual beliefs, many new nurses have not taken the opportunity to reflect on their own loss history and its impact on their developing philosophy. The purpose of this project is to assist new oncology nurses to develop comfort and skills necessary to provide sensitive end-of-life care.

In an attempt to assess the perceptions, the new graduate nurse brings to clinical practice a 12-item questionnaire entitled, "How Do I Really Feel About the Person Who Is Dying?" which was completed during the orientation period by the eleven graduate nurses enrolled in an oncology nurse internship program. The responses from the questionnaire guide the assigned advanced practice nurse mentors to discuss fears or biases and "process" actual clinical experiences with patients and families to create a helpful learning experience. In addition to this nurse-mentor discussion, didactic content on grief and loss is presented. It is well known that nurses who work closely with dying patients are at high risk for grief reactions and burnout, so resources available to support the nurse are specifically identified. As a means of evaluation, the questionnaire will be repeated after the nurse has practiced for eight months to see if the concerns expressed have changed to indicate more comfort with end-of-life care. Remaining gaps can then be addressed in an effort to aid nurse development and also retention.

## 13

**THE LONG AND WINDING ROAD OF THE ADVANCED PRACTICE NURSE (APN): INTEGRATING PALLIATIVE CARE EARLY IN CANCER TREATMENT.** Rose Anne Indelicato, RN, MSN, CS, ANP, OCN®, Jean Adelhardt, RN, MA, Candace Coggins, CARN, MS, MA, NP, and Jackie Levin, RN, MS, HNC, CHTP, Beth Israel Medical Center, New York, NY.

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**Topic:** Palliative care can provide physical, psychological, and spiritual support for patients and caregivers at every stage of cancer treatment. At present, however, the need for palliative care often goes unnoticed until patients become terminally ill. This presentation will highlight how one facility has incorporated the unique talents of a group of advanced practice nurses (APNs) in the provision of comprehensive palliative care across many clinical settings and stages of disease.

**Rationale:** The ONS position paper asserts that “APNs are a vital component of the healthcare team that provides care to patients with cancer, and the role is essential to providing cost-effective, quality care for diverse populations.”

**Interventions:** We will describe the multi-faceted roles of APNs in a department of pain medicine and palliative care (DPMPC) at a 710-bed lower Manhattan hospital with a diverse patient population. In addition to education and research, APN clinical activities include DPMPC clinic sessions (NP and CNS), outpatient cancer and fatigue centers, telephone-based case management, and providing continuity of care between active cancer treatment and end-of-life care through hospice. We will highlight the APN in the provision of palliative care early in the course of disease by illustrating areas of clinician expertise in pain and symptom management, home care, hospice, psychiatric nursing, chemical dependency, and complementary/alternative medicine (CAM) therapies. We will discuss barriers faced in providing palliative care such as reimbursement issues, provider limited expertise in symptom management, and lack of comfort in discussing advance directives and goal of care; patient/caregiver equating palliative care with “suboptimal” care; the inconsistencies between cultural/religious beliefs and the ability to offer quality symptom control. Through case presentations, we will show the impact that APNs can have on implementing early palliative care.

**Interpretation/Discussion:** APNs are poised to bring palliative care into patient management early in the cancer trajectory. Patients and caregivers can be better served if oncology nurses communicate, from the start, that palliative care, with its focus on quality of life, is as essential to ongoing patient care as is treatment for the underlying disease.

## 14

**LIVING WITH DYING: SPIRITUALITY AT THE END OF LIFE.** Pamela Shockey Stephenson, RN, MSN, CS, OCN®, CHPN, Forum Health Cancer Care Center, Warren, OH.

Little is known about the experience of spirituality in the lives of hospice patients despite the fact that it is during the end of life that spiritual development is thought to be of central concern to patients. Nurses report feeling unprepared to address spiritual needs because they lack an understanding of the meaning of spirituality in the lives of hospice patients (Taylor, Highfield, & Amenta, 1999).

This study used interpretive phenomenology to explore the experience of spirituality from the perspective of the hospice patient (Benner, 1994). Unstructured, in-depth interviews, during which participants were asked to describe the experience of spirituality in their lives were conducted with six hospice patients. A four-member interpretive team analyzed the data using the strategies outlined by Diekelmann, Allen, and Tanner (1989).

All the participants shared stories about spirituality and dying that were consistent with their views about spirituality throughout their lives. They did not demonstrate any significant spiritual transformations when they learned they were dying.

Two sub-themes emerged from the data which indicated what issues were most important to the participants as death approached. The first sub-theme of “who is in charge” reflected the participants’ consistency regarding who was in charge of their life, illness, and dying, be it themselves and/or God. The second sub-theme of “connecting and disconnecting” revealed the importance of joining with either other humans and/or God throughout life and in death.

The participants’ expectation of nurses was not to participate in spiritual tasks or to engage in in-depth spiritual dialogue, but to reinforce their sense of spirituality, to display the “good” qualities of humankind. These findings suggest that nurses should respect the patients struggle to determine who is in charge and, rather than perform “spiritual tasks,” and provide a meaningful connection to the dying patient.

## 15

**TEACHING END-OF-LIFE: MULTIMEDIA TOOLKIT FOR NURSING.** Diana J. Wilkie, PhD, RN, FAAN, University of Washington, Seattle, WA; M. Kay M. Judge, EdD, RN, University of Washington and Nursing Consult, LTD., Seattle, WA; and Stuart J. Farber, MD, University of Washington, Seattle, WA.

Most nursing programs lack sufficient palliative care content meaning that nursing students may have insufficient knowledge to provide high-quality care for people facing death. A solution to this problem is for a team of interdisciplinary, end-of-life experts to create tools that can be used by nurse educators in academic and clinical settings. TNEEL (Tool-Kit for Nursing Excellence at End-of-Life Transition) provides nurse educators

with such a solution. TNEEL, a CD-ROM-based program, is an easy-to-access, user-friendly package of tools to teach palliative care. Multiple teaching strategies are included in this evidence-based, multimedia toolkit of instructional aids. Educators can use these tools to engage students in meaningful learning activities. TNEEL includes six core end-of-life care topics: Comfort goals and preferences including assessment and management of pain and other symptoms; ethical and legal decision-making; connections (communications and relationships supporting patient and family-centered care); grief loss and bereavement; well-being (hope, suffering, complementary comfort therapies, spiritual and psychosocial needs); and impact (the impact of end-of-life care on patients, families, and society). Within each of these topics, the TNEEL teaching portfolio includes: student learning objectives; pre- and post-assessment items; common myths and misconceptions, definitions of terms; teaching materials (lecture outlines and text materials); PowerPoint™ slides with speaker/instructor notes using multimedia (video, audio, graphics) to illustrate learning activities; case studies for problem-based learning; learning activities that promote critical thinking; and resources (references, bibliographies, web resources, movies, books, arts). Core concepts are woven throughout TNEEL including individual and cultural diversity, family centered care across the lifespan, interdisciplinary collaborative care, settings and systems of care, and values and attitudes. TNEEL gives nurse educators access to electronic teaching aids that will meet their needs and preferences. With future advances such as hand-held and bedside computers, TNEEL could mentor students in effective end-of-life care when and where they need it most—with vulnerable individuals and families facing end-of-life transitions. TNEEL will be delivered, free of charge, to every academic nursing program and to 1,000 clinical agencies as a gift from the Robert Wood Johnson Foundation. This presentation will orient nurses to TNEEL’s innovations and benefits.

## 16

**DEVELOPMENT OF A BREAST CANCER RISK ASSESSMENT PROGRAM.** Laurel Snyder, RN, MS, National Naval Medical Center, Bethesda, MD; Lynda L. Lahl, RN, MS, National Cancer Institute, Bethesda, MD; Michele Nehrebecky, RN, CRNP, National Cancer Institute, Bethesda, MD; Peter Soballe, MC, USN, U.S. Navy, Bethesda, MD; and Pamela Klein, MD, Genentech, Inc., South San Francisco, CA.

Advances in the chemoprevention of breast cancer over the last five years have given women at high risk management options for the first time. Results from the Breast Cancer Prevention Trial (BCPT) clearly demonstrated that tamoxifen, a selective estrogen receptor modulator (SERM), could reduce breast cancer by 50%. The FDA approval of tamoxifen in 1997 for use in prevention challenged providers to identify women who might benefit from tamoxifen, as well as those women in which the risks outweigh the benefits.

The Breast Care Center at the National Naval Medical Center is a multidisciplinary facility jointly run by the National Cancer Institute and the Navy. In response to the numerous requests for prevention information after the results of the BCPT were released, a breast cancer education session and risk assessment program was developed. The intention was to provide patients with general information about breast cancer, risk assessment, and prevention. It was anticipated that there would be an increased need within the clinic for healthcare providers to discuss options available to women not only at increased risk for breast cancer, but for those individuals looking for overall breast cancer prevention information. There was a concern that many of the providers would be unable to adequately discuss this information with the patients in both a timely and efficient manner.

Since the implementation of the bi-monthly education program in March 1999, the session has effectively provided baseline information on breast cancer, risks, prevention options, clinical trials, and information regarding their personal risk of breast cancer. This has allowed more appropriate triage for the high-risk patients needing further consultation from those patients who just required general information. Patients have provided both verbal and written satisfaction with the information provided in the class and have thus become active participants in their health care. In addition, this baseline information allows for a more focused and time efficient consultation with a provider. This experience suggests that group education may be a viable and acceptable way to bring new advances in breast cancer prevention to large groups of women and their significant others.

## 17

**COLON CANCER GET CHECKED PROGRAM: AWARENESS TO ACTION PROGRAM.** Sandra J. Donnelly, RN, OCN®, Nora Katurakes, RN, MSN, OCN®, and Charlene Marinelli, BSN, OCN®, Christiana Care Health Services, Wilmington, DE.

Colon cancer is the third most common malignancy and the second leading cause of cancer mortality in the United States. The American Cancer Society (ACS) has estimated 130,200 new cases of colon cancer and 56,300 deaths for the year 2001. Delaware is ranked fifth in the nation for colon deaths. ACS reports that only 17.9% of Delaware men and 24.6%

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of Delaware women have had a recent fecal occult blood test (FOBT). Annual screening with FOBT can result in a 15%–33% reduction in mortality as reported in clinical trials.

In October 2000, the Christiana Care Cancer Outreach Program (CCCOP) implemented the Colon Cancer: Get Checked Program that includes information about risk factors, prevention guidelines and screening. The program goal is to screen 250 men and women who are age 50 years and older by March 2002. CCCOP message is "Take Four Easy Steps for a Colon Check": 1) Learn about it, 2) Decide to get tested, 3) Get a test kit, and 4) Talk about the results. An 11-item tool is used to determine average or high-risk and eligibility for a FOBT kit. A group of 15 men, mostly African-American over the age of 50, piloted this program including review of the promotional flyer, risk assessment tool, and kit instructions. Revisions were made based on the findings. An outreach worker recruited participants at 36 community educational events including churches, civic associations, worksites, and health fairs.

Preliminary results as of August 2001 show 53 requested to participate. Three were found to be high-risk and were referred to their physician to discuss a screening plan. Twenty-eight of 50 (average risk) consented to receive kits for testing, and nine have been returned to CCCOP for processing. All returned were negative. A reminder letter was issued to all participants who did not return kits as scheduled. No additional contact was made after this step. The next steps include promoting the program on the Christiana Care Health System web site, analyzing the data from late- and regional-stage disease to help develop a specific outreach plan, and surveying recent participants for feedback about the program's components.

## 18

THE MAP OF DECISIONS TO DELAY BREAST SYMPTOM EVALUATION. Noreen C. Facione, RN, PhD, University of California, San Francisco, CA; and Peter Facione, PhD, Santa Clara University, Santa Clara, CA.

**Problem and Purpose:** Early diagnosis and treatment of breast cancer requires women to appraise their self-discovered symptoms as posing the threat of breast cancer and to decide to seek immediate evaluation from a provider. Research has shown that this appraisal and decision process is a reflective judgment process influenced by social and psychological variables.

**Theory:** This cognitive decision-making process results in a confidence that one is making good judgments about cancer risk. However, the symptom appraisal and decision process itself has not been adequately studied. Cognitive theory grounds this study of women currently experiencing breast symptoms.

**Methods:** In depth interviews were conducted in the homes of 25 symptomatic women recruited in a community-based study of breast health behavior. The sample women were Latino (36%), Black (16%), and White (48%). They ranged in age from 24–72 years (mean = 40.0 years,  $sd = 16.5$ ), and varied across income levels.

**Analysis:** This study used two analytical methods (content and argument analysis) to analyze the content and the reasoning process in these interviews. Decision maps were then constructed to display the thinking processes involved in each woman's symptom appraisal and to display each woman's decision about whether or when to seek evaluation. The 25 decision maps were then compared for similar reasoning patterns.

**Findings and Implications for Practice:** In five of the interviews, women appraised their symptoms as cancer and sought immediate evaluation. In seven of the other interviews, women attributed their symptoms to cancer and yet were among the 10 (40%) of the women who decided to delay seeking evaluation. The analyzed decision processes and analysis of the aptitudes and knowledge used in these decisions explained women's appraisal as malignant or benign, and their subsequent decisions to delay, even when they attributed the symptom to breast cancer. The findings suggest new clinical approaches for counseling women about the risk of delaying the evaluation of self-discovered breast symptoms and new media approaches for early cancer detection.

## 19

A PROSPECTIVE STUDY OF PATIENT SENSATIONS AFTER BREAST CANCER SURGERY. Roberta H. Baron, RN, MSN, AOCN®, Jane V. Fey, MPH, and Kimberly J. Van Zee, MS, MD, Memorial Sloan-Kettering Cancer Center, New York, NY.

**Topic:** Many breast cancer patients describe distressing postoperative sensations and question if these feelings are normal. This phenomenon remains poorly understood. Few studies have evaluated sensations in patients who had sentinel lymph node biopsy (SLNB) compared to axillary lymph node dissection (ALND). Our study evaluated sensations over time and with different surgical procedures.

**Purpose:** To evaluate prevalence, severity, and level of distress of sensations at one week (baseline), 3, 6, and 12 months after breast cancer surgery.

**Theoretical Framework:** This study is based on the University of California San Francisco Symptom Management Model in which careful symptom assessment is a prerequisite for effective symptom management.

**Methods:** Patients completed the Breast Sensation Assessment Scale (BSAS), an instrument developed by the investigators. The BSAS contains 18 descriptors of breast/axilla sensations. Patients recorded each sensation as present or absent, and if present, rated it on severity and level of distress. The BSAS demonstrated good reliability and validity in our previous studies.

**Data Analysis:** Prevalence, severity, and distress of sensations in different populations were compared using Fisher's Exact Test.

**Findings and Implications:** 261 patients completed the BSAS at baseline, 3, 6, and 12 months. Surgery included SLNB + Breast Conservation (BCT)(53%), SLNB + Total Mastectomy (TM)(13%), ALND + BCT(20%), and ALND + TM(14%). At baseline, tenderness and soreness were the most prevalent in SLNB and ALND. In SLNB, this remained constant at 3, 6, and 12 months. In ALND, numbness and tightness became the most prevalent at 3, 6, and 12 months and were significantly more severe and distressing ( $p < .05$ ) when compared to SLNB. Prevalence of phantom breast/nipple sensations in the TM population remained fairly constant. Prevalence at baseline was 38%, 3 months 40%, 6 months 36%, and 12 months (38%). TM patients with tissue expander reconstruction (TE) had significantly more aching and tingling at baseline ( $p < .05$ ) than those without TE. There was no significant difference in prevalence of sensations at baseline in patients who had SLNB + TE compared to ALND + TE. Certain sensations remain prevalent, severe, and distressing even one year after surgery. This information will help nurses better understand patients' experiences so they can provide more accurate education before and after surgery.

## 20

A RANDOMIZED TRIAL OF EXERCISE FOR NEWLY DIAGNOSED PATIENTS RECEIVING CHEMOTHERAPY: EFFECTS ON BONE DENSITY AND BODY COMPOSITION. Anna L. Schwartz, PhD, FNP, Marjorie King, MS, C-FNP, Catherine Samson, MPH, Tracy Beil, MS, and Jennifer Holub, MS, Oregon Health & Science University, Portland, OR.

**Problem:** During chemotherapy, it is common to observe declines in functional ability and muscle strength and increases in body weight. Chemotherapy, particularly doxorubicin or methotrexate in combination with steroids, increases the potential for significant physical decline and predispose patients to osteoporosis. Exercise may be a means of minimizing these negative effects and decreasing risks for long-term treatment-related complications such as osteoporosis and weight gain.

**Conceptual Framework:** The hypokinetic theory forms the conceptual basis for this study that examines the effects of exercise on bone health, body composition, and functional ability.

**Purpose:** The purpose of this longitudinal, randomized, repeated measures study was to examine the effects of exercise on functional ability, muscle strength, bone density (BMD), and body composition in newly diagnosed cancer patients beginning chemotherapy with doxorubicin or methotrexate and a steroid.

**Methods:** 66 newly diagnosed cancer patients (5 males/61 females) beginning chemotherapy regimens were randomized to aerobic exercise (AE) ( $N = 23$ ), resistance exercise (RE) ( $N = 22$ ), or usual care control (CG) ( $N = 21$ ). Exercise subjects were instructed to follow a four-day/week home-based program. All subjects returned for follow-up exercise testing at three-month intervals and bone densitometry scanning (DEXA) of the L-spine and total body at baseline and six months.

**Data Analysis:** Descriptive analyses and repeated measures analysis of variance were used to examine differences between the groups over time.

**Findings:** Greater increases in functional ability were observed in the AE (16%) than the RE (9%) or CG (8%). Muscle strength significantly increased in the AE and RE group, and declined in CG ( $p < .05$ ). The mean decrease in BMD at the L-spine was 4.3% ( $SD = 4.6$ , range = -16.4 to 2.9). Significantly less decline in L-spine BMD was observed in AE (-1.6%) compared to RE (-5.3%) and CG (-5.9%) ( $p < .05$ ,  $F = 4.7$ ). No significant changes in body fat were observed between groups.

**Implications:** Findings support the idea that AE may reduce the bone-wasting effects of chemotherapy and may assist in maintaining or improving body composition, functional ability, and muscle strength during chemotherapy. These outcomes may be critical to improving quality of life and reducing risks for long-term treatment related side effects.

**Funding:** NIH R29 NR04945

## 21

CHEMOTHERAPY DOCUMENTATION FORMS: GUIDING PRACTICE AND AS-SURING COMPLIANCE WITH ONS GUIDELINES. Kathleen Beaudoin, RN, BSN, and Kristine Rosssof, RN, Rush-Presbyterian-St. Luke's Medical Center, Chicago, IL.

Chemotherapy administration and documentation is an ongoing challenge for hematology, oncology, and BMT nurses. Our institution utilizes a two-day ONS certification

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workshop to update chemotherapy drug information and practice for oncology nurses. The ONS encourages the implementation of their guidelines to improve clinical performance and safe patient care. One nurse's concern for her own documentation practice led her to develop a basic documentation tool, incorporating the guidelines of the ONS teaching manual. The staff nurses were included with a poster presentation and discussion on the use of the form. The nurse manager, clinical pharmacist, and risk manager reviewed the form for input. The form was divided to provide separate notations for initiation, completion, and continuous-infusion chemotherapy. Despite the institution's practice to house patients receiving intensive, high-dose chemotherapy within the oncology units, the situation does occur requiring nurses outside those units to administer chemotherapy. The documentation tool was therefore evaluated for its usefulness to guide the chemotherapy practice for non-certified nurses, incorporating proper dosing, safety factors, side effects, and patient education. The long-term proposed plan is to distribute the hospital-approved form as part of the chemotherapy kit currently delivered to the nursing unit by pharmacy, promoting consistency of practice hospital wide. The oncology nursing staff immediately acknowledged the usefulness of such a form to improve their individual practice. For the experienced nurse, the tool serves as a reminder for practice and thorough documentation of care delivered. It is an educational tool for the novice oncology nurse and provides for safe chemotherapy administration to nurses administering chemotherapy infrequently. The poster presentation will display the chemotherapy documentation forms, explaining the content necessary on initiation, completion, and for continuous infusion chemotherapy. It is anticipated that documentation of practice will improve on and off the oncology units. This improvement can be evaluated through staff written and verbal feedback and medical record evaluation. The forms could be easily adapted for use in other settings.

## 22

“ATAQ”ING NEUTROPENIA MANAGEMENT. Cathy Mazzone, RN, MS, OCN®, National Institute on Aging, National Institutes of Health, Baltimore, MD.

Concerns over delays in initiation of a broad-spectrum antibiotic with first fever in the neutropenic cancer patient heightened when this institution began to see an increase in the number of these patients as a result of an increase in the leukemia population. A baseline assessment showed a mean time to initiation of a broad-spectrum antibiotic was five hours, five minutes. Lack of education among the nursing staff was one of several factors identified as influencing this time.

Multiple entries of access to care also contributed. The goal, reached by consensus with outside hematology and infectious disease experts, along with the performance improvement committee, was that a broad-spectrum antibiotic be hung within one hour from the time the fever is documented (inpatient) or from the time the patient arrives at the hospital (outpatient). Re-education of the oncology staff focused on neutropenia management, ANC calculations, and sharing the one-hour goal. Emergency room nursing staff was also included. Next, a first fever order set was developed for use by oncologists. Finally, the performance improvement committee developed business cards that were given to patients at the end of their cycle of treatment that outlined their period of neutropenia, and provided instructions to unfamiliar staff as to the importance of prompt treatment. Patients were instructed to hand the card to the triage nurse in the emergency room when they came with fever. Current performance, two years after the initiative, is a mean time of one hour, twenty minutes to initiation of a broad spectrum antibiotic, including those patients coming through the emergency room. The poster will outline the specifics of the education program, the order set, the business card to be used when visiting the emergency room, along with trending the improvements as these initiatives were implemented.

## 23

DEVELOPING A CONSISTENT, EVIDENCE-BASED APPROACH FOR G-CSF (FILGRASTIM) ADMINISTRATION: IMPLEMENTING A QUALITY IMPROVEMENT PROCESS TO IMPROVE NEUTROPENIA MANAGEMENT. Nancy L. Budzinski, RN, BSN, and Mary Fran Overcash, RN, BSN, Joliet Oncology-Hematology Associates Ltd., Joliet, IL.

The purpose of this clinical practice project was to develop guidelines for hematopoietic colony-stimulating factor (CSF) administration in order to more consistently and effectively manage chemotherapy-induced neutropenia. Joliet Oncology Hematology Associates is a six-physician community oncology practice treating an average of 1,000 outpatients per month. Specialty trained nurses administer chemotherapy and assume a primary role in toxicity assessment and symptom management. Nurses identified that variations in physician practice with respect to myeloid CSF administration resulted in an inconsistent approach to neutropenia management. The nursing staff used a quality improvement approach to address this clinical practice issue. The assessment process began with a retrospective chart review of chemotherapy administration for aggressive

NHL (n = 15) and adjuvant breast cancer (n = 20) patients. Data was collected regarding dose delays, dose reductions, use of hematopoietic CSF, and incidence of febrile neutropenia. Analysis of data revealed that neutropenia was one of the primary causes for dose delays and reductions. Inconsistencies in CSF dosing and initiation and duration of therapy were found. The quality improvement plan involved developing a more consistent approach to the use of hematopoietic CSF in the proactive management of neutropenia. Two members of the nursing staff partnered with a physician to draft guidelines for growth factor administration based upon the ASCO 2000 Update of Recommendations for the Use of Hematopoietic Colony-Stimulating Factors. Guidelines addressed the key components of CSF administration such as appropriate dosing by weight, initiation and duration of therapy, frequency of laboratory monitoring, management of bone pain, and patient selection criteria for primary and secondary prophylactic administration. Guidelines were implemented in August 2001 after presentation to all six physicians for input, consensus, and approval. The nursing staff will conduct an ongoing evaluation of adherence to guidelines through periodic chart audits. Outcomes selected for monitoring include appropriateness of CSF dose, initiation and duration of CSF therapy, frequency of laboratory monitoring, management of bone pain, patient selection criteria, incidence of febrile neutropenia, and neutropenia related dose delays and reductions. These guidelines have further enhanced the nursing staff's ability to provide autonomous, evidence-based, proactive symptom management to minimize the impact of neutropenia in their practice setting.

## 24

THE NATURE OF CHANGE: USING THE FUNCTIONAL PERFORMANCE INDEX (FPI) WITH PATIENTS UNDERGOING CANCER TREATMENT. Lillian M. Nail, PhD, RN, FAAN, Oregon Health & Science University, Portland, OR; Susan Beck, PhD, APRN, FAAN, AOCN®, and Karen Lindau, MS, OT, University of Utah College of Nursing, Salt Lake City, UT.

Although function is widely recognized as an important quality-of-life outcome, there is little information about types of activities that are compromised during cancer treatment. The purpose of this analysis was to describe the nature of self-reported functional impairment in patients beginning treatment with chemotherapy or radiation therapy and examine changes in function over the first few weeks of treatment. This study was guided by concepts suggested by self-regulation theory. An instrument that contains 65 detailed activity items, the FPI, was used. The FPI was developed as a measure of function for use with patients with COPD and has demonstrated reliability and validity in COPD (Leidy, 1999). In order to capture the nature of activity changes in cancer patients, 100 subjects participating in an RCT of an energy conservation intervention completed the FPI at the beginning of cancer treatment and several weeks later during treatment. The typical subject was a middle-aged (M = 56.7 years), married (74%), woman (87%) with breast cancer (79%).

At the beginning of treatment, 55 subjects ranked body care as the most or second-most important area of function, followed by social interaction (n = 42) and household maintenance (n = 32). As expected, few subjects reported activities as causing much difficulty. Activities requiring large muscle movement and stretching, like carrying groceries, painting, cleaning, or golf presented challenges to a few (<10) subjects. Changes in function over time were examined using paired t-tests computed on FPI subscale scores from baseline to during treatment measures within the control group (n = 54) only as the energy conservation intervention is expected to influence activity in the experimental group. There was a trend (p = .053) for physical activity to decline as treatment progressed. Recreational activity decreased over time (p = .019), but there were no changes in self-reported body care, household maintenance, and social interaction. The findings of these analyses indicate that changes in function are in areas other than personal care ADLs and suggest that measures of function in cancer patients need to encompass recreational and physical activity as well as traditional ADL items. Implications for measuring function, including gender-based items, preference, and attributions will be discussed.

## 25

THE EFFECTS OF SYMPTOM UNCERTAINTY ON THE EMOTIONAL AND FUNCTIONAL OUTCOMES OF RADIATION THERAPY FOR CANCER. Norma J. Christman, PhD, RN, FAAN, University of Kentucky College of Nursing, Lexington, KY; Linda B. Cain, PhD, RN, Sherill N. Cronin, PhD, RN, Bellarmine University, Louisville, KY; and Donna J. Corley, MSN, Doctoral Candidate, Morehead State University, Morehead, KY.

Uncertainty about health-related experiences may profoundly influence patient outcomes. Much of what is presently known about illness uncertainty is based on the use of measures developed from cognitive models of information processing and stress and coping with statistically derived subscales. Studying uncertainty about specific aspects

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of health-related experiences, for example symptoms, might lead to new understandings and more specific intervention strategies.

The effects of symptom uncertainty (SU) on emotional and functional outcomes were examined in 76 persons having radiation therapy (RT) for gynecologic, lung, or head/neck cancers. Most had stage II or less disease (63%), were within one month of diagnosis (83%), and were white (92%), female (68%), and married (61%). All were treated with curative intent.

SU was measured with 10 items either modified or drawn from Mishel's Uncertainty in Illness Scale. Internal consistency was .67. A non-significant correlation (.15,  $p > .05$ ) between body awareness and SU supports the scale's discriminate validity; correlations between SU and measures of predictability (-.47,  $p < .0001$ ) and understanding (-.27,  $p < .05$ ) support concurrent validity. SU, emotional and functional outcomes, and number of symptoms were measured treatment week three, and two, and four weeks after RT. Outcome indicators were the summed scores from the Profile of Mood States anxiety, depression, and anger subscales, and from linear analog items derived from the Sickness Impact Profile household management and recreation/pastimes scales, plus a linear analog item measuring time spent away from home. A measure of optimism, the Life Orientation Test, also was obtained. The effects of SU on outcomes were examined with hierarchical regression controlling for optimism and number of symptoms.

SU explained 15% ( $p < .001$ ,  $b = .43$ ), 5% ( $p < .05$ ,  $b = .23$ ), and 14% ( $p < .001$ ,  $b = .38$ ) of the variance in emotion treatment week three, and two, and four weeks after treatment respectively. Symptom uncertainty contributed to the explanation of functional outcome only two (6%,  $p < .05$ ,  $b = -.26$ ) and four (6%,  $p < .05$ ,  $b = -.26$ ) weeks following treatment. Incorporating specific information about typical symptom experiences into symptom management strategies may lessen negative effects of SU.

Further study about uncertainty due to specific aspects of health-related experiences also is needed.

## 26

**FATIGUE AND PHYSICAL FUNCTIONING DURING BREAST CANCER TREATMENT.** Victoria Mock, DNSC, AOCN®, Johns Hopkins Cancer Center, Baltimore, MD; Ruth McCorkle, PhD, FAAN, Yale University School of Nursing, New Haven, CT; Mary E. Ropka, PhD, RN, FAAN, University of Virginia School of Medicine, Charlottesville, VA; Mary Pickett, PhD, RN, University of Pennsylvania School of Nursing, Philadelphia, PA; and Barbara Poniatowski, MS, RN, C, AOCN®, Greater Baltimore Medical Center, Baltimore, MD.

Fatigue during cancer treatment often leads to decreases in activity level and subsequent reductions in functional capacity that affect quality of life. Little research has focused on describing these important side effects of cancer treatment. The purpose of this descriptive, correlational study was to determine the relationship between fatigue levels and physical functioning in women receiving adjuvant therapies for breast cancer. The Levine Conservation model served as the study's conceptual framework. In this model, cancer treatment presents challenges that threaten conservation of energy (represented by fatigue) and conservation of structural integrity (represented by physical functioning). The sample included 120 patients recruited from five academic cancer centers as part of a larger study. The women were a mean age of 52 years and were receiving adjuvant chemotherapy (60%) or radiation therapy (40%). Before treatment began and again at the end of treatment, subjects were assessed for fatigue with the Piper Fatigue Scale, for self-reported physical functioning with the MOS-SF 36 Physical Functioning Subscale (PhFx), and for objective changes in functional capacity with the 12-Minute Walk Test. All instruments were valid, reliable, and widely used in cancer research. Data were analyzed using Pearson correlations and descriptive statistics. Results indicate a moderately strong inverse correlation between fatigue levels and self-reported physical functioning ( $p = -.45$ ,  $r < .0001$ ). Although physical functioning scores were equivalent at pretest, women with the lowest posttest fatigue levels (lowest quartile) reported a mean PhFx score of 89.6 (possible 0–100) and a mean Walk Test score of 3,385 feet walked in 12 minutes, while women in the highest quartile of posttest fatigue scores (mean of 6.8 on the PFS) reported a mean PhFx score of 66.5, and a mean Walk Test score of 2,941 feet. Findings support the need for additional research as well as for more comprehensive clinical assessment of changes in functional status accompanying unmanaged fatigue during cancer treatment. The significant decrease in physical functioning seen in subjects with high fatigue levels represents a concerning loss of ability to perform daily activities that may not be readily reversible when cancer treatment ends.

## 27

**CHRONIC SLEEP LOSS IN FAMILY CAREGIVERS: IS DEPRESSION AN OUT-COME?** Patricia A. Carter, PhD, RN, CNS, University of Texas School of Nursing, Austin, TX.

**Problem:** Caregivers may experience levels of depression that can impact their daily functioning, quality of life, and ability to continue in the caregiver role. Depression is a

normal response to a family member's diagnosis with cancer; however, other factors amenable to intervention (chronic sleep loss) may severely exacerbate this response.

**Purpose:** This pilot project described caregiver sleep and depression patterns over time and explored the feasibility of data collection methods and instruments.

**Specific Questions:** How do family caregivers' sleep patterns and depression levels change over time? Are the proposed data collection methods and instruments feasible?

**Framework:** Pearlin and colleagues developed a caregiver stress process framework that illustrates the relationships between physical stressors (sleep loss) and emotional outcomes (depression). The questions addressed in this study flow logically from this framework. In order to understand caregiver depression one must first understand the patterns of sleep loss and depression over time.

**Methods:** A descriptive correlational design was used. Ten family caregivers of persons with advanced stage cancer were recruited from cancer clinics in central Texas. Weekly sleep quality (Pittsburgh Sleep Quality Index {PSQI}) and depression (Center for Epidemiological Studies Depression {CESD}) measurements were obtained by telephone. Caregivers wore an actigraph and recorded daily activities in a log at three separate times (for 72 hours) during the ten-week study. Visual plots of PSQI and CESD scores were generated for each subject. The actigraph data were analyzed using Action W software and sleep latency, duration, and efficiency scores were generated for each subject. Actigraph and PSQI scores were compared.

**Findings:** Visual plots of caregiver sleep and depression scores reveal significant changes over time. Actigraph scores are reflective of self-report (PSQI) of sleep latency, duration, and efficiency.

**Implications:** This pilot provided a visual mapping of caregivers' sleep and depression patterns over time. Understanding sleep and depression patterns is essential to determine the critical time points to administer and measure interventions. This pilot study provided information regarding the feasibility of using the Actigraph in this population as well as the need for weekly measurements of sleep and depression in order to capture changes over time.

## 28

**MEDICATION SAFETY FOCUS: A MULTIDISCIPLINARY APPROACH TO MEDICATION SAFETY IN THE ONCOLOGY PATIENT.** Mary Ann Long, RN, BSN, Roswell Park Cancer Institute, Buffalo, NY; Ellen Zupa, RN, MSN, Brian Cotter, RPh, Camille Wicher, RN, JD, and Meur Wetzler, MD.

This poster presents an overview of the Medication Safety Initiative conducted at a comprehensive cancer center. This initiative was taken in response to the concerns raised by the November 1999 Institute of Medicine report and specifically targeted the systems and procedures involved in medication administration. Medication safety, while important in all healthcare agencies, has special significance for both oncology patients and providers. The scope of this initiative included all of our patient care settings such as critical care and pediatrics, ambulatory care including chemotherapy and infusion clinic, the operative center, and all diagnostic and treatment centers. The interventions that were adopted as a result of the initiative will be presented and include the following.

A. The strategies utilized to conduct an evaluation of our current practice of medication prescription, preparation, and administration. This included an analysis of available data, the identification of risk points, and the subjective concerns identified as related to safety multiple focus groups. Each participant in these groups was involved in one or more of the processes included in the medication delivery system.

B. The roles of the various members of the multidisciplinary group responsible for the initiative.

C. The findings and recommendations immediately implemented as well as future plans. The improvements include technology implementation, staff and patient education, policy and procedure changes, system changes, and a process for ongoing reporting and analysis of medication variances that is efficient, comprehensive, and non-punitive.

Because of the complexity of oncology care, the responsibility for safe medication delivery is a major component of oncology nursing practice. This poster provides information that will be applicable to oncology nurses, their colleagues, and their patients and will contribute to the goal of an error-free medication delivery system.

## 29

**PREVENTING MEDICATION ERRORS WITH THE POWER OF EVIDENCE-BASED PRACTICE.** Carole W. Sweeney, MSN, RN, AOCN®, Cynthia Briola, BS, RN, OCN®, Linda Schiech, MSN, RN, AOCN®, and Janet White, MS, RN, CCRN, Fox Chase Cancer Center, Philadelphia, PA.

Oncology nurses play a central role in ensuring that patients receive quality cancer care that includes preventing medication errors. The recent interest in medical errors stimulated by the Institute of Medicine report, "To Err is Human: Building a Safer Health System," estimates that medical errors kill between 44,000 and 98,000 people annually in U.S. hospitals. At a comprehensive cancer center, the Nursing Research Utilization



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Council (RUC) mission is to provide opportunities for the conduct and use of research that contribute to the scientific basis of cancer nursing practice and to improve patient outcomes. One of the goals of the RUC is to educate nurses in the use of evidence based research through unit based projects focusing on medication errors. Using the ONS Position Paper on Prevention and Reporting of Medical Errors as a framework, the following activities were undertaken by members of the RUC to facilitate ongoing education for oncology nurses: 1) published a peer education newsletter analyzing research related to medication errors, 2) developed and circulated a poster on medication errors that included a post-test for staff to complete, 3) participated in an institution wide symposium focusing on the fundamentals of dealing with medical errors, 4) utilized ONS educational activities and offerings addressing medication errors, and 5) confirmed that all medication-related policies and standards of practice are current with research findings. Details of multi-disciplinary hospital wide activities related to processes for identifying and reviewing medication errors in a non-punitive setting, ensuring safety and efficacy of equipment, and systems for analyzing medication errors are ongoing. The post-test results will be used as one mechanism for evaluation of the program. Ongoing evaluation, critical to insuring sustained improvement, is discussed using a standardized performance improvement model (FOCUS-PDCA). The focus on medication errors by the RUC in conjunction with hospital-wide interest has been an important step aimed at helping oncology nurses to understand their pivotal role in the reporting, analyzing, and prevention of medication errors, and safeguarding the outcomes of those entrusted to their care.

## 30

**DEVELOPMENT OF AN AMBULATORY PUMP PROGRAM TO ENHANCE SAFETY FOR PATIENTS ENROLLED IN CLINICAL TRIALS.** Barbara Rattner, MS, RN, Joanne Perri LaFrancesca, MN, RN, Joan Agretelis, PhD, RNCS-ANP, AOCN®, Massachusetts General Hospital, Boston, MA; and Gayle Fishman, RN, MBA, Health Care Redesign, Wellesley, MA.

**Background & Rationale:** The Massachusetts General Hospital Cancer Center has expanded patient participation in clinical trials by 50% over the past three years. Many of these clinical trials require patients to receive medication via continuous infusion. A variety of ambulatory infusion pumps were being used for the delivery of both standard and investigational chemotherapy. Nurses identified a high risk for error because each pump had different specifications, programming, and operation requirements.

Additionally, home infusion companies are not licensed to monitor drugs in development. This meant that patients receiving investigational agents at home were not eligible for home nursing visits, adding to the misgivings of staff. In response to these concerns, the nursing leadership initiated the development of a program to address these patient safety issues.

**Interventions:** A multi-disciplinary committee was convened to examine our existing resources and ability to manage a self-contained ambulatory care investigational drug program. One infusion pump was selected which utilizes bar-code technology and eliminates the potential for human error in the programming process. A pilot project was undertaken with conventional, non-vesicant infusional therapy considered a lower risk for patient adverse events. Patients and families attended a structured education program developed and presented by a nurse prior to initiating therapy. Twenty-four hour nursing telephone coverage was provided.

**Interpretation:** Product reliability testing conducted by our biomedical engineering department demonstrated safe, reliable delivery rates. Safer pump technology along with a structured patient/family education process created an environment of acceptance among our patients and professional staff. On-call nursing utilization for patient care issues was minimal. After evaluating the results from the pilot project, the program was expanded to incorporate patients enrolled in clinical trials.

**Discussion:** The ambulatory pump program is ready to meet the growing demands of our clinical trials program. Physicians and nurses have confidence in this program and technology. Investigators are now mandated to use this pump for trials involving continuous infusions, eliminating the danger of multiple infusion pumps.

## 31

**TO ERR IS HUMAN—DESIGNING SAFER SYSTEMS FOR CHEMOTHERAPY ADMINISTRATION.** Rose Taibbi, RN, BSN, OCN®, Diane Gissing, RN, MSN, OCN®, Gertrude Kane, RN, MSN, OCN®, Claire Mecic, RN, BSN, OCN®, and Anthony Negri, RPh, North Shore University Hospital, Manhasset, NY.

Chemotherapy errors can be lethal. Investigations of highly publicized chemotherapy errors show that multiple system failures must occur for an error to reach the patient. All disciplines involved in ordering, preparing/dispensing, and administration of chemotherapy must be highly trained and receive ongoing education. Antineoplastic agents are unique in that there is such a wide array of doses and schedules used. To address the concerns within our institution and identify areas for improvement, a multidisciplinary Chemotherapy Performance Improvement Committee meets monthly. The literature clearly

recommends the use of computerized ordering systems. However, for institutions without computerized programs, other interventions must be developed, implemented, and re-evaluated on an ongoing basis. Review of errors with root cause analysis is crucial to understanding your institution's process and potential for improvement. In addition, much can be learned from "potential errors." Our focus is on review of orders that require intervention or revision before the patient is treated. We identified five levels of severity with the first four reflecting problems that were corrected prior to treatment. The fifth level reflects any error that reached the patient. Education focuses on heightening awareness of the need to report all orders that required interventions. We stressed non-punitive action, the ability to learn from "potential errors," and identification of methods to prevent actual errors. Chemotherapy order writing guidelines, maximum dosing charts, and guidelines for administration and monitoring were developed. Most importantly, a multidisciplinary algorithm of check processes was developed to ensure comprehensive review of each order by physicians, pharmacists, and nurses. Each discipline understands their accountability in the process. "Potential errors" are tracked for trends, and staff is educated accordingly. Staff is recognized for their assistance with problem identification and reporting. Over the past year, we administered 50,107 drug preparations, identified 484 "potential errors," and had one actual error. Despite the increasing complexity of treatments, our error rate was .002% using the protocols discussed. Designing safer systems protects patients and allows oncology nurses to implement all possible safeguards as we strive for an error rate of zero.

## 32

**IMPROVING SYMPTOM MANAGEMENT IN AN AMBULATORY ONCOLOGY CLINIC.** Marybeth Singer, MS, RN, AOCN®, APRN, BC, and Arati Patel, MD, New England Medical Center, Boston, MA.

Symptom distress significantly contributes to diminished quality of living for cancer patients and their families. The JCAHO recently mandated that certain minimum standards for assessment/treatment/re-assessment of pain occur throughout the trajectory of illness for patients receiving care within healthcare systems. Patients with cancer frequently experience pain, as well as other symptoms, which can lead to distress. Our urban ambulatory care center implemented a symptom survey for patients to complete at each clinic visit. Goals of the patient symptom survey were: 1) to assess and implement strategies to improve symptom outcomes as a quality improvement initiative, 2) compliance with JCAHO standards for pain management, and 3) provide a vehicle for increased communication between patients and clinicians regarding symptom distress. Symptom survey data collection is continuous. The findings below are reflective of the initial symptom survey pilot over a period of one month.

Initial data yielded 136 completed symptom surveys, with 80% of those patients having a hematologic malignancy. The eight most frequent symptoms, listed in order of severity, were lack of energy, negative quality of life, difficulty performing activities of daily living, depression, anxiety, difficulty with concentration, pain, and coping distress. When symptoms are evaluated based on diagnosis, the rank ordering and severity are similar regardless of cancer diagnosis. Symptom intensity greater than 7 (0–10 scale) occurred in 35% of patients, 66% of whom had 1–3 concurrent symptoms with an intensity greater than seven. The most compelling information was gleaned at the time of follow-up telephone interviews with those patients with symptom intensity greater than seven. Only 29% of patients had discussed the symptoms with their MD or NP at the time of their visit. When discussion occurred with the clinician, 100% of patients felt that steps were taken to address their symptom distress. When discussion did not occur specific to symptom survey, 83% of patients felt no steps were taken to address their symptom distress.

More than 50% of ambulatory oncology patients in our pilot survey reported symptom distress related to their disease and treatment. Data collection is on-going as part of a continuous quality improvement initiative to ensure optimal symptom management for patients.

Comprehensive cancer care means attending to all symptoms associated with patient distress and allocating resources to meet those needs.

## 33

**EVALUATION OF THE ONS SYMPTOM MANAGEMENT WORKSHOP ON PERIPHERAL NEUROPATHY.** Terri Armstrong, RN, MS, NP, CS, Mark Gilbert, MD, M.D. Anderson Cancer Center, Houston, TX; Lois Almadrones, RN, MS, C, FNP, MPA, Memorial Sloan-Kettering Cancer Center, New York, NY; Anita Nirenberg, RN, MSN, Columbia University School of Nursing, New York, NY; Ruth Gholz, RN, MS, AOCN®, Cincinnati VAMC, Cincinnati, OH; and Gail Wilkes, RNC, MSN, OCN®, Massachusetts General Hospital, Boston, MA.

Peripheral neuropathy (PN) is an increasingly common side effect of cancer and cancer treatment. It is estimated that nearly 20% of all patients with cancer will experience neuropathy during the course of their illness. In addition, peripheral neuropathy is a dose-limiting toxicity of three commonly used chemotherapeutic agents: Paclitaxel, Cisplatin, and Vincristine. Despite this fact, many oncology nurses are not aware of how to assess and manage this symptom in their patients.

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In an effort to improve knowledge of PN in oncology nurses, the Oncology Nursing Society, through a grant from Aventis Pharmaceuticals, sponsored a workshop for 200 oncology nurses. The workshop consisted of multi-disciplinary didactic lectures on anatomy, physiology of the nervous system, an overview of the causes of neuropathy, pain management, physical and occupational therapy needs, and nursing interventions. In addition, hands-on experience in exam techniques and case studies were completed. All participants received a toolkit consisting of workshop content slides, a pocket sized information card, and instruments including a reflex hammer and tuning fork to assess patients. Participants agreed to present at least one educational program on peripheral neuropathy to other nurses or to patients.

To evaluate the effect of the program on participant knowledge levels, participants completed a pre- and post-test multiple choice questionnaires. This test was developed by an expert interdisciplinary panel and face validity was established by administering the pilot test to 10 oncology nurses. The test underwent minor revisions for clarity. This test was completed by attendees at the start of the workshop and at the conclusion, prior to turning in their evaluations. The percentage of correct responses increased from 76.7% to 99.6% at the completion of the program. A six-month evaluation to query their individual educational programs, and administer the workshop test and a self-efficacy questionnaire was also completed and the results will be reported.

This effort to improve oncology nurse knowledge of this devastating side effect was shown to improve nurse knowledge by direct testing and can be utilized as a framework for other symptom management programs.

## 34

**PAIN AND FATIGUE MANAGEMENT: RESULTS OF A NURSING RANDOMIZED CLINICAL TRIAL.** Barbara Given, PhD, RN, FAAN, Michigan State University, East Lansing, MI; Ruth McCorkle, PhD, RN, FAAN, Yale University, New Haven, CT; Bernadine Cimprich, PhD, RN, FAAN, University of Michigan, Ann Arbor, MI; and Charles Given, PhD, Michigan State University, East Lansing, MI.

Patients with breast, colon, lung, and other solid tumors who undergo a course of chemotherapy are at high risk of experiencing pain and fatigue. Pain and fatigue can have significant impact on the presence of other symptoms and upon level of physical functioning. To assist patients to better control pain and fatigue, a randomized clinical trial (RCT) of a nurse-directed, 20 week, 10 contact intervention was implemented for patients undergoing a new course of chemotherapy and their family caregivers.

The purpose of this report is to compare patients undergoing an initial course of chemotherapy who report pain and fatigue and who are receiving conventional care alone with those receiving conventional care plus the nursing intervention with respect to the severity and limitations of pain and fatigue, and numbers of other symptoms reported at 20 weeks.

A cognitive-behavioral conceptual framework focusing on problem solving approaches to symptom management, improving physical functioning, and emotional health were implemented at each contact. Pain and fatigue were sentinel problems toward which the intervention was directed.

**Sample.** The sample consisted of 35 patients in each arm of the trial who reported pain and fatigue at baseline following recruitment and consent. Seventy-one percent of the sample was female with mean age of 54 (SD = 8). Interviews were conducted at baseline, 10, 20, and 32 weeks. Outcomes were measured by the brief pain and brief fatigue inventories. All measures met acceptable psychometric standards.

**Results.** Groups were assessed for equivalence at baseline and to determine if there were differences by accrual setting. Analyses of variance were used to assess group effects, group by time, and group by time by covariates (age, gender, stage (II or III–IV)). Patients who received the intervention reported significantly less severity and fewer limitations from pain and fatigue at the 20- and 32-week observations. In addition, patients receiving the intervention reported fewer “other” symptoms at both observations.

**Implications.** These data support the need for targeted interventions to assist patients undergoing chemotherapy to manage pain and fatigue.

## 35

**THE PREVALENCE OF SYMPTOMS CLUSTERS AND COMORBIDITIES IN ONCOLOGY OUTPATIENTS.** Marilyn J. Dodd, RN, PhD, FAAN, Christine Miaskowski, RN, PhD, FAAN, Claudia West, RN, MS, Steven Paul, PhD, and Kathy Lee, RN, PhD, FAAN, University of California, San Francisco, CA.

The prevalence of a number of symptoms including pain, fatigue, nausea and vomiting, depression, and sleep disturbance has been investigated in oncology outpatients. The traditional approach used in these investigations was to perform detailed assessments of individual symptoms. However, clinical experience suggests that oncology outpatients present with multiple symptoms and a variety of comorbid conditions. Therefore, the purposes of this cross-sectional study, in a sample of oncology outpatients, were: 1) to determine the prevalence of pain, fatigue, and/or sleep disturbances, and 2) to determine the prevalence of a number of comorbid conditions. The UCSF Symptom Management

Model served as the conceptual framework for this study. One hundred oncology outpatients were recruited from three outpatient settings. Patients were over 18 years of age and were receiving active treatment for their disease. Patients were asked to complete the Wisconsin Brief Pain Inventory (BPI), the Lee Fatigue Scale (LFS), the General Sleep Disturbance Scale (GSDS), and a checklist of common medical conditions. Patients were categorized into one of eight symptom clusters using the following cutoffs: a worst pain score of greater than three, an LFS score of greater than five, and a GSDS score of greater than 60. Descriptive statistics and frequency distributions were generated. The average patient was 59.4 years of age, female (76.8%), and had a Karnofsky score of 77.2. The prevalence of the eight symptom groupings were as follows: no symptoms, 42.3%; only pain, 10.3%; only fatigue, 6.2%; only sleep disturbance, 8.2%; pain & fatigue, 4.1%; pain & sleep disturbance, 9.3%; fatigue & sleep disturbance, 6.2%; and pain, fatigue, & sleep disturbance, 13.4%. The most frequently reported comorbid conditions by these patients were back problems, 65.2%; allergies, 58.5%; headaches, 50.5%; hemorrhoids, 46.3%; arthritis, 33.3%; and hypertension, 30.4%. These findings suggest that oncology outpatients do experience multiple symptoms simultaneously and are living with a number of comorbid conditions in addition to their cancer.

## 36

**INFORMATION AND DECISION PREFERENCES OF MEN WITH PROSTATE CANCER AND THEIR PARTNERS.** B. Joyce Davison, PhD, RN, The Prostate Centre, Vancouver General Hospital, Vancouver, British Columbia, Canada; Lesley F. Degner, PhD, RN, University of Manitoba, Winnipeg, Manitoba, Canada; S. Larry Goldenberg, MD, FRCSC, FACS, and Martin E. Gleave, MD, FRCSC, FACS, The Prostate Centre, Vancouver General Hospital, Vancouver, British Columbia, Canada.

Previous research has shown the majority of men newly diagnosed with prostate cancer do want to be involved in medical decision making, and they want to be informed. However, the information of preferences of partners and the extent to which they want to be involved in treatment decision making has not previously been studied. The purpose of this study was to identify and compare information and decision preferences of men with prostate cancer and their partners at the time of diagnosis. A convenience sample of 80 couples was recruited from the Prostate Centre in Vancouver, Canada. Participants used a touch screen computer program consisting of two previously used measures with this population: 1) Control Preferences Scale, used to elicit patient preferences for control over medical decision making (based on Unfolding Theory), and 2) Information Survey Questionnaire (based on Thurstone methodology). Results showed the vast majority of men wanted to participate in decision making with their physician (92.5%), and partners (100%). The majority (55%) of partners wanted to play a collaborative role in treatment decision making. Couples identified prognosis, stage of disease, treatment options, and side effects as their top four information preferences. Men ranked information on sexuality more important than partners ( $P = .004$ ), and partners ranked information on home self care higher than men ( $P = .01$ ). Men who had sons, a positive family history, and lower levels of education ranked heredity risk significantly higher ( $P = .001$ ). Profiles of information categories did not differ according to role preferences of either men or partners. The computer program has been shown to be a reliable and acceptable method of assessing the information and decision preferences of these couples. Group profiles demonstrated low to moderate agreement, but individual profiles were shown to be highly reliable. Findings support the need for using an individualized approach to the provision of information to these individuals at the time of diagnosis. Print outs from this computer program can be used to guide information counseling sessions in a variety of outpatient oncology settings.

## 37

**CULTURAL INFLUENCES ON BREAST CANCER EXPERIENCE: KOREAN WOMEN IN SOUTH KOREA.** Eun-Ok Lee, RN, DNS, Seoul National University College of Nursing, Seoul, South Korea; Eun-Ok Im, PhD, MPH, RN, CNS, University of Wisconsin-Milwaukee, Milwaukee, WI; and Young Sook Park, PhD, Seoul National University, Seoul, Korea.

Women's breast cancer experiences are influenced by a number of contextual factors, one of which is culture. Despite the importance of consideration on cultural background in understanding women's breast cancer experiences, very little is known about it. The purpose of the study is to explore cultural meanings of breast cancer among Korean women in South Korea and determine cultural impacts on breast cancer experiences. Transition theory and feminist approach are used as theoretical frameworks. This is a descriptive longitudinal study utilizing methodological triangulation, and only qualitative findings are presented here. Fifty Korean patients who were newly diagnosed with a plan of surgery and subsequent chemotherapy and not having severe fatigue at the time of recruitment were recruited for the quantitative phase using a convenience sampling method; then 15 among them were recruited for the qualitative phase. Qualitative data were collected using two-hour, in-depth interviews, and analyzed using thematic analysis including line-by-line coding, categorization, inductive and deductive cognitive process,

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writing memos, and group discussions. The findings indicated unique impacts of Korean culture on women's breast cancer experiences. The themes included: (a) "I did wrong"; (b) "I cannot ask male physicians"; (c) "I don't want to show the operation site to my husband"; and (d) "I do household tasks by myself." The themes certainly reflected patriarchal cultural influences and modesty issues related to Confucianism. Based on the findings, some implications including consciousness-raising on patriarchal cultural impacts and its unfairness, empowerment by providing information, and encouragement of women's participation in decision making process were proposed.

## 38

**"TC CHECK"—TEEN CANCER AWARENESS PROGRAM.** Elaine Kocsis, RN, OCN®, CCRP, South Pointe Hospital/Cleveland Clinic Health System, Warrensville Heights, OH; Bev Waters Shankman, BA, MA, Cleveland Clinic Health System, Mayfield Heights, OH; and Barbara Demagall, RN, South Pointe Hospital/Cleveland Clinic Health System, Warrensville Heights, OH.

The incidence of testicular cancer in the United States has almost doubled since the 1930s and continues to climb. The age group at highest risk is the 15–35 year old men. Testicular cancer is curable by 90%–99% if reported and treated early. Unfortunately, testicular cancer has become the taboo cancer of the 2000s, much as breast cancer was in the 1960s–1970s. As with breast cancer, most testicular cancers are discovered by the individual themselves.

Public awareness and education in this country are sorely lacking. It was discovered that most high schools do not include TSE or BSE as part of the curriculum. However, once the need for this education is brought to the attention of the administrators and educators there is enthusiasm and willingness to permit healthcare professionals into the classroom to instruct the students. Most health education classes in the public schools are co-educational.

This required a needs re-assessment and it was believed that testicular and breast cancer issues could be presented in a manner that was educational and non-threatening to a mixed gender class.

The purpose of this abstract is to describe the components, implementation, and results of this program which targets 10th grade students in health education classes.

The objectives of the TC check program are that the student will: 1) recognize signs, symptoms, and identify risk factors associated with breast and testicular cancer, 2) demonstrate the correct methods of TSE and BSE, and 3) will maintain a healthy lifestyle through monthly self-exam. These goals are reached by use of lecture, video, anatomical models, handouts, and reinforced by the "TC Jeopardy Game."

In 2000 the TC Check program was presented to 214 people at three health fairs and six health education classes by a team of healthcare workers. Participant ages ranged from 8–63 years of age. One hundred thirty six 15–16 year olds attended at school presentations. Ninety five percent rated the program as helpful; 5% had no opinion. Eighty six percent stated they acquired new information. First time instruction for TSE was 67%; BSE was 74%. Due to the efforts of such celebrities as Lance Armstrong, Tom Green, and Scott Hamilton, general awareness in the targeted age group has increased. Healthcare professionals can benefit from this changing awareness by devising or utilizing programs directed at young adults in the classroom. The TC Check program can easily be adapted to a variety of age groups and settings including colleges, health fairs, young people groups such as scouts, and work places with equal success.

## 39

**A TOBACCO CESSATION COUNSELING PROGRAM FOR HOSPITALIZED PATIENTS.** Janice Kjellberg, RN, Karen Swenson, RN, MS, AOCN®, Park Nicollet Institute, Minneapolis, MN; and Donald Pine, MD, Park Nicollet Clinic, Minnetonka, MN.

A hospital stay is an opportune time for tobacco cessation intervention because tobacco bans force abstinence, patients are removed from their usual triggers for tobacco use, patients are more focused on health concerns, and there is access to knowledgeable care providers. The tobacco cessation counseling program at this Midwest urban community hospital was developed out of a NIH-funded study that compared interventions to help hospitalized patients quit smoking. The study found that patients receiving counseling and follow-up had a 10% higher quit rate than those receiving less intensive interventions. The main goal of the current program is to help hospitalized patients quit tobacco, and to abstain from tobacco use after discharge. Eligibility criteria includes use of tobacco within the past three months; age greater than 17 years; not admitted for mental health, substance abuse, or eating disorder; and not too ill or impaired to participate. Intervention is given by a trained tobacco counselor who establishes eligibility, determines patient readiness to quit, and provides bedside counseling and appropriate tobacco cessation literature. The intervention is documented in patient charts and pharmacotherapy is recommended to the physician when appropriate. Tobacco users who are ready to quit are also offered three to six follow-up phone calls to promote abstinence after discharge. Program evaluation is done with a mailed survey or by phone if the participant does not respond. The survey assesses six-

month quit rates, patient satisfaction with the program, level of program participation, and use of pharmacotherapy or other cessation aids. Over 20 months, 1,263 patients received in-hospital counseling, and 698 patients agreed to a six-month follow-up. Of the 244 for whom follow-up data is available, the quit rate is 105/244 (43%). From this group, 73 (30%) have not used tobacco since hospitalization and an additional 32 (13%) have been abstinent for the past seven days. Of the respondents, 78% found in-hospital counseling helpful, and 71% found phone follow-up helpful.

Thirty percent of participants used the nicotine patch and 24% used Zyban. The results support the efficacy of this tobacco cessation counseling program in the hospital setting.

## 40

**EFFICACY OF A REPRESENTATIONAL INTERVENTION FOR CANCER PAIN.** Sandra Ward, PhD, RN, FAAN, professor, Ron C. Serlin, PhD, Heidi Donovan, MS, RN, Sigga Gunnarsdottir, MS, RN, and Susan Hughes, MS, RN, University of Wisconsin, Madison, WI.

**Purpose:** The purpose of this study was to test an educational intervention to improve pain management. The hypotheses were: (1) The intervention will decrease beliefs that are barriers to pain management, decrease pain severity, and improve QOL, and (2) Changes in beliefs (barriers) will mediate the effect of the intervention on pain severity and QOL.

**Theoretical Framework:** Leventhal's Common Sense Model, a theory explicating the role of cognitive representations in coping with health problems, guided development of the representational approach to patient education which, in turn, guided development of a specific educational intervention—a Representational Intervention to Decrease Cancer Pain (RIDcancerPain).

**Design:** Randomized two-group design (RIDcancerPain versus Standard Education[SE]). Valid, reliable measures of barriers, pain severity, and QOL were used at baseline (T1), one month later (T2), and two months later (T3).

**Sample:** Patients with advanced cancer, 18 years or older, who had pain in the past week were eligible to participate. Two hundred twenty two subjects were recruited; 150 completed the study.

**Findings:** Hypotheses were partially supported. There was no main effect for group on T1 to T2 changes in outcome variables. However, there was a group effect on change in barriers from T1 to T3; those in the RIDcancerPain condition showed a greater decrease compared to those in SE [ $t(124) = 2.04, p = .02$ ]. In addition, there was a group effect on T1 to T3 change in pain severity, with those in the RIDcancerPain condition improving compared to those in SE [ $t(136) = 2.35, p = .02$ ]. The change in barriers from T1 to T3 mediated the effect of the intervention on the change in pain severity from T1 to T3. There was no main effect of group on T1 to T3 change in overall QOL.

**Conclusions:** The representational approach to patient education shows promise in that RIDcancerPain had a positive effect on some but not all outcomes.

**Implications:** Further testing of a strengthened version of RIDcancerPain should be done, and the representational approach to education needs to be tested in other health problems. Clinicians could consider systematic interventions to overcome patient-related barriers to pain management.

## 41

**MAKING THE CHOICE: HOW WOMEN AT RISK FOR BREAST CANCER FEEL ABOUT PROPHYLACTIC MASTECTOMY TO REDUCE BREAST CANCER RISK IF THEY WERE TO HAVE A POSITIVE BRCA GENETIC TEST.** Karen Greco, RN, MN, ANP, oncology nurse practitioner, doctoral student, Nancy Press, PhD, Oregon Health & Science University, Portland, OR; and Wylie Burke, MD, PhD, University of Seattle, Seattle, WA.

**Purpose/Objectives:** This study is a secondary analysis of some qualitative data from the study, "Family Disclosure of Cancer Risk: An Ethnographic Study." The study purpose is to better understand how women at risk for breast cancer feel about prophylactic mastectomy as an option to reduce breast cancer risk if they were to have a positive BRCA genetic test.

**Sample:** Data are from interviews with 246 women aged 40 to 60, of varying ethnicity, family history of breast cancer (negative, positive, borderline), and educational level.

**Theoretical/Scientific Framework:** This secondary analysis used grounded theory. The original study is a quantitative and descriptive ethnographic study.

**Design:** Data were collected in the original study using semi-structured interviews to assess women's attitudes toward and hypothetical interest in genetic susceptibility testing for breast cancer.

**Methods:** Data from four questions in the original interviews were analyzed using a grounded theory approach.

**Data Analysis:** Open coding was done to identify concepts. Data were analyzed independently by three researchers; myself, the PI, and the co-investigator. Themes were identified and diagrammed. Discussion of data analysis among the three researchers occurred throughout the process.

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**Findings:** Women's responses represented a continuum from "it is a mutilation" to "yes, it wouldn't bother me at all." The primary theme identified was "making the choice." Women made a clear distinction between agreeing to have a predisposition genetic test for BRCA and agreeing to have prophylactic mastectomies should the test result be positive. Many women said they would obtain second opinions and would mistrust their provider for suggesting such radical surgery. Four subthemes were identified: search for alternatives, inadequate provider, let the cancer come, and keeping my parts.

**Conclusions:** Most women responded that they would likely agree to have a predisposition genetic test for BRCA if it were recommended by their physician. However, they would not automatically agree to prophylactic mastectomies even if that were the best treatment available to reduce breast cancer risk.

**Implications for Research/Practice:** Oncology nurses need to understand that although prophylactic mastectomies may be effective in reducing breast cancer risk, women may have strong responses to the suggestion.

## 42

PRECHEMOTHERAPY SELF-CARE MANAGEMENT INSTRUCTION IN OLDER MALE VETERANS WITH A CANCER DIAGNOSIS: AN EXPERIMENTAL STUDY. Virginia Sicola, PhD, APN, AOCN<sup>®</sup>, RN, oncology coordinator, Amarillo VA Health Care System, Amarillo, TX; and Gary Kelley, PhD, West Texas A&M University, Canyon, TX.

Instruction in self-care management before chemotherapy is provided to older adult males without knowing if it is beneficial. Therefore, the purpose of this prospective, randomized, control study was to examine the benefit of prechemotherapy self-care management instruction on post-treatment mental status, physical performance, and frequency of side effects in older male veterans diagnosed with cancer. The theoretical framework used Orem's self-care as the process adults use to regulate their own functioning. A cancer patient experiences limitations and side effects of treatment, thus experiences a self-care deficit. The nurses' role is to reduce the deficit. The sample included 67 veterans with cancer receiving at least two cycles of chemotherapy. No subjects younger than 55 years of age, with a previous cancer history, alcoholism, drug dependency, or mental deficiency were included. Each veteran was given the valid and reliable Mini Mental State Examination (MMSE) and Karnofsky Performance Status Scale (KPS) score by the research assistant (RA). Then, the veteran was randomly assigned to the control or experimental group by the researcher who gave both groups a 15-minute introduction to chemotherapy and its side effects. The experimental group received further instructions in self-care management. Prior to the second treatment, the RA retested the patients. Each subject reported the number of medically-treated side effects. With 35 control and 32 experimental subjects, the data were analyzed using t tests and means. Results showed that following treatment, the KPS approached significance ( $p$  value = 0.110) with the experimental group's mean score dropping 2.8 points compared to the control group's score dropping 5.8. Side effects significantly lower for the experimental group included constipation ( $p$  value = 0.009) and dizziness ( $p$  value = 0.05). At the 0.15 level of significance, the experimental group experienced less nausea, vomiting, and sleep difficulties. The findings indicate that self-care management provided prior to chemotherapy improves physical performance and reduced some side effects in older veterans. Further research calls to extend this study by evaluating older patients beyond the second cycle. In practice, instruction in self-care before chemotherapy is of benefit for older men.

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CANCER-RELATED FATIGUE: "IT'S SO MUCH MORE THAN JUST BEING TIRED." Horng-Shiuann Wu, RN, PhD(c), School of Nursing, and Maryellen McSweeney, PhD, Saint Louis University, Saint Louis, MO.

Fatigue is highly prevalent among persons with cancer and has great impact on their lives, but the subjective experience of cancer-related fatigue (CRF) is not well understood. Because CRF is a subjective, multidimensional experience, developing a knowledge base about and effective interventions for CRF require understanding the phenomenon from the individual's perspective.

**Purpose/Objectives:** This study explored the meaning of CRF from the person's perspective to learn about the actual experience of fatigue.

**Scientific Framework:** A phenomenological perspective served as the philosophical framework of this study. Human behaviors were understood from the individual's own context: CRF was interpreted through the meanings individual brought to it.

**Design:** Qualitative methods were used to understand the individual's experience of CRF.

**Sample:** The sample consisted of 10 female patients with breast cancer currently receiving chemotherapy from a freestanding clinic in St. Louis, Missouri. Two African American and eight Caucasian women, aged 30 to 73 years, with various cancer stages, participated. Criterion sampling was used.

**Methods:** After giving informed consent, the subjects participated in audio-taped, semi-structured, 30–60 minute individual interviews ( $n = 10$ ) and a two-week daily fatigue diary activity ( $n = 6$  returned).

**Data Analysis:** Content analysis, using open and axial coding and coding frames, guided the coding and analysis in this study.

**Findings:** The analysis resulted in the following thematic categories: unique fatigue, physical sensations, emotional sensations, changes in daily life, causes of fatigue, fatigue management, fatigue trajectory, and reflection/meanings.

**Conclusions:** CRF as a multidimensional phenomenon that affects all aspects of an individual's life is evidenced. Participants described that they were experiencing an unexpected degree and kind of fatigue that is much more than just being tired. Lack of awareness and knowledge to confront CRF were identified across interviews. Individualized strategies were learned from the person's own experiences.

**Implications:** The findings will help cancer patients and clinicians better understand CRF from a holistic approach. They may prompt the development of interventions to help chemotherapy patients anticipate and respond to CRF. A CRF instrument is in development based on the findings of this study.

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NURSE INTERNSHIP FOR A BLOOD AND MARROW TRANSPLANT UNIT: AN APPROACH TO RECRUITMENT AND RETENTION. Katherine B. Mishaw, RN, MS, AOCN<sup>®</sup>, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Today's nursing shortage is evidenced by fewer nurses entering the workforce, acute nursing shortages in certain geographic areas, and a shortage of nurses prepared to meet specialty patient needs in a changing healthcare environment. This is clearly evident in the blood and marrow transplant unit at MDACC, which processes approximately 600 transplants per year. It is a challenge to recruit nurses with cancer experience, much less, with a background in this specialty.

Although nurses like the challenging environment, including the latest treatment and technology, many verbalize that the unit is too daunting in terms of the learning curve. Applicants are concerned whether the institution is committed to training for the nurses. In response to this concern, this BMT unit refined its current curriculum to include a three-month "internship program." The program includes the hospital orientation, the BMT unit orientation, and additional clinical experiences to provide the "big picture" of the transplant process.

These experiences include the ambulatory BMT clinics (observe both the pretransplant workup and the immediate post hospitalization needs for both the allogeneic and autologous transplant patients), pheresis unit (observing photopheresis, stem cell, single donor platelet, and donor lymphocyte collections), and observation in the chronic GVHD clinic. Tools developed for the internship program include an orientation pathway, BMT course curriculum (includes ONS SIG recommendations and additional hematology/oncology), an orientee study guide, and patient case studies/vignettes. These vignettes are reviewed in weekly post-clinical seminars to enhance critical thinking, assessment, data collection, priority setting, and decision-making skills in these novice nurses. This program empowers the nurse with the knowledge to provide competent care for this patient population and may serve as a model for orientation of the advanced practice nurses for BMT as well as future "residency" programs for nurses in BMT arena. This presentation will detail this program, the tools utilized, cost analysis, and the outcomes.

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STAFF-DRIVEN ASSESSMENT OF RETENTION ISSUES FOR ONCOLOGY NURSES. Elaine M. Sein, RN, BSN, OCN<sup>®</sup>, Maureen Mullin, RN, BSN, OCN<sup>®</sup>, and Anne Jadwin, RN, MSN, AOCN<sup>®</sup>, Fox Chase Cancer Center, Philadelphia, PA.

The national nursing shortage has hospitals competing for nurses from a continually diminishing pool. Competent oncology nurses are an extremely valuable commodity in this competitive market. The increased number of open nursing positions presented an opportunity for the Retention and Recruitment Committee at Fox Chase Cancer Center, an NCI-designated comprehensive cancer center, to address not only recruitment issues but also to implement a plan to retain quality oncology nurses. Within a shared governance model, this committee affords the staff nurse leadership opportunities that will directly affect nursing satisfaction. In order to address the issues, an assessment of retention factors at this Magnet hospital would provide crucial data.

In the fall of 2000, surveys were sent to all nursing staff. The survey instrument included seventeen Likert scale questions, a demographics section, a chart to rank order the three best and three least favorite things about working at this facility, and a section for open commentary and suggestions. The 80% response rate from full- and part-time staff was felt to be a representative sample. Analysis of the survey was done ensuring respondent anonymity. The top three retention factors were commitment to oncology nursing, competence of nursing staff, and quality of nursing care. The three least favorable factors were non-competitive salary scale, communication issues, and poor physical work environment. A demographic breakdown according to age, years in nursing, educational background, and years of service provided pertinent data as to what was valued by individual groups.

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The results of the survey were presented to nursing administration and hospital administration. A summary letter was distributed to the nursing staff as a spin-off for dialogue at open nursing forums held between nursing staff and members of nursing administration. Oncology nurses have been empowered to impact nursing retention and recruitment as evidenced by salary adjustments, expanded benefits, increased tuition reimbursement, flexible scheduling options, enhanced unit and interdepartmental communication, and a plan for physical renovations. The retention and recruitment subcommittee has been expanded to include members from nursing administration, human resources and marketing for a more comprehensive approach in addressing retention issues.

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**COLLABORATIVE NURSING EDUCATION: PAVING THE WAY FOR EXCELLENCE IN ONCOLOGY NURSING PRACTICE.** Marilyn Tuls Halstead, RN, PhD, AOCN®, and Sharon Eifried, RN, PhD, Towson University, Towson, MD.

Qualified, caring nurses are a critical component of oncology nursing practice. However, because of the current nursing shortage it is imperative to develop innovative methods to educate generic nursing students, RN to BSN students, and master's level practitioners about the practice of oncology nursing. To achieve this goal, Greater Baltimore Medical Center (GBMC) and the Towson University (TU) Department of Nursing created a unique partnership that establishes GBMC as a clinical education center of TU, bringing nursing education and practice together. TU is helping GBMC to upgrade the credentials of oncology nurses. Incentives to complete BS and MS degrees include scholarships, location of classes in the hospital complex, and scheduling accommodations. Expected outcomes for GBMC and the community at large are that the need for qualified oncology nurses and quality oncology nursing care will be met. Under the terms of the agreement, GBMC will provide additional experiences for students, as well as collaborative relationships in clinical, research, and teaching opportunities. The role and responsibility of a master's prepared oncology "teacher-practitioner" will be developed through master's level education. Members of the GBMC oncology staff will work with students in teaching and supervisory roles in order to optimize the experiences of nursing students during their oncology clinical experiences. Expected outcomes for TU are that students will gain quality educational experiences, scholarship assistance, and enhanced faculty expertise.

Through these efforts, oncology nursing leadership will become more visible. GBMC is one of the few community hospitals that are nationally recognized for quality cancer care. Because of the multifaceted oncology care available at GBMC, the student clinical experience is rich and holistic. Of particular note is GBMC's focus on psychosocial care throughout the cancer experience. GBMC facilitates the development of expert oncology nurses, as they become leaders in the field. This partnership also provides an opportunity for staff, faculty, and students to investigate joint research activity related to oncology nursing practice.

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**CLINICAL SKILLS, CRITICAL THINKING, AND COMMUNICATION: USING A LEARNING CONTRACT TO DEVELOP THE NEW ONCOLOGY NURSE.** Ellen Cowan, RN, BSN, OCN®, and Linda Hood, RN, MSN, AOCN®, Duke University Health System, Durham, NC.

A nurse internship is one strategy to retain and develop new nurses. New nurses may be attracted to an internship because of the additional structure, support, time, and opportunities offered during the first years of practice. Knowing that nursing students receive little specialty education in oncology, institutions develop internships to be competitive during a nursing shortage. However, the intern looking for clinical experience may become dissatisfied when personal goals do not match institutional expectations. For an institution, additional resources and financial bonuses may attract staff, but there is no legal guarantee that the intern will remain employed long enough for the institution to recoup their investment.

These issues were identified as major factors in the success of an oncology internship program. To address these concerns at Duke University Medical Center (DUMC), a learning contract was developed to clarify goals and expectations for the intern and the institution. The goals for the first six months of practice focused on demonstrating basic nursing competency as an RN within the DUMC system for the oncology unit population. During the second six months of practice, goals focused on developing the specialized knowledge required to manage the oncology patient and to provide educational rotations to sites across the oncology continuum of care. Goals for the second clinical year of the internship involved professional development and oncology nursing certification.

Del Bueno's model of performance-based development was used in writing measurable objectives for three areas, clinical skills, critical thinking skills, and interpersonal skills to direct the learning activities needed to demonstrate professional practice as an oncology nurse. The contract included intern responsibilities, mentor resources, and target dates for completing objectives. By tailoring the experience to the needs of the

adult learner, increased commitment demonstrated by retention and attainment of professional perspectives will be evidenced and are being evaluated as outcomes of the program. The intern also is evaluated based on the objectives identified for each of the time frames within the two-year period. This presentation will describe the evaluation and implications of using a learning contract to enhance commitment to an oncology nurse internship.

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**NOVEL IDEAS FOR BREAST CANCER DIAGNOSIS AND TREATMENT: THE CONCEPT OF cDNA MICROANALYSIS.** Arlene Berman, RN, National Cancer Institute, National Institutes of Health, Bethesda, MD; Georgia Cusack, MS, RN, Kim Maynard, BSN, RN, Clinical Center, National Institutes of Health; and JoAnne Zujewski, MD, National Cancer Institute, National Institutes of Health.

In 2001, approximately 192,000 women will be diagnosed with breast cancer and 40,600 women will die from the disease. Until now, we have relied upon histologic classification and the testing of a few prognostic markers by pathologists as our way of classifying tumors. The majority of oncology nurses are familiar with the prognostic indicators of tumor size, lymph node status, estrogen and progesterone receptors, and, more recently, HER2 status. What is not clearly understood is why two breast cancer patients, with identical prognostic indicators, can get the same chemotherapy or hormonal treatments, and yet have different outcomes. Complementary DNA micro array is a powerful new technology that allows the simultaneous measurement of the expression of a large number of genes and has the potential for tumor characterization, and may make it possible to predict patient response to therapy. The application of a large number of genes in a condensed array on glass slides comprises a DNA micro array. Genetic material from normal and tumor tissues is extracted, transcribed into cDNA, and labeled with fluorescent dye. The fluorescent color that results from the cDNA binding to the slide can tell us whether a set of genes are over expressed or under expressed compared to a reference standard. This information may help us identify gene patterns that predict for tumor response or drug resistance. Researchers at the National Cancer Institute are using this technology in a phase II neoadjuvant trial of women with stage II and III breast cancer. With this population, we are able to obtain tumor tissue before and during chemotherapy and apply this technology to look for patterns of gene expression. This technology may reveal to us hidden relationships that go beyond the pathological appearance of a tumor. Oncology nurses need to have a working knowledge of available technology for breast cancer in order to assist patients in understanding potential treatment options. Our hope is that in the future we will be able to apply this technology to tailor therapy to an individual's tumor abnormality and therefore improve patient outcomes.

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**FISH TESTING ENSURES ACCURATE IDENTIFICATION OF HER2-POSITIVE PATIENTS.** Nathalie Chorn, RN, OCN®, University of California, Los Angeles, CA.

**Objectives:** Herceptin (trastuzumab) is a humanized monoclonal antibody that has antitumor activity in HER2-positive breast cancer. Over expression of HER2 is frequently assessed using a standardized, semiquantitative immunohistochemistry (IHC) assay. An IHC score of 2+ or 3+ (on a scale of 0–3+) was used as the entry requirement for Herceptin clinical studies. Additional analyses have shown that HER2 gene amplification, identified by fluorescence in situ hybridization (FISH), occurs in 89% of 3+ tumors and in 24% of 2+ tumors, and that measurement of patient HER2 status by FISH may be a more accurate method of identifying patients for Herceptin treatment. Our primary objectives were to evaluate testing results of IHC assays and to reiterate the importance of accurate patient identification through the use of FISH testing for IHC-negative (0, 1+, and 2+) patients.

**Methods:** Our experience has shown the need to retest patients who initially test IHC 1+ and 2+ for HER2 over expression (1+ is considered mildly negative, and 2+ is considered mildly positive). Some of these patients continue to show clinical signs of aggressive disease and may benefit from further testing with FISH for HER2 gene amplification.

**Results:** Four hundred fifty one subjects who enrolled in the combination therapy pivotal trial were retrospectively tested using FISH. All were positive by IHC (i.e., 2+ and 3+). In the FISH-negative group, 38% (n = 56) were in the chemotherapy-alone arm and 38% (n = 50) were in the chemotherapy + trastuzumab arm. There appeared to be no benefit in adding trastuzumab to the FISH-negative group. In the FISH-positive group, only 31% (n = 169) of the subjects enrolled in the chemotherapy-alone arm responded compared with 54% (n = 176) of subjects who responded to the chemotherapy + Herceptin arm, therefore confirming the benefit of adding Herceptin to first-line metastatic breast cancer treatment.

**Conclusion:** Proper identification of patients who may benefit from the use of Herceptin is important in providing quality patient care. Although IHC testing is commonly used to determine the level of HER2 protein over expression, FISH testing for HER2 gene amplification appears to be the most accurate measure for selecting patients who will benefit from Herceptin therapy.

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**MYLOTARG™—THE NEW ANTIBODY TARGETED CHEMOTHERAPY.** Betty Prokop, RN, BSN, and Tracy Gosselin, RN, MSN, AOCN®, Duke Medical Center, Durham, NC.

Due to the incidence of relapsed AML, researchers continue to look for innovative treatments that provide patients with a durable remission. One of the newest advances in the treatment of AML is an antibody-targeted chemotherapy known as, Mylotarg.

Mylotarg combines specific targeting of an antibody with the antitumor activity of a highly potent chemotherapeutic agent that affects the CD 33 antigen. Mylotarg is indicated for patients with CD 33+ AML in first relapse who are 60+ years of age and who are not candidates for other cytotoxic therapies.

With advances in treatment, oncology nurses face the challenge of caring for this predominantly elderly population that often has other co-morbid diseases. The vast array of side effects/complications includes severe thrombocytopenia, neutropenia, anemia, bleeding, and infections including sepsis and pneumonia. Adverse events include fever, chills, nausea, emesis, asthenia, diarrhea, abdominal pain, headache, stomatitis, dyspnea, epistaxis, hypokalemia, anorexia, constipation, local reaction, and non-specific rash.

Due to the possibility of this population having a complicated medical history, oncology nurses attempt to minimize the treatment related side effects and enhance patient satisfaction through patient education and early recognition of symptoms. Patient/family teaching should include specific side effects, signs & symptoms of toxicity, standard precautions, and self-care needs.

The education of oncology nurses is imperative with the administration of Mylotarg. In order for nurses to implement excellent care, early identification and management of these complications is vital to the positive outcome and survival of this population. There are various avenues available for nurses to receive the required education needed for patient care. Handouts, audio-visual tapes, and pharmaceutical-sponsored in-services are a few methods being utilized. Unit-based testing can also be performed.

This poster abstract will provide educational tools for nurses that will enable them to provide better care for patients with relapsed AML.

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**A RANDOMIZED CONTROLLED TRIAL OF NURSE-ADMINISTERED BEHAVIORAL INTERVENTIONS FOR IMPROVING CANCER PAIN MANAGEMENT IN AMBULATORY SETTINGS.** Patsy Yates, PhD, RN, FRCNA, Helen Edwards, PhD, RN, Robyn Nash, Queensland University of Technology, Kelvin Grove, Queensland, Australia; Sanchia Aranda, PhD, RN, FRCNA, Peter MacCallum Cancer Institute, Melbourne, Victoria, Australia; Anne Walsh, BN, RN, and Helen Skerman, MsocScience, Queensland University of Technology, Brisbane, Queensland, Australia.

The presence of behavioral barriers to effective pain management is well documented. Despite this evidence, few controlled studies evaluating nursing interventions for overcoming such barriers have been reported. The purpose of this study was to evaluate the effectiveness of a nurse administered pain management program (PMP) for ambulatory cancer patients. The study is based on Greene's PRECEDE model of health behavior, which identifies three factors as influencing health (pain) behavior: (1) predisposing (beliefs and attitudes), (2) enabling (knowledge and skills), and (3) reinforcing (professional and social support). A randomized, controlled design was used. One hundred eighty nine patients with breast (n = 82), lung (n = 38), colorectal (n = 44), and head and neck (n = 25) cancer who had cancer-related pain in the previous two weeks were consecutively recruited from two hospitals. Intervention group patients received the PMP, which incorporated cognitive-behavioral strategies to facilitate effective pain management behaviors. The PMP was delivered in two interactive sessions one week apart. Patients in the control group received a generalized patient education program of equivalent timeframe. Patients completed a survey on three occasions: one week prior (T0); one month following (T1), and three months following (T2) the intervention. The survey comprised scales with established validity and reliability, including the Barriers Questionnaire, Knowledge and Preparedness, Self-efficacy, Communication. Pain outcomes were assessed using the Brief Pain Inventory, the Hospital Anxiety and Depression Scale, and the EORTC QLQ 30 Scale. Mean differences between T0 and T1 scores were compared using paired t tests. Results suggest the intervention group demonstrated significantly greater reduction in concerns about addiction (p < .01), tolerance to pain medication (p < .01), willingness to tolerate pain (p < .05), "being a good patient" (p < .01), and had a greater increase in expectation of pain relief (p < .01). Patients in the intervention group also reported a greater reduction in anxiety (p < .05), and a greater increase in knowledge (p < .01), although no significant differences were identified for severity of pain, or quality of life. Results suggest that brief structured interventions based on cognitive behavioral techniques may be effective in overcoming behavioral barriers to pain management, although further investigation is required to determine how such strategies may translate to improved pain outcomes.

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**AN INTERDISCIPLINARY APPROACH TO IMPLEMENTING A PHASE I ONCOLOGY CLINICAL TRIAL IN THE SURGICAL INTENSIVE CARE UNIT.** Allison Adams-McLean, RN, BSN, Luis Rivera, RN, BSN, CCRN, and Paula Muehlbauer, RN, MSN, OCN®, National Institutes of Health, Bethesda, MD.

As collaboration on clinical trials between industry and academic medical institutions increases, nurses are faced with the challenge of coordinating interdisciplinary resources to implement new protocols and ensure protocol integrity. Our challenge was to implement a complex phase I clinical trial sponsored by an external pharmaceutical company in the surgical intensive care unit (SICU).

This ongoing clinical trial is for patients with metastatic cancer who have no further conventional treatment options. It entails the intravenous administration of genetically modified Salmonella Typhimurium. A SICU nurse was assigned the role of protocol manager to educate the SICU nursing staff and collaborate with the research nurses, outpatient clinic nurses, pharmaceutical company, microbiology, epidemiology, research laboratory technicians, ancillary services, and principal investigator to implement the protocol. This interdisciplinary approach was required as each discipline played a significant role in safely implementing this protocol.

The SICU protocol manager and clinical nurse specialist developed a clinical map and established toxicity criteria that needed to be documented on the SICU flow sheet. They also developed a time table of blood draws and a special vital signs sheet as necessitated by the clinical trial protocol. Additionally, computer medical order sets were developed that included all aspects of the trial from screening to discharge. All of these instruments underwent multiple revisions by the members of the interdisciplinary team.

Safety was a key concern prior to starting this trial. Nursing took an active role by developing a patient education booklet that outlines protocol requirements for safety precautions and reportable symptoms upon discharge. Additionally, the protocol manager and members of the research team developed an equipment list of items needed to implement the protocol and materials the patient needed upon discharge.

As a result of intensive planning and ongoing performance improvement initiatives, the trial was implemented in the SICU with minimal problems. As a result of the diligence of the nurses and interdisciplinary team, there were no adverse outcomes in the SICU.

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**A MULTIPLIDISCIPLINARY GUIDELINE TO ENSURE BEST PRACTICE FOR THE ADMINISTRATION OF CHEMOTHERAPY AND BIOLOGIC THERAPY.** Mary M. Eagan, RN, MSN, OCN®, Elizabeth McNulty, RN, MA, OCN®, Erin Whelan, RN, ANP, OCN®, Blanca Vasquez-Clarfield, RN, MA, Karen Belford, RN, MSN, OCN®, and Catherine Hydzik, RN, MSN, AOCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Safe administration of chemotherapy and biologic therapy requires a defined ordering and order verification process, knowledgeable pharmacists, and specialty trained nurses and physicians to administer the agents. At our NCI-designated comprehensive cancer center, over 300 chemotherapy/biologic therapy agents are administered daily across three sites. An increase in volume, a shift from the inpatient to outpatient setting, and the formulation of a disease team model for the delivery of care prompted a revision of the center's guidelines for the prescribing, preparing, and administration of these agents. A multidisciplinary team of nurses, pharmacists, and physicians reviewed current practice among the disease teams across the center as well as product information, current literature, and documented evidence-based practice. Despite variance among disease teams and settings, consensus was reached for best practice after an extensive clinical review. Agent specific information was developed including common clinical uses, principal adverse effects, the preparation, storage, and stability information, usual doses for administration, clinical considerations, and standard hydration, anti-emetics, and supportive medication orders.

This presentation will discuss guideline development, the barriers to standardization, the revisions of the ordering process/form, the implementation process across multiple settings, and the on-going quality assurance and monitoring performed to identify areas for further revisions.

The on-line availability and the streamlined revision process made the guidelines attractive to all users, allowing for a safe, supportive administration regimen for all agents and easy access to the most up-to-date information for prescribing, preparing, and administering the agents.

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**ACHIEVING STRENGTH IN CANCER SURVIVORSHIP: LESSONS FROM PUBLISHED MEMOIRS.** Katherine Snyder Gallia, PhD, RN, AOCN®, University of the Incarnate Word, San Antonio, TX.

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Much of the research on cancer survival has been conducted with an aggregate focus, emphasizing time course, pathological changes, and a schema of an orderly progression of events from the perspective of traditional biomedicine. Little attention has been given to how persons diagnosed with cancer find strength within their personal frames of reference to travel the path of survivorship successfully. Published memoirs of cancer survivors are an untapped resource of rich data about the experience of survivorship from the personal perspective. They offer researchers the opportunity to gain understanding, within a narrative context, of how survivors use cognitive processes to make meaning of events and circumstances and to summon resources for a successful outcome. The purpose of this study was to elucidate cognitive processes by which cancer survivors manage the trajectory of survival, from diagnosis onward, as represented in published memoirs. Five book-length memoirs written in the first person, published within the past eight years, describing cancer trajectories beginning no more than 16 years ago, representing a variety of cancer diagnoses, and containing dense descriptions of illness-related events and subjective experiences were chosen for analysis. Memoirs of health professionals and those written with a co-author were excluded from the study. Data was analyzed with a combination of grounded theory and narrative analysis methods. Constant comparative analysis was used to code and cluster data from each memoir and to compare and synthesize data across the memoirs. A core narrative was constructed for each memoir to preserve its temporal structure as a point of reference during analysis. Nonlinear paths of survival which emerged from these memoirs were supported by five common cognitive processes: framing meaning within the context of the past and future, filtering choices about treatment and ways of coping through a personal explanatory framework, withdrawing strategically to protect the self, valuing gifts discovered in adversity, and choosing a new life. Ways for oncology nurses to respect individual paths to cancer survivorship are discussed. The use of study findings in planning for a cross-cultural naturalistic study of cognitive processes among cancer survivors is described.

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**A FOOT IN TWO WORLDS: NURSES' PERSONAL AND PROFESSIONAL EXPERIENCES OF CANCER SURVIVORSHIP.** Carol Picard, PhD, Massachusetts General Hospital, Institute of Health Professions, Boston, MA; Rosanna DeMarco, PhD, RN, ACRN, Boston College, Chestnut Hill, MA; and Joan Agretelis, PhD, RN, CS, AOCN®, Massachusetts General Hospital, Boston, MA.

The purpose of this study was to explore the experience of cancer survivorship for nurses. The theoretical and scientific framework of the study design was based on the caring theory of Jean Watson and Margaret Newman. Newman's method of cooperative inquiry was used for the study. This narrative form of inquiry was recognized for its value by allowing for the co-construction of illness narratives with participants while employing the elements of empathic listening, reflection, and interpretation on the part of the researchers. Two audiotaped interviews were conducted. In the first interview, the participants were asked what it is like to be a cancer survivor and how the whole experience influenced them personally and professionally. In the second interview, the researchers shared their understanding of the story through a construal of the text, identifying key themes or statements using the participants' own words. The researchers also shared their appreciation of the story through a piece of art which captured their understanding of the essence of the story. Secondary analysis examined all participants' stories for common and unique themes. Participants were registered nurses who had been diagnosed and treated for cancer. A sample of twenty-five participants was recruited through postings in nursing publications and in two major cancer treatment centers in the Northeast. Preliminary results indicate that nurses 1) valued highly the need to be fully informed to make their decisions through their own knowledge-based experience, 2) identified the need for attentive listening and compassion in their own treatment, 3) valued person-centered care as a critical element in managing the diagnostic and treatment process, or suffered with the burden of diagnosis and treatment in its absence, and 4) deepened their level of compassion and advocacy for patients in giving direct care as a result of their own illness. The implications of the study are that the perspective of the nurse cancer survivor can inform healthcare colleagues and the public about the nature of patient/provider relationships. The presentation will provide information related to unique needs of this specific population which, to date, were not explored.

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**UTILIZATION OF EVIDENCE-BASED PRACTICE MODEL AND CHANGE THEORY TO IMPLEMENT A MUCOSITIS PAIN MANAGEMENT PATHWAY IN BONE MARROW TRANSPLANT PATIENTS.** Barbara Fine, RN, BSN, OCN®, and Maureen Lynch, MS, RN, CS, AOCN®, CHPN, Dana-Farber Cancer Institute, Boston, MA.

**Background:** Oral mucositis pain that requires the use of intravenous opioids for relief is experienced by up to 70% of patients undergoing bone marrow transplant (BMT). Prior to implementing this project, there was no standard of practice for the management of mucositis pain on our BMT units. Pain management was driven by individual nursing

preference and experience. Often, continuous infusion Fentanyl was the modality and drug of choice. In addition, patients received antiemetics and anxiolytics. This use of polypharmacy resulted in 11 critical incidences in a seven-month period. Since each of these incidences involved continuous infusion opioids, a task force was convened to evaluate mucositis pain management practices.

**Project:** The task force included staff nurses, nurse manager, nurse practitioner for pain, and symptom management and clinical pharmacists. An evidence-based practice approach was utilized to evaluate current practice and develop recommendations for practice change.

Evidence was collected as follows: quality improvement and risk management related to the critical incidents, a review of current literature on mucositis pain management, consultation with experts in pain and stomatitis management, and benchmarking with other transplant centers.

Based on this evidence, the task force recommended adoption of morphine PCA, with or without continuous infusion, as part of an algorithm to manage mucositis pain. Since this represented a major change in practice, precepts of change theory were used to convince the nursing staff that this was best practice. Packets of information from the evidence review were made available to the nursing staff. This was followed up by individual and small group feedback sessions to elicit and address their concerns. With tacit approval of the nursing staff, a two-month pilot of the algorithm with collection of data on patient/nurse satisfaction with pain control, pain intensity scores, and opioid utilization was completed.

**Interpretation:** Success of this project is evident through the continued use of the algorithm to date as well as positive verbal feedback from staff.

**Discussion:** Practice changes are often fraught with anxiety and resistance. The use of evidence-based practice strategy and change theory eases the process and creates opportunities for collaborative problem solving.

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**AN ORAL MUCOSITIS PREVENTION/TREATMENT PROTOCOL FOR BLOOD AND MARROW STEM CELL TRANSPLANTATION: A RESEARCH UTILIZATION PROJECT.** Captain Carlton G. Brown, RN, MSN, AOCN®, Walter Reed Army Medical Center, Washington, DC.

Mucositis is a painful, debilitating complication of patients receiving high-dose chemotherapy for blood and marrow stem cell transplant (BMSCT). Ablating chemotherapy kills not only cancer cells, but all fast-growing cells as well. Damage to the oral mucosal cells can leave patients with extremely painful open oral and esophageal sores which make eating, drinking, or talking difficult. Patients undergoing BMSCT at Walter Reed Army Medical Center (WRAMC) presented with similarly high numbers of severe mucositis. Between June 2000 and June 2001, 57% of BMSCT patients reported severe mucositis. A needs assessment of nurses working on the inpatient bone marrow transplant unit at WRAMC revealed that mucositis was the second most distressing adverse symptom related to BMSCT.

**Problem:** At WRAMC, nurses use several assessment tools to quantify the degree of stomatitis, but no standardized tool is in use and there is a lack of formalized, standard patient education. Secondly, while numerous agents (hydrogen peroxide, saline/baking soda rinse, or other commercial mouth care products) are used, no standard oral hygiene regimen is used during treatment. The Iowa Model of Research Utilization will be utilized to guide the process of developing a protocol for mucositis. This poster presentation will share the research utilization process plus present research findings related to mucositis.

**Specific aims include:** Review current research and practice literature about oral mucositis prevention/treatment; develop a prevention-based patient program for oral mucositis; implement the oral mucositis prevention/treatment program by educating patients, family, and nursing staff; conduct follow-up outcomes evaluation concerning oral mucositis incidence and severity.

**Outcome:** Decrease severity of oral mucositis in patients receiving BMSCT; and increase patient and staff education about oral mucositis prevention/treatment.

**Significance to cancer nursing/quality cancer nursing:** Oral complications cause significant problems for BMSCT patients. Quality of life is diminished in patients suffering from painful moderate to severe mucositis. Oncology nurses are in an excellent position to implement evidenced-based research into a standardized mucositis prevention/treatment protocol. Because current practices across the country have many differences and few similarities, a uniform standardized mucositis protocol that is available to any cancer nurse also has significant potential to improve cancer nursing nationally.

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**UTILIZING AN ONCOLOGY NURSING COUNCIL AS A STRATEGIC APPROACH TO ADVANCING ONCOLOGY NURSING PRACTICE.** Constance T. Donovan, RN, MSN, CS, AOCN®, FAAN, M. Tish Knobf, RN, PhD, AOCN®, FAAN, Lynne Sherman, RN, BSN, and Christine Denhup, MSN, APRN, CPON, Yale-New Haven Hospital, New Haven, CT.

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Administrative structures for oncology nursing at academic medical centers associated with cancer centers differ from free-standing centers where oncology nursing is organizationally cohesive. In response to an identified need for a more comprehensive and collective effort for oncology nursing at Yale New Haven Medical Center, an oncology nursing council was formed in December 2000. The council is a joint effort among oncology nurses at Yale New Haven Hospital, Yale Cancer Center, and Yale University School of Nursing. The purpose of the council is to advance the nursing care of patients with cancer and to develop nurse practices which effectively contribute to the overall interdisciplinary care of various cancer populations. Members represent various nursing roles, departments, and specialties.

The council's first year goals were to increase nurses access to oncology nursing expertise, create educational forums for oncology nurses, promote national certification in oncology nursing, assist the hospital's recruitment and retention of oncology nurses, and develop evidence-based oncology care protocols/standards.

After eight months, progress toward these goals is clearly evident. The council created and disseminated, throughout the institution, an oncology nursing resource directory which identifies adult and pediatric oncology nurses and their specific areas of expertise; initiated an annual educational program, the first of which was presented by a nationally recognized nurse expert in pain and palliative care; held a ceremony which honored and acknowledged all nurses who had achieved national certification in oncology nursing; established a study series for nurses preparing for national certification; developed a 12-week clinical internship in oncology nursing (medical, gynecologic, pediatric specialties) for new graduates and a brochure to describe the internship program; began development of a web site to describe oncology nursing at Yale; and initiated planning for the development of an evidence-based febrile neutropenic protocol to standardize care of pediatric and adult patients in ambulatory oncology clinics.

These initial collective efforts are viewed as the first steps toward advancing oncology nursing practice in our setting. The council members envision future collective work to include supporting and conducting clinical nursing research.

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THE EVOLUTION OF QUALITY STANDARDS FOR ONLINE HEALTH RESOURCES: THE ONS ONLINE EXPERIENCE. Elizabeth G. Gomez, RN, MSN, AOCN®, Mary Uhlenhopp, RN, MS, MPH, Patricia Clark, RN, MS, APN, Lynn Collins, RN, MS, AOCN®, Maureen Major, RN, MS, AOCN®, and Janet Bloch, MS, RN, CS, OCN®, ONS Online, Pittsburgh, PA.

In only a few years the World Wide Web has somehow touched or transformed the lives of billions and is now ingrained in cultures worldwide. Searching for healthcare information online remains the leading use of the Internet. As these resources multiply exponentially and become more complex, sifting out the trustworthy and reliable Web sites is a challenge that confounds even the most educated or savvy consumer. From its inception in 1996, the ONS Online editorial board has been focused on defining quality for the online information we present and developing a plan to ensure it. Our goal is to present a Website that meets the scientific and quality standards of all other ONS peer-reviewed publications. Our literature-based content review policy, which has been revised annually, clearly enumerates how content is to be evaluated for inclusion in ONS Online. It is notable that few healthcare-related sites and fewer nursing-related sites took this academic approach in policy development. ONS Online is now well positioned for what promises to be a trend toward health website accreditation. The purpose of this presentation is to describe the evolving process of evaluating Web-based health information, and how, through repeated and careful review of the literature and growing expertise, the ONS Online editorial board has developed a complete content review process. An overview of the technologies employed (e.g., web based interactive forms, SQL database, e-mail reminder system, and virtual office) to implement the process will also be presented.

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IDENTIFYING PATIENTS AT RISK FOR ESOPHAGEAL CANCER: IMPACT OF A NURSE PRACTITIONER WELLNESS CENTER ASSESSMENT. Carol Ann Milazzo, RN, C-FNP, Pamela Kosco, RN, MPH, OCN®, Bernadette McGovern, RN, ANP, OCN®, Hans Gerdes, MD, and Moshe Shike, MD, Memorial Sloan-Kettering Cancer Center, New York, NY.

**Background:** This year, 13,200 people will be diagnosed with esophageal cancer. The incidence of adenocarcinoma of the esophagus among men has increased more than 100% in recent decades. Gastroesophageal reflux disease (GERD) is a risk factor and affects up to 40% of the adult population. The symptoms of reflux considered specific for GERD are heartburn and acid regurgitation. Barrett's esophagus is a precancerous condition where the cellular lining of the esophagus is damaged by chronic reflux of gastric contents from the stomach into the esophagus. Barrett's can be found in 10%–13% of patients with chronic GERD. Barrett's is associated with a 30–52-fold increase in the occurrence of esophageal carcinoma. There are currently no screening recommendations

for esophageal cancer. The Prevention and Wellness Center at this NCI-designated comprehensive cancer center identifies individuals at increased risk by assessing for early signs and symptoms of esophageal disease.

**Methods:** To identify individuals who may be at increased risk for esophageal cancer, patients were asked three screening questions by the nurse practitioner: 1) Have you ever been diagnosed with Barrett's esophagus? 2) Do you have any difficulty swallowing? and 3) Do you have chronic heartburn? Patients with a positive response to one or more of these questions were clinically assessed by the nurse practitioner and collaboratively reviewed with a member of the gastroenterology team. A determination for upper endoscopy screening was then made.

**Results:** From June 2000 until June 2001, 461 patients were asked the three screening questions. A total of 75 patients answered positively to at least one question. Findings are as follows: 33 normal upper endoscopies, eight Barrett's esophagus, 10 esophagitis, seven did not follow through with scheduled screening, eight were deemed inappropriate after clinical assessment/collaborative review, and nine patients are awaiting screening.

**Conclusions:** The rising incidence of esophageal cancer warrants attention. As a result of our findings, our nurse practitioners incorporate assessment for esophageal disease into their practice. Despite the lack of screening recommendations for esophageal cancer, the inclusion of three simple questions as part of a routine physical assessment may identify patients at increased risk who would benefit from individualized screening recommendations.

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MANAGING VIRAL RESPIRATORY INFECTIONS IN A BONE MARROW TRANSPLANT (BMT) PROGRAM: EMPOWERING NURSES TO CONTROL OUTCOMES. Leslie D. Wehrle, RN, BSN, OCN®, Michael Krumlauf, RN, BSN, and Margaret Bevans, RN, BSN, MSN, AOCN®, National Institutes of Health, Clinical Cancer Nursing Department, Bethesda, MD.

During the fall of 1998, an outbreak of seventeen documented viral upper respiratory illnesses (Influenza-A, N = 13; parainfluenza, N = 2; Adenovirus, N = 3; RSV, N = 1) prompted a multidisciplinary approach to prevent further spread and control future outbreaks. The objective of this group was to develop and implement infection control standards (ICS) to manage actual and potential viral upper respiratory illness (URI) among patients, families, and staff in the BMT program. The multidisciplinary team included nurses, physicians, and pharmacists from the BMT program, infectious disease, epidemiology, and occupational medical services. Prior to this outbreak, patients were placed on respiratory isolation (RI) when viral cultures returned positive. The improvement plan changed this standard and required patients to be placed on RI with the onset of any URI symptoms. In addition, intensive training of staff occurred around the transmission of different respiratory illnesses, the assessment of patients and families, and the management of patients on RI. It was also necessary to include intensive education for both inpatients and outpatients addressing recognition of URI symptoms and safe practices when at home and when entering the clinical facility. Signs were developed and posted at the nursing unit entrance requesting visitors to assess themselves for URI symptoms. A key component was developing these signs in both English and Spanish to accommodate the large number of Spanish-speaking patients and family involved in treatment. To address staff illness, all staff were strongly encouraged to get the influenza vaccine, which was provided free of charge. However, staff who developed URI symptoms were instructed to consult their nurse manager and occupational medical service for determination of ability to work. As a result of this multidisciplinary effort, the BMT nurses were empowered to implement the ICS for any patient they encountered with URI symptoms followed by notification of the physician and cultures, as ordered. A review of the plan in September 2000 revealed a need for modifications in the ICS making this a year-round practice instead of one only during the high-risk season. Following the implementation of the expanded plan, there have been no secondary transmissions of respiratory illness among patients or staff.

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TARGET CANCER THERAPIES: THE ROLE OF THE CLINICAL RESEARCH NURSE IN TUMOR PROCUREMENT. Susan Smith, RN, BSN, OCN®, and Ellen Hollywood, RN, BS, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Targeted anti-cancer research is the wave of the future in clinical oncology. Research teams have identified potential therapeutic targets in cell surface receptors and in cell cycle pathway mediators. For example, by blocking the epidermal growth factor (EGF) receptor, a transmembrane glycoprotein often over expressed in malignancies, signals which favor cell survival and growth may be suppressed. Our group is studying drugs that block the EGF receptor, but tissue must be first obtained in order to determine whether this target is present on the patient's tumor. In another clinical trial, our group is investigating the use of pre-treatment molecular profiling of a patient's colorectal tumor to guide selection of initial chemotherapy. The major difference in managing patients for target therapy treatments is that tissue analysis for these targets must occur BEFORE



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treatment can begin. For this reason, the role of the clinical research nurse in facilitating the timeliness of the process, while maintaining meticulous accuracy, is crucial. In these studies, the typical role and responsibilities of the research nurse has taken on a new dimension. The nurse must educate the patient on the rationale of acquiring special pathology slides or specimens. This includes assisting the physician in consenting the patient to have their tissue tested.

It our responsibility to understand the pathology and the location of the tumor cells to accurately obtain the appropriate tissue needed. The research nurse must possess a strong clinical and scientific knowledge in order to clearly communicate the necessary priorities and information to all parties involved. The research nurse is the liaison and facilitator that coordinates the complex logistics and prioritization involved in pre-treatment tumor analysis. This abstract will review our experience with 105 patients receiving targeted treatments. We will present guidelines to assist the research nurse in the facilitation and management of these complex protocols. Additionally, we will review terminology to assist the nurse in reviewing pathology reports.

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**CONSIDERATIONS FOR SUCCESSFUL INTERNATIONAL COLLABORATION: AN EXEMPLAR IN BREAST AND CERVICAL HEALTH BETWEEN NICARAGUAN AND U.S. NURSES.** Joan Such Lockhart, PhD, RN, CORLN, Duquesne University School of Nursing, Pittsburgh, PA.

**Background/Rationale:** Prevention and early detection of breast and cervical cancer has been cited as a health priority in developing countries such as Nicaragua. Oncology nurses can positively influence the outcomes of cancer health programs designed for underserved high-risk women by developing culturally appropriate intervention strategies in partnership with colleagues from other countries. This emphasis on international collaboration is reflected in the ONS Educational Blueprint (2000), as well as efforts of the UICC and ISNCC. This strive for global quality cancer health has also been recognized in the recent ONS Strategic Plan for 2002–2003. In order for international collaboration to positively impact cancer health outcomes, it is vital that nurses involved in such activities not only understand possible challenges they may face, but are prepared to effectively manage them.

**Methods/Practices:** The purpose of this presentation is to recommend considerations (suggestions) for oncology nurses considering international collaborative initiatives. These suggestions are based on experiences encountered during a series of six funded education and research-focused projects conducted since 1995 between Nicaraguan, US, and Puerto Rican nurses. Two projects were coordinated with nurses from the Nicaraguan Ministry of Health, two were implemented with faculty from Nicaraguan schools of nursing, and two projects combined nurses from both service and education settings. Outcomes of each of these projects will be discussed in light of their long-term contributions to the development of a breast and cervical cancer health project for high-risk underserved Nicaraguan women.

**Interpretation:** Several "Considerations for Successful Collaboration" will be offered based on a retrospective evaluation of experiences encountered while implementing these projects. Specific examples of challenges faced and effective solutions will provide participants with practical guidance in international collaborative program development.

**Discussion:** An umbrella of opportunities exists for oncology nurses to partner with nurses from other countries to strengthen global quality cancer health. Considerations derived from personal challenges encountered in projects with Nicaragua may expedite future work.

## ABSTRACTS TO BE PRESENTED AT POSTER SESSIONS

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**ONCOLOGY CLINICAL LEARNING FACILITATION PROGRAM: CREATING ONCOLOGY NURSES FOR THE FUTURE.** Rosemary B. Field, APRN, AOCN®, and Annette Welch, MS, RN, OCN®, University of Utah Hospitals and Clinics, Salt Lake City, UT.

As we face a deepening nursing shortage, declining enrollment into nursing programs, and steadily increasing hospital demand, nursing leaders are faced with the challenge of attracting the limited supply of student nurses into oncology. Cancer hospitals need nurses to function as direct care providers, educators, and leaders to take cancer care into the millennium. Studies have shown cancer nursing education remains inadequate in both quality and quantity. In addition, many faculties are without oncology experience. Despite the development of exemplary cancer education programs, guidelines for curriculum content, standards, and teaching materials, many undergraduate curricula remain inadequate. Increasing and enriching student experiences in oncology is one strategy to meet future demands for cancer care. The Oncology Learning Facilitation

Program is a model program designed to enrich clinical experiences of undergraduate nursing students. This program is designed to reflect four critical values: holistic approach to care management, humanistic concern for patients and families, altruistic concern for elevating student clinical performance and creating the next generation of oncology nurses, and collegiality in fostering team approaches and accountability to student learning. Program objectives include: 1) development of student clinical competence, critical thinking, communication, and ability to function as a member or leader of an interdisciplinary team, 2) increase student and staff satisfaction, 3) create an opportunity to customize student learning experiences, 4) provide access to clinical oncology staff to guide student experiences, and 5) develop the future generation of oncology nurses and nurse educators. The two components to the program, Oncology Clinical Nurse as Facilitator for Bedside Learning and Oncology Work Study Program will be described.

Elements to develop successful partnerships with nurse training programs to harvest learning opportunities from oncology clinicians will be reviewed. Bedside teaching strategies and tools will be described. Lessons learned will be highlighted. Methods used to complete a program evaluation will be presented. Evaluation results will be discussed. Implementing successful strategies to attract student nurses into oncology and engage nurses in their development is an essential step in ensuring an adequate supply of clinicians and educators in oncology nursing.

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**NUTS AND BOLTS OF CLINICAL PRACTICE.** Elizabeth A. Galvin, MS, RN, Carol Appel, MSN, RN, AOCN®, Mary Gerlach, MSN, RN, Toni Henderson-Clark, MSN, RN, Lynette Trojaniak, MSN, RN, CS, and JoAnne Maklebust, MSN, RN, CS, Karmanos Cancer Institute, Detroit, MI.

Educating new staff and maintaining clinical competencies became a challenge in one urban comprehensive cancer center. Staffing shortages, the loss of unit based educators, and an increasingly complex patient population led us to develop our own resources for staff. Managers, assistant managers, clinical nurse specialists, and quality assurance nurses met on a monthly basis to discuss the educational needs of nursing staff. While each unit has reference material, the nurse does not have the time to refer to it, particularly when she needs a quick refresher or reference when something is happening on the unit. Specific areas of education such as oncology emergencies and the needs of specific patient populations were identified as priority for development. Nuts and Bolts of Clinical Practice® was selected as a title because the flyer was designed as a quick refresher to which the nurse could make reference during work hours. Teams of two or three nurses prepare the content. Inclusion of staff nurses is encouraged and often done. This allows staff nurses to update their skills and receive credit for advancement and salary increases. Each flyer is reviewed by the whole unit resource team for accuracy, clarity, and readability prior to publication. The flyer is designed to briefly explain the topic, identify patients at risk, outline major areas of assessment, and nursing actions/interventions. Information provided is short, concise, and often bulleted to ease readability and finding what is absolutely necessary for care. Each month a new "Nuts and Bolts" is printed and distributed. Managers handle distribution on their units and decide how to hold the nurses accountable for the content. Each nurse receives her own copy. The unit also has copies available. New nurses are provided the information during orientation. The flyers have met with great acceptance. New editions are being asked for prior to printing. Suggestions from staff add to the list of new issues waiting development. Completed "Nuts and Bolts" include febrile neutropenia, malnutrition, clostridium difficile, septic shock, sickle cell anemia, spinal cord compression, and cardiac tamponade.

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**THE TRANSITION FROM GRADUATE NURSE TO COMPETENT ONCOLOGY NURSE: A COMPREHENSIVE APPROACH.** Deena Damsky Dell, RN, MSN, AOCN®, BC, Fox Chase Cancer Center, Philadelphia, PA.

We are in the throes of a nursing shortage that will only worsen in the next decade. Based on nursing workforce studies and economic predictions, Fox Chase Cancer Center has begun hiring new graduates as a source of "nurse power." This presentation will describe the strategy adopted by this comprehensive cancer center to prepare and support new graduates through the transition process. To ensure a successful outcome, we have accepted the following assumptions. 1) New nurses enter the workforce with minimal clinical experience due, in part, to the shift from hospital- to university-based nursing programs. 2) Employers must develop orientation programs that foster growth and development by breaking down competencies into small tasks that can be mastered step by step. 3) Nurse retention is linked to successful orientation experiences.

A multi-tier competency-based curriculum was developed to assist new graduates in the transition to competent oncology nurses. A review of basic medical-surgical nursing principles is incorporated into a series of lectures and practicum during the initial weeks of orientation. The second tier includes oncology-intensive course content and clinical experience. The third tier focuses on patient care management and leadership competen-

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cies. Guided by the principles of adult learning, pre-assessed learning needs are matched with mandatory requirements. A clinical nurse specialist is the dedicated coordinator who facilitates all aspects of the program. Because preceptors are an important component of a successful orientation, we have instituted an eight-hour preceptor course for staff who are willing and qualified.

Program implementation began in Spring 2001. We have budgeted for eight positions above our staffing complement, allowing us to count orientation time as non-productive hours. This will maximize the orientation experience and minimize orientee stress. We hope that “over building” our nursing force will produce competent oncology nurses. In the presentation, we will discuss our experience with the first cohort of new graduates.

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**DEVELOPING AN ONCOLOGY NURSE INTERNSHIP: RECRUITMENT STRATEGIES.** Keri A. Hockett, ARNP, MSN, AOCN®, Sarasota Memorial Hospital, Sarasota, FL.

This presentation will describe the development of an oncology nursing internship program to recruit new nurses into the specialty. The development of the course, including the goals and objectives, will be presented. The internship is designed to use the ONS core curriculum while covering the ONCC test blueprint for the OCN® exam. The ONS Cancer Chemotherapy Course is also taught as part of the comprehensive program. The internship consists of six weeks of class time, two days per week, combined with floor preceptorship an additional two days per week. After week six, all remaining orientation is with the preceptor on the unit. The internship is designed to accommodate the new graduate nurse as well as the experienced registered nurse who does not have oncology experience. The outcomes to be measured that will be discussed are applicant rate increase, retention rate, number of nurses who become members of a professional society, and number of nurses who become OCN®s in their first year of eligibility. Lessons learned and what we would do differently will be shared.

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**STRATEGIES TO MAINTAIN THE INTEGRITY OF NURSING INTERVENTIONS.** Kyra Whitmer, RN, PhD, University of Cincinnati College of Nursing, Cincinnati, OH; Carole Sweeney, MSN, RN, AOCN®, Anne Slivjak, MSN, RN, AOCN®, Connie Sumner, MSN, RN, and Andrea Barsevick, DNSc, RN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA.

In the conduct of a randomized clinical trial, a critical problem is how to maintain the integrity of the intervention over time and across personnel. This problem is compounded when the intervention requires behavioral interaction between research staff and participant. This presentation will describe the methods used to maintain the integrity of an energy conservation/activity management (ECAM) intervention for cancer-related fatigue that was tested for efficacy in a randomized clinical trial. Principles of experimental design guided the development of methods to guard integrity. A training program was developed for the nurses who carried out the intervention. Training activities included the discussion of assigned readings and discussion about cancer-related fatigue and energy conservation; the use of an intervention script to standardize the content to be presented; and role-play of intervention scenarios including typical problems encountered during the pilot study. During the conduct of the study, the investigator conducted monthly meetings with staff to discuss problems administering the intervention and reinforce expectations of uniformity. In addition, all interventions were tape-recorded and a percentage was evaluated against a checklist of essential content of the intervention. The checklist was developed by the investigators and determined to have face validity. Inter-rater reliability also was established. The checklist was used to provide staff members with personalized feedback about the degree to which they adhered to the content of the intervention. The data from the checklists was also summarized to quantify adherence to the experimental intervention. Quarterly summary reports about intervention adherence were provided to all staff and investigators. Accrual to this clinical trial will be completed October 31, 2001, and, to date, has maintained greater than 90% adherence to the experimental intervention. The methods used in this study provide evidence of the integrity of the experimental intervention. These methods can be adapted to other behavioral studies to address the problem of adherence to the intervention.

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**GLIOMAS: A CANCER FOR ALL AGES—INCIDENCE, ETIOLOGY, CURRENT TREATMENT, AND INNOVATIONS IN RESEARCH.** Lisa G. Green, RN, MSN, AOCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Malignant gliomas are the most prevalent primary brain tumors and account for more than 50% of all primary CNS cancers. Over the last decade, the incidence of intracranial tumors has been increasing at an alarming rate. The cause of most brain tumors remains unknown. However, factors associated with the risk of developing tumors continue to

emerge. Some associations with genetic diseases have been observed and multiple environmental factors continue to be investigated. The glioma class of tumors includes astrocytomas, oligodendrogliomas, ependymomas, and mixed gliomas. Astrocytomas account for 60% of all primary brain tumors, while oligodendrogliomas represent three to seven percent, and ependymomas, 5%. High-grade gliomas include anaplastic astrocytoma and glioblastoma multiforme, representing less than 30% and greater than 50% of gliomas, respectively.

Treatment for gliomas includes surgery, radiation, chemotherapy, biotherapy (with limited success, but renewed interest), and the addition of supportive care treatments such as anticonvulsants and corticosteroids. In children, total gross resection (greater than 90%) of the tumor in newly diagnosed patients followed by radiation and chemotherapy has been the most powerful predictor of outcome. Clinical manifestations, treatment, complications, and supportive care requirements vary with the location and the histology of the tumor. Therefore, these patients require highly individualized plans of care and tend to present great challenges to the healthcare team and caregiver. Since outcomes vary from cure, to permanent disability, or a very short life expectancy, patients and families rely on nurses for education, care, and support.

New diagnostic techniques and therapy regimens are being proposed on a regular basis in an attempt to improve the therapeutic outcomes for these patients. Included in these regimens are Temodar, Thalidomide, Tamoxifen, and gene therapy. This presentation will provide a brief overview of the incidence and etiology of gliomas plus discussion of current treatments and innovative efforts in clinical research with regard to diagnosis and treatment. Emphasis will be placed on patient and family psychosocial needs and nursing care for this complex cancer group.

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**EVALUATION OF A COMPLEMENTARY THERAPY HOSPITAL INTERNSHIP PROGRAM.** Vicki Norton, RN, BSN, OCN®, Karen Swenson, RN, MS, AOCN®, Carol McPherson, MSW, MPH, Karen Teagarden, BA, ARCB, and Lynda Whisney, RN, MA, CHTP, Park Nicollet Health Services, St. Louis Park, MN.

Oncology patients are seeking complementary and alternative medicine (CAM) along with their medical regimes for the relief of symptoms such as nausea, pain, and anxiety. It is challenging for nurse managers to address patient requests for CAM in a caring, competent, and fiscally responsible manner. A pilot program was initiated with healing touch and reflexology interns to: 1) provide CAM services for hospitalized oncology patients, 2) measure the effectiveness of the services with a pre- and post-treatment questionnaire, and 3) give the interns the hours of practicum needed to receive certification in their CAM specialty. A certified healing touch practitioner and a certified reflexology practitioner served as mentors/supervisors for these interns. Participants were recruited from a 51-bed oncology and medical/surgical unit. All participants signed an informed consent prior to treatment. Reflexology treatments were given a total of 113 times to 65 patients (the certification practicum includes treating patients multiple times) and 83 healing touch treatments were given to 65 patients. Patients rated their pain, nausea, stress, anxiety, fear, and depression both before and within 30 minutes after CAM treatment on a symptom intensity scale from 0 (no symptom) to 10 (unbearable symptom). Symptom intensity scales have been previously validated in assessing pain and nausea.

Patients also rated their well-being and sense of peacefulness in a similar fashion. Results were analyzed using the Mantel-Haenzel chi-square tests to compare differences in proportions and Wilcoxon signed rank test to analyze the change in symptom ratings from pre- to post-tests. P-values (two-tailed) of less than .05 were considered statistically significant. Mean levels of pain, nausea, stress, anxiety, fear, and depression dropped significantly ( $p < .0001$ , all measures) after healing touch and reflexology. Ratings of well-being and peacefulness improved significantly after treatment ( $p < .0001$ , all measures). Males and females both received benefits from the program. All patients surveyed would recommend these treatments to fellow patients. These results support the value of a CAM internship program in providing symptom management and patient comfort for oncology patients in the hospital setting.

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**RADIOIMMUNOTHERAPY (RIT): STAFF, PATIENT, AND CAREGIVER EDUCATIONAL CONSIDERATIONS RELATED TO OUTPATIENT ADMINISTRATION OF BEXXAR® (TOSITUMOMAB AND IODINE I-131 TOSITUMOMAB), A NEW TREATMENT MODALITY FOR THE TREATMENT OF NON-HODGKIN'S LYMPHOMA (NHL).** Carolyn Hendrix, RN, OCN®, R.O. Dillman, MD, C. de Leon, RN, S. Kelly, RN, OCN®, K. Jerjian, PhD, Hoag Hospital, Newport Beach, CA; and K. Clapp, RN, OCN®, Corixa Corporation, San Francisco, CA.

Radioimmunotherapy delivered on an outpatient basis presents unique educational considerations for patients, caregivers, and healthcare professionals. Changes in radiation safety guidelines instituted in 1997 by the Nuclear Regulatory Commission (NRC) allow patients treated with radioactive iodine therapies, including RIT, to be treated on an outpatient basis. These regulations include outpatient release (OPR) guidelines. It is

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important that staff understand the need to implement and maintain radiation safety procedures. Education should include basic radiation safety principles and safety precautions as well as information specific to Bexxar administration and OPR discharge instructions.

Three important principles constitute the basics of radiation safety: time, distance, and shielding. Nurses and other healthcare providers need to work efficiently when caring for patients receiving radio-labeled antibodies. Efficiency and minimizing unnecessary exposure are easily achieved with proper training and knowledge of treatment protocols. With training, nurses are able to deliver this therapy under the guidance of a physician licensed to deliver therapeutic isotopes. Because Bexxar is conjugated to I-131, which emits beta and gamma radiation, a room away from general pedestrian traffic is required. Although a special, lead-lined room is not necessary for the delivery of Bexxar at standard doses, the drug treatment set-up used by any given institution must provide adequate shielding. All staff involved in providing patient care are required to wear radiation-monitoring badges. Discharge instructions related to OPR must be followed carefully. Maintaining general and Bexxar-specific precautions are important for patients, caregivers, and healthcare professionals.

The development of the RIT team, educational programs, and related tools has been critical to the success of the RIT program at Hoag. In addition to such education, development of the OPR model and collateral tools, including written patient education materials and instructions, have proven key to the on-going success of the RIT program.

**Conclusion:** A treatment program of RIT utilizing Bexxar has been conducted successfully in the Hoag Cancer Center outpatient clinic. Education for all involved (patients, caregivers, and healthcare professionals) has lessened anxieties and misconceptions related to radiation safety.

With proper education, the Hoag model has demonstrated that RIT is both feasible and safe on an outpatient basis.

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**CONQUERING CANCER PAIN IN THE EMERGENCY CENTER: STRATEGIES AND OUTCOMES.** Tuong-Vi Ho, RN, MSN, ANP, Eva Lu Lee, RN, MSN, NP, Jane Geraci, MPH, MD, Sally Fernandez, RN, MSN, Neomi Badrina, RN, MSN, and Amor Agruda, RN, BSN, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Pain is one of the most common side effects of cancer substantially affecting the quality of life of cancer patients. Pain was also the second most common chief complaint that prompted patients to visit our emergency center (EC) last year. Assessing patient pain, developing and implementing plans of care, and evaluating pain management outcomes are vital in keeping up with our goal to provide quality care to our oncology patients. With the fast pace, quick patient turnover times, and lack of direct follow-up in the EC, pain management can be even more challenging for nurses in this setting. Thus, accurate patient assessment and innovative measures for intervention are needed. The purpose of this retrospective study was to identify nurse skills and patterns of pain assessment, to identify areas for improvement, to develop effective interventions, and to evaluate patient pain control outcomes. Records from 299 oncology patients seen in the EC in January 2000 were reviewed. One hundred (33%) of these patients reported a pain level between zero and three on a 10-point scale and 124 (42%) complained of pain at a level of four or higher at the time of triage. Nurses documented pain assessment for 44 (35%) of these 124 patients. Seventy-five (25%) of all 299 patients did not have any documentation to reflect pain assessment at their triage or exit times. Our results indicated that the EC staff should be further educated on cancer-related pain issues, accurate pain assessment, and interventions for pain control. Thus interventions were developed to increase patient and nurse awareness of pain standards, accurate pain assessments, and pain control measures. Those interventions consist of staff inservices, poster presentations, chart reviews, patient education pamphlets, pain scale posted in rooms, more in-depth pain assessment documentation, and medical staff notification of patient with pain level of four or higher at the time of triage. Currently the effectiveness of those pain interventions is being evaluated.

As healthcare providers helping patients to control their pain, we can actually contribute to our patient efforts in maintaining a good quality of life while battling their cancer illnesses.

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**TUBES, DRAINS, AND MANAGEMENT PAINS.** Mary A. Gerlach, MSN, RN, CWOCN, CS, and Carole Bauer, BSN, RN, OCN®, CWOCN, Barbara Ann Karmanos Cancer Institute, Detroit, MI.

Throughout the course of their disease, oncology patients may require a variety of tubes or drains. Once, only a few patients needed multiple tubes. Today, with increased aggressive therapeutic modalities, it has become increasingly common for oncology patients to have two or more tubes at any one time. Today, about 100,000 percutaneous, endoscopic tubes (PEG) are performed annually in the United States. Of all diagnoses, cancer is the second most common indication for placing a feeding tube. While increased use of tubes and drains has contributed to enhancing both the length and quality of life

for many cancer patients, improper tube management may cause major distress. Frequently these tubes may malfunction or be managed incorrectly resulting in patient suffering and distress. Tubes commonly used in the oncology population include feeding tubes (gastrostomy or jejunostomy), decompression tubes, and various types of drains and biliary catheters. Complications that can occur from improper tube management include peritubular leakage, tube migration, and impaired skin integrity including candidiasis and skin erosion. Nurses caring for patients with tubes and drains must possess the necessary knowledge and skill to effectively manage these devices. The purpose of this poster is to describe correct site care for the patient with a tube or drain, the importance of tube stabilization techniques, interventions to prevent tube or drain complications, management of tube complications, and the necessity of patient education for tube and drain care. This poster also will present an algorithm for proper tube and drain care and management of common complications.

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**THE ROLE OF QUALITY IMPROVEMENT (QI) IN PROFESSIONAL DEVELOPMENT.** JoAnn Mick, RN, MSN, MBA, AOCN®, Saramma Alexander, RN, Luz Macion, RN, Vivian Perkins, RN, BSN, Silvy Ninan, RN, and Marlene Cohen, RN, PhD, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Quality assessment, audits, and research facilitate professional development by providing information that can guide monitoring and evaluation of professional skills, motivation, and commitment to providing quality care. Data can be used to identify and correct problems with current processes and nursing practices to raise standards of care. Using clinical indicators helps assess and promote quality improvement (QI) by comparing actual practice to defined thresholds that measure improvements made and maintained over an established period. Involving nurses in data collection and evaluation, identification of recommendations for practice change, and ongoing monitoring has provided the experience and support for nurses to participate in QI as one method of professional development. Experience and success in completing a unit-based project assists with the decision of selecting among clinical practice, management, research, or performance improvement choices available for role development within our organization. On our surgical urology and orthopedic unit, each nurse is responsible for completing and submitting in the Plan-Do-Check-Act written format one QI project per year, and presenting it at a unit staff meeting. Last year, each of the 26 nurses on this unit completed a project. Each identified an area for improvement within the department, discussed the importance of the area selected, and collected data to determine how nursing staff were performing in that area. Assessment of the data provided information for the nurse to determine thresholds for compliance, make recommendations for desired change, and define a process to monitor that performance improvement was achieved and maintained. Completing the projects increased nurse knowledge of the performance improvement process and their ability to apply standard performance improvement strategies within our organization. All projects were displayed in the department to share information and recognize the work and creativity of individual nurses. Several project strategies were successfully implemented and provided the opportunity to submit abstracts for poster presentations to ONS. Our poster will display several of these projects, including ones on patient education, restraints, patient satisfaction, and pain management. Professional development includes increasing self-awareness and confidence that nurses are valuable resources for QI ideas to improve patient care and outcomes within an organization.

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**DETERMINING THE TRAINING NEEDS OF CLINICAL TRIALS RESEARCH NURSES.** Harriett S. Chaney, RN, PhD, CNS, and John Crossley, RN, MBS, PhD, MSN, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Scientific advances and the national priority to bring new potentially effective drugs to the people have combined to create a huge demand for professionals skilled in research. Nurses practicing in the area of clinical trials research present an administrative challenge because of the ubiquitous nature of clinical trials in a comprehensive cancer center. Over 135 nurses are employed in this role in almost every MDACC clinical department, generally reporting to different principle investigators. Therefore, it is difficult to know their practice and training needs.

Members of the nursing administrative team at MDACC worked in conjunction with a local graduate school of nursing to determine the training needs and educational goals of the nurses working in clinical trial research. A survey approach was used to obtain self-reported information from the nurses, and opinions from their supervising principle investigators.

The survey instruments were developed using open-ended questions regarding immediate training needs and ranking of long-term educational goals. Five educational experts reviewed the instrument for content validity. The surveys were sent to the nurses and principle investigators via interoffice mail. A preaddressed envelope was provided for anonymous response return.

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The response rate for the nurses was 107/136 (79%). The demographic information revealed that 52% of the nurse respondents held a baccalaureate degree and had worked in clinical trials research for a mean of 5.2 years. The majority of their time was spent in data collection and patient assessment activities. The most frequently documented training needs related to rules and regulations, protocol development, and management and statistical analysis techniques. Over 50% had graduate degree aspirations. The employing physicians identified different nurse training needs: Data collection/management and protocol requirements. They did not have an academic preparation preference.

In summary, the training needs of clinical trials research nurses can be determined using the survey method when other evaluation strategies are not possible. Self-reported training needs should be reviewed in combination with supervisor reports of training needs because they may be different. Determining training needs in conjunction with a school of nursing can lead to the development of degree programs tailored for nurses working in clinical trials research.

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**CLINICAL BREAST EXAMINATION: A CURRICULUM IN SKILL DEVELOPMENT FOR NURSES.** Deborah Davison, MSN, NP-C, CRNP, Mary Dortenzo, MSN, NP-C, CRNP, Susan Ely, RN, MSN, Jeanne Lebish, MSN, CRNP, and Leanne Ranieri, MSN, CRNP, Magee-Womens Hospital, Pittsburgh, PA; and Victor Vogel, MD, MHS, University of Pittsburgh, Pittsburgh, PA.

In the late 1990s, the face of cancer care changed dramatically when the National Surgical Adjuvant Breast Program's (NSABP) first prevention trial proved that many potential cases of breast cancer could be prevented by the use of tamoxifen. This discovery prompted a subsequent trial known as the Study of Tamoxifen and Raloxifene (STAR). Women enrolled as participants in this trial are at increased risk of developing breast cancer and are required to receive a clinical breast examination every six months while participating in the trial.

Unfortunately, nurse coordinators noted that it was often difficult to recruit participants because of the clinical breast exam requirement. For many women living in less populated areas, traveling to a center to receive the exam would be a hardship and thus had limited interest in the trial. In order to facilitate enrollment and enable these "at risk" women to participate, the nurse coordinators requested education in the technique of breast examination, thereby allowing them to travel to the participants to provide this service.

This poster outlines the development and implementation of the NSABP Clinical Breast Exam Proficiency Course, which is a modification of the curriculum developed by the California Department of Health Services. All of the participants in the course are registered nurses who are research coordinators for the STAR trial. Most report little to no clinical breast examination experience prior to entering the course. The course is presented by several advanced practice nurses, a representative from the California Department of Health Services, who was instrumental in the development of the curriculum, and the national chairman of the STAR trial, Dr. Victor Vogel. Funding for the program has been provided by the Susan B. Komen Foundation.

Response to the course has been overwhelmingly favorable. The faculty plans to continue gathering data from participants regarding usage and retention of the techniques. By learning these new techniques and others like them, oncology nurses can play a key role in risk management and prevention of cancer. This course and others like it will provide the foundation for nurses to move into these roles comfortably and proficiently.

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**EDUCATING NURSING STAFF ABOUT PAIN MANAGEMENT USING COMPUTERIZED TUTORIAL MODULES.** Janice Cooper, RN-CS, MSN, AOCN®, Debra Gardner, RN, BSN, and Debra Hoeker, RN, BSN, OCN®, Hackley Hospital, Muskegon, MI.

Pain management has become a nation wide priority due to new JCAHO standards and increased public awareness. Our multidisciplinary hospital pain management task force identified the need for nursing education on pain management. The nursing department was in charge of planning the nursing education. The purpose of the project was to create cost effective education on pain management for the nurses. Budget and staffing concerns made it difficult to have nurses attend mandatory educational programs. Therefore, the educational plan needed to be designed for short, self-study educational modules on pain management. With this in mind, the decision was made to create these as tutorials on the computer.

In the beginning, nurses completed the Nurses' Knowledge and Attitudes Survey Regarding Pain at Skills Fair. The ten areas that showed the poorest results were used as the basis for constructing eight tutorial modules. The modules were built using Power Point and automated with voice recordings. Post-tests were created using Access and hyperlinked to the end of the Power Point presentations. The modules were pilot tested and changes were made based on recommendations. The modules were then approved for 2.5 contact hours and the nurses were given one year to complete them.

The response to the computerized modules has been mixed. Because the nurses also had to complete several hospital "mandatory education" modules on the computer, they were slow to start working on the pain modules. Incentives were offered to the first nurse completing the Pain modules for each nursing unit.

Recommendation for improvement would be to make sure each module was no more than five minutes in length. Although this would increase the number of modules, it would make it easier for nurses to complete a module during a short lull in their workday. The more complex topics will be reviewed in optional education programs. The Nurses' Knowledge and Attitudes Survey Regarding Pain will be given to all nurses to complete once everyone has completed the modules.

The results will be compared to the initial survey results.

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**EDUCATING MEDICAL-SURGICAL NURSES IN NEUTROPENIA ASSOCIATED WITH CANCER.** Faye E. Hoyett, RN, BSN, OCN®, and Amanda Mooney, RN, OCN®, University Hospital Birmingham, Birmingham, AL.

Patients with neoplastic diseases often experience neutropenia and/or febrile neutropenia (FN). Defined by the National Cancer Institute (NCI) as an absolute neutrophil count (ANC) below 2,000 cells/mm<sup>3</sup>, these patients are at high risk for various infections and multi-organ failure. Indeed, one of the leading causes of cancer-related morbidity/mortality is sepsis.

Between October 1999 and July 2001, approximately 100 patients were admitted to hospitals with fever related to cancer. Because these patients are sometimes admitted to general medical/surgical (M/S) units, many issues arise related to their care. M/S nurses frequently express their anxieties at caring for cancer patients, feeling inadequate for the in-depth assessment skills required.

To assist in alleviating their anxieties and improving their assessment skills in the realm of oncology nursing, the University of Alabama at Birmingham Oncology Education Committee developed a program for M/S nurses to address the definition and incidence of neutropenia and its management. Objectives included defining neutropenia and its causes, discussing the implications of, and risk for, infections in the neutropenic patient, and identifying measures for neutropenic/FN patient management and patient/caregiver education.

Neutrophil development and function was discussed. Causes of cancer-related neutropenia were discussed. Attendees were instructed in ANC calculation and the implications for levels of neutropenia.

Recognizing patients at risk for developing neutropenia and/or FN was a major focus. Nurses were educated in neutropenic precautions as defined by the University Hospital Nursing Standard of Care Policy Manual. Patient instruction sheets for the prevention of infection were discussed and made available to the staff. The importance of patients and their caregivers utilizing good infection control practices was emphasized.

Twenty-five nurses participated in this March 2001 program. Case study teaching was utilized to provide nurses with a method to integrate information into daily clinical practice and evaluate their comprehension of material at the end of the program. Overall objectives were achieved, demonstrated by an evaluation score of 4.85 of a possible five.

A six-month follow-up is planned using a questionnaire to determine retained learning after six months. At that point, further education will be developed based on an assessment of knowledge retention.

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**SHARING HIGHLIGHTS FROM THE ONS CONGRESS AS A REGIONAL SEMINAR.** Karen M. Seeley, RN, BSN, OCN®, Arch Medical Group-Hematology/Oncology, St. Louis, MO.

**Background:** The annual ONS Congress is a monumental event for oncology nursing. Each conference takes a year of planning and great cooperative efforts from a large organizing committee. Though attendance is high, not all oncology nurses can take advantage of this grand educational experience. Practical issues such as registration and travel costs, limited time off from work, and concurrent commitments may keep nurses from being able to attend.

**Purpose:** To further disseminate crucial information presented at Congress, our group organized and sponsored a Congress Highlights Seminar for the regional oncology nursing community. The target audience was interested oncology professionals in the area who may not have had the opportunity to attend Congress.

**Methods:** Taking cues from the local clinical oncology physician's group, our Congress Highlights Seminar was patterned after similar reviews they had following the annual ASH and ASCO meetings. The seminar was divided into five, 30-minute presentations re-capping major topics from Congress. The topic areas chosen were current trends in palliative care, symptom management, patient and community education, oncology nursing research, and outpatient care. The speakers were local oncology nursing professionals with expertise in their areas of discussion. They reviewed abstracts

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in their topic area and chose four to six presentations to share with the audience. Following these presentations, a keynote speaker gave a one-hour lecture on cancer-related peripheral neuropathy, another timely and important topic discussed in a plenary session at Congress. The seminar was underwritten by an educational grant from a pharmaceutical company. There was no cost to attendees.

**Results:** Thirty-four oncology nurses attended the half-day seminar. Evaluations of this first-time event were excellent. The pharmaceutical company sponsor has agreed to fund the seminar next year due to its success. Improvement is needed in advertising the seminar and continuing education credit was not granted due to a timing error in the application submission.

Overall, this innovative approach to taking Congress “on the road” is a practical, concise method of reaching more oncology nurses with critical new information.

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**A COMPUTER-BASED PEDIATRIC HEMATOPOIETIC STEM CELL TRANSPLANT NURSING EDUCATION PROGRAM.** Mary Choroszy, MSN, CPNP, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Hematopoietic Stem Cell Transplant (HSCT) has become a prominent treatment modality for various malignant and non-malignant pediatric disorders. While there have been major advances in technology and supportive care for HSCT patients, they continue to remain at high risk for life-threatening complications such as infection, bleeding, veno-occlusive disease of the liver, and significant graft versus host disease. HSCT patients often require prolonged hospitalization and specialized nursing care. It is imperative that nurses be knowledgeable and competent in the various aspects of HSCT care in order to anticipate problems and optimize patient outcomes.

The Foundation for the Accreditation of Hematopoietic Stem Cell Therapy and criteria for HSCT centers of excellence require specific HSCT education and assurance of nursing competency.

Nursing shortages, turnover, lack of staff development instructors for Pediatric HSCT, and difficulty with nurses being able to leave the unit to attend off-site educational programs present challenges to meeting this requirement. Therefore, a computer-based nursing education program accessible on the inpatient unit was developed by the pediatric HSCT nurse practitioner to address this problem. Nurses could retrieve and review the information as needed.

A pilot group of nurses completed the program successfully and rated it favorably.

Participation in the program contributed to completion of a Pediatric HSCT nursing competency checklist to ensure compliance with accrediting criteria. An unexpected outcome was the interest in the program by non-direct patient care providers, such as case managers, who desired to learn more about pediatric HSCT. Future goals include program placement on the Nursing Website.

## 82

**CANCER CONNECTIONS: A UNIQUE PROGRAM OF MULTIDISCIPLINARY CANCER EDUCATION.** Janine Kokal, MS, RN, Mayo Clinic Cancer Center, Rochester, MN.

Most health care workers, regardless of medical training, interact with patients or family members of patients with cancer at some point in the continuum of care. It is important to offer educational opportunities to address the cancer information needs for a variety of healthcare workers enabling them to be better prepared to serve as a resource to the patient clientele.

The Mayo Clinic Cancer Center's Allied Health Education Subcommittee created a monthly educational program entitled “Cancer Connections: A Multidisciplinary Update” in an attempt to meet those needs.

“Cancer Connections: A Multidisciplinary Update” is a 50-minute panel presentation targeted to allied health professionals. The format consists of three Mayo Clinic professionals representing various disciplines, each speaking for 10 minutes on an identified cancer topic. A fourth speaker who is a patient, spouse, or family member shares their personal experience of how cancer has touched their life. The session concludes with a brief question and answer period.

This monthly program is teleconferenced to two Mayo Clinic Rochester locations and seven Mayo Health System sites. Continuing education credits are offered to attendees and each session is videotaped to allow staff to earn contact hours by viewing the tape at a later date.

The success of the program is demonstrated in continually high attendance rates and consistently positive evaluations regarding the program content, objectives, and speakers.

This poster presentation will identify the following objectives: Identification of program goals and format of monthly presentations, description of the process of working with teleconferencing and continuing education credits for multiple healthcare sites, identification of program outcomes in terms of attendance, use of videotapes, written evaluations, and year-end statistics.

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**INCREASED INTRACRANIAL PRESSURE (ICP): A HEADACHE FOR ONCOLOGY NURSES.** Karen Baumgartner, RN, MSN, and Susan Hummel, RN, MSN, CNS, University of Texas M.D. Anderson Cancer Center, Houston, TX.

It is expected that 180,000 brain tumors (including both primary and metastatic brain tumors) will be diagnosed in the United States during 2001. It is therefore critical that oncology nurses have an understanding of neurological problems associated with brain tumors. At M.D. Anderson Cancer Center, the inpatient neuro-oncology unit underwent an almost complete turnover in licensed nursing staff in one year. The unit manager and the clinical nurse specialist (CNS) identified several competency areas for the new nurses to master including performance of a basic neurological assessment and assessment of a patient for signs and symptoms of increased intracranial pressure (ICP). With this in mind, this author proposed to the CNS an educational intervention to increase new nurses' knowledge of the patient experiencing a critical change secondary to increased ICP. A self-study module was developed utilizing the Brain Trauma Foundation's evidence-based guidelines for the management of patients with head injury as a foundation. The module included a pre-test, a written module, a post-test, and an overall evaluation. In a pilot study, four new neuro-oncology nurses completed this module during their orientation. Their mean percentage of correct scores was 60% before the module, and it was increased to 90% (minimum score, 80%) after the module. The written module was revised based on the evaluations to include more specific information on the pathophysiology of increased ICP. This module will be utilized by other registered nurses in this institution after obtaining continuing education credit. This self-study module is a useful tool for oncology nurses to improve their knowledge of a potential oncologic emergency. Early recognition of signs and symptoms of increased ICP is critical to preventing neurological decline, and even death, in patients with metastatic or primary brain tumors. Oncology nurses may find the use of this self-study module helpful in obtaining basic knowledge of increased ICP.

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**THE ATAQ INITIATIVE: SUPPORTING PROFESSIONAL EDUCATION OF NEUTROPENIA FROM A TO Z.** Dawn C. Stefanik, RN, BSN, OCN®, Greater Baltimore Medical Center Healthcare, Baltimore, MD; and Mary Ellen McFadden, RN, MA, OCN®, Amgen Inc., Thousand Oaks, CA.

Neutropenia is a side effect that crosses multiple aspects of the cancer experience. For many patients, its onset is related to the administration of treatment modalities such as chemotherapy, radiation therapy, and/or biotherapy. The disease process, in terms of primary hematological malignancies or bone metastases affects other patients. Regardless of the precipitating factor, it is an event that can have devastating consequences if not treated promptly and appropriately. Since nurses can have a great impact on outcomes related to neutropenia, it is imperative that they know what neutropenia is and how to assess patients for its potential development. They should be aware of its causes, treatment, and clinical sequelae, particularly pertinent signs and symptoms of infection as well as comprehensive prevention strategies. In an effort to enhance nursing understanding and expertise regarding neutropenia, the ONS/Amgen ATAQ (Appropriate Treatment Assures Quality) program was developed and has become a national initiative designed to educate healthcare professionals about this important, yet often “silent symptom.” Nurses selected for the ATAQ program received comprehensive information about neutropenia and related topics at an educational workshop. Presentation materials including a “Neutropenia A To Z” (NAZ) slide kit were made available to participants. This poster will focus on the creative ways an ATAQ neutropenia dissemination plan was implemented. First, a pathophysiology class at a local community college provided an excellent forum to instruct nursing students about cancer and neutropenia. Second, since community hospitals often admit patients with cancer to areas other than a designated oncology unit, the NAZ program was delivered to a hospital-wide Professional Practice Council during a planned committee meeting. This served to enhance a broad-base recognition and understanding of key issues and concepts throughout the institution. Finally, local ONS chapter members were willing participants on a “Neuro Express” bus trip to New York. En route “Jeopardy” and “Bingo” games incorporated key educational content from the NAZ program and provided the “captive” participants with a day of fun, games, prizes, and information.

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**A COMMUNITY WIDE NEUTROPENIA EDUCATION SERIES AS AN ATAQ INTERVENTION.** Debra Hoeker, BSN, RN, OCN®, Jan Cooper, RN-CS, MSN, AOCN®, Hackley Hospital, Muskegon, MI; and Jackie Keehne-Miron, RN, MSN, AOCN®, Amgen Inc., Grand Rapids, MI.

Collaborative planning between inpatient oncology departments, outpatient clinics, radiation therapy, hospice, and home-care nursing organizations resulted in a three-

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program, multidisciplinary neutropenia education series. The series was the brainstem of two community oncology nurses that attended the ONS ATAQ program in the winter of 2000. The goal of the program was to educate healthcare providers from various nursing care settings throughout a mid-west community. Healthcare system employees could attend free of charge, others paid only \$25.00 to attend all three programs. CE credit was provided for all programs as well as refreshments, detailed handouts, and reference materials. Nurses from all areas stated above were in attendance as well as local ER, ICU, medical surgical, and office-based staff. Average attendance was 40 participants with the majority attending all three programs. The first in the series of programs featured a presentation of hematopoiesis to provide a scientific and theoretical background for future programs. This program was provided and supported by Amgen. The second program in the series focused on care for the neutropenic patient. Local ONS members and ATAQ nurses created the program based on ONS guidelines, ASCO guidelines, local institution guidelines, and the use of ATAQ training and materials. An elderly, male, neutropenic, NHL patient case study presentation and discussion were utilized at the closing of this program to assure participation and confirm knowledge application. The final presentation in this series was conducted by an infectious disease physician. This program presented the complications of neutropenia as well as covering assessment, intervention, and prevention of febrile neutropenia. The evaluations for the series were extremely positive with great appreciation noted from nurses outside the traditional oncology settings. The impact on clinical practice has been significant as evidenced by increased referrals to oncology units for assistance with neutropenic care and assessment by other departments, an increased awareness of the importance of neutropenic precautions within the emergency room and ambulatory settings, and standardization of neutropenic care between healthcare departments across the community.

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**MANAGING IN THE MILLENNIUM: CREATING A UNIT WEBSITE.** Linda M. Rice, RN, OCN®, and Dottie Landis, RN, BSN, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL.

In this millennium, the nursing shortage is real. We work long hours and extra days. This workload gives us less time for committee participation and exchanging ideas and new information. The staff development committee on our 24-bed oncology/hematology unit thought a website for members and staff to promote continued education and facilitate professional growth and development would assist with our ongoing needs. This abstract will discuss the creation and development of a unit-based committee website and its benefits. Websites offer flexibility and convenience by working at each individual's pace with the ability to retrieve information for informal review whenever and wherever necessary. We would have a vehicle to reach staff anytime, promoting time management for committee members enhancing interest. An online search by the chairperson followed. A popular Internet browser was chosen which offered a "ready-to-go" website with built-in web pages awaiting customization. Committee and unit needs were evaluated. A "Home" page and "Meet the Members" page fulfilled introduction needs, including the committee's purpose statement. It was determined that our files could use further organization and a "File Cabinet" page was utilized. Information would be available for future members and staff in years to come. Confidentiality issues were solved with "members only" criteria to view file cabinet documents. A "Message Board" was developed to communicate to staff other non-restrictive issues or subject matter. The message board also assists staff in meeting hospital requirements by posting policy reminders and memos. It enhances staff educational needs as with new research drugs and protocol reviews, for example. An "Educational" page is available with links to other websites including those with CEUs. We have a "Photo" page promoting teamwork and camaraderie. Committee and staff members have the ability to check on issues and unit business from any on-line PC. New information is added as it develops. Committee involvement is higher than ever. We have successfully promoted committee and staff unit involvement and increased our ability to communicate by using this tool of the millennium—a working website.

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**LEADING THE TRANSFORMATION OF PAIN MANAGEMENT IN COMMUNITY HOSPITALS.** Jerome Koss, RN, OCN®, Fox Chase Network, Fox Chase Cancer Center, Philadelphia, PA; Pamela Kedziera, RN, MSN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA; and Margaret O'Grady, RN, MSN, and Kathleen McGonigal, RN, OCN®, Fox Chase Network, Cheltenham, PA.

Cancer pain management has greatly improved in NCI-designated comprehensive cancer centers but many of the advances have not been disseminated into the community hospital setting. The purpose of this abstract is to illustrate how the Fox Chase Network, Inc. (FCN), a subsidiary of Fox Chase Cancer Center (FCCC) is working to develop leaders who will transform the quality of pain management at each of its 23 community hospitals.

The Pain Resource Nurse (PRN) Program at Fox Chase Cancer Center was developed in 1992 based on the requisite that current pain management principles and practice standards must get to the bedside practitioner. The PRN goals are 1) to function as patient advocate for pain control, 2) to serve as role model, 3) to provide more effective patient/

caregiver education, and 4) to build awareness of barriers to effective pain assessment and management.

By fulfilling these goals, PRNs become leaders in pain management.

In the year 2000, the Fox Chase Network Performance Improvement Committee set a goal to bring the PRN program to the Network. Based upon the mentoring strategy utilized for the ONS Leadership Development Institute, network program managers were invited to have nurses at each of the FCN institutions become PRNs. PRN candidates were then asked to assess their personal knowledge and attitudes toward pain management, their goals in becoming a PRN, and the type of educational, quality improvement, or research projects they may pursue as a plan to lead improvements in pain management at their institutions. The FCCC Pain Management Center then presented a two-day core instructional program.

Continued support in this new role is being provided through quarterly education sessions and mentoring by an experienced PRN and the Network staff. PRNs are expected to complete two projects per year which will assist them in developing their role. PRNs are encouraged to collaborate in project development both at each hospital and network-wide, and they are invited to write for "PRN News," the newsletter of the PRN Program. Evaluation planned for 2002 will look at the program's impact on community hospital pain management practice through project assessment, knowledge, attitude surveys, and patient satisfaction surveys.

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**SHARING THE WISDOM OF NURSE EXPERTS: IMPLEMENTING AN ONCOLOGY VISITING NURSE PROFESSOR PROGRAM.** Deborah D. Boyle, RN, MSN, AOCN®, FAAN, and Betty Cody, MSN, RN, C, CM, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Oncology nurse leaders are constantly searching for creative, novel programs to enhance patient care within the clinical context of dwindling resources, staffing crises, and fiscal constraints. Using an integrative education/quality model for improving cancer nursing care, an intervention to enhance practice at the bedside, foster critical thinking, and expose nursing staff to innovative models of cancer nursing care was implemented. This abstract will describe the evolution of an Oncology Visiting Nurse Professor Program as a template for consideration. Specific areas to be discussed include planning committee membership, the process for identifying professors, the length of the program, scheduling recommendations, proposed types of interaction with staff (i.e., didactic, clinical site visit, discussion groups), a discussion of costs, and evaluation strategies. Our pilot experience with four oncology visiting nurse professors will be outlined as a model for deliberation. These professors addressed pain management, the role of the advanced practice nurse, and performance improvement initiatives. The impact of these professorships will be described highlighting examples of unit-based, programmatic, and institutional changes that resulted from their visits. Suggestions for reinforcement and stabilization of numerous changes after the visits will be outlined. This successful program has identified opportunities for our cancer nursing staff and colleagues in other disciplines to improve patient care. The four professors' assistance in applying innovative ideas into specific areas of patient care was especially helpful. The Oncology Visiting Nurse Professor Program is a creative, cost-effective project readily adaptable to numerous settings.

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**ESTABLISHING AN ADVANCED ONCOLOGY NURSING PRACTICE.** Margaret Snittjer, RN, AOCN®, CNS, Midwestern Regional Medical Center, Zion, IL.

In 1991, the first Advanced Oncology Nursing Certification exam was offered by the Oncology Nursing Certification Corporation. This credentialing process acknowledged the contributions of nurses specializing in oncology nursing who established an academic foundation in the advanced practice of oncology nursing.

Ten years later, in July of 2001, the state of Illinois initiated licensing advanced practice nurses. Many questions regarding the rules and regulations followed.

This presentation includes experiences of establishing an advanced practice in palliative care in an oncology setting. Topics include establishing a collaborative practice, prescriptive privileges, charging for services, and integrating this role into the care setting.

The palliative care advanced practice nurse is a key role in the coordination of JCAHO compliance with pain management requirements. Examples of documentation will be provided as well as promotion of an interdisciplinary care plan for symptom management.

Unique to this position is the prominent focus of naturopathy, nutrition, physical therapy, mind-body medicine, pastoral care and patient education.

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**PUBLISHING AN ARTICLE IN THE CLINICAL JOURNAL OF ONCOLOGY NURSING: ACHIEVING MY PROFESSIONAL GOAL THROUGH THE LEADERSHIP DEVELOPMENT INSTITUTE.** Nina Trocky, RN, MSN, CNA, Sibley Memorial Hospital, Washington, DC.

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Writing an article about role transition and professional development from the perspective of a nurse new to research was a goal of mine. As oncology nurses, we have a variety of opportunities available to expand our knowledge. With each new role, acquisition of specialized skills occurs over time and before a sense of mastery is felt. This can be a difficult period and one in which supportive resources can help in maintaining motivation. Case studies are a vehicle well suited to introduce a concept to an audience. They are one of the easiest ways to tell a story.

Being selected as a 2001 Leadership Development Institute (LDI) Fellow offered me the opportunity to tell a story of one nurse's journey of becoming a research nurse and publishing an article in the *Clinical Journal of Oncology Nursing (CJON)*. Writing is an acquired skill and it requires practice. Publishing enables the author to contribute to nursing knowledge, impact practice, and direct attention toward areas of concern. Presenting a situation in the form of a story or narrative may highlight fears felt by many, but expressed by only a few. For me to write a case study, I applied to LDI program for their guidance, leadership, and support to achieve my goal.

Working within loosely structured relationships, I was supported in identifying the skills, resources, and individuals that would become integral in leading me toward fulfilling my LDI project. Most of us have our own set of professional goals, yet sometimes we lack support necessary to achieve them. Oncology Nursing Society's (ONS) LDI offered me support which enabled me to publish an article in the *CJON*. Additionally, the LDI fosters the ONS mission of promoting excellence in oncology nursing care while training future leaders within oncology nursing.

ONS provides options for developing the leader in all of us and has several options to help each of us achieve our own professional goals. Let me share with you how I achieved my goal.

Come with me as I share my journey with you on becoming a published author. You can do it too.

## 91

**DEFINING THE EXPERT ONCOLOGY STAFF NURSE IN THE CONTEXT OF A PROFESSIONAL DEVELOPMENT AND PERFORMANCE EVALUATION PROGRAM.** Carole M. Elledge, RN, MSN, AOCN®, Jane Falk, RN, BSN, Gail Jens, RN, MSN, Cindy Zabka, RN, BSN, MBA, and Harriett Chaney, RN, PhD, CNS, University of Texas M.D. Anderson Cancer Center, Houston, TX.

In 1996, The University of Texas M.D. Anderson Cancer Center (MDACC) created the Professional Development Model (PDM) for nurses that combines professional development and performance evaluation. This evaluation model was derived from Patricia Benner's novice to expert paradigm. The PDM committee has undertaken the development of the performance criteria for defining the expert oncology staff nurse. Oncology nursing is a specialty that fosters the development of staff nurse experts through care of physically and emotionally complex patients. The general literature reflects qualitative descriptors of the nurse expert such as "intuitive" and possessing a "highly developed perceptive sense." However, there is a paucity of measurable/observable behaviors documented, especially in the area of oncology nursing. The PDM committee at MDACC utilized a multitude of methods to approach the challenge of defining expert oncology nursing behaviors. As indicated above, a literature review was conducted. A benchmarking exercise of general, academic, and oncology specialty institutions was completed. A survey was sent to managers, clinical nurse specialists, and educators eliciting descriptive feedback on characteristics of the oncology staff nurse expert. An audit was completed of maturation level PDM evaluations to ascertain the presence of performance examples reflecting the expert characteristics found in the literature. Names of staff nurses who might be considered oncology nurse experts were solicited from managers, and plans to interview these nurses are in place. Benchmarking revealed that staff nurse expert performance criteria have been developed, however, none are specific to oncology nursing practice. The survey results reflected characteristics consistent with the literature, though the return rate was not as high as desired. The PDM maturation evaluation audits elucidated select oncology-specific examples of expert-level behaviors. Identifying oncology-specific expert behaviors in the staff nurse is achievable. The expert behavior performance criteria will be incorporated into the five dimensions of the PDM evaluation: clinical practice, communication and respect, leadership, teamwork, and performance improvement and research. The forms and related training for the user groups will be completed and the expert level evaluation piloted.

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**A COLLABORATIVE APPROACH FOR DEVELOPING AN ONCOLOGY CERTIFICATION PRIORITY AT A COMMUNITY HOSPITAL.** Joanne M. Grant, RN, MSN, OCN®, Potomac Hospital, Woodbridge, VA.

The environment today in health care does not always allow education benefits for the nurse as in previous years. Hospitals are struggling with the nursing shortage and must augment staffing with expensive outside agency nursing. This significantly impacts upon how oncology patients may receive care from nurses not well trained in oncology. The value of oncology certified nurses is well known. Gaining administrative approval for a

certification program is essential to improve patient care. At a community hospital in Virginia, a collaborative plan between administration and nursing was developed to make oncology certification a priority in the cancer program. In preparing for our certification for our cancer program with the ACOS, a plan for oncology certification was inserted into the strategic plan of the oncology business plan. The nursing director began mentoring staff, developing an interest in certification, and developing an incentive plan for staff interested in certification.

**Implementation:** Administration agreed to budget funds for the certification exam, allow staff to have a paid day to take the exam, and to purchase the ONS Core Curriculum for the director to teach the course. Creative scheduling was important so as not to compromise patient care. Staff received education hours for attendance. Staff successful in passing the exam were reimbursed 100%. A salary increase was granted provided the certification was maintained. Marketing provided stories about our nurses in the in-house staff and MD letters and community mailings.

**Outcomes:** Our success (eight OCNs and seven more taking the exam) allows patients to benefit from the expertise of the certified nurse at the bedside. Improved leadership has developed on the unit, which is critical during a time of limited nursing resources. Being creative, diligent, and collaborative in developing cancer nursing leadership and expertise is essential for the well being of all cancer patients. Nursing directors have an opportunity to take a key leadership role in developing their staff to be ready for the diverse changes in cancer nursing which awaits all of us today.

## 93

**MANAGEMENT OF CHRONIC ACCESS OF OMMAYA RESERVOIR FOR PATIENTS WITH CENTRAL NERVOUS SYSTEM DISEASE: THE NURSE PRACTITIONER'S AND PHYSICIAN ASSISTANT'S ROLE.** Sur J. Min, BSN, MSN, RN, CNS, ANP, University of Texas M.D. Anderson Cancer Center, Houston, TX.

The Ommaya reservoir has provided a significant improvement in accessing the central nervous system. It offers a safe, painless alternative to lumbar puncture in managing treatment of patients with leptomeningeal carcinomatosis. Accessing the Ommaya reservoir is a new procedure and treatment modality is a new role for the advanced practice oncology nurse (APN) and physician assistant (PA). One study reported complications associated with use of an Ommaya system, including device malfunction and infection related to contamination during the procedure: 2% of the reservoirs were malpositioned, 5% had catheter obstruction, and 2% of the patients developed delayed pressure necrosis. After intra-cerebrospinal fluid drug therapy, 51% of the patients developed meningitis (43% of the patients with drug-induced chemical meningitis and 7.5% of the patients developed bacterial meningitis). This study showed that because use of the Ommaya reservoir system is complicated, aseptic technique is imperative for preventing infection. We conducted an informal study of Ommaya tap procedures by reviewing medical records for symptoms and laboratory data for infection from December 1999 through July 2001. The total number of procedures was 225 (range, 2–44 per patient), and the total number of patients was 13. Common symptoms after the Ommaya procedures were infection (11.25%), headache (6.75%), dizziness (2.25%), nausea/vomiting (9%), bleeding (4.5%), CSF leaking (2.5%), and stiff neck (2.5%). These results demonstrated that the most common complications after procedure are infection, bleeding, headache, and nausea and vomiting which are preventable. These results demonstrated that there is a need to improve our Ommaya reservoir protocol. Development of a protocol accessing the Ommaya reservoir with attention to sterile technique is essential for the advance oncology nurse practitioner and physician assistant. There are no practical procedures in the literature. Therefore, there is a need for a standardized protocol for Ommaya reservoir access. The Ommaya reservoir access standardized protocol will enhance practice for advanced oncology nurse practitioners and physician assistants by preventing complications.

## 94

**THE ROLE OF THE NURSE PRACTITIONER IN THE MANAGEMENT OF CANCER-RELATED FATIGUE.** Rosalie U. Valdres, RN, MSN, CNS/FNP, Carmen Escalante, MD, and Ellen Manzullo, MD, University of Texas M.D. Anderson Cancer Center, Houston, TX.

From the time the first nurse practitioner began practicing in the late 1960s to the present, the role of the nurse practitioner has been changing. The role of the nurse practitioner developed out of the pressing need for health care for persons in medically underserved areas. The role of the nurse practitioner continued to evolve from primary care to specialty areas. At the University of Texas M.D. Anderson Cancer Center, fatigue is one of the major symptoms our patients present. We established the fatigue clinic nurse practitioner role for the following purposes: 1) to teach the healthcare providers appropriate clinical and diagnostic fatigue evaluation, 2) to correlate objective measures of fatigue by using various tools during clinical evaluation, and 3) to improve the quality of life of patients. Before the patient's initial visit to the fatigue clinic, the fatigue nurse practitioner evaluates the patient by measuring the fatigue level using the brief fatigue inventory. The second step is the comprehensive evaluation by the nurse practitioner and

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physicians using established tools. Laboratory and physical examination are also included. Step three is the assessment based on the total score of the tools. The final step is planning and intervention. The development of the fatigue nurse practitioner role has significantly improved the total care and management of oncology patients. Currently the outcome survey is being conducted in the fatigue clinic. Future research will be needed to standardize the management of these patients and apply new innovations.

## 95

**IMPLEMENTATION OF AN INPATIENT NURSE CONSULTANT ROLE AND AN OUTPATIENT NURSE COORDINATOR ROLE FOR A CENTER FOR PALLIATIVE CARE IN AN ACADEMIC INSTITUTION.** Regina M. DeGennaro, RN-C, MSN, OCN®, Dinah Pehrson-Day, RN, BSN, and Karen Boyle, RN, BSN, OCN®, CHPN, University of Virginia Health System, Charlottesville, VA.

The Center for Palliative Care at the University of Virginia Health System seeks to provide comprehensive, compassionate care for patients at end of life, while maintaining active research, education, and outreach programs. Five components include: Partnership with a community hospice program which provides continuity of care; establishment of a dedicated unit for end-of-life care which provides better end-of-life care while saving money; maintenance of an open unit (healthcare team follows patients when admitted to palliative care unit), which is essential for improving end-of-life care throughout the hospital and preserving bonds developed between physicians and patients; establishment of a consultant service which is needed to expand the service provided on the PCU and to handle overflow of patients seeking admission to the unit; and establishment of an ambulatory clinic which is needed to provide follow-up care, regular consultation, symptom management, and referral for patients served by Health System physician colleagues and community. The palliative care inpatient nurse consultant works with the primary team to ensure that patients receive excellent management of symptoms such as pain, nausea and vomiting, dyspnea, and anxiety. The palliative care team is also committed to providing emotional and spiritual support for patients and caregivers, and will work with the primary team to help clarify goals and options for care at the end of life. The outpatient nurse coordinator is in an oncology/palliative care nurse liaison role, which provides comprehensive clinical care management through support of cancer center clinicians and Health System clinics. The palliative care nursing roles are the primary referral resources for the team and function autonomously within the team structure providing expert clinical assessment and seasoned critical thinking skills while serving as patient and family advocates. While the role is still in development, it is hoped that the palliative care nursing specialist role will represent a successful blend of acute, consultative care management and collaborative practice. Goals include support for management of pain and other symptoms and the provision of psychosocial, emotional, and spiritual support for patients and families.

## 96

**HOW GLUCOCORTICOID PATTERNS CHANGE WITH ENTERAL FEEDING OPTIONS DURING CHEMOTHERAPY IN RATS.** Una E. Westfall, PhD, RN, School of Nursing, Oregon Health & Science University, Portland, OR.

Nutritional intake is a major challenge for cancer patients. When nutrition can't be taken orally and the gut is intact, enteral feedings are an option. A chronobiology framework supports examining temporal patterns and timing of interventions. Well-established circadian glucocorticoid patterns, peaking around activity onset, are linked with daily activities, health, and metabolism. Nutritional studies report altered glucocorticoid patterns, but examining too few variables has led to confusing findings. To help oncology nurses make evidenced-based enteral feeding decisions, we tested for the presence and characteristics of circadian corticosterone rhythms with two enteral feeding schedules (12/24 hour), delivered by two methods (pump/bolus), using two fiber levels (hi/no), at two kilocalorie (kcal) levels (80/55 kcal/day), in an animal model receiving 5-fluorouracil (5-FU).

A 2 x 2 x 2 x 2 randomized block design was used with male Sprague-Dawley rats, ( $n = -80/[5/cell]$ ), who received intraperitoneal 5-FU, 50mg/kg. Rat housing was an approved animal care facility with a 12 hr. on/12 hr. off lighting cycle. Rats had standard 28-day protocols with gastrostomy tubes placed when body weights were  $\geq 170$  gms (~Day 7). Following acclimation, enteral feedings were days 18–28. IP 5-FU was given on day 22. Twenty-four hourly blood samples were drawn on days 26–28 from each feeding group. Plasma corticosterone levels were measured in duplicate using 125 I radioimmuno assays, with coefficients of variation less than 3.0%. Using plasma levels, a "composite" animal was constructed for each group. A circadian rhythm of corticosterone was present ( $p < .05$ ) or suggested ( $p > .05 < .10$ ) using cosinor analysis in only nine of 16 enterally fed groups: seven of the eight 24-hour schedule groups; two of the 12-hour schedule groups. Compared with hi-fiber groups, midpoint levels were higher by 0.9–4.1 $\mu$ g/dl in the 24-hour, no-fiber groups. Calculated peak times in the 24-hour groups were delayed from activity onset time by 99 to 336 minutes; in the two 12-hour groups, peak times were within 17 minutes of activity onset time.

Greater glucocorticoid pattern disruptions occurred with 12-hour feedings. When glucocorticoid rhythms were present in the 24-hour schedule groups, peak times were delayed. These disruptions or shifts of expected circadian corticosterone patterns suggest that those receiving 5-FU and enteral feedings may find some enteral feeding options more problematic than others.

## 97

**A MULTIDISCIPLINARY PERFORMANCE IMPROVEMENT PROJECT FOR THE MANAGEMENT OF FEBRILE NEUTROPENIA.** Eileen M. Glynn-Tucker, RN, MS, AOCN®, clinical nurse specialist, Lake Forest Hospital, Lake Forest, IL.

Febrile neutropenia is a potentially life-threatening event in patients with cancer. Prompt multidisciplinary care should include evaluation for sources of infection, prompt initiation of antibiotic therapy, and use of other interventions to reduce possible sources of infection. A retrospective chart analysis of patients admitted with febrile neutropenia was performed to evaluate the care delivered in a community hospital setting. The retrospective review indicated delays in initiation of antibiotics, inconsistent antibiotic selection, and lengthy stays in the emergency department. Furthermore, inconsistent practices in dietary restrictions and isolation practices were observed in patients hospitalized with neutropenia. These findings confirmed the need for a multidisciplinary process improvement team.

The goal of the initiative was to promptly recognize and treat patients with febrile neutropenia by providing multidisciplinary clinicians with the necessary tools and education. A policy outlining care of patients with neutropenia including definitions, culturing recommendations, dietary practices, and handwashing/isolation practices was instituted. Standing admission orders (including growth factors, antipyretics, and culturing recommendations) and initial antibiotic orders were developed. The policy and standing orders were presented for approval at appropriate hospital committees and interdisciplinary inservicing was provided as part of the implementation plan. Registered nurses and patient care technicians were also inserviced about neutropenia and febrile neutropenia using pertinent information from the ONS ATAQ initiative and a review of the literature.

Quality monitoring was conducted to assess the effectiveness of the quality improvement project. Antibiotic selection is appropriate and time-to-antibiotic administration has been reduced. Growth factors are also initiated in a timely manner. The standing admission orders are activated appropriately in the emergency department or on the inpatient acute care unit. Thus, the quality monitoring findings indicate that the project's goals were met. In conclusion, a multidisciplinary team can effectively reduce the life-threatening effects of neutropenia by recognizing system limitations and working to correct them with non-cumbersome solutions. Oncology nurses and patients benefit from this process improvement project. Further areas to examine are early identification of clients at risk for neutropenia in the emergency department and prevention of recurrent episodes of febrile neutropenia.

## 98

**COLLABORATING TO IMPROVE PAIN ASSESSMENT: A MULTIDISCIPLINARY THORACIC ONCOLOGY TEAM IMPLEMENTS THE JCAHO PAIN STANDARDS IN THE AMBULATORY SETTING.** Barbara J. Cashavely, MSN, RN, OCN®, Karen Sommer, MSN, RN, CS, AOCN®, Jennifer Tenhover, MSN, RN, CS, AOCN®, and Joan Agretelis, PhD, RNCS-ANP, AOCN®, Massachusetts General Hospital Cancer Center, Boston, MA.

**Purpose:** The purpose of this project is to determine if the implementation and integration of the JCAHO pain standard impacts the average pain scale rating for the ambulatory thoracic oncology patient population.

**Background:** Assessment is a vital component of adequate pain management, and patients have the right to appropriate assessment and management of pain. Using a quantitative pain rating scale and a standard approach to documentation has demonstrated improved pain management.

**Intervention:** The problem of inconsistent pain assessment and documentation was identified through a cursory review of medical records and at multidisciplinary thoracic oncology team meetings. Pain assessment was not standardized across the practice. This presented an opportunity to implement the JCAHO pain standards in the ambulatory practice.

The project consists of two phases. Baseline average pain scale rating for the lung and esophageal cancer practice was determined. Medical assistants used a visual analog pain scale to obtain self-reported pain rating from patients over two months. The initial phase was blinded to clinicians, and pain levels were recorded in a separate database. The medical assistants were instructed to encourage patients to report pain to their provider if their pain was five or greater.

The second phase of the project involved implementation of the JCAHO standard of "pain as the fifth vital sign" through standardized assessment and documentation of patient pain levels.



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Patients were asked for pain ratings in the same manner as phase one, but the second phase was unblinded to clinicians by recording ratings in the ambulatory charts. Average pain scores from the first phase of the project were calculated and compared to average scores from the second two-month time period to determine if there was improvement.

**Interpretation:** Pain management awareness was increased in the thoracic oncology practice through identification of practice variations. The impact of the project will be presented through average pain rating data. Based on this program, the team will consider expanding this project into the general hematology-oncology practice.

## 99

**DECREASING THE INCIDENCE OF POST-OPERATIVE NAUSEA AND VOMITING IN A MASTECTOMY/LUMPECTOMY PATIENT POPULATION.** Mary Ellen Marchik, RN, OCN®, Cathy Hruska, RN, MSN, and Deborah Bohlken, RN, BSN, OCN®, University of Iowa Health Care, Iowa City, IA.

A Breast Surgery/Axillary Dissection Caremap was developed and implemented at University of Iowa hospitals and clinics by a team of surgeons, nurses, pharmacist, and social worker. The goal of the caremap was to standardize care, enhance clinical operations, and improve interventions and outcomes. The team worked diligently to decrease the following variance rates: pain control, wound healing, function of surgical drains, need for home going antibiotic therapy, need for home care referral, prevention of seromas, and to decrease length of stay. The team identified two opportunities for improvement: the presence of postoperative seromas and postoperative nausea and vomiting. Seroma development was discussed. It was determined that practice changes of immobilization of the arm on the operative side, or by increasing the time that surgical drains are left in place were not acceptable. Thus, the seroma formation rate was determined to be beyond the scope of the team. The second issue, nausea and vomiting, was a complication that could be decreased. Retrospectively, 79 charts were reviewed. Frequency of postoperative nausea was collected. Variables evaluated included age, intra-operative anesthetic agents, duration of surgery, postoperative antiemetics, and postoperative narcotics. Seventy five percent exhibited postoperative nausea. This data was presented to the team and the department of anesthesiology as an opportunity for improvement in patient outcomes. The anesthesiology physicians indicated that postoperative nausea and vomiting in breast surgery patients has been widely reported in the literature. An anesthesiologist was appointed to the team to assist in development of a plan to help control postoperative nausea and vomiting in the breast surgery/axillary dissection population. The evidence supported two practice changes that anesthesia would trial. First, the use of propofol or propofol-based anesthetics would be recommended. These induction agents are known to have antiemetic properties. Additionally, at the completion of each mastectomy/lumpectomy procedure, intravenous Ondansetron (Zofran) will be given. The practice changes were recommended at Anesthesia Grand Rounds in July 2001. A chart audit will be completed on 80 records six months after implementation to determine whether the recommendations were implemented, to assess for incidence of nausea/vomiting, and if length of hospital stay has decreased.

## 100

**A STATEWIDE PROJECT TO IMPROVE PAIN MANAGEMENT IN LONG-TERM CARE FACILITIES.** Frances M. Spivak, MSN, RN, Kim Roman, BSN, RN, Jayne Fernsler, DSN, RN, Gretchen Jones, MSN, RN, and Kara Maley, BA, Delaware Cancer Pain Initiative, Newark, DE.

This presentation reports one state cancer pain initiative's experience with implementing the American Alliance of Cancer Pain Initiative's project to improve pain management in long-term care facilities. Most residents in these facilities are older persons who are at particular risk of having undiagnosed or inadequately treated pain. Nursing education alone may be ineffective in addressing this problem if overriding institutional barriers are ignored. The validated multifocal approach used in this 12-month project included the following: Workshops for administrators and staff (at months five and nine); support in the form of consultation and guidance; and provision of tools for assessing and recording pain, establishing policies and protocols, and monitoring quality of pain management through clinical audits (before the first workshop and after the second). A letter of introduction to the project, along with a statement of confidentiality and a contract to be signed by the director of nursing and administrator, was mailed to all 50 licensed skilled nursing facilities in the state. Of the 50 facilities, 16 returned the signed contract pledging to select a team of staff to attend two separate full-day workshops on pain management and to provide the team with administrative support to implement state-of-the-art pain management practices. Before the first workshop, the project site visitor met with the staff in each facility to further explain the project, complete a facility assessment form, and demonstrate the use of a five-part (resident data, admission assessment, most recent assessment, intervention, and documentation) chart audit. Each team was asked to complete 10 randomly selected chart audits. Ten facilities had more than 100 beds, 14 had a hospice contract, six were JCAHO accredited, and four had onsite pharmacies. Analysis of facility assessments and chart audits revealed numerous areas for improvement, which were readily apparent to the facility pain teams. During Workshop 2, facility presenta-

tions of their plans revealed great progress in pain management programs and willingness to share successes and problems. Results of this project indicate that education is a vital but not sufficient intervention for improving pain management. With institutional support, nurses are empowered to lead pain management teams effectively.

## 101

**NEUTROPENIC FEVER: DECREASING CYCLE TIME FROM PATIENT ARRIVAL TO INITIATION OF ANTIBIOTIC THERAPY.** Tammy Baltic, RN, MS, AOCN®, Evelyn Schlosser, RN, BSN, MA, and Marilyn Bedell, MS, RN, OCN®, Dartmouth-Hitchcock Medical Center, Lebanon, NH.

Neutropenic fever is an oncologic emergency requiring prompt assessment and treatment including administration of antibiotics. Although prompt is not defined, the sooner antibiotics are started, the better the clinical outcome. Our oncology team was concerned about the length of time before adult febrile neutropenic inpatients received their initial dose of antibiotics (cycle time). A retrospective chart review of cycle times for febrile neutropenia patients (FNP) ranged from, 70 to 254 minutes, depending on location of entry into the system (e.g. emergency department, clinic, inpatient unit). The purpose of this quality improvement (QI) project was to reduce FNP treatment delays. A multidisciplinary team flow-charted the existing admission process and identified three areas for improvement: The inpatient orders, the admission communication process, and multidisciplinary staff accountability. Staff were serviced in all newly developed tools to accomplish these improvements which included a staff communication and accountability algorithm (with a standard of a 60-minute cycle time from admission to initiation of antibiotics), preprinted standardized orders, and an antibiotic order form with a bright orange STAT sticker. To further simplify the process, all documents were pre-assembled as a "Febrile Neutropenic Order Packet" and stocked on the inpatient unit.

Following implementation, the hematology/oncology clinical nurse specialist (CNS) completed a case review of all FNP which revealed a nearly 50% reduction in cycle time on the inpatient unit. This presentation will describe the QI process, tools, results, and lessons learned.

## 102

**ASSESSING CLINICAL OUTCOMES IN BREAST CANCER PATIENTS IN A COMMUNITY-BASED CANCER CENTER.** Nancy White, RN, MS, AOCN®, West Michigan Cancer Center, Kalamazoo, MI; and Jacquelyn Keehne-Miron, RN, MSN, AOCN®, Amgen Inc., Grand Rapids, MI.

Development of an easy-to-implement quality assurance program based on patient clinical outcomes in a busy community outpatient cancer center is a challenging goal. Recently the West Michigan Cancer Center (WMCC) undertook the challenge of implementing a thorough, yet simple, continuous quality improvement (CQI) process. The outcomes coordinator for the center was able to implement a CQI model through a retrospective chart review format that engaged the center's staff and provided a baseline for outcomes analysis. This process utilized a physician practice pattern data collection technique. Since 1997, WMCC has consistently reviewed adjuvant breast cancer patient records as an ongoing CQI effort. Specific key quality indicators such as appropriate chemotherapy dose and scheduling, treatment delays, febrile neutropenia rates, and other chemotherapy complications were examined. In addition to abstracting specifics of the treatment regimen, the center examined timeliness of diagnosis and referrals, side effects of radiation and chemotherapy, pain management assessment and intervention, utilization of support services, and practitioner documentation. Wave one of the CQI project began in 1997. Data collection (n = 19) revealed that 18.8% of patients received less than 85% dose intensity (DI), 10% of patients experienced dose reductions, and 52% experienced dose delays. The febrile neutropenia rate was 6.35%. Based on these results the center staff created and revised many treatment and documentation guidelines to address the opportunities noted. The third wave of data collection, completed in 1999, demonstrated significant improvements in all areas. All patients in the review (n = 24) received greater than 85% DI. Only 4% experienced a dose reduction and 28% experienced a dose delay. In addition, no patients experienced febrile neutropenia. This project allowed the center to not only statistically review their own data, but also benchmark against a national database that consisted of 19,106 adjuvant breast cancer patients in 1999. As a result of this ongoing review, a formal breast clinic was developed. Quality indicators such as disease staging, timeliness of diagnostic processes, and surgical intervention and referrals were positively impacted. Subsequent CQI projects such as support staff documentation, pain management documentation, and a standardized antiemetic protocol have all been accomplished.

## 103

**ALLOCATION OF ASSISTANT NURSE MANAGERS.** Beverly A. Nelson, RN, MS, and Susan Kestler, RN, MSN, University of Texas M.D. Anderson Cancer Center, Houston, TX.

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In oncology and other nursing settings, the nurse manager role continues to increase in complexity and range of responsibilities. Staff satisfaction and retention are influenced by staff members' relationships with the manager who, without support in managing multiple demands and priorities, has increasingly less time for staff contact. Our institution had begun to reintroduce, in some areas, the assistant nurse manager (ANM) role phased out for budgetary reasons but had not developed a uniform method to determine which units needed an ANM. The ANM position description was also inconsistent and outdated. A search of the nursing literature on nurse manager span of control yielded few results. From articles reviewed, we developed a survey of key factors cited as being influential to a nurse manager's optimal job performance. The survey was tested with a group of managers and revised based on the results. A second survey was developed to solicit feedback about managers' responsibilities that could be delegated to ANMs and the necessary skills, qualifications, and educational needs of the ANM. We are currently collecting data from the surveys we developed. The next step will be to use the data to develop an algorithm or formula to determine a unit's eligibility for an ANM. The job description for the ANM role will also be revised. The algorithm, job description, and process will be presented to our nursing leadership whom we expect will suggest we implement the process. A consistent methodology for determining resource allocation and a relevant job description provide an objective process for decision making. This process will support nurse managers in their pivotal and challenging roles, allowing them to focus on staff satisfaction and retention, and will provide a means for developing new nursing leaders in our organization.

## 104

**THE BEST REVENGE: NURSES ARMED WITH DATA.** Ellen Siegel, RN, BSN, CPHQ, Sherry Preston, RN, BSN, Katharine Luther, RN, BA, MPM, CPHQ, and Elizabeth Fogarty, RN, University of Texas M.D. Anderson Cancer Center, Houston, TX.

When we in the QI department observed that few nurses were involved in unit specific process-improvement projects, we joined with the nursing quality council to address this issue. The M.D. Anderson Cancer Center Division of Nursing has a shared governance structure consisting of five unique councils. Each council is responsible for an aspect of patient-care delivery. The nursing quality council was charged with providing direction and increasing staff-nurse involvement in quality-improvement (QI) initiatives.

The purpose of this project was to use data available to our institution to actively involve staff nurses in performance-improvement initiatives. The council developed a nursing quality

plan that was aligned with the institution's strategic vision. The plan had the input and approval of staff nurses and nursing leadership. The membership of the nursing quality council was increased to assure representation from each inpatient and outpatient care area. Then the nursing quality council members were given training in QI skills; data collection (analysis and utilization); plan-do-check-act (performance improvement processes and techniques); and computer skills.

The QI Department provided unit-specific results from an institutional patient satisfaction survey to each member. Each member presented the data to his or her unit and facilitated the efforts to improve. Monthly meetings provided a forum for practicing all skills, sharing successes, and learning from others. This methodology assured that the program focused on the specific concerns of oncology patients. In addition, the approaches could be customized to individual care areas. Our patient satisfaction survey scores showed unit specific improvement increased from 82 to 84 in patient's overall satisfaction with teamwork; total processes increased from 80 to 83, and with discharge time increased from 73.5 to 77. This effort also led to the development of an institutional collaborative project to improve pain control for all patients.

The nursing quality council members have demonstrated enthusiasm and the ability to utilize data and QI skills and have facilitated outstanding unit-specific process improvement projects.

Empowering staff nurses to utilize data for decisions that affect their patients' care has improved the effect of the nursing shared governance structure.

## 105

**INFORMATICS: EFFECTIVE PROJECT MANAGEMENT IN A PERIOPERATIVE SETTING.** Sharon A. Land, RN, MBA, CNOR, Lori English, Paula Barber, RN, BS, CNOR, and Karen Vidor, RN, MS, University of Texas M.D. Anderson Cancer Center, Houston, TX.

The number of patients receiving surgery at M.D. Anderson has grown dramatically over the past several years, increasing 26% from 1995 to 2000, and the procedures have become more complicated. This necessitates that oncology perioperative teams have access to the surgery schedule, which is constantly being updated, and access to the patient tracking system to follow the patient during their continuum of care. In 1995 a DOS-based system for patient and financial information was put in place. This system was limited in what data could be stored and how it could be reported. A commitment to supplying real-time service-specific information led to the selection and rollout of a Windows-based system using relational database technology. Functional requirements

included storage of intraoperative data, ability to schedule complex procedures, and entry of surgical charges for patient billing. Enhanced data collection, generation of standard reports, and the ability of nurses to administer the system were also key selection criteria. Assembling a team that included clinical and information systems personnel working together to ensure a clinical focus was key to the project's success. The team began by developing the system's infrastructure to allow for multi-step implementation. Strategic decision making by upper management during the project allowed the project scope to be controlled and rollout to occur within the desired time frame. The staff was trained on new modified workflow processes. The system was implemented in approximately nine months. Implementation of new information systems can be a difficult task. In order to minimize roadblocks and delays, the following key success factors must be in place: Key decision makers, with the authority to direct and facilitate change, must be identified at the project's inception; a clear vision and direct focus must be developed to assist in guiding the project team; clinical team driven coupled with information systems staff consultation and expertise. Utilization of this type of team approach can be beneficial to any clinical area when introducing new processes to the work setting.

## 106

**WORKING TOGETHER ON "THE WAIT."** Maureen Grannan, RN, MS, Jean Roberson, RN, BSN, OCN®, Barbara Fine, RN, BSN, OCN®, Lori Buswell, RN, MSN, ANP, and Lynn Thompson, RN, MPH, OCN®, Dana-Farber Cancer Institute, Boston, MA.

**Background:** Multiple factors led to rapid volume growth in our ambulatory cancer setting resulting in increased demand for service, increasing complexity of therapies, changes in delivery patterns, the movement of therapies to the ambulatory arena, and an increase in outpatient symptom management. Patient preference and institution culture resulted in the compression of the majority of patient appointments between 10 a.m. and 2 p.m. (10–2). Consistently long wait times resulted in concerns about patient safety and patient/provider satisfaction. The entire institute was challenged to develop a systematic approach to analyze and improve scheduling compression. The clinical service partnered with the Patient and Family Advisory Council, volunteer services, information services, pharmacy, and the quality improvement department to design an interdisciplinary approach to address this issue.

**Intervention:** An analysis of scheduling practices demonstrated that appointments were clustered by day and week in the 10–2 time frame. Provider schedules were redesigned to improve appointment distribution throughout the day and week. Major educational initiatives were employed with providers and schedulers to launch the project and introduce new scheduling guidelines. Cultural changes were addressed through the Patient and Family Advisory Council publication of Q & A handouts for patients describing the need for improved scheduling and the patient's role in the process. Lead articles concerning this initiative were published in the internal newspaper. Posters were also used to educate and promote the project. Comprehensive data collections were completed by the PFAC at the start of the project. Information services worked with the clinical staff developing reports that displayed volume distributions. These reports assist in monitoring progress and identifying needed additional improvements.

**Discussion:** Bringing together numerous individuals from various disciplines in addition to patient representatives, to address the 10–2 issue has been a labor intensive, yet rewarding process. The partnership between the Patient and Family Advisory Council and the clinical providers was a unique format for problem resolution. Also, the integration of information services into this project provided the tools to identify problem areas and to monitor the progress of implemented change. Oncology nurses in other ambulatory oncology programs could benefit from similar collaborative efforts to address patient care service issues.

## 107

**PATIENT/PROVIDER COLLABORATION: TRANSFORMING THE STANDARD OF CARE.** Ellen Pothier, MS, RN, CPHQ, Richard Boyajian, MS, RN, ANP, Cynthia Medeiros, LICSW, and Lawrence Shulman, MD, Dana-Farber Cancer Institute, Boston, MA.

**Background:** We are in an age where patients are consumers of health care, no longer following the traditional model of "doctor knows everything." The patient-centered model of care hinges on empowerment of patients. Collaboration between patients, families, and providers promotes improved communication and advances the quality of care. The earliest patient and family-centered model focused on health care in maternal child health programs. In 1997, Dana-Farber Cancer Institute recruited patients and family members for a "work group" to provide input during a period of major organizational change. Success of this group evolved into the present Patient and Family Advisory Council (PFAC).

**Program:** The PFAC has 16 members, including four staff members. The group holds monthly meetings with formal agendas, co-chaired by two patients. They have developed programs such as "Patients as Educators" to tutor the new Fellows on the patient perspective. Due to the success, expansion of the program to nursing and front line

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reception staff is being initiated. The Care Improvement Committee, where patients work with inpatient nurses to enhance the delivery of care, has established a streamlined urgent admission process. For this they received the "Partnership in Excellence Award." Council members have been active in interviewing prospective nurse managers. Also the PFAC has participated in important institutional QI projects. Our PFAC was featured in the *Oncology Roundtable* quarterly journal.

**Discussion:** The Council functions as a focus group and as a consulting service. Clinicians and administrators who are planning programs or services approach the Council for feedback. Staff have become accustomed and eager to have patients participate. Nursing has learned that getting Council support behind a project is the best way to move forward quickly, helping us toward family-centered oncology care. Oncology nurses and physicians have partnered with PFAC to take a hard look at the areas where we need to focus our energy and resources. The institute is unique because patients have a voice, not only in their own care, but also in the creation of systems, programs, and allocation of resources.

## 108

**UNTERTREATMENT AS A CAUSE OF POOR OUTCOMES IN ELDERLY PATIENTS: EVIDENCE FROM SURVEYS OF PRACTICE PATTERNS IN EARLY-STAGE BREAST CANCER AND NON-HODGKIN'S LYMPHOMA.** Julie Meyer, MPH, ARNP, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL; Lodovico Balducci, MD, University of South Florida, Tampa, FL; Andrew D. Zelenetz, MD, Memorial Sloan-Kettering Cancer Center, New York, NY; and Gary H. Lyman, MD, Albany Medical College, Albany, NY.

It is widely held that elderly patients benefit less from chemotherapy than younger patients. Older patients are more susceptible to the dose-limiting toxicities of chemotherapy, particularly myelotoxicity, but several studies have shown that with equal treatment and appropriate supportive care otherwise-healthy elderly patients can obtain outcomes equal to those of younger patients. This suggests that under treatment may be a primary cause of poor responses in elderly patients. To investigate under treatment of elderly patients in actual practice, we analyzed data from two large surveys of nationwide practice patterns in the treatment of early-stage breast cancer (ESBC) and non-Hodgkin's lymphoma (NHL). The ESBC database contained records on 20,799 patients treated at 1,243 community oncology practices with multiple cycles of adjuvant chemotherapy (96% treated with CMF, CAF, or AC); the NHL database contained records on 3,165 patients treated at 405 practices with primary chemotherapy (all CHOP, CNOP, or CVP) for intermediate-grade lymphoma. The primary end point was low planned dose on time (PDOT), defined as less than 85% of planned dose intensity for ESBC and less than 80% for NHL. In the ESBC database, 16.5% of patients were aged 65 years or older. CMF was administered to 43.6% of all patients and 57.4% of patients 65 years of age or older. Patients 65 or older were more likely than younger patients to have been given low PDOT with CMF (27.8% versus 20.6%,  $P < .001$ ), CAF (29.1% versus 23.7%,  $P < .01$ ), and AC (14.7% versus 10.2%,  $P < .001$ ). In the NHL database, 49% of patients were aged 65 years or older. Patients 65 or older were less likely than younger patients to have been given CHOP (76% versus 89%,  $P < .001$ ), and more likely to have planned (27% versus 12%,  $P < .001$ ) and received (42% versus 23%,  $P < .001$ ) low PDOT relative to standard CHOP. These results indicate that elderly patients with ESBC and NHL frequently receive less-than-optimal treatment in terms of both regimen and dose intensity. Nurses can improve outcomes in elderly patients by ensuring that less-aggressive treatment is truly indicated; when not, standard treatment with appropriate supportive measures such as prophylactic growth factors to ameliorate the greater dose-limiting toxicities associated with aging should be considered.

## 109

**BEYOND TRANSPLANT: NURSING CARE OF PATIENTS RECEIVING GEMCITABINE AND NAVELBINE FOR RECURRENT OR REFRACTORY HODGKIN'S DISEASE.** Patricia O. Schaindlin, RN, MA, AOCN®, and Craig H. Moskowitz, MD, Memorial Sloan-Kettering Cancer Center, New York, NY.

Hodgkin's disease is an uncommon lymphoid malignancy with a stable annual incidence in the last half century of 7,500. Newly diagnosed patients are treated with curative intent using radiation therapy alone, chemotherapy alone, or a combination thereof. Controlling for stage of disease, between 65%–85% of all patients are cured with initial therapy. Patients who fail initial chemotherapy or combined modality therapy have a 35%–55% likelihood of being cured with high-dose chemotherapy followed by autologous stem cell transplant (ASCT). Patients with persistent refractory disease or relapse post-ASCT are offered palliative treatment. At our NCI-designated comprehensive cancer center we treated 10 patients who failed ASCT with Gemcitabine (1250 mg/m<sup>2</sup>) & Vinorelbine (30mg/m<sup>2</sup>) every two weeks. Treatment was administered through a central venous catheter access device over 30 minutes in the outpatient department. Common toxicities included mild myelosuppression, which was avoidable with GCSF 5mcg/kg on days 11–13 of every cycle, grade I post treatment nausea, and grade I

constipation. One patient experienced Vinorelbine-induced pain during initial treatment, relieved immediately with opiates and was premedicated with oxycodone for all future treatments. No patients required admission. Nursing management of patients includes providing education regarding treatment plan, instruction for prevention and management strategies for expected toxicities, and providing ongoing psychosocial support. The overall quality of life is reported to be acceptable according to our patients who have been heavily pretreated and/or admitted to the hospital for several weeks during ASCT. To date three out of ten patients achieved a complete response after a minimum of 16 cycles (range 16–43, median 37), received a second ASCT, and one patient remains free from disease 164 days post second ASCT. Another patient achieved complete relief of his disease-related chest pain and was able to rejoin family in Puerto Rico. This presentation will describe the nursing management of patients who fail ASCT, provide an overview of relapsed/refractory Hodgkin's disease including treatment efficacy, toxicity, and education for this difficult-to-manage patient population. In addition, a novel treatment approach will be presented.

## 110

**TARGETED TREATMENT: RADIOIMMUNOTHERAPY.** Denise Ramella, RN, BSN, JoEllen Warnke, RN, BSN, Denise Maurer, RN, BSN, Sheila Ferrall, RN, MS, AOCN®, and Nancy Shirkman, RN, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL.

From breast cancer to lymphoma, radioimmunotherapy is being investigated as a treatment for a variety of cancers. The combination of specially designed monoclonal antibodies and radioisotopes have produced a carrier for the toxic substance that allows it to be delivered directly to the site of the tumor. This unique radiation delivery method shows promise in the treatment of metastatic disease not visible by diagnostic means. Some experts believe this targeting of cancer cells for radiotherapy will improve the efficacy and diminish the toxicity of traditional therapy. At present, the isotopes most commonly being used in this fashion are Yttrium (90Y) and Iodine (131I). Both agents are involved in a number of clinical trials to determine their place in the spectrum of cancer treatment. At present, at least two pharmaceutical companies have applied for FDA approval of their radioimmunotherapy products.

The purpose of this project is to describe radioimmunotherapy and its implications for nursing care of the oncology patient. While many oncology nurses are familiar with the care of the patient receiving 131I for thyroid ablation, and treatment with monoclonal antibodies is becoming more commonplace, the combination of the two dictates the nurse be comfortable with both radiation safety practices and symptom management. The key principles of radiation protection (time, distance, and shielding) apply when caring for patients receiving these agents. It is important to keep in mind that radioisotopes differ in terms of half-life and radiation emitted. That factor plays an important role in determining specific safety practices required. A Radiation Safety Officer or staff from the Nuclear Medicine Department, are valuable resources when caring for patients receiving radioisotopes. Side effects most commonly associated with radioimmunotherapy are mainly related to bone marrow toxicity. Other patient reactions may include nausea, chills, fever and throat irritation. Additionally, patients may feel isolated by radiation safety measures. Remaining current with the ever changing face of cancer treatment is a challenge for all oncology nurses. Radioimmunotherapy or targeted treatment of cancer cells, while investigational at this point, will likely be a contributor to the spectrum of cancer care.

## 111

**VACCINE THERAPY: A NOVEL APPROACH FOR TREATING MANTLE CELL LYMPHOMA.** Virginia LeBaron Stryker, RN, BSN, OCN®, and Therese White, RN, MSN, National Institutes of Health, Bethesda, MD.

Mantle cell lymphoma (MCL) is a rare type of non-Hodgkin's lymphoma that is often highly aggressive and currently has no definitive cure. Approximately 2.5%–4% of all non-Hodgkin's lymphomas diagnosed in the United States are of the mantle cell variety, with a median survival of three to four years. Histologically, MCL is characterized by abnormal lymphoid cells with decreased cytoplasm and indented nuclei, as well as expansion of the mantle zone area of the affected lymph node. The clinical course varies, but the disease is generally aggressive with classic "B" symptoms (fevers, night sweats, weight loss) as the first presenting sign. Traditional therapies, such as intensive chemotherapy regimens, monoclonal antibodies, and bone marrow transplant initially achieve good disease response, but have not been shown to significantly improve long term survival. A clinical trial is currently underway at the National Institutes of Health to increase the median progression free survival of patients with MCL. While on study, the patient receives six cycles of Rituximab/EPOCH followed by five cycles of idiotypic vaccine combined with GMCSF. The ultimate goal of the vaccine, which is created from a sample of the patient's own tumor prior to beginning therapy, is to stimulate and enhance a tumor specific T-cell response. After demonstrating competence in the specific injection technique required by the research protocol, ambulatory care oncology nurses administer the vaccine, monitor patient response, and provide comprehensive patient

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education. This poster will detail the treatment of MCL at the National Institutes of Health with a particular emphasis on vaccine administration and the necessary patient and nurse education involved in this mode of therapy. By sharing this information, we hope to increase oncology nurse understanding of MCL and the use of vaccines as a novel treatment approach.

## 112

**PHASE I/II: INTRAVESICAL GEMCITABINE FOR SUPERFICIAL BLADDER CANCER AND ITS NURSING IMPLICATIONS.** Dominique DePalma, RN, MA, OCN®, Mary Newcomb, RN, and Guido Dalbagni, MD, Memorial Sloan-Kettering Cancer Center, New York, NY.

American Cancer Society (2001) predicts that there will be 54,300 new cases of bladder cancer diagnosed this year. Studies indicate that superficial bladder cancer accounts for 70% of those cases newly diagnosed. The standard treatment after a resection for high-grade superficial bladder cancer is intravesical agents. Currently, Bacillus Calmette Guerin (BCG) has been the most effective agent to treat and prevent recurrences. At this NCI-designated comprehensive cancer center, a phase I/II study is being conducted to evaluate the safety and efficacy of intravesical Gemcitabine for patients with superficial bladder cancer. Eligible candidates must have a history of superficial transitional cell carcinoma refractory to BCG for which a cystectomy is recommended. Twelve instillations are administered on a biweekly basis. A transurethral bladder biopsy and cytology are done at the completion of treatment to evaluate response. In phase I, 18 patients were treated with the most common toxicities being frequency and hematuria.

The role of the ambulatory nurse is critical in caring for patients receiving intravesical agents prior to, during, and post treatment. Prior to administration of intravesical agents, the nurse obtains a baseline history to adequately manage and gauge toxicities that may occur during treatment. Patient education is paramount in this patient population. The nurse will educate the patient prior to initiation of treatment on the protocol regime and preparation, reporting side effects, safety precautions, and proper disposal of intravesical agents. Prior to each treatment, the nurse performs and documents a thorough toxicity assessment, reports abnormalities to the physician, and delays treatment when appropriate. Nurses perform aseptic and atraumatic catheterizations to minimize infection and systemic absorption. Post treatment, the ambulatory nurse educates the patient about the significance of follow-up to help detect recurrence and progression of disease.

The purpose of this presentation is to inform oncology nurses on the use of Gemcitabine, a new investigational intravesical agent and the significant role the nurse plays in agent administration and patient education.

## 113

**PRACTICE VARIABILITY IN PRESCRIBING VAGINAL DILATORS AFTER BRACHYTHERAPY FOR GYNAECOLOGICAL CANCER.** Letitia Lancaster, RN, Onc Cert, BHSc (Nursing), Westmead Hospital, Sydney, Australia.

Despite advances in brachytherapy techniques, patients still experience a variety of complications from treatment. While it is important to address those that are life threatening, it is equally important to acknowledge those that affect quality of life. Vaginal stenosis is a common toxicity of brachytherapy for the treatment of gynaecological cancer, with a reported incidence of up to 80%. It can result in long term sexual dysfunction and painful vaginal examinations, but may be prevented by regular sexual intercourse or the use of vaginal dilators.

An assessment of the information provided to patients at Westmead Hospital (Sydney, Australia) about the use of dilators revealed inconsistencies among staff and practice based on tradition and personal preference, rather than evidence. A review of the nursing and medical literature revealed that vaginal stenosis is infrequently reported with the same rigour as bowel and bladder toxicities, and preventative strategies are rarely described. In an attempt to achieve consensus, a telephone survey of 16 other cancer centres administering vaginal brachytherapy in Australia was undertaken to ascertain their practices in preventing vaginal stenosis.

The findings revealed a lack of consistency between all variables for all centres. Patients who are advised to use dilators ranged from none to all, time to initiate use ranged from prior to brachytherapy to six weeks after completion of brachytherapy, frequency of use ranged from three times a day to once a week, insertion time ranged from two to 20 minutes, and duration of use ranged from six weeks to indefinitely. Most centres provided dilators in a range of sizes, however only three centres provided written information.

We have therefore developed unit guidelines for the management of all patients at risk of developing vaginal stenosis and a patient information brochure on the use of vaginal dilators, both underpinned by the limited information gleaned from the literature. Future research priorities will consider the formal evaluation of patient compliance and the efficacy of vaginal dilators in the prevention of vaginal stenosis.

## 114

**GM-CSF USE FOR EXTRAVASATION OF DOXORUBICIN AND VINCRISTINE.** Sherry Lawrence, RN, OCN®, Oncology & Hematology Associates, Greenfield, IN.

Doxorubicin and Vincristine are chemotherapy agents with extensive vesicant properties used in the treatment of certain types of cancers. The usual course of treatment of extravasation is plastic surgery to repair the damaged area. We report a case of Doxorubicin & Vincristine extravasation in an 87-year-old patient with multiple myeloma treated in our clinic. The patient was on a continuous infusion of 15mg/day of Doxorubicin and 0.4mg of Vincristine in a continuous infusion CADD pump through a port. Unfortunately, this patient had an underlying condition of Alzheimer's. He removed the port needle which caused the drug to extravasate into his chest wall, causing a 10 x 12 x 16 cm area of induration which eventually became necrotic on day #3. We treated the patient with 500 mcg of GM-CSF (sargramostim), subcutaneous at four quadrants around the site on days three, six, and 10. On day 10 the area of tissue damage had been reduced to 8 x 3.8 cm and finally to 1.5 x 1.5 cm on day 13. The area on day 13 was dry, healing and scabbed over.

GM-CSF has been shown to be effective in the treatment of various skin ulcers, and to date, this is the first reported use of GM-CSF in the U.S. for the treatment of chemo-induced extravasation.

## 115

**IMPROVING THE QUALITY OF LIFE FOR MEN WITH PROSTATE CANCER: TREATMENT FOR ERECTILE DYSFUNCTION FOLLOWING A RADICAL RETROPUBLIC PROSTATECTOMY.** Mary Schoen, MSN, MPH, RN, Anna Gialla-Uvino, RN, BSN, CNOR, and Mary Ellen Fogarty, RN, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

Continued sexual function after a radical retropubic prostatectomy (RRP) is a critical aspect of quality of life that cannot be overemphasized. Most men who have undergone RRP are generally healthy with a long life expectancy and did not have erectile dysfunction (ED) prior to surgery. Patient education is essential. Oncology nurses must be knowledgeable regarding current treatment for ED and refer patients to support groups and ED specialists as needed.

A normal erection is a complex neurovascular phenomenon, relying on multiple interacting physiological mechanisms. The nerve-sparing approach to surgery has significantly improved postoperative erectile function. However, it can take from four to 18 months before the patient can again achieve a full erection on his own. There are a variety of methods available to restore erectile potential. Studies show that the most effective and readily accepted methods are oral medications; and if oral medication is unsuccessful, penile self-injections.

At this NCI-designated comprehensive cancer center, ambulatory care nurses assume responsibility in educating patients about the treatment for ED. Men are encouraged to initiate sexual activity within a few weeks after catheter removal to get blood flowing to the penis. The first-line therapy in the treatment of post RRP ED is Viagra. Taken orally, it relaxes smooth muscles in the small arteries of the penis, increasing blood flow and allowing the return of erections. To ensure that patients are adequately instructed in taking the medication, the nursing staff developed a Viagra fact card which emphasizes side effects, when to take the medication, onset of action, and drug interactions. Viagra does not work for approximately 30% of men. In this case, the patient is referred to an ED specialist who can prescribe penile self-injections, (commonly called Caverject injections). After the medication is injected into the base of the penis, an erection develops. Nursing education focuses on injection technique and side effects.

This presentation will provide an overview of ED, the most common treatment options available, discussion of the potential side effects, and the patient education plan developed by oncology nurses in this setting to optimize patient involvement in the treatment decision.

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**TESTOSTERONE REPLACEMENT FOR PATIENTS WITH TESTICULAR CANCER.** Theresa Sinopoli, RN, MS, AOCN®, and Karen Biel, RN, AAS, Memorial Sloan-Kettering Cancer Center, New York, NY.

Testicular cancer is a highly curable disease affecting young men. Disease and treatment effects may impact sexual functioning and fertility and are significant quality-of-life issues. Low testosterone levels may be related to disease process as well as a result of chemotherapy treatment. When testosterone levels are low, patients present with symptoms of fatigue, loss of libido, depression, hot flashes, and weight loss. Evaluation includes assessment of symptoms and the following blood tests: FSH, LH, Estradiol, free and bound testosterone levels. Once a diagnosis of low testosterone is established, patients are started on hormone replacement therapy. In the past, patients were treated with testosterone injections administered deep intramuscularly every two to three weeks. This medication is prepared in an oil base and may be painful, especially for thin patients.

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An alternative delivery method was a testosterone patch, which caused skin reactions in some patients. Recently, a new testosterone agent that is applied as a gel has been introduced which allows for greater patient independence and comfort. Patient education regarding application and safety precautions are reviewed with patients prior to initiation of therapy. Since this is a topical agent that can be absorbed by anyone coming in contact with the gel within the first hour of application, patients are taught safe handling of the gel, the importance of handwashing, and avoidance of contact with others until the gel is absorbed through the skin. It is especially important that pregnant women and children are protected from contact with the gel, as this medication is harmful to them. Other factors addressed during teaching include reviewing application technique, side effects, drug interactions, and symptoms to report as well as the necessary follow up blood studies to monitor response. At our NCI-designated institution a fact card was developed to address the educational needs of these patients.

This presentation will review the low testosterone phenomena, the physiologic side effects patients experience, and the changes that occur in all blood levels when testosterone levels are low. It will also include the monitoring needs and education plan including the fact card developed for this population.

## 117

**CYCLOOXYGENASE-2: FROM ARTHRITIS TREATMENT TO NEW INDICATIONS FOR THE PREVENTION AND TREATMENT OF CANCER: WHAT EVERY ONCOLOGY NURSE SHOULD KNOW.** Deanna Yamamoto, RN, MS, CS, ANP, and Pamela Viale, RN, MS, CS, ANP, OCN®, Santa Clara Valley Medical Center, San Jose, CA.

Prostaglandins are created from arachidonic acid by the action of cyclooxygenase and subsequent synthetases. Two related forms of cyclooxygenase have been discovered which are now identified as COX-1 and COX-2. Although both isoenzymes change arachidonic acid to prostaglandins, they are different in their distribution and physiological role in the body. The revolutionary discovery of the isoenzymes cyclooxygenase 1 and 2 (COX-1 & COX-2) led to the development of newer non-steroidal anti-inflammatory drugs (NSAIDs) such as rofecoxib and celecoxib. Because of the specificity of COX-2 expression, the COX-2 inhibitors have the potential to reduce the risk of gastrointestinal bleeding such as experienced with the use of classic NSAIDs. With their crucial role in control of inflammation, the COX-2 agents were originally marketed for the treatment of rheumatoid and osteoarthritis. However, exciting new indications for COX-2 agents in the prevention and treatment of cancer are under investigation. The role of aberrant COX-2 expression in the development of cancer has been most widely studied in colon cancer and adenomas. Recent studies suggest that COX-2 derived prostaglandins may play an important role in tumor viability, growth, and control of metastasis.

Possible new indications for the use of COX-2 inhibitors to prevent and possibly treat various cancers may be monumental. However, therapy with these agents is not totally without risk.

Every oncology nurse should be aware of the possible problems inherent in the use of these drugs and the use of COX-2 agents for chemoprevention in certain cancers.

## 118

**GLEEVEC™: THE NEW ORAL CANCER TREATMENT THAT TARGETS GENETIC DEFECTS PRESENT IN TUMORS.** Fedricker Diane Barber, RN, ANP, BC, AOCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Last year, more than 4500 people in the United States were diagnosed with chronic myelogenous leukemia (CML). CML is a clonal expansion of hematopoietic progenitor cells characterized by myeloid hyperplasia, leukocytosis with basophilia, and splenomegaly. The cytogenetic hallmark of CML, the Philadelphia chromosome, is a reciprocal translocation between the *abl* proto-oncogene on chromosome nine to the *BCR* gene on chromosome 22, forming the *bcr-abl* protein. The *bcr-abl* protein is an activated tyrosine kinase that transforms normal hematopoietic cells into CML cells. The standard treatment for CML includes interferon, hydroxyurea, and busulfan. The only known cure is allogeneic bone marrow transplant. Recently, the FDA approved the drug Gleevec as treatment of CML, for patients who have failed interferon-alpha therapy.

Gleevec is a protein tyrosine kinase inhibitor that inhibits *bcr-abl* tyrosine kinase and the receptor tyrosine kinases for platelet-derived growth factor (PDGF), stem cell factor (SCF), and *c-kit*.

Clinical trials involving patients with CML who received Gleevec in doses ranging from 25 mg to 1000 mg per day, have had exciting results. Specifically, researchers report a 98% hematologic response rate in patients receiving doses of 300 mg or more of Gleevec. Due to the tremendous response of Gleevec in the treatment of CML, several clinical trials have begun to evaluate other cancers that express a growth factor receptor with tyrosine kinase activity. Researchers are investigating Gleevec in the treatment of malignant glioma, meningioma, GI stromal, soft tissue sarcomas, and various leukemias.

Nausea, vomiting, periorbital edema, interstitial edema, weight gain, neutropenia, thrombocytopenia, and hepato-toxicity are the most common side effects. Nursing implications for those patients receiving Gleevec include nursing assessment; patient education regard-

ing drug administration, drug side effects, and information regarding follow up; insurance coverage; and referral to social services. Gleevec has given patients an alternative therapy with fewer side effects when compared to traditional chemotherapy. Gleevec is a home base oral cancer treatment that will enhance and improve the patient's overall quality of life.

## 119

**SURGICAL DECISION MAKING FOR CANCER PATIENTS WITH ADVANCED MALIGNANCIES AND THEIR FAMILIES.** Tami R. Borneman, RN, MSN, Betty Ferrell, PhD, FAAN, Gloria Juarez, RN, MSN, and Larry McCahill, MD, City of Hope National Medical Center, Duarte, CA.

Palliative surgery is an important yet understudied aspect of palliative care. Many palliative procedures offer hope of possibly extending the quantity of life in addition to improving the quality of life. However many patients and family members misinterpret the goals and focus on cure and the prolongation of life rather than the relief of symptoms. The purpose of the study was to describe decision making in surgical oncology regarding advanced disease. Key objectives were addressed in the study questions: 1) What quality of life (QOL) concerns/symptoms led to the consideration of palliative surgery as an option of care? 2) What are the perceived risks and benefits of palliative surgery for you? 3) What understanding of other options do you have and how do you decide which one(s) to use? and after surgery, 4) What were the outcomes of having had palliative surgery and how has that impacted your QOL? The City of Hope Quality of Life Model for Cancer and the Clinical Decision-Making in Palliative Surgery Model served as the conceptual framework. The QOL model includes four dimensions of physical, psychological, social, and spiritual well being. The decision model includes influencing factors, process, choices, and outcomes. A total of 42 taped interviews were conducted with patients and family caregivers prior to and post surgery for advanced cancer. Data were analyzed using content analysis methods (Krippendorff) to identify major themes of patients and family caregivers based on the study questions. Results revealed several major themes for patients such as "Faith in God," "Symptom Control," "What Choice?," "I'm Cancer Free," and "Trusting the Doctor." Major themes for family caregivers included "Symptom Management," "Fear of Loved One Dying," "Faith in God," "Importance of Percentages," and "Coping at Home." Findings demonstrate that patients and their family caregivers require support in the decision-making process in advanced disease. Difficulties lie in the concerns woven throughout the major themes. Findings support the need for continued communication regarding the goal of palliative surgery as well as the need to address the physical, psychosocial, and spiritual ramifications of advanced disease and palliative surgery.

## 120

**PHASE II TRIAL OF MURINE 131I-LABELED ANTI-TENASCIN MONOCLONAL ANTIBODY 81C6 ADMINISTERED INTO SURGICALLY CREATED RESECTION CAVITIES OF PATIENTS WITH NEWLY DIAGNOSED MALIGNANT GLIOMAS.** Lorna Regalado, RN, BSN, Cindy Bohlin, RN, MSN, Mary Lou Affronti, RN, MSN, Deborah Allen, RN, MSN, FNP, Susanne Jackson, RN, MSN, FNP, and David Reardon, MD, Duke University Medical Center, Durham, NC.

Despite decades of intensive investigation, improvement in outcome for patients with the most common primary adult brain tumor, malignant glioma, remains elusive. A major factor contributing to poor outcome is failure to eliminate local tumor growth as indicated by 90% of glioblastoma multiforme (GBM) recurrences developing at or adjacent to the site of origin. Consequently, adjuvant therapies designed to enhance local control are critically needed. One approach is the delivery of radionuclides to tumor-associated antigens via monoclonal antibodies (mAbs). 81C6 is a murine IgG2b mAb that attaches to tenascin, a tumor-associated extracellular matrix glycoprotein that is present in high-grade gliomas as well as melanomas, breast, lung, and squamous cell carcinomas. The purpose of the study was to determine toxicity of intra-resection cavity 131I-labeled murine anti-tenascin monoclonal antibody 81C6 and to identify therapeutic responses to this treatment. In this phase II trial, 120 mCi of 131I-labeled murine 81C6 was injected directly into a surgically created resection cavity of 33 patients with newly diagnosed malignant gliomas (glioblastoma multiforme,  $n = 27$ ; anaplastic astrocytoma,  $n = 4$ ; anaplastic oligodendroglioma,  $n = 2$ ) followed by conventional external beam radiotherapy and chemotherapy. The primary endpoint was the percentage of patients who survived for one year after treatment with 131I-labeled murine 81C6. To estimate survival distributions the Kaplan and Meier method was used. The median survival for all patients was 86.7 weeks and 79.4 weeks for those with GBM. Eleven patients were alive at median follow-up of 93 weeks. Toxicity was measured using the National Cancer Institute Common Toxicity Criteria version 2.0. Nine patients experienced reversible hematologic toxicities. Five patients developed histologically confirmed, treatment-related neurologic toxicities, and one patient required re-operation for radiation necrosis. Our results demonstrate that 131I-labeled 81C6 mAb therapy significantly improves survival and a phase III randomized study is warranted. Oncology nurses will be involved with patient care and symptom management after radiolabeled mAb treatment. A thorough understanding of radiolabeled mAb therapy is critical for improvement of quality patient care.

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## 121

**AN OUTREACH PARTNERSHIP: PROVIDING RADIATION THERAPY SERVICES IN A RURAL COMMUNITY.** Kathy I. Flowers, RN, BSN, and Suzanne Carroll, RN, MS, OCN®, AOCN®, Wake Forest University Baptist Medical Center, Winston-Salem, NC.

Providing radiation therapy services to patients in rural communities presents many challenges. Often it is difficult for patients to endure the side effects of daily radiation treatments and tolerate long distance car travel. Long distance travel also imposes inconveniences to caregivers who provide transportation for patients receiving radiation therapy as travel time may account for half a day or more over a span of several weeks. Hospitality houses and local hotels offer some respite to long distance patients and caregivers, but they are not without cost and they remove the patient from their support systems and comforts of home.

Our radiation department treats many patients who travel long distances to our cancer center because there are no radiation therapy services available to them in their communities. Recognizing the need to provide radiation therapy services in a geographical area that did not provide these services, our cancer center embarked on a collaborative effort with a rural hospital to establish a radiation oncology facility in their community. In March 2000, the Regional Cancer Center at Hugh Chatham Memorial Hospital, in partnership with the Comprehensive Cancer Center of Wake Forest University Baptist Medical Center, opened a radiation therapy facility in Elkin, North Carolina, about 40 miles from Winston-Salem.

The new radiation center has fulfilled a need for patients who previously had to travel long distances to receive their daily radiation treatments. Patients are consulted for simulation and treatment planning at our cancer center but are able to receive their radiation treatments closer to home. This collaboration has enhanced our oncology service line by improving access to radiation therapy services for patients. Furthermore, this partnership has allowed our cancer center to maintain caregiver status for our traditional market and prevent market penetration by other profit and non-profit oncology centers. This joint venture has also served to demonstrate the benefits of communication and collaboration between comprehensive cancer centers and regional cancer centers in meeting the needs of oncology patients within the communities they serve. This presentation will provide an overview of this unique outreach project including planning initiatives, partnership collaboration, operations data, and future goals.

## 122

**AN INTERDISCIPLINARY APPROACH TOWARD DOCUMENTING NURSING WORKLOAD IN AN AMBULATORY INFUSION UNIT: A NECESSITY FOR PATIENT CARE AND REVENUE CAPTURE.** Joanne Perri-LaFrancesca, RN, MN, AOCN®, Joan Agretelis, PhD, RN, Ieva Broks, BSN, RN, Mimi Bartholomay, MSN, RN, Julie Conlin, BSN, RN, and Susan Finn, BSN, RN, Massachusetts General Hospital, Boston, MA.

Over the past three years the cancer center infusion unit at the Massachusetts General Hospital experienced a 50% increase in professional nursing staff as a result of an unprecedented growth in visit volume. More than half of the nursing staff has less than five years of oncology nursing experience. Only 20% of staff has over five years of outpatient oncology experience. Collectively the staff has come to realize that nursing interventions to manage side effects from treatment or disease are not being prescribed uniformly. Inexperience, variable physician practices, and previous work experiences have contributed to this problem. Furthermore, chart audits reveal inconsistent or incomplete documentation of the nursing interventions taken to treat identified patient problems. Inadequate documentation has led to an inability to capture all potential revenue for nursing services delivered. Additionally the lack of documentation has led to an inability to describe and quantify workload at a time of intensifying acuity and visit volume.

A small group of staff nurses and nurse leaders, committed to developing evidence-based guidelines for practice, embraced this multi-faceted problem. In tandem, the group collaborated with information technology to create electronic documentation tools and with finance to develop billing procedures. We will:

- Discuss how data were collected to describe the most common problems nurses' identify.
- Share practice guidelines.
- Demonstrate how standardization improved documentation of nursing interventions.
- Describe how orientation was restructured for novice staff.
- Describe how these changes enabled the implementation of billing procedures that realistically capture nursing workload.
- Present ideas for translating this work into nursing outcomes research.

## 123

**AN INNOVATIVE, WEB-BASED REPORTING SYSTEM FOR SERIOUS ADVERSE EVENTS DEVELOPED BY THE CANCER THERAPY EVALUATION PRO-**

**GRAM (CTEP), NATIONAL CANCER INSTITUTE (NCI).** Ann Setser, BSN, MEd, CTEP, NCI, Bethesda, MD; and Elizabeth Ness, BSN, MS, Technical Resources International, Inc., Bethesda, MD.

AdEERS (Adverse Event Expedited Reporting System) is one of the NCI's initiatives to apply advances in information technology to the area of safety surveillance for patients enrolled on clinical trials. AdEERS is a web-based system that utilizes the NCI CTC v2.0 (Common Toxicity Criteria) for submission of serious adverse events. NCI published the expanded CTC in 1998 and, in compliance with the International Conference on Harmonization (ICH), mapped adverse event terms to MedDRA (Medical Dictionary for Regulatory Affairs). MedDRA is the new global standard medical terminology to facilitate research and safety monitoring and to make the regulatory approval process more efficient and responsive. AdEERS is designed to support the classification, retrieval, and evaluation of adverse event information using MedDRA adverse event terms, disease names, prior therapies, and pre-existing conditions. The first version of AdEERS was released last year. Nurses at select cancer centers and cooperative groups participated in testing the beta version of AdEERS last year. Their experience provided valuable enhancements for the current version of AdEERS (released January 1, 2001) being used by all NCI collaborators.

The goal of AdEERS, to increase the efficiency, completeness, and accuracy of safety monitoring and reporting to the Food and Drug Administration (FDA), was rapidly recognized. In the first six months, 1,800 reports were submitted providing real-time reporting and assessment of serious adverse events. AdEERS allows for rapid retrieval and dissemination of information, especially trends in adverse events that effect patient safety. AdEERS is a secure site using 128-bit data encryption that can be accessed using an industry standard browser. An AdEERS training site and computer based training are available on the NCI website.

## 124

**NURSE MANAGEMENT ISSUES DURING A RANDOMIZED PHASE III STUDY OF PATIENTS WITH METASTATIC MELANOMA USING HISTAMINE DIHYDROCHLORIDE AND INTERLEUKIN-2.** Lori Stover, RN, BSN, University of Pittsburgh Cancer Institute, Pittsburgh, PA; Regina Deck, RN, OCN®, John Wayne Cancer Institute, Santa Monica, CA; Diana Simpson, RN, University of Louisville, Louisville, KY; and Eve Stork, RN, MSN, CRNI, OCN®, University of California, Los Angeles, South West Cancer Clinic, Las Vegas, NV.

**Background:** High-dose IL-2 in metastatic melanoma (MM) requires inpatient hospitalization and side effects can be life threatening. Current efforts to prolong survival and to improve upon patient quality of life (QOL) while receiving IL-2 include investigating outpatient regimens in combination with other agents. Histamine dihydrochloride (Ceplene) is being investigated as a potential adjuvant therapy to IL-2 in MM and other cancers. Histamine potentiates cytokine therapies by inhibiting the production and release of free radicals from phagocytes and thus may protect NK cells and T cells from free radical-induced apoptosis.

**Methods & Results:** In a recently completed randomized, multicenter phase III study in 305 MM patients, IL-2 (9 MIU/m<sup>2</sup>, bid, sc, days 1–2, weeks 1, 3; and 2 MIU/m<sup>2</sup>, bid, sc, days 1–5, weeks 2, 4) was administered with or without histamine (1.0 mg, bid, sc, days 1–5, weeks 1–4) for four weeks of a six-week cycle. Both study drugs in the following regimen were administered in an outpatient at-home setting. Before each cycle, patients completed a QOL survey.

Some of the important nurse management issues in this study included patient education, study drug administration, and side-effect management. The first dose of treatment regimen was administered in the physician's office, and patients and/or caregivers were trained to administer histamine by slow s.c. injection over 10–20 minutes to minimize acute reactions. Due to the large number of injections associated with this regimen, patients were instructed to rotate injection sites to minimize formation of IL-2-related s.c. nodules. Most common side effects associated with histamine administration were transient and included facial and upper truncal flushing, hypotension, dizziness, palpitations, headache, and rhinitis; in most cases medical intervention was not required.

Treatment with IL-2 and histamine significantly improved overall survival for patients with MM and baseline liver metastases compared to patients treated with IL-2 only (median, 154 days to 283 days, adjusted  $p = 0.008$ ). The addition of subcutaneous histamine to IL-2 treatment did not adversely affect QOL.

**Conclusions:** Histamine may be safely administered in conjunction with low-dose IL-2 and does not adversely affect QOL. Education of patients and caregivers in injection technique and effective toxicity management are essential during administration of this regimen.

## 125

**THE DEVELOPMENT OF AN ADMISSION TOOL FOR THE ASSESSMENT OF THE PALLIATIVE CARE SYMPTOM: PAIN.** Hazel A. Jackson, RN, MN, CHPCN, Atlanta VA Medical Center, Decatur, GA.

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Pain is viewed as a palliative care symptom to be assessed and treated in all patients identified as having an end-of-life diagnosis and receiving care at VA Medical Centers. Oncology nurses provide care for 62% of the patients identified as having an end-of-life diagnosis. Chart audits by the external peer review abstractors revealed that pain was not assessed as a palliative care symptom in patients identified as at the end of life. As a result, the Atlanta VA Medical Centers' End-of-Life Performance (EPRP) scores did not meet the mandated performance of 95% in 1997 and 1998. The admission pain assessment tool was developed to meet the goal of assessing and treating pain as a palliative care symptom for patients near the end of life. After reviewing the medical center's nursing admission assessment form, a pain assessment tool was developed and incorporated into the admission form. The pain assessment tool was designed using sections of several published pain assessment scales. The revised nursing admission assessment form was approved by the medical center's forms committee and implemented in March 1999. The clinical nurse specialist group in-serviced the staff nurses on the medical floors on the use of the tool. Nurses were empowered to assess for pain on admission, transfer, and discharge. As a result, documentation of the assessment of pain as a palliative care issue for patients diagnosed as near the end of life increased to 100%. An informal evaluation of charts randomly selected on three inpatient medical floors demonstrated that 100% of new admissions were assessed for pain using the pain assessment tool. The poster will present the rationale for the development of the admission pain assessment tool, the technique used to develop the tool, and EPRP scores before and after the implementation of the tool. It also reports on two additional goals achieved by the development and implementation of the admission pain assessment tool: 1) Assessing pain as the fifth vital sign, and 2) JCAHO requirement to assess for pain on admission.

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**HEMATOLOGY/ONCOLOGY OUTPATIENT TELEPHONE ALGORITHMS FOR EFFECTIVE TELEPHONE TRIAGE.** Kathryn M. Schaefer, RN, BSN, OCN®, Oregon Health & Science University, Portland, OR.

In a busy outpatient setting, telephone calls from patients are widely recognized as a major component of practice. Responses to calls are time consuming and often require multiple contacts with other providers. In order to provide care within the scope of nursing practice, algorithms for assessment, management, and referral of recurring problems encountered in outpatient cancer care were developed by the triage nurse, reviewed by attending physicians, and approved by the medical director of the practice. The algorithms are part of a written practice policy for the outpatient setting.

The purpose of the policy is to provide consistency and continuity in telephone triage at the staff nurse level. The responsibility of the triage nurse and nurse manager is to review and revise this policy annually.

Specific standing orders were developed for each common problem. The algorithms address anemia, fatigue, constipation, diarrhea, mucositis, nausea, neutropenia, thrombocytopenia, pain, and vomiting. The algorithms include exceptions to the standing order protocol for patients on clinical studies and unusual situations.

Resources used to develop the algorithms included current oncology nursing texts, journal articles, and the state nurse practice act. The availability of the algorithms has increased the comfort of the triage nurse in dealing with complex patient problems over the telephone, standardized care, clarified options for symptom management interventions for specific symptoms, and defined when physician notification will occur. The number of algorithms has gradually increased over time. Communication with physicians is enhanced by providing a more complete assessment presented during a single interaction rather than requiring multiple contacts. Telephone calls now go to three different telephone voice mailboxes, one for pharmacy refills, one for home health/hospice care, and one for patient concerns. Additional practice changes include the addition of a second triage nurse to handle the volume of patient calls and shorten callback times. The use of specific algorithms for managing common outpatient problems in a busy hematology/oncology practice is a viable approach for managing and streamlining patient care. Future plans include expanding the number of outpatient nurses prepared to utilize the algorithms and adding additional algorithms as appropriate.

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**IMPLEMENTING A PRIMARY NURSING MODEL IN AMBULATORY ONCOLOGY.** Paula Sinn, BS, BSN, RN, MSN, OCN®, New England Medical Center, Boston, MA.

Lengthy wait times for treatment have been linked to patient and nurse dissatisfaction. In our task oriented system, patient treatment was "first come," "first served," void of planned continuity of care. Without a responsibility relationship between the nurse and patient, nursing turnover was high. Prior to implementing primary nursing, our patient satisfaction survey showed that the majority of patients preferred to see the same nurse.

The purpose of implementing primary nursing was to establish that each patient's nursing care would become the direct responsibility of a primary nurse.

We developed and implemented primary nursing guidelines. By the completion of their first visit to the infusion center, all patients can identify their primary nurse. To enhance

continuity when the primary nurse is away, each patient was given an associate team. Nurse scheduling is done to promote patient based assignments. Monthly meetings to refine our primary nursing model included the nurse manager and all staff. Built into the model is a periodic check of patient assignment of primary and associate nurses.

Primary nursing offers individualized, consistent nursing care in our outpatient infusion center. Each patient identifies with the primary nurse and her associates for care. Results of our second patient satisfaction survey, distributed seven months after starting primary nursing, indicated that even more patients than in the first survey prefer to have the same nurse or alternate. We have demonstrated a significant reduction in the time a patient waits for treatment. We have increased nurse and patient satisfaction significantly.

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**NURSES' ROLES AND CHALLENGES IN THE AMBULATORY TREATMENT CENTER.** Jacque Scholz, RN, BSN, BA, MSM, and Vilma Sherry, RN, BSN, OCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX.

An increasing number of oncology patients are being treated in ambulatory treatment centers. This year we have seen 64,000 patient visits and are projected to increase that number to 72,000 next year, with similar percentage increases in years to follow. The purposes of this project were (a) to identify the major challenges, and (b) to effect change to improve patient care and nurse satisfaction. We used a systematic approach to organize these challenges into three separate areas: (1) long treatments and too many patients for the space available; (2) lost or unreadable orders; and, (3) stressed and insufficient staff. New treatment areas with longer hours of operation and areas for pre-starts were opened. Housekeeping was involved in quick turnaround cleaning of isolation rooms. The one-touch system for faxing and storage of orders was developed and instituted in conjunction with pharmacy, with no change in methods of orders being faxed from the clinics. Nurses were recruited and agencies utilized following orientation of their nurses. More nurses were screened, motivated, and educated to assume leadership positions and prevent burnout of the few who were in those positions. Our results indicated that planned change is a dynamic process that shapes and is shaped by the personnel and the challenges involved. The contributions of all personnel involved may be simple or complex and affect individuals, groups, or institutions. Our process and findings revealed that institution of these changes enhanced oncology nursing practice and patient satisfaction, improved patient care, and decreased patient waiting times. Despite development for a large-scale oncology ambulatory treatment center, these findings are fully transferable for utilization by a smaller center.

## 129

**NURSES AS "MOST VALUABLE PLAYERS": TEAMING WITH THE CANCER TRIALS SUPPORT UNIT (CTSUS).** Cynthia Donovan, BSN, MS, Westat, Rockville, MD.

Clinical trial nurses have the opportunity to be MVPs by taking advantage of the Cancer Trials Support Unit (CTSUS) at their research centers. The CTSUS is a five-year pilot project sponsored by the National Cancer Institute (NCI) to expand access and accrual to phase III cancer treatment trials and streamline clinical trials management. To accomplish these goals, the CTSUS has developed a web-based system to centralize regulatory and administrative tasks performed by NCI-sponsored adult cooperative groups. After activating their memberships with the CTSUS (at [www.ctsu.org](http://www.ctsu.org)), nurses will find efficient and effective tools on the web site to facilitate clinical trial management. In addition, they will have easy access to protocols, protocol-related forms, and patient educational materials. The protocol-specific materials provided online include schema, overview, study calendar, and "fast fact" sheet that outlines the eligibility requirements and treatment plan. Nurses can use these resources as a concise reference when screening patients. The materials can also be used to describe the protocol to potential patients and to educate research staff. CTSUS membership will also provide the nurse with e-mail announcements communicating timely updates regarding protocol activation, closure, and amendments for clinical trials available on the CTSUS menu. Nurses can also present treatment options to patients by identifying trials that may not be otherwise offered through their own cooperative group or intergroup mechanisms. Oncology nurses are invited to become CTSUS members and join the team encouraging participation in the nation's cancer clinical trials program. When nurses play their vital "MVP" role on the team, they help support progress made through cancer clinical trials.

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**EDUCATIONAL NEEDS OF HOSPITAL AIDES: OPTIMIZE THEIR PROVIDING CARE IN A THORACIC/CARDIOVASCULAR ONCOLOGY UNIT.** Louisa C. Kan, RN, BSN, OCN®, and Janet Taubert, RN, MSN, OCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX.

The change of healthcare setting from a thoracic medical/surgical unit to a thoracic/cardiovascular unit, which provides additional cardiac monitoring, increases the demand

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for a more skillful healthcare team. Effective and efficient patient care requires professional nursing staffs (PNS) supported by well-trained hospital aides (HAs). Due to lack of knowledge to perform the skills in their expanded roles, HAs were disoriented in their job responsibilities and timid to communicate with other team members. Job-related injuries frequently occurred. This ineffective communication between the PNSs and HAs has declined overall morale which, in effect, has directly impacted patient care outcomes and caused a high turnover rate of hospital aides. This project was to define HA job roles in this new setting, to identify their educational needs, and to enhance effective communication amongst the team. The PDCA (Plan, Do, Check, Act) method was designed and implemented to provide an educational offering to meet those needs. The program included reviewing the HA assignment guidelines, the HA role in the collaborative pathway for patients undergoing pulmonary resection and esophagectomy, the procedure of basic nursing care, and "taking the heat" tips. A newly designed HA shift report was implemented to enhance the communication between HAs and individual staff at both the beginning and the end of the shift. HAs also took the mandatory basic EKG interpretation classes. When competency is achieved, the individual can function as a monitoring technician. The program was evaluated at the time of offering and six months later. The findings indicated that the HAs found the program helpful in operationalizing their new roles; however, they suggested further development be addressed in the area of teamwork. Overall, the results were optimistic. Team spirit improved due to lower turnover rates as well as a dramatic reduction in job-related injuries in the past six months. Based on these results, we have recommended and instituted this program as continuing education for our hospital aides.

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**PATIENT INTENSITY IN THE AMBULATORY ONCOLOGY SETTING: OBJECTIVELY QUANTIFYING PATIENT CARE.** Georgia J. Cusack, MS, RN, Antoinette Jones-Wells, RN, BSN, Margaret Shovlin, RN, BSN, and Kim Scott, RN, BSN, OCN®, National Institutes of Health, Bethesda, MD.

Quantifying nursing time in the oncology ambulatory care area is challenging due to the unpredictability of this patient population. Oncology outpatients have multiple complex needs often requiring multiple treatments with each visit. Patients seen for routine blood work may end up requiring an admission for fever and neutropenia. Patients in the outpatient cancer center (OCC) in the Clinical Center (CC) of the National Institutes of Health receive phase I and II clinical trials. This adds an additional layer of complexity to their care requirements. Many of the patients receive medications requiring frequent vital signs and pharmacokinetic blood work. Research endpoints must also be coordinated to maintain protocol integrity. Caring for patients in this environment requires astute judgment and meticulous care from the nursing staff. The clinical trial environment places a unique workload on the nurses caring for this population. This poster will show the process of development, implementation, and evaluation of an intensity system that was piloted and adapted in the OCC of the CC. This system is used to assist with the identification of staffing, productivity, and staff development needs. The development of an intensity system provides a mechanism to objectively measure the amount of direct and indirect care required to provide comprehensive care to the ambulatory oncology patient. Critical indicators are identified based on CC policies, procedures, and standards of practice and preexisting competencies for the ambulatory oncology area. Nurses select the highest level of care required by each patient. Levels are then equated to a time factor. The intensity system was used to enhance the use of critical thinking skills as nurses closely examine their daily workload expenditure. The system can also be used as a performance improvement tool to identify missing documentation and appropriate activities for nursing staff to perform. The tool can be easily adapted to any care setting. It may also be used in the research setting as a tool to measure baseline protocol intensity. Measuring patient intensity in the ambulatory oncology population is essential in providing an objective method to predict staffing needs in the delivery of safe and comprehensive care.

## 132

**FIRST STAGE OF A LONGITUDINAL STUDY OF THE IMPACT OF AN ELECTRONIC MEDICAL RECORD SYSTEM ON CLINICAL PRACTICE AND PATIENT OUTCOMES.** Sharon McLane, RN, MBA, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Electronic medical record (EMR) systems have been in use for over two decades. Many studies documenting nursing satisfaction with EMRs, the benefits of an EMR, implementation barriers, user acceptance, the importance of staff buy-in, and the importance of attitude and expectations to user buy-in were found in the literature. Central to most studies is the significance of nursing staff buy-in to an EMR, and the dependency of buy-in on staff attitudes and expectations. Buy-in is a precursor to effective use which is, once again, a prerequisite to collecting and making optimum use of the data contained in an EMR. Data collected from an EMR containing rich, accurate documentation of nursing practice interventions supports data-driven practice changes and documentation of the impact of the care provided by nurses.

A Likert-scale survey tool was administered to all nursing staff on an inpatient oncology unit.

Cronbach's-Alpha was used to establish reliability. Content validity was evaluated using a panel of experts. Descriptive and correlational statistics were used to analyze the data.

Forty nurses (48%) completed the survey. Fifty-six percent had worked with an EMR elsewhere, and 81% had a PC in their home. Seventy-eight percent agreed or strongly agreed that computers free nurses of boring, repetitive tasks. Fifty-six percent agreed or strongly agreed that providers are more closely monitored if computers are used. Fifty-two percent disagreed or strongly disagreed that computers compromise patient confidentiality.

The first step in evaluating the effectiveness and outcomes of our EMR implementation was the determination of nurses' attitudes regarding an EMR. Assessment of these perspectives provides rich information to guide communications regarding the project. Understanding how the nursing staff feels about computers in the workplace and the role computers can play in practice will enable the implementation team to structure communications, to reframe misconceptions, and to offer possible new perceptions. Secondly, understanding expectations can enable the implementation team to offer expectations through communication and other interactions. Studies have shown that unmet expectations can derail the potential that an EMR can provide. Another benefit of measuring expectations may be revision of the implementation plan to meet a broadly expressed need.

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**MANAGEMENT BEHAVIORS ASSOCIATED WITH NURSE RETENTION.** Marian Owens, RN, MSN, CS, Arlene Quarles, RN, BSN, Shirley Morrison, RN, MSN, OCN®, Laura Espinoza, RN, MSN, CS, and Marlene Cohen, RN, PhD, University of Texas M.D. Anderson Cancer Center, Houston, TX.

The aging nursing workforce and decreasing numbers of students choosing nursing careers raise concerns about the future availability of nurses. Women's continued declining interest in nursing and their wide choice of career opportunities are reasons for employers to fear an impending shortage of nurses and reasons to retain nurses currently in the workforce. To survive in the healthcare environment, providers must be aware that employees are their most important asset. Good manager-nurse relationships have proven important to retaining employees. Because management behaviors are key to staff retention, we conducted a study to determine what specific behaviors are associated with nurse retention. Kanter's model, Structural Determinants of Behavior in Organizations, provided the conceptual framework for the study. In her model, those with access to power (support, information, resources) and opportunity (rewards, recognition, chances to develop skills) are more committed to their role and the organization.

We surveyed 120 staff nurses to determine which nurse managers' behaviors keep staff members motivated and which behaviors cause staff to consider transferring or resigning. From content analysis of the survey, we labeled seven categories of behaviors, with defined behaviors under each category. An experienced qualitative researcher conducted an independent analysis to establish accuracy. Findings were further validated by comparison with behaviors reported in the literature. We developed a manager self-assessment survey from this which we shared with the nursing leadership. Nurse managers have a vital interest in learning what behaviors have positive and negative effects on nurse motivation and retention. New nurse managers and nurses interested in management positions also have an interest in learning to develop behaviors associated with retention. Managers must realize that their behaviors directly impact retention, perhaps more than general employee benefits do. Providers of continuing education for nurse managers can develop content addressing staff retention. Additionally, long-term studies could determine the benefits of continuing education courses on staff retention.

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**BREAST CANCER REHABILITATION IN THE UNITED STATES AND JAPAN: A COMPARISON OF APPROACHES.** Elizabeth Santas Kraatz, RN, PhD, AOCN®, University of Minnesota School of Nursing, Minneapolis, MN; Emiko Endo, RN, PhD, Kitasato University, Kanagawa, Japan; Judith Johnson, RN, PhD, FAAN, Health Sciences University, Hokkaido, Japan; and Naomi Morota, RN, MS, Kitasato University, Kanagawa, Japan.

During the past few decades, the incidence of breast cancer has risen rapidly in both the United States and Japan. Although patients and nurses in both countries share common problems, there are differences in approaches to nursing care between the two culturally distinct countries. The purpose of this qualitative study was to compare and contrast the approaches to breast cancer rehabilitation between nurses in Japan and the United States. This qualitative study was guided by the constructivist paradigm. Matched samples of 18 oncology nurses (total N = 36) from metropolitan areas of both Japan and the United States were asked to respond to a case study involving a woman struggling with breast cancer. Data was collected through open-ended interviews. The responses were analyzed using a manifest content analysis strategy in order to determine themes reflective of the nurses' thought processes as well as their management strategies. Inter-rater reliability of transcript coding was assessed and revealed greater than 80% agreement between all coders for all



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themes. Four major themes were identified in both samples (Facing Reality, Involving Support, Reconstructing Body and Life, and Finding Meaning), with each theme having multiple subthemes. The results revealed multiple areas of similarities, but also marked areas of difference between the approaches used by nurses in the two countries. Certain subthemes were characteristic responses for the Japanese sample of nurses but not the nurses from the United States, and vice versa. The findings may stimulate dialogue and critical reflection on the strategies adopted by nurses in their own practice.

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RELATIONSHIP OF COMPLEMENTARY THERAPY AND SELF-HELP AND FUNCTIONAL HEALTH STATUS AMONG MEXICAN-AMERICAN WOMEN. Barbara Owens, MSN, RN, Lackland Air Force Base, Clinical Research Squadron, San Antonio, TX.

This purpose of this secondary analysis study is to describe Mexican American (MA) women's use of complementary and alternative medicine (CAM) during breast cancer treatment. This study describes the resources accessed and the relationship of CAM variables with self-care/self-help, functional status, and disease characteristics.

**Background:** Culture influences priority setting, level of trust in healthcare providers, and perceptions of the relationship between behavior and health outcomes. In order to fully understand this important aspect of interpersonal dynamics, the influence of culture on decisions for self-care needs to be developed more fully, particularly within sociocultural healthcare contexts. Braden's Self-Help Model provided the framework for the original clinical trial study testing the effectiveness of an oncology support intervention for women receiving breast cancer treatment. The clinical trial study included Anglo, African American, and Mexican American women. The data from the Mexican American women were used for this secondary analysis.

**Methods:** Data were collected after medical treatment as underway and treatment-related side effects were evidenced. The mean age of the 195 subjects was 50.8 years (SD = 11.9). The majority of the women (84%) were experiencing their first breast cancer diagnosis. Measures of the selected variables met reliability and validity criteria. A correlation matrix was generated for the following variables: functional health status, over all side effect experience, cancer folk beliefs, belief in cancer treatment alternatives, resources used, self-help, and self-care. A significance level of 0.05 was set for the discovery-context analysis.

**Results:** Resources used were moderately correlated with self-care ( $r = +.39$ ) and weakly correlated with the belief in CAM use ( $r = +.15$ ). A strong relationship demonstrated that those having greater folk belief strength also demonstrated belief in self-care alternatives ( $r = +.87$ ). Findings also indicated that belief in CAM was associated with perception of functional health status ( $r = .52$ ); however CAM beliefs were not significantly correlated with overall side effects experience.

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BREAKING THROUGH BARRIERS TO INCREASE MINORITY RECRUITMENT IN CLINICAL TRIALS. Debra Wujcik, RN, MSN, AOCN®, and Nancy McCullough, RN, Vanderbilt-Ingram Cancer Center, Nashville, TN; and Cheryl Kinnard, RN, Freda Stevenson, and Helen Burns, Metropolitan Nashville General Hospital, Nashville, TN.

The national rate of accrual to cancer clinical trials is 3%. The rate of participation of minority and underserved populations in cancer research is even lower. The most common reasons cited are fear of research and poor access to care. The experience at a community cancer program that serves minority and underserved persons is quite different. All patients (N = 156) who were newly diagnosed with cancer or with newly recurrent cancer in a one-year period were screened for eligibility to clinical trials. A trial for the disease and stage was available for 45 patients and 15 were registered and treated on a clinical trial. This accrual rate of 33% far exceeds the national norm. The reasons most of the patients did not enter a clinical trial were due to eligibility requirements of the study. Only two patients indicated they did not wish to participate in research. Two research nurses (one African American (AA), one Caucasian (C)), and two medical oncologists (one AA, one C) approached all patients regarding participation in a clinical trial. The race of the patients who participated in trials was proportionate to the race of the entire sample of 156 patients: AA = 60% (93), C = 34% (53), Hispanic (H) = 5% (8). Participants (N = 15): AA = 9 (60%), C = 5 (33%), H = 1 (6%). This presentation will discuss strategies for successful accrual of minority and underserved patients to cancer clinical trials. Case management activities for oncology patients include review of all pathology and radiology reports, surgery clinic schedule, mammography schedule, charts of all consults and new patients, and collaboration with the tumor registrar. Strategies for decreasing obstacles to care are providing funds for patient transportation, assistance with insurance precertifications, assistance with appointment scheduling, and immediate follow up for missed appointments or treatments. Accrual plans are developed for each study and regularly reviewed by the research team. The team also monitors the diagnosis and stage of all new patients to target new studies that match the demographics of the patient population.

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IMPROVING THE COMFORT AND SATISFACTION OF ARABIC-SPEAKING PATIENTS WITH EFFECTIVE NURSE-PATIENT COMMUNICATION. Vlasta Aubrecht, RN, Jo Ann Mick, RN, MSN, MBA, AOCN®, and Marlene Cohen, RN, PhD, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Persons hospitalized for cancer treatment are often anxious, and that anxiety can be heightened when they are being treated in the United States and do not speak English. Respect for individuals and care for the whole person are central values in oncology nursing. However, nurses sometimes lack knowledge about the language and cultures of those for whom they provide care. Our surgical urology and orthopedic unit admits a high percentage of Arabic-speaking patients. The language assistance department provides interpreters, translation of medical documents, and access to a 24-hour-a-day language line. These resources provide support for accurate communications between staff and patients. However, our nursing staff members identified an opportunity to improve the service and increase patient comfort and satisfaction by helping patients communicate their needs in their own language and helping all staff respond directly to the patients. We initiated a project to identify the most commonly translated information nurses give to patients about procedures routinely performed within our specialty. A nurse fluent in Arabic assessed patient satisfaction regarding communication with the nursing staff about basic needs. We developed a notebook of pictures and words in Arabic that can be used by patients and nurses to communicate basic needs and instructions for procedures. The ability of the staff to more directly respond to patient needs improved patient comfort and increased satisfaction with the nurse-patient relationship. Patient and staff evaluation data were used to revise our nursing care. Comforting is not only pillow fluffing or covering patients with warm blankets, it is also being attuned to patient cues of distress and providing nursing measures to alleviate discomfort. Comforting begins when nurses detect patient distress and is followed by assessment, intervention, and evaluation of outcomes. Patients express discomfort verbally and nonverbally through body language or physiologic changes. Comfort strategies include listening and offering explanations. The ability to communicate and respond quickly to identified needs is important in making patients comfortable. When nurses respond to patient discomfort, patients perceive the nurses as competent and caring.

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INFORMATION NEEDS OF PATIENTS WITH CANCER IN KOREA. Hea Kung Hur, RN, PhD, Yonsei University, Wonju College of Medicine, Kang-won Do, Wonju, South Korea.

Nursing interventions such as giving information may help people with cancer to have realistic expectations about their illness and ill-related events. The extent of an individual's desire for information may vary throughout the course of the disease. The purpose of this study was to explore what particular types of information were important to patients during their treatment for cancer. Seventy three patients with cancer at our patient clinic in W. Christian Hospital, Korea responded to the structured questionnaire developed by investigators based on the literature and the interview of patients with cancer. The interviews were used in this study.

The findings in this study showed that all patients indicated a slightly strong need for information. There was not a significant relationship between the score of information needs with duration of cancer. However, there was a significantly negative relationship between age and the total score of information needs ( $r = -.31, p < .05$ ). The top priorities of information needs were the signs and symptoms of recurrence, the follow-up schedule after finishing the cycle of treatment, what kind of complications of treatment and how to manage them, and the possibility of metastasis. How to manage the relationship between husband and wife was ranked the lowest. The results suggest that nurses first should identify specific informational needs, the timing of such needs, and should provide appropriate information how these needs could best be met.

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GETTING CONNECTED: AFRICAN AMERICANS LIVING BEYOND BREAST CANCER. Patricia K. Bradley, PhD, RN, CS, Villanova University College of Nursing, Villanova, PA; Marjorie Scharf, MPH, RD, self-employed, Merion, PA, and the organization Living Beyond Breast Cancer, Ardmore, PA.

**Getting Connected: African Americans Living Beyond Breast Cancer** is a consumer-focused, culturally relevant, educational book designed to meet the needs of breast cancer survivors, their support network, and health professionals who educate and counsel African American women at risk for or diagnosed with breast cancer. The book's purpose is to promote informed decision-making while providing support, encouragement, and inspiration to African American women as they go through diagnosis, treatment, and begin living beyond breast cancer. A consumer-based, qualitative process was used to create the book. A community advisory committee gave input in the design, educational needs assessment, recruitment of focus group participants, and implementation of the project.

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The central theme identified from content analysis of the focus group data was getting connected. Five areas of connection were identified: Self, God/nature, family/friends, other survivors, and one's healthcare team. The process of connection: Surviving, choosing, relating, and living became the four chapters of the book.

This presentation will describe the consumer-based qualitative process used to create the book, the focus group findings, and the educational workshop for health providers that has been developed and implemented. The workshop includes an educator's guide to using the book as a tool for connecting to African American women in various healthcare settings.

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**TRAINING NURSES FOR PEDIATRIC HEMATOLOGY/ONCOLOGY PROGRAMS IN DEVELOPING COUNTRIES.** Nora Donahue, RN, BS, St. Jude Children's Research Hospital–International Outreach, Memphis, TN; Concepcion Urbina, RN, BSN, Hospital de Niños Benjamin Bloom, San Salvador, El Salvador; Gilma Grimaldi, RN, BSN, National Nursing Society, San Salvador; El Salvador; Miguel Bonilla, MD, Hospital de Niños Benjamin Bloom, San Salvador, El Salvador; and Judy Wilimas, MD, and Raul Ribeiro, MD, St. Jude Children's Research Hospital, Memphis, TN.

**Background:** Well-trained nurses are essential to the modern pediatric hematology-oncology (H-O) team and crucial to optimal care of children with cancer. In many developing countries, pediatric oncology programs are staffed by nurses who lack formal H-O education. To address this problem, St. Jude Children's Research Hospital (SJ), with the Society of Professional Nurses, The Hospital Benjamin Bloom (HBB), and the Ministry of Health of El Salvador began a program of basic H-O education for nurses in Latin America.

**Design/Methods:** A three-month theory and clinical practice course is open to qualified nurses in Latin America. Scholarships cover transportation, lodging, and food. Clinical rotations are done on the pediatric oncology ward of the BBH. The first course taught the teachers. During week one, students received clinical training while five Salvadoran nurse educators attended specific lectures by SJ nurses. During week two, the nurse educators taught the students while SJ nurses observed. Subsequent weeks utilized the same format. Lectures were translated into Spanish and were supplemented with electronic slide presentations. During the second course, SJ nurses observed the Salvadoran educators and helped to refine their lectures. An evaluation process was designed to allow rapid feedback and modification of the program.

**Results:** The two courses to date trained 36 nurses from Honduras, Venezuela, Colombia, Chile, Nicaragua, Costa Rica, Panama, Mexico, and El Salvador. Student progress was evaluated weekly through testing and evaluation of clinical skills. We are now evaluating knowledge disseminated to the students' home hospitals and changes that have ensued.

**Conclusions:** 1. Comments from physician directors of oncology programs have been positive. 2. The nurses develop an informal support system and spirit de corps that should encourage the establishment of formal nursing societies in their countries and further improve nursing care. 3. This program is an example of successful international outreach in pediatric H-O. Knowledge transmitted to local educators is being conveyed to a widening group of pediatric oncology nurses, and evaluation and follow-up continue.

## 141

**PRACTICE OF TAIWANESE WORKING WOMEN ABOUT BREAST SELF-EXAMINATION.** Meei-maan Chen, RN, MPH, Da-Yeh University, Chang-Hua, Taiwan, and Shiu-yu Lee, MSN, RN.

Monthly breast self-examination (BSE) is one effective, affordable way to detect breast cancer in its early stage, when it is most amenable to treatment. In Taiwan, more than 80% of breast cancer was diagnosed among women in their ages of working. Evaluating BSE among these women is essential to identify needs and to develop intervention. The purpose of this exploratory study is to describe BSE practice and information sources about BSE and breast cancer among Taiwanese working women. This study is part of a larger study guided by the Health Belief Model to test the relationship among BSE practice, BSE belief, BSE knowledge, and socioeconomic factors. A consecutive sample of 1,515 working women from three industrial plants in northern Taiwan reported their BSE behaviors and information sources. Subjects were a mean age of 29 years (SD = 8), without a diagnosis of breast disease (95%), and a majority of high school level of education (63%). A researcher-designed questionnaire assessed frequency, timing, locations, postures, and techniques about BSE, learning resources, and demographic characteristics. Items were accompanied with figures to illustrate some major concepts. Agreement about relevance and understandability of items, and congruence between figures and verbal items were achieved through structured content validity judged by two panels including nursing experts and working women. Every effort was sought to improve internal consistency by using different questions to measure the same concept. Responses composing any inconsistent answer were excluded. 87.8% (1,330/1,515) responses were included for data analysis. Data

were analyzed using univariate and bivariate statistics. Results indicated that 44.7% of subjects reported to perform at least one BSE during the prior 12 months. Among who had performed BSE, 14.5% and 53.4% practiced BSE monthly, and when they thought about it respectively. 41.5% used fingers correctly to examine their breasts; but 20.5% examined the wrong location. Major learning resources about BSE and breast cancer were pamphlets, papers, and media. BSE practice was related to learning resources, education, income, marriage, and experiences of physical examination. The practice about BSE is poor in this population. Interventions specifically targeting these working women are needed.

## 142

**BARRIERS OF RECRUITING ETHNIC MINORITY CANCER PATIENTS IN PAIN RESEARCH.** Hsiu-Ying Huang, PhD, RN, AOCN®, Diana J. Wilkie, PhD, RN, FAAN, and M. Kay Judge, EdD, RN, University of Washington, Seattle, WA.

Study findings will be invalid to ethnic minority patients if study participants are not representative to them. Recruiting ethnic minority patients is particularly vital in cancer pain research because they often are at risk of under-treatment. Yet, difficulty in recruiting ethnic minorities in research is common. It is important to identify in which stage of recruitment the barrier emerged so that effective strategies can be planned. The purpose of this study was to identify if barriers of involving ethnic minorities exist in referral, eligibility criteria, or consenting. Downstream analysis of data from targeting population to study participants serves as the framework for this exploratory study. About 13% of the cancer patients were ethnic minorities in the institution where we collected data. In a 21-month period, we obtained 695 patient referrals from clinicians for two NIH-funded cancer pain studies. Brief patient demographic data from the referral were entered into a computerized scheduling system that also included eligibility and enrollment status data. Data were excluded if ethnicity was unknown or eligibility was pending. The final sample includes 456 patients; 83% were Caucasians, 6% African-American, 7% Asian, 2% Hispanic, and 3% other. Two hundred sixty four (55%) were eligible and 192 (73% enrollment rate) consented to participate. When combined as a group, there were 13% ethnic minorities in targeting population (estimated), 17% in referred population, 13% in eligible patients, and 13% in enrolled patients. Chi-square tests were used to determine if there were proportional differences between Caucasians and ethnic minorities in eligibility and consenting. Results indicated that a higher proportion of ethnic minority patients (58%) were ineligible than Caucasians (39%), but no significant differences were found in consenting (71% versus 74%). The reasons for ineligible ethnic minorities included no pain and symptoms (20%) and non-English speaking (24%). Our findings suggest no bias in clinician referral of ethnic minority patients. Minorities are equally willing to participate in studies as Caucasians. We conclude that barriers are likely to occur in defining and assessing eligibility. Specific strategies to target the barriers (i.e., language issues, denial of symptoms as socially acceptable way to refuse participation) will improve minority participation.

## 143

**RELIGIOUS INFLUENCES ON ACCULTURATION AND HEALTH BEHAVIORS AMONG A GROUP OF UNITED STATES RESIDENT MIDDLE EASTERN WOMEN: PILOT DATA.** Lina Najib Kawar, PhD candidate, RN, and Jeanne T. Grace, RN, C, PhD, WHCNP, University of Rochester, Rochester, NY.

Studies of acculturation and health behaviors among United States (US) resident Middle-Eastern women often assume that all such women are Muslims. There is, however, diversity of religious affiliation within this group with a substantial minority of Christians, as well. The impact of religious affiliation on acculturation for these women, as well as the possible mediating or modifying effects on the relationship between acculturation and health behaviors has not been examined. This cross-sectional predictive study examines how religious-affiliation (Muslim/Christian) impacts the relationships among cultural beliefs, acculturation, and health behaviors among U.S. resident Middle-Eastern women. The theoretical framework proposes that demographics, knowledge, enabling, and sociocultural factors (acculturation, social norms, and influences) affect the psychological variables (affect, attitudes, and habits), which in turn affect participation in health behaviors.

This pilot study involved a snowball sample of 31 healthy US resident Middle-Eastern women who completed questionnaires measuring model variables. Mean age was 47 years (range 24–71), mean length of stay in the US was 15.5 years (range 2–34). Eleven were Muslims and 20 were Christians. The acculturation scale was adapted from Faragallah et al. (1997) (Cronbach's alpha 0.77) and the social norms scale was modified from Thompson (2000) (Cronbach's alpha 0.38). Measures of other concepts were created for this study. Analysis will include reliability report of the developed measures. The proposed data analyses include religious affiliation group comparisons (t-tests and Chi-square) on demographics, measures of cultural belief, acculturation, and health behaviors. In addition, multiple regression will be used to test for possible

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mediating or moderating effects of religious affiliation on the relationships among cultural beliefs, acculturation, and health behaviors. Analysis is in progress and results will be available for this presentation. Middle-Eastern women, as a group, have high breast cancer mortality, which could potentially be modified by increased participation in screening. This study's findings will contribute to the body of knowledge regarding the influence of religious affiliation on Middle-Eastern women's acculturation when residing in the U.S. and on these women's participation in health behaviors. The knowledge will also ultimately aid in developing culturally sensitive interventions to increase these women's awareness and participation in breast cancer screening programs.

## 144

**INSTANT INFORMATION ABOUT PATIENT SATISFACTION: A POST-DISCHARGE CALL PROGRAM.** Karen A. Conley, RN, MS, AOCN®, Dana-Farber Cancer Institute, Boston, MA; and Sandra Ruland, RN, Lisa Berggren, RN, Katherine Casey, RN, BSN, Elizabeth Olivo, RN, OCN®, and Maura Pevear, RN, Brigham and Women's Hospital, Boston, MA.

**Background/Rationale:** Measuring patient satisfaction is a critical aspect of care improvement for all inpatient oncology service line leaders. In addition it is important to understand if the patients discharged from oncology units are familiar with their discharge instructions and follow up care. The Multidisciplinary Care Improvement Team at Brigham and Women's Hospital in Boston, Massachusetts found a creative way to obtain these important pieces of patient feedback information by implementing a post discharge call program. This 79-bed hematology, oncology, and bone marrow transplant service historically collected patient satisfaction data via mailed surveys which resulted in delayed feedback and low response rates. Interested in real time information from patients about their discharge knowledge and satisfaction, the team developed a survey and an access database for the phone call project.

**Methods/Practices:** Included in survey content development were several representatives from the Patient and Family Advisory Council. Secondary to the clinical information discussed during the phone calls, oncology nurses (all with light-duty restrictions) were selected to make the calls as opposed to a lay person or volunteer. Staff nurses began in April 2000 to make the calls to all patients within 72 hours after discharge. Data has continued to be collected to date averaging 150 conversations with patients per month. Survey categories included the patient's knowledge of discharge instructions, follow-up care, and danger signals. Compliments and complaints offered were categorized into subgroups in order to design improvement efforts easily. The database instantly formats all data into a report that is presented on a monthly basis to the care improvement team. Compliments are shared with front line staff each month and complaints are addressed via the continuous improvement cycle.

**Interpretation/Discussion:** Survey findings validated trends identified from the mailed surveys; however, additional trends were discovered and addressed immediately as a direct result of the post discharge call program. Shortened lengths of stay and increasingly complicated inpatient oncology care call for rapid continuous improvement cycles. The post discharge call program is one way this service line has been able to obtain this valuable information and act upon it to assure high standards of patient care.

## 145

**IDENTIFYING NURSING INTERVENTIONS THAT TARGET CLINICAL OUTCOMES SURROUNDING DISCHARGE OF ADULT HEMATOLOGY TRANSPLANT PATIENTS.** Liz Cooke, RN, MN, OCN®, ANP, Marcia Grant, RN, DNSc, Smita Bhatia, MD, MPH, and Stephan Forman, MD, City of Hope National Medical Center, Duarte, CA.

**Background:** Blood or stem cell reinfusion/transplant continues to have a substantial risk to mortality and morbidity. Although many transplants are now being conducted in the outpatient setting, it is not uncommon for this population of patients to be readmitted within the first six months to manage a variety of clinical and psychological issues.

**Problem/Purpose:** To identify ways nursing can improve patient outcomes in the discharge process and follow-up, a retrospective chart review was conducted on 100 adult hematology transplant patients for the year 2000 to assess discharge and readmission patterns.

**Methods:** Demographic data consisted of marital status, age, insurance, and diagnosis. Clinical variables included time from diagnosis, conditioning regimen, remission status at the time of transplant, type of transplant, presence of comorbid conditions, history of previous transplant, number of infections, number of bacteremic episodes, remission status after transplant, and psychosocial support. Information on discharge and readmission patterns was collected. Data for each admission was collected including reason for admission, clinical condition, discharge or death date, number of days of each admission, and length of time between each discharge and readmission.

**Results:** Some of the initial findings of the first 50 patients are gender (62% male, 38% female), and type of transplant (42% allogeneic, 42% autologous, 16% other). Of

the patients discharged following transplant, 25 were readmitted with 17 being readmitted once, 7 being readmitted twice, and one patient being readmitted four times. Reasons for the admission include 40% infection-related, 16% fluid/nutrition, 24% transplant specific, and 20% miscellaneous. Average number of days for readmission was 10 (range 1–46), with average time to readmission post transplant being 18 days (range 0–116).

**Conclusions:** These data 1) help identify populations with potential discharge problems and higher readmission risk, 2) identify specific variables surrounding discharge and readmission, and 3) identify post transplant outcomes amenable to nursing interventions, especially patterns related to infection, fluids, and nutrition. This information provides a basis for planning nursing strategies to improve the discharge process, prevention or early detection of complications, decrease readmission rates, and assist the patient with information to physically and psychologically cope with issues surrounding the transplant.

## 146

**NAVIGATING ONE'S WAY THROUGH THE COMPLEX MAZE OF PATIENT DISCHARGE: AN ALGORITHM TO FACILITATE DISCHARGE PLANNING.** Diana Wong, BSN, and MiKeala Olsen, MS, RN, OCN®, Johns Hopkins Hospital.

In the ever changing world of healthcare, oncology patients treated in acute care facilities require earlier discharge planning to ensure a smooth transition out of the acute inpatient environment to home or an extended care facility such as hospice, a nursing home, or a sub-acute environment. Patient discharges have become complex and time consuming. The nurse plays a vital role in recognizing and defining patient discharge needs. The nursing shortage has produced disproportionate staffing patterns with agency and novice nurses making up the majority on any given shift. These nurses are unfamiliar with how to navigate the discharge maze. The complexity of these discharges, coupled with staffing shortages, creates inconsistencies in the discharge planning process. Delayed discharges, lack of proper identification of services needed, frequent patient call backs resulting from incomplete patient education, and readmission due to inadequate discharge plans are all negative outcomes experienced by the patient and their family. To facilitate timely and satisfactory discharge outcomes, a discharge planning algorithm was developed.

This algorithm serves as a guide for the nurse. However, the algorithm is made available to all members of the multidisciplinary team as a reference. The nurse is considered the primary discharge planner and navigator. The algorithm prompts the nurse through a process that targets specific discharge responsibilities that must be addressed by different healthcare team members to ensure a comprehensive plan has been implemented. The algorithm starts by identifying the discharge destination and follows with prompts regarding transportation, discharge medications, patient education, and notification reminders. The goals of this project are to decrease the number of delayed discharges, improve the discharge experience for patients and their families, and to ensure satisfactory discharge outcomes for the institution.

## 147

**A MULTIDISCIPLINARY APPROACH TO DISCHARGING HEAD AND NECK CANCER PATIENTS FOLLOWING SURGERY.** Linda Schiech, RN, MSN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA.

Head and neck cancers comprise about 5% of all cancers diagnosed; but for those oncology nurses who work with this population, the complexity and decreased resources such as inadequate insurance, few financial reserves, and variable family support, pose major challenges. Surgical resection of the head and neck area with curative intent results in physical, psychosocial, and functional impairments that complicate postoperative care. Physically, patients may have tracheostomies for airway protection, feeding tubes, drains, and incisions that require care and a great deal of education and support for the patients and families. Psychosocially, patients may have body image concerns if the incisions are visible, along with postoperative edema, as well as past or present substance abuse (alcohol and tobacco) problems to overcome. Functionally, patients may have difficulty with speech and swallowing as well as neck, arm, and shoulder mobility concerns. At a National Cancer Institute-designated comprehensive cancer center, a multidisciplinary team approach has been used consisting of staff nurses (SN), a case manager (CM), a social worker (SW), speech and physical therapists, physicians, and a clinical nurse specialist (CNS) to assist in dealing with these concerns. The team meets once a week to discuss needs and disposition of the patient. The physician coordinates and plans the patient's surgical course including discharge, rehabilitation, and ongoing patient monitoring. The CNS initiates education of patients and families for care needed at home, collaborates with homecare nurses regarding care of patients at home, provides emotional support, and monitors the patient for prevention of side effects from substance abuse as needed. The SN continues the educational process by reinforcing prior teaching, initiating new teaching, and promoting the basic care and rehabilitation of the patient. The SW offers continued

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emotional support and is very effective in dealing with substance abuse problems by recommending alcohol rehabilitation. The CM arranges for nursing, rehabilitation, and speech therapy support as well as supplies and equipment for the patient's discharge. Rehabilitation staff is consulted as needed. This multidisciplinary team approach has been successful at improving quality of life, reducing complications, meeting educational needs, reducing length of stay, and rehabilitating patients.

## 148

**DISCHARGE OF THE BMT PATIENT—IT TAKES A TEAM.** Amy L. Meyers, RN, BSN, and Jan Siler, RN, BSN, OCN®, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Preparing blood and marrow transplant (BMT) patients for discharge can be challenging for the nurse, the patient, and the caregiver. Shorter hospital stays, increased patient acuity, increased patient-to-nurse ratios, and the escalating complexity of care can add to this challenge. The amount and extent of information that BMT patients need to know is substantial and it is essential to provide them a smooth transition to the outpatient environment. Our 52-bed inpatient unit devised a discharge class program to assist with this transition. The class was initiated last October in response to unsatisfactory patient satisfaction surveys and outcome tracking reports. We started with an allogeneic class once a week and with its success have now added an autologous class as well. A multidisciplinary approach is taken with representation from nursing (a staff nurse and an advanced practice nurse), pharmacy, physical therapy, dietary, social work, case management, and chaplaincy. Each discipline prepares and teaches their own material. Each one-to-two-hour class is designed to meet the educational needs of patients, and caregivers, who will be discharged within several days. Patients and their respective caregivers are able to meet other patients and caregivers and share valuable past experiences. After attending the class, patients and caregivers report feeling more prepared for discharge. The class has expedited the final teaching on the day of discharge and it has provided consistency in the content that is taught. Patient surveys have also shown improvement on satisfaction with the discharge process. Finally, the outpatient BMT teams also report patients are retaining information, are more knowledgeable, and more pro-active in their care.

## 149

**NURSING MANAGEMENT OF POSTOPERATIVE COMPLICATIONS IN LIVER RESECTION: BILOMA AND SUBPHRENIC ABSCESS.** Natasha Ramrup, RN, MSN, Nina Sohn Bachmann, RN, MSN, OCN®, Linda Muller, RN, MA, OCN®, and Jennifer Flood, RN, BSN, Memorial Sloan-Kettering Cancer Center, New York, NY.

Surgery for primary and secondary liver cancer offers the only potential cure for these aggressive malignancies. At this NCI-designated comprehensive cancer center approximately 250–300 liver resections are performed annually. Over the past 10 years the mortality rate at major cancer centers has decreased to less than 5% due to advances in surgical techniques, anesthesia administration, and enhanced perioperative care.

Liver resection can be associated with complications such as biloma (bile collection) and subphrenic abscess formation during the postoperative course. Abscess formation may occur due to accumulation of contaminated bile in the area adjacent to the hepatic resection margin.

Nursing knowledge of hepatic physiology and postoperative complications is essential to effectively manage, educate, and care for this patient population.

Nursing care in the immediate postoperative period must prioritize keen patient assessment, maintenance of hemodynamic balance, and early detection of potential complications. A biloma may resolve through placement of a drainage catheter, or may simply resolve without intervention. However, subphrenic abscess requires a drainage catheter and antibiotic treatment. A drainage catheter is placed under fluoroscopy by the interventional radiology team and often remains in place post discharge. The nurse provides the patient/caregiver with written materials and a video that explains the purpose and function of the catheter. Verbal and written materials are given and return demonstration of catheter care is incorporated in the teaching process. The nurse provides support, reassurance, feedback, and pertinent explanation regarding the drainage catheter with the goal of preventing complications at home. Astute nursing management post liver resection is essential to improve the outcome of liver surgery. This presentation will 1) provide an overview of biloma and abscess formation, 2) outline the nursing plan of care for identifying and managing biloma and subphrenic abscess post liver resection, and 3) describe effective patient/caregiver education plan for drainage catheter management.

## 150

**PROSTATE CANCER DISPARITY IN MINORITY PATIENTS: SURVEY, PLAN, AND ACTION.** Ira F. Combs, RN, BS, Nebraska Health System & Omahahealth Inc., Omaha, NE.

Research has documented ethnic and racial disparities in the area of prostate cancer. Omahahealth, Inc., an all volunteer health organization in our community, strives to examine such disparities, find ways to improve the health status of people of color, and thus decrease the disparities. As the population becomes increasingly diverse, it is critical that we learn more about disparities in cancer including why some ethnic minorities are less likely to seek treatment, more prone to cancer, and less likely to survive. Prostate cancer was selected as an area of focus. This included dissemination of information about prostate cancer in an effort to promote early detection and increase the likelihood of a positive outcome with early diagnosis. Activities included combining an informal survey with the distribution of educational materials on prostate cancer. Volunteers approached males in public areas of five community locations populated by people of color. The intent was to collect initial data regarding awareness of prostate cancer and information-seeking behaviors. Participants (N = 120) were 16–81 years old (mean 41.6). Only half (48.3%) of the participants indicated awareness of what prostate cancer was. Of those individuals two thirds (65.5%) could identify symptoms of prostate cancer. Only 14.1% had ever had a DRE. Of those who had not had a DRE, 62% stated they didn't get a prostate exam because of the cost, 20% because of the exam itself, and 18% didn't know they needed one. Common negative responses regarding the exam were the perceived discomfort and embarrassment. Of those that had a DRE, 94% did so based on physician recommendation. When asked who they would go to for information on prostate cancer, approximately half (51.6%) said a medical professional, one-third (31.6%) said family or friends, the remaining chose TV, computer, or reading information. With this information we decided on three actions: 1) Work with teaching hospitals to create free health fairs for prostate screening, 2) Work with minority churches to give out printed information and seminars on prostate cancer, and 3) Utilize a monthly minority health magazine format to put out the information.

## 151

**PROMOTING BREAST HEALTH IN RURAL SOUTHEASTERN INDIANA.** Adrienne Lane, EdD, RN, C, Madeleine Martin, RN, BSN, MSN, EdD, Judith Uhler, RN, BSN, MSN, Marie Linda Workman, RN, BSN, MSN, PhD, University of Cincinnati, Cincinnati, OH.

Breast cancer is the second leading cause of cancer death in the U.S. and over 192,000 women are estimated to be diagnosed with breast cancer in 2001. Although breast cancer screening procedures have been shown to decrease morbidity and mortality, rural and un/underinsured women are not receiving these services at the same rate as other U.S. women. Four nursing faculty were funded for a project designed to increase breast cancer screening practices and the knowledge of breast cancer risk factors for women in four medically underserved rural counties. The goal was to implement a program to: 1) establish linkages among nurses and community organizations, 2) increase access to mammography screening for community women, 3) increase number of women knowledgeable about breast cancer screening and cancer risk factors, and 4) increase resources available (personnel and material) to provide ongoing programs. Phase 1: A training program, focusing on breast health, was presented to nurses from each of four counties. Phase 2: Project and county nurses joined to provide an education and screening program for area women. This program involved making free mammograms available through a mobile mammography unit which was brought to each county. Mammograms and educational programs were provided to 141 women. Data presented will include prior breast cancer screening practices, reasons for attending the program, demographics, and other health screening programs desired by the women. The four goals of the program were met. Several advanced practice nursing roles were implemented in this program including collaborator, resource for clinical nurses, and resource in obtaining funding, as well as the practice functions of promotion of health and wellness and patient education. This project can serve as a model strategy in underserved populations. \*Funded through the Office of Women's Health, Indiana Department of Health and Indiana Commission for Women.

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**EARLY LUNG CANCER DETECTION UTILIZING LOW-DOSE HELICAL CT.** Bernadette McGovern, RN, ANP, MSN, Carol Ann Milazzo, RN, FNP, MSN, Robert Heelan, MD, Moshe Shike, MD, Helen Miller, CNSW, and Carol Satchel, BA, Memorial Sloan-Kettering Cancer Center, New York, NY.

This year more than 164,000 Americans will be diagnosed with lung cancer. The overall five-year survival rate for these individuals is 14%. Five-year survival for early stage lung cancer is 70%, however, only 20%–25% of individuals are diagnosed at this early stage. Past screening programs, which involved CXR or combination CXR/sputum cytology, did not demonstrate decreased mortality as a result of screening. This cancer prevention and wellness program at this NCI-designated cancer center has been utilizing low dose helical CT to detect early lung cancer in high risk individuals for the past year.

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All clients schedule a consultation with a nurse practitioner. The NP determines eligibility and appropriateness for screening, assesses cancer risk factors, and makes appropriate referrals to smoking cessation as necessary. A board certified radiologist interprets all low dose CTs that day and conveys findings to the NP. The NP reviews results with each patient and arranges all follow up. Patients with suspicious findings are referred to the pulmonary service for additional evaluation and work up. Those with low suspicion nodules are followed by the NPs and entered into a specific database and recalled for follow up studies as needed.

In an effort to further demonstrate the effectiveness of CT screening in the detection of early stage cancers, and ultimately decrease mortality associated with lung cancer, we are participating in a cooperative study. This effort is organized by a non-profit clinical research entity that consists of 11 area institutions. At this institution, the NP will be responsible for patient selection, obtaining informed consent, and following all patients enrolled in the study.

In the course of this presentation we will share our preliminary findings, review high-risk eligibility criteria, and our screening protocol. The NPs role as part of a multidisciplinary team in program development, data collection, and quality assurance will be discussed. The nursing experience of participating in multicenter research and a variety of ancillary research opportunities will be explored.

## 153

**CONCERNS ABOUT INSURANCE, PRIVACY/CONFIDENTIALITY, AND RECOMMENDATIONS REGARDING GENETIC TESTING FOR HEREDITARY BREAST CANCER IN WOMEN.** Deborah J. MacDonald, RN, MS, APNG(c), Jeanne Choi, MS, GC, Sarah McCaffrey, RN, MS, Jaelyn Yu, summer research student, Li Cheng, RN, MS, PhD, and Jeffrey Weitzel, MD, City of Hope Comprehensive Cancer Center, Duarte, CA.

Women presenting for genetic cancer risk assessment (GCRA) may have concerns about insurance discrimination, privacy, and confidentiality related to genetic testing (GT) for hereditary breast/ovarian cancer. These concerns may change following the GCRA process, and may differ between affected and unaffected women. In addition, the estimated probability of a woman carrying a BRCA1 or BRCA2 cancer-associated gene mutation may influence her decision regarding whether or not to undergo testing. We are measuring the impact of GCRA, through the City of Hope Cancer Screening & Prevention Program Network, on women's concerns, risk perception, and management choices. Questionnaires are mailed pre- and post-GCRA to women who had a personal (affected cohort) and/or family history of breast cancer (unaffected cohort). Women were asked to report on a four-point Likert scale (1 = least important; 4 = very important) their level of concern about insurance discrimination, privacy, confidentiality, and mutation probability in deciding whether or not to undergo GT. Here, we present preliminary data for women who did not undergo GT, who responded both to the baseline and the one-month post-GCRA survey. The mean age of the affected cohort ( $n = 12$ ) was 55 (range 42–67). The mean age of the unaffected cohort ( $n = 12$ ) was 46 (range 31–64). Overall, prior to GCRA 63% of responders ( $n = 24$ ) felt that insurance discrimination was an important reason for not getting tested. Following GCRA, only 33% of responders ( $n = 21$ ) felt the same, ( $p = 0.05$ ). When assessed for affected ( $n = 12$ ) versus unaffected status ( $n = 11$ ), this change was also significant for the unaffected women, ( $p < 0.05$ ). Overall, there were fewer concerns about privacy/confidentiality after GCRA for both cohorts, ( $p = 0.046$ ), although there was no significant difference between the two groups. Regarding mutation probability, 91% felt that clinician "recommendation" for GT was important in deciding to have testing pre-GCRA and 85% post-GCRA. Although the sample size is small, these preliminary findings suggest that the GCRA process addresses concerns women have regarding discrimination and confidentiality, and influences the decision to pursue GT. Nurses can assist women by providing current and accurate information about these concerns.

## 154

**CHALLENGING MEDICAL CENTER EMPLOYEES TO SELF SCREEN.** Jan Scott, RN, BSN, OCN®, and Lisa Hodges, RN, BSN, OCN®, Comprehensive Cancer Center of Wake Forest University Medical School, Winston-Salem, NC.

Colorectal cancer is the third most common cancer and accounts for approximately 56,000 cancer deaths in the United States each year. Studies have shown that prevention and early detection can reduce the number of deaths from colorectal cancer.

Through a grant provided by Colorectal Cancer Education Program ONS/ONS Foundation Center for Leadership Information and Research, two oncology nurses formed a multidisciplinary team consisting of nurses, dietitians, physicians, and physical therapists to plan and provide a colorectal cancer health fair for employees of the Wake Forest University Baptist Medical Center (WFUBM). The objective of the project was to provide information on prevention and screening along with a free fecal occult blood test (FOBT). The medical center employs over 10,000 individuals with very diverse financial, educational, and racial backgrounds. The project's information was made available to all

three working shifts in the medical center. The goal was to reach everyone from housekeeping to lab technicians to medical staff on the main medical center campus. This was accomplished by setting up the fair in a high-traffic area that captured employees as they entered or left the medical center. The project was posted on the medical center's intranet and newsletter as well as on flyers.

Over 600 employees participated in the health fair project. Of those, 217 responded to a follow up survey. The results showed that 69% perceived the information as being important to them, 77% reported that the information was presented in an easy-to-understand method, 62% used the FOBT screening tool. Of those using the tool, 100% reported it was easy to use. Nine employees reported positive results, five of those stated they followed up with their physician. At the time of the survey, 39% stated that they had not used the screening tool, commented that they plan to use it in the near future. 100% of participants stated that they would like to see that more programs like this offered to employees in the future.

The health fair was well received and could lead to future multidisciplinary collaborations that would be offered beyond the main campus.

## 155

**SUN DAYS CAN BE FUN AND LEARNING DAYS.** Barbara L. Lineham, RN, MSN, Thomas Jefferson University Hospital, Philadelphia, PA.

The oncology population and the community need to increase awareness related to prevention of skin damage and skin cancers. There are a variety of programs that can be implemented to not only increase awareness, but also to make learning fun. This may lead to increased focus on the issue and increase compliance with the teaching. Thomas Jefferson nurses decided to decorate the oncology unit to reflect the sun and summer. The nurses station was decorated in a tiki bar motif with tiki glasses and trays and grass skirting surrounding the area. The nursing tables were decorated with beach towels, sand buckets, and sun lotion. The unit hung sun balloons that had smile faces and sun glasses. Educational "suns" were placed on the walls by each patients room, giving sun protection tips. These tips were able to be read by all hospital staff coming to the unit, patients, and families. This increased our ability to educate a large group of people. The unit was decorated for a full month and educational information was distributed to all patients. Patients were also instructed upon discharge regarding sun protection. The unit staff participated in in-services to assure everyone was up to date and consistent in the information provided. On two of the "sun days" the staff wore bright clothes and hats. Sun lotions with differing SPF values were displayed.

Nurses also went to community schools and discussed skin and sun protection with elementary school students.

This program is productive and well received by the community and hospital. Skin cancer awareness is a growing concern. By educating our patients and the community, many people may be spared from skin cancer. "Sun days" encouraged staff and patient and community learning regarding this important issue.

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**INITIATING A COMPREHENSIVE COLORECTAL CANCER AWARENESS PROGRAM IN CENTRAL VIRGINIA.** Kathleen C. Bohorouh, RN, MSN, OCN®, David C. Cattell-Gordon, LCSW, Diane D. Cole, MPH, and Allison Vonn-Love, RN, BSN, OCN®, University of Virginia Health System, Charlottesville, VA.

Mortality rates for colorectal cancer (CRCA) in the United States have declined over the past decade but have held steady in Virginia. Sixty-one percent of cases in Virginia are stage III or IV at diagnosis. Promotion of early CRCA detection in Virginia is therefore critical, as it greatly enhances survival. State legislation in 1999, a Congressional proclamation in 2000, and the Virginia Cancer Plan 2000 mandated improved CRCA awareness, knowledge of early detection guidelines, and access to screening, referral, and timely follow-up. In November 2000 the ONS/ONS Foundation offered the program "Can We Talk?" to oncology nurses to promote dissemination of current information on CRCA. With these resources and mandates in place, a comprehensive CRCA awareness program was initiated in March 2001 at the University of Virginia Health System (UVAHS) as a collaborative effort between the Cancer Center and the Digestive Health Center, targeting the public and healthcare professionals (HCPs) in Central Virginia. The planning committee included advanced practice nurses, the cancer education coordinator, the webmaster, the directors of community affairs and marketing, and an American Cancer Society representative. Prior awareness programs, institutional goals for community outreach, and the Virginia Cancer Plan were reviewed. Funding was provided by the UVAHS and a grant from the Oncology Nursing Society. In this year's program public awareness was promoted through regional print and broadcast media, educational displays, a user-friendly website, and community lectures by physicians with expertise in cancer, genetics, and nutrition. Flexible sigmoidoscopy was offered free of charge to university employees. A nursing education program and journal club presentation, a letter to regional primary care physicians, and case presentations at regional interactive teleconferences promoted HCP awareness. Thirty-eight employees under-

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went screening; no cancers were detected, however five employees were referred for colonoscopy because of suspicious findings. Over 5,000 HCPs and 85,000 citizens were reached with awareness month activities. Future goals include more thorough evaluation of outcomes of our outreach efforts, programs for special populations, and addition of a segment on CRCA in our Cancer Risk Reduction course.

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**BREAST HEALTH AND CANCER SCREENING: A PROGRAM TO EDUCATE AND SCREEN GIRL SCOUTS AND FEMALE FAMILY MEMBERS AND FRIENDS.** Jenenne P. Nelson, PhD, CNS, RN, Barbara Joyce-Nagata, PhD, RN, and Chamber Jewell, PhD, RN, University of Colorado at Colorado Springs, Colorado Springs, CO; Anne Zobec, MS, AOCN<sup>®</sup>, NP, Cancer Center of Colorado Springs, Colorado Springs, CO; and Debi Krause-Reinsch, MA, Girl Scouts-Wagon Wheel Council, Colorado Springs, CO.

Education and screening continue to play a key role in altering breast cancer morbidity and mortality statistics since the disease remains incurable. This program was developed collaboratively with Beth-El College of Nursing of the University of Colorado at Colorado Springs, the Girl Scouts Wagon Wheel Council, and the Penrose Hospital System. The program provides information to Girl Scouts and their mothers about breast health and breast self-examinations. The theoretical framework used in this program focused on the interrelationship between knowledge, empowerment, and family and social relationships, integral components that support wellness. The program provided knowledge and hands-on breast self-examinations (BSE) practice. The sample was recruited by inviting Girl Scouts to attend the program with their mothers and adult females. Approximately 150 Girl Scouts and their mothers and friends attended the three-hour program.

Girl Scouts and the adult women practiced BSE techniques and a toured a mammography suite. The adult females were offered free clinical breast examination. Multiple evaluation methods were used in this program. First, participants were asked to evaluate the program upon completion.

Additionally, an 18-month follow-up survey is planned on the effectiveness of the educational offering as measured by adherence to American Cancer Society screening age appropriate guidelines. The program significance rests in the notion that education within a family/social network facilitates wellness if the individuals are empowered with knowledge. Teaching Girl Scouts breast health may influence breast cancer detection and screening techniques not only in the Girl Scouts but also their mothers and adult females. This model program may help educate young women about early breast cancer detection as well as offer adult women information about their breast cancer risks and techniques to identify potential breast problems.

This program was funded by the Colorado Springs Affiliate of the Susan G. Komen Foundation.

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**PSYCHOLOGICAL, BEHAVIORAL, AND PHYSICAL OUTCOMES FOLLOWING RESULTS OF BENIGN ENDOSCOPIC SCREENING FOR COLORECTAL CANCER.** Janet S. Carpenter, PhD, RN, Wei Zheng, MD, PhD, Reid Ness, MD, MPH, Walter Smalley, MD, MPH, William Grady, MD, PhD, and Kaye Washington, MD, Vanderbilt University, Nashville, TN.

**Topic/Problem:** Recent research suggests cancer screening may be associated with significant negative psychological, behavioral, and/or physical outcomes even when no malignancy is detected. However, research to date has not evaluated outcomes associated with completion of colonoscopy or sigmoidoscopy for colorectal cancer screening. Thus, knowledge that is crucial for subsequent design and implementation of interventions to alleviate adverse outcomes of endoscopic screening is lacking.

**Purposes:** Study purposes are to examine the feasibility of collecting data from patients who have recently completed colonoscopy and/or sigmoidoscopy as screening for colorectal cancer and identify acute psychological, physical, and behavioral outcomes of screening.

**Framework:** This study is based on work by Andrykowski which suggests patients who experience psychological distress following receipt of a benign cancer screening test result are less likely to adhere to follow-up screening recommendations.

**Methods:** Patients meeting inclusion criteria are contacted by telephone two weeks following completion of screening and asked for their willingness to complete a 30 minute telephone interview. Consenting patients are asked questions about demographics, cancer-related and general psychological distress (Lerman questionnaire, Centers for Epidemiologic Studies Depression scale, Profile of Mood States - Short Form, and Positive and Negative Affect Scale), the presence and severity of physical symptoms (Symptom Experience Report), and intentions to adhere to follow-up recommendations (investigator designed behavioral questionnaire). With the exception of the behavioral questionnaire, all measures have demonstrated reliability and validity.

**Data Analysis:** Demographic data will be analyzed using frequencies and descriptive statistics. Comparisons using t-tests, chi-square, and/or ANOVA will be used to evaluate differential responses between those receiving "normal and benign" results (e.g., no pathological findings) and those receiving an "abnormal but benign" result (e.g., benign pathology). We hypothesize that those receiving abnormal benign results will experience more psychological and physical distress and be less likely to report intentions to adhere to follow-up screening.

**Implications:** Results from this in-progress pilot study will demonstrate the feasibility of data collection and identify acute adverse psychological, physical, and behavioral outcomes associated with endoscopic screening.

Funded by the Vanderbilt-Ingram Comprehensive Cancer Center as one of four projects submitted as a package application.

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**A PILOT INTERVENTION STUDY TO INCREASE ADHERENCE WITH SKIN SELF-EXAMINATION (SSE) IN PATIENTS AT HIGH RISK FOR MELANOMA.** Deborah L. Phelan, RN, Susan Oliveria, ScD, Paul Christos, MPH, MS, Stephen Dusza, MPH, Jamie Ostroff, PhD, and Allan Halpern, MD, Memorial Sloan-Kettering Cancer Center, New York, NY.

Patients with multiple nevi are at greater risk for melanoma and must perform SSE on a monthly basis to detect changes. At this NCI-designated cancer center, the standard of practice has been to use a patient education brochure teaching high-risk patients mole mapping, a procedure of recording moles by drawing them. DermaGraphix, a computerized camera system, currently offers patients a new way of performing a monthly SSE.

**Purpose:** To determine if the addition of a photo book containing the patient's own set of images would increase patient's knowledge and compliance in SSE performance. Every patient was photographed during an initial one-hour photographic session.

**Method:** Projected sample size is 100 patients. All participants had baseline whole-body photography and agreed to random selection into one of two groups. Group A—nurse instruction with photo book, Group B—instruction with standard brochure. Nurse instruction included video, relaxation techniques, and instruction on how, when, and where to perform SSE.

**Tool/Instrument:** An experimental design was employed. A self-administered 47-item questionnaire was administered at three time points: baseline, post intervention, and a four-month follow-up. Questionnaires included demographics, SSE practices, skin cancer knowledge, and personal and family history of cancer.

**Data Analysis:** McNemars test for paired comparisons, z-test for proportions, and descriptive frequencies were utilized to characterize data. An increase in mean knowledge score resulted post delivery of both interventions compared with baseline scores. The median grade for both groups (86.3 versus 94.9,  $p = 0.001$ ) 86.3%, at baseline increased to 94.9% post intervention ( $p = 0.001$ ).

**Findings and Implications:** The goal was to demonstrate a significant difference in the level of compliance in performing SSE in those receiving a photo book as compared to those who did not. Group A demonstrated a higher percentage in knowledge and confidence. Benefits of the photo book in this population will be demonstrated. This new technology offers opportunities and rewards for the oncology nurse working in dermatology. Orem's Self-Care Model guided this research initiative focusing on her supportive-educative system. This presentation will present study results, questionnaires, photo book, and brochures describing benefits using this photo system increasing compliance with SSE.

## 160

**MEETING JCAHO STANDARDS IN THE OUTPATIENT SETTING.** Teresa Lotito, RN, OCN<sup>®</sup>, and Judith O'Donnell, RN, OCN<sup>®</sup>, St. Joseph Medical Center, Towson, MD.

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) is now recognizing the diverse needs of individuals with chronic diseases and that the care of such patients can cross multiple systems and involve numerous caregivers. Many of the new therapies for the treatment of cancer may continue for 12 months or more. This prolonged treatment phase and involvement of multiple caregivers can lead to repeated review by the patient of basic physical and psychosocial information that they feel should already be a part of their medical record. This practice can lead to fragmentation of services and confusion and frustration for the patient, family, and staff. In order to prepare for the JCAHO shift of focus to the outpatient setting and to improve patient satisfaction, we have developed a documentation tool that provides a systematic method to track patient progress through the cancer continuum of care and facilitate communication among providers. Components of the Plan of Care tool include a brief history, space for multiple treatment regimens, treatment goals, flowsheets for medications and lab work, educational needs, psychosocial and spiritual needs, referrals to supportive services, and notes for significant interventions (CT scans, biopsies, etc). The tool is designed to cover a six-month period depending on the frequency of patient visits. The conceptual framework for this project is information developed by the National Chronic Care

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Consortium, 1995; Integrating Care for People with Chronic Conditions. The consortium recommends that providers work together as a team to address the multidimensional, interdependent, and ongoing problems of people with serious and persistent chronic conditions. Consistent documentation on the Plan of Care tool has resulted in improved identification of specific needs and goals for each patient, development of a standardized method of response to each issue, and a method to track changes over time. In addition, the tool is used to guide weekly patient care rounds allowing staff to share information, facilitate important referrals to supportive services, and target discussion to areas of concern.

## 161

**ANNUAL SCREENING URINALYSIS FOR HEMATURIA IN GYNECOLOGICAL PATIENTS OVER AGE 40: EFFICIENT OR NOT?** Joanne Kilduff, RN, BS, Beth Ostrowski, BSN, RN, Carmen Rodriguez, BSN, RN, and Elizabeth Stier, MD, Memorial Sloan-Kettering Cancer Center, New York, NY.

Annual gynecological office visits commonly include routine urinalysis (u/a). We questioned the significance of this routine screening test and conducted a study at our NCI-designated comprehensive cancer center.

**Objective:** To assess the efficacy of performing annual screening u/a to detect microhematuria in the non-symptomatic gynecologic cancer patient or the high-risk-for-cancer patient.

**Design:** Women age 40 years and above presenting for annual gynecologic examination were screened by u/a prior to the pelvic exam. Patients identified with microhematuria were first assessed with a urine culture, and if negative, were referred to urology for an evaluation that included cystoscopy and/or radiographic studies such as CAT scans and renal ultrasounds.

**Results:** Seven hundred and twenty nine (N = 729) asymptomatic patients, mean age 59 (range 40–90), were screened by u/a. Fifty five patients (7.6%) tested positive for microhematuria. Of these patients, seven had positive urine cultures and were treated successfully with antibiotics; five patients were currently menstruating, and repeat u/a were negative, and seven patients were lost to follow-up. Thirty-six had negative urine cultures and were referred for urologic evaluation. Of these patients, four had repeat negative u/a and refused further workup. Seven were lost to follow-up, and one was currently on chemotherapy and deferred follow-up. Urology evaluation was completed on 24 patients. Of these, 16 had unremarkable findings. Four had radiation or Cytosan induced cystitis. Two had asymptomatic nephrolithiasis, one had a benign bladder polyp, and one had a persistent infection with accompanying hydronephrosis.

**Conclusion/Nursing Implications:** Microhematuria found on routine u/a at annual gynecological examinations in women over 40 years yields little clinically significant diagnoses. This data indicates this test is unnecessary in the asymptomatic patient. Furthermore, it adds to patient cost and anxiety when referral is suggested. Oncology nurses in this setting now screen all patients for urinary symptoms and identify when it is appropriate to collect urine specimens at routine exams. This data leading to a change in nursing practice is valuable for all oncology nurses and should be considered in other patient care settings as well.

## 162

**“SHOW ME THE EVIDENCE”: USING AN EVIDENCE-BASED PRACTICE MODEL TO DEVELOP AN ONCOLOGY ORAL CARE CLINICAL PRACTICE GUIDELINE (CPG).** Carrie Tompkins Stricker, MSN, CRNP, AOCN®, University of Pennsylvania Cancer Center, Philadelphia, PA; Jacqueline Sullivan, PhD, RN, University of Pennsylvania Health System, Philadelphia, PA; and Janice Foust, PhD, RN, University of New Hampshire School of Nursing, Durham, NH.

Integrating contemporary evidence into nursing practice is an ongoing challenge which our health system's Nursing Research Committee has begun to address by designing and promoting an “Evidence Based Practice (EBP) Framework.” The model's first two steps involve identifying a clinical problem and determining it as a priority for practice change. At our institution, the Products Committee's re-examination of oral care products prompted the review of nurses' oral care practices. Consultation with the Practice Committee revealed that no institutional guideline existed, and a subsequent staff survey identified that tradition, patient preference, and physician orders predominantly guided nurses' oral care practices, with the exception of existing standards in head and neck surgery and allogeneic bone marrow transplant. Therefore, the creation of a health system-wide Oral Care Clinical Practice Guideline (CPG) was identified as a priority. Oncology recommendations were prioritized due to a high incidence of oral alterations and product usage within the hematology/oncology division.

The next phase in the EBP framework involves gathering and evaluating evidence. Using the model's suggested resources, existing guidelines and literature related to oncology oral care were compiled and then evaluated for strength using model criteria such as evidence of peer review. Pertinent findings from over one hundred research and scholarly articles, one national consensus statement, and two published institutional

standards were synthesized and then revised with the guidance of a doctorally-prepared international nursing expert. General oncology recommendations were presented to the Products and Practice Committees, and have been integrated into product purchasing decisions and the Oral Care CPG for the health system.

We will next utilize the “Changing Practice” steps of the EBP framework to refine, implement, and evaluate a comprehensive clinical practice guideline specific to hematology/oncology. A nurse-coordinated focus group will ensure interdisciplinary revision and approval. Nursing staff will be educated about the new CPG. Through collaboration with the Nursing Research Committee, a quasi-experimental pre-test/post-test design will be used to measure statistically and clinically significant changes in nursing knowledge and patient outcomes related to the implementation of this evidence-based CPG. This project offers an excellent example of a systematic, nursing-led approach to evidence based oncology care.

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**PREVENTION OF VESICANT CHEMOTHERAPY EXTRAVASATION.** Lee Lay Hoon, RN, ONC, BHSc (Nursing), National University Hospital, Singapore, and Emily Ang, RN, INCC, ONC, BN, MN.

**Purpose:** Extravasation is defined as the infiltration or leakage of a vesicant chemotherapy into local tissues. It has been well documented that patients receiving vesicant chemotherapy are at high risk of extravasation. To minimize the occurrence of vesicant extravasation, a check list has been developed and all RNs were instructed to follow through the protocol.

**Design:** A descriptive, cross sectional design was used.

**Setting:** This study was conducted in the ambulatory chemotherapy cancer institute of a 900-bed university hospital. A total of 12,000 patients visit the center yearly for treatment.

**Methodology:** 1. A briefing on “prevention of vesicant chemotherapy extravasation” policies and criteria to be audited were conducted to all RNS. 2. A copy of quality indicator and audit standards were made available at the nurses' station for nurses to read and use as a reference. 3. A cross-audit was conducted within the unit. 4. A random sample of two to three audits per week, making a total of ten per month, was carried out. The protocol for “prevention of vesicant chemotherapy extravasation” for “at risk” patients and process for audit workflow was followed through for auditing. 5. Data was collated, analyzed, and reported by the unit based quality improvement representative at the end of the audit period through a summary report. 6. The results of the audit were communicated to nursing officers and staff. An action plan for identified deficiencies was initiated by the nursing officer. 7. A summary report together with quality indicator and audit tool were submitted to the nursing quality improvement committee chairperson, assistant director (oncology nursing), and quality improvement coordinator.

**Results:** The data will be collated and presented on the poster. A copy of the checklist, audit criteria, and summary report will be presented on the poster.

## 164

**PICC PROGRAM DEVELOPMENT: BEGIN WITHIN.** Josephine Visser, RN, BSN, OCN®, Lori Potter, RN, OCN®, Vicki Dugger, RN, OCN®, Linda Heckel, RN, OCN®, and Sheila Ferrall, RN, MS, AOCN®, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL.

Securing adequate patient vascular access is a challenge faced by many oncology nurses. Patients have poor vasculature for a variety of reasons, often compounded by their disease process and treatment. Peripherally inserted central catheters (PICCs) have grown in popularity over the past decade as one means to address vascular access in the oncology patient population. PICCs offer several advantages over other long-term central lines including lower costs and fewer complications associated with insertion. Additionally, PICCs can be inserted by specially educated nurses and placed at the bedside or in an outpatient setting.

The purpose of this project is to describe the development and implementation of a PICC program, initially without additional FTEs, at our 162-bed, NCI comprehensive cancer center.

The need for alternative methods of long-term vascular access prompted nursing leadership to investigate development and implementation of a PICC program. A consultant was hired to present an educational program to a group of nurses representing all areas of the hospital. From that group, two of the most experienced infusion nurses were identified to proceed through the credentialing process with the consultant. A team, which initially included a nursing director, clinical nurse specialist, and the two credentialed PICC nurses met regularly to develop policies, select inventory, create order and charge pathways, and implement a competency program. Perhaps their biggest challenge was determining how to schedule PICC placements throughout the week that would not interfere with the PICC nurses' primary roles in the outpatient infusion center.

Since its inception, the PICC program has grown to four credentialed PICC nurses. Services are offered five days a week to both inpatients and outpatients. The PICC nurses

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continue their primary roles in the infusion center and integrate PICC placements into the work day. However, a 0.5 dedicated FTE has recently been approved for the program. Future challenges include focusing on our quality improvement program and enhanced marketing of the service.

Implementation of a PICC program such as this does not necessarily require immediate addition of staff. In today's healthcare economy, a conservative approach offering a limited service initially, may yield the most favorable results.

## 165

**DEVELOPMENT OF A MULTIDISCIPLINARY CLINIC FOR PATIENTS AFTER ALLOGENEIC BLOOD AND MARROW TRANSPLANTATION.** Joyce Neumann, RN, MS, AOCN®, and Daniel Couriel, MD, University of Texas M.D. Anderson Cancer Center, Houston, TX.

The incidence of graft versus host disease (GVHD) in the post allogeneic (allo) blood and marrow transplantation (BMT) patients can approach 70% depending on the degree of disparity. While the incidence of chronic GVHD is less when compared to acute GVHD, the complications can be equally as serious and potentially life threatening. Patient quality of life is often profoundly impaired and there may be a wide variation in management practices. At our comprehensive cancer center over 600 transplantations were performed last year and approximately 60% were allo or matched unrelated donor for patients with a variety of malignancies. We have approximately 13 BMT physicians and 20 midlevel providers (APNs, PA, and PharmDs). The patient care in the pre-BMT and post-BMT first 100 days has been standardized. After the first three months, follow-up varies and data collection and patient outcomes were not consistently analyzed. In trying to explore new treatment options for GVHD patients were frequently missed or not included in potentially beneficial studies.

After identification of interested healthcare practitioners from other disciplines, the group met and developed guidelines for the clinic. Representation was obtained from medicine, nursing, pharmacy, physical therapy, social work, and psychiatry. By having a designated contact person in other departments, referrals were made in a much more timely manner. The clinic initially received referral from the BMT physician group, but soon obtained them from research nurses, APNs, and even other patients. An extensive GVHD assessment was developed and performed that included a quality-of-life assessment using the FACT-BMT and the MDASI (M.D. Anderson Assessment of Symptom Inventory). This poster will include data concerning incidence, severity and type of GVHD (limited or extensive), symptom management, and quality-of-life information. A pathway for the treatment of chronic GVHD has been developed as a tool to decrease variation in practice at the cancer center and to educate the community healthcare practitioner concerning the care requirements for these frequently complex patients.

## 166

**EMPOWERING YOUR COLLEAGUES: MANAGEMENT OF NEUTROPENIA MODEL (MONM).** Janet M. Greco, RN, BSN, MA, OCN®, and Catherine Waters, RN, BSN, OCN®, White Plains Hospital Center, White Plains, NY.

Neutropenia in oncology patients receiving myelosuppressive chemotherapy can lead to life-threatening infection. It has been estimated that more than 60% of patients with neutropenia will become infected, and in cancer patients with fever, 80% have that fever because of infection. Oncology nurses can empower their colleagues with a management of neutropenia model (MONM) to help minimize this side effect of chemotherapy to improve patient outcomes.

At White Plains Hospital Center, a community based hospital in New York, a senior oncology staff nurse led an interdisciplinary febrile neutropenic clinical pathway team consisting of oncology nurses, nursing administration, a nutritionist, infectious disease physicians, and medical oncologists. After completing a retrospective chart review of admissions with neutropenic fever and a review of the literature, this committee developed a MONM that consisted of a febrile neutropenic clinical pathway, standardized orders, a patient/family education teaching tool, and an oncology nursing peer education program (ON-PEP).

Utilizing Amgen's "Neutropenia A to Z" program as a foundation, this committee developed and delivered a one-day ON-PEP to all nursing staff at this hospital and their local affiliates. The overall purpose of this program was to educate nurses on the importance of preventing a neutropenic infection, early identification of patients at risk, and effectively communicating their findings with their physician colleagues. In addition, the ON-PEP provided the theoretical framework for the staff to effectively implement the MONM.

This process has provided nurses with the assessment and communication skills to proactively manage their oncology patients who are at high risk for neutropenia.

This poster presentation will present and describe this program, the febrile neutropenic clinical pathway, the standardized physicians orders, and the patient/family education teaching tools developed.

## 167

**CANCER TREATMENT AND SEXUALITY: THE UN(AD)DRESSED SUBJECT.** Sacha Simmons, BSN, RN, and Aiko Kodiara, RN, MS, OCN®, Johns Hopkins Hospital, Baltimore, MD.

Sexual expression in cancer patients can lead to mental and physical well being and improved quality of life. Aggressive chemotherapy for patients with hematological malignancies can have a profound impact on their sexuality. Despite this, the healthcare team rarely discusses the impact of cancer and its treatment on patient sexual well being. Nurses at our NCI-designated comprehensive cancer center recognized that this lack of knowledge limited patient abilities to make informed and safe decisions about their sexual activities. However, they expressed concerns about their own lack of knowledge and confidence in the area of sexuality. Because patients are often overwhelmed with a life-threatening diagnosis, nurses may not perceive sexuality as a priority. Without a guideline, patients may receive inadequate information from healthcare providers. The use of a standard guideline increases nurse confidence and improves quality and consistency of teaching patients about the effects of treatment on their sexuality. This is a three-phased program: Investigation, intervention, and re-assessment. In the investigation phase, questionnaires completed by patients and nurses assess current practices regarding patient teaching about sexuality. This information will assist nurses in developing standard teaching guidelines. The intervention phase consists of three staff education sessions. The first session teaches how to initiate a discussion about sexuality and perform a sexuality assessment. The second session teaches nurses to identify specific treatment that may directly or indirectly affect patient sexuality. The third session focuses on safety and modifications of sexual activities that are necessary to prevent complications such as infection or bleeding. In order to maintain consistency in teaching sexuality, these guidelines will be shared with other members of the healthcare team. The re-assessment phase will be conducted one month after the completion of the teaching sessions. The questionnaire, again completed by patients and nurses, will be used to evaluate the effectiveness of intervention. The development, implementation, and evaluation of this program will be presented including the questionnaire and content of the teaching session.

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**CLINICAL GUIDELINES FOR USE OF ERYTHROPOIETIN IN CANCER PATIENTS: A NURSING PERSPECTIVE ON BARRIERS AND BENEFITS.** Susan D. Ross, MD, FRCPC, MetaWorks Inc., Medford, MA; Eva Gallagher, RN, Minneapolis VA Medical Center, Minneapolis, MN; Denise K. Oseguera, RN, MSN, FNP, CS, University of California, Los Angeles, Los Angeles, CA; Edie Romvari, RN, MSN, CS, FNP, Washington University Medical Center, St. Louis, MO; Kendell Brinkmann, RN, C, OCN®, Intermountain Hematology-Oncology Associates, Salt Lake City, UT; and Diana Frame, MEM, MetaWorks Inc., Medford, MA.

**Objective:** Our objective is to promote nursing implementation of a guideline for anemia treatment in cancer patients. Outpatient oncology practice is heavily dependent upon nurses as both patient advocates and front-line care providers. Success of guidelines in this setting depends on identifying and addressing issues unique to nurses.

**Method:** A panel of four oncology nurses from disparate practice settings convened to review an evidence-based guideline for the treatment of chemotherapy-related anemia. The guideline focused on the use of erythropoietin (EPO), was developed by a multidisciplinary panel, and was based on a systematic review of the literature through August 2000. Aspects of guideline implementation of concern to oncology nurses were discussed.

**Results:** The panel listed barriers to and benefits of implementation of the guideline in oncology nursing settings. The barriers were: 1) variable reimbursement rules, especially regarding location of anemia treatment administration (office versus hospital), and excessive time required by nurses to pre-certify payment for EPO; 2) patient inconvenience and drain on productivity to adhere to guideline regarding frequency of injections; 3) variable physician attitudes toward recognizing and treating symptoms of anemia, and toward "soft" measures of efficacy such as cognitive function and quality of life; 4) institutional failure to assess all costs associated with anemia; and 5) regional differences in practice patterns and infrastructure.

The benefits were: 1) improved patient care—reduction in error, variation, and inappropriate care with enhanced continuity of care; 2) support of CQI activities; 3) medicolegal protection; 4) control of transfusion-associated costs (direct and indirect); 5) support of patient advocacy efforts; 6) improved work flow; 7) educational value regarding anemia and proper EPO dosing; 8) improved adherence to chemotherapy schedules; 9) identification of evidence gaps susceptible to new research; and 10) improved assessment of etiology of anemia.

**Conclusion:** The successful implementation of guidelines for anemia treatment will depend on reinforcing the many ways the guideline can benefit both patients and nurses and recognizing and removing the barriers. The knowledgeable support of nurses, in addition to scientific advances such as the development of a new generation of erythropoiesis stimulating proteins to overcome dosing inconvenience barriers, may facilitate guideline acceptance.



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**USING EVIDENCE TO IMPLEMENT A COLLABORATIVE NEUTROPENIA MANAGEMENT PROTOCOL FOR IMPROVING CHEMOTHERAPY DELIVERY.** Jennifer L. Michelson, RN, BSN, University of Rochester, Highland Division, Rochester, NY; Kathleen Shedlock, MS, MPA, RNNP, AOCN®, CS, Amgen, Inc., Thousand Oaks, CA; Suzanne Bergen, RN, Elizabeth Doherty, RN, MS, ANP, Constance Emens, RN, and Mary Kay Parrone, RN, OCN®, University of Rochester, Highland Hospital Division, Rochester, NY.

Achieving a threshold relative dose intensity of greater or equal to 75% for adriamycin, contributes to disease free survival and overall survival in non-Hodgkin's lymphoma (NHL) (Kwak, 1990). In adjuvant breast cancer, delivery of greater or equal to 85% of total planned dose may improve overall survival (Bonnadonna, 1995; National Institutes of Health, Adjuvant Breast Cancer Consensus Conference, 2000).

At a community oncology clinic, baseline chemotherapy dosing and febrile (FN) data were collected through a physician practice pattern data collection. Patients treated for adjuvant breast cancer and intermediate and high grade lymphoma were evaluated. Data demonstrated a FN rate of 0%. Sixty percent of the adjuvant breast cancer patients sampled received greater than 85% dose intensity and 66.6% of the NHL patients achieved greater than 80% planned dose intensity. Analysis of data and review of patient scenarios indicated that low FN rates were due to dose delays for neutropenia. A literature review was conducted to identify optimal neutropenia management. Models identifying patients at risk for the development of febrile neutropenia were found (Intragumchornchai, 2000; Weiner, 2000; Silber, 1998; Thomas, 2001). Age was found to be a risk factor (Dees, 2000; Morrison, 2000). Risk models, age considerations, and appropriate G-CSF support were collaboratively incorporated into a FN management protocol. The protocol recognizes the nurse role in assessment and emphasizes communication between physicians and the nurses administering the chemotherapy. A worksheet was developed to assist nurses in implementing the protocol. Educational programs related to dose intensity, continuous quality improvement, and neutropenia were provided to staff. Over time, the new policy is being implemented. The recent addition of a nurse practitioner will foster collaborative practice and consistent implementation of the protocol. Increased awareness of dose intensity, neutropenia, and clinical outcomes have been verbalized by clinicians. Repeat data collections are planned for fall of 2001 to evaluate progress in improving dose intensity in this practice setting.

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**PROVIDING EVIDENCE-BASED PRACTICE GUIDELINES AND ORDER SETS TO IMPROVE CARE OF HOSPITALIZED PATIENTS NEWLY DIAGNOSED WITH LEUKEMIA.** Carol White, RN, MSN, AOCN®, APN, Mary Fox-Geiman, PharmD, BCOP, Kathleen Kotula, RN, BSN, Sylvia Williams, RN, BSN, Rita Vercrucy, RN, MPH, OCN®, and John Godwin, MD, Loyola University Medical Center, Maywood, IL.

Although acute leukemias account for less than 4% of all cancers, newly diagnosed patients are hospitalized for initial treatment (induction) as well as episodes of neutropenic fever. The stay may be as brief as a few days or as extensive as four to six weeks. As a medical center involved in education of medical students, interns, residents, and fellows, it is important to assist in this training while assuring consistent quality care to all patients. Since each month a new group of physicians rotate through the hematology service, a committee was formed to standardize the care. The committee convened over six years ago and began the process of developing standardized admission and chemotherapy order sets and clinical practice guidelines. Over time, these orders and guidelines were adjusted to reflect changes in clinical practice. In the last year, our Center for Clinical Effectiveness (CCE) reviewed each service line's diagnosis related groups (DRGs) in an effort to reduce variation in clinical practice and to improve care of patients. Within the cancer service line, a multidisciplinary committee was formed to reduce variation in clinical practice to improve care of patients newly diagnosed with leukemia (DRG 473). Areas to change and improve were evaluated through evidence based clinical practices. Use of antibiotics, anthracyclines, tests (labs and MUGA scans), growth factors, and discharge criteria were evaluated and changed via order sets and guidelines already in place. A "patient and family friendly" clinical pathway was created to give an overview of what occurs during the hospitalization. The revised admission orders and leukemic guidelines were placed on the electronic medical record (EMR). Compliance with practice changes is monitored monthly by the utilization review (UR) nurse, inpatient chemotherapy pharmacist, and advanced practice nurse. Quarterly reports sent to CCE have reflected an increase in compliance and will be included in the poster presentation. The project has brought together financial, administrative, medical, nursing, and pharmacy representatives who have learned from one another. Focus on improving care of the patient while cognizant of the cost issues involved in today's healthcare environment resulted in reduction in resource utilization with improved quality of care.

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**NURSE DRIVEN NEUTROPENIA MANAGEMENT GUIDELINES: IMPROVING PATIENT OUTCOMES THROUGH EVIDENCE-BASED PRACTICE.** Cathy Maxwell, RN, OCN®, CCRC, and Lisa Winkler, RN, OCN®, Oncology Hematology Group of South Florida, Miami, FL; and Mary Lottenberg, RN, BSN, OCN®, Amgen, Inc., Thousand Oaks, CA.

In early 1998 our community oncology practice participated in a large physician practice pattern data collection. This retrospective chart review collected data on breast cancer patients receiving adjuvant chemotherapy. According to a study by Bonadonna (NEJM, 1995), breast cancer patients receiving less than 85% of their planned total chemotherapy dose had a lower percentage of relapse-free and overall survival. We used 85% as a dose intensity benchmark to determine how well our 10 physician practice was at delivering chemotherapy as planned. Our data showed that 38% of the patients studied experienced dose reductions and 42% experienced dose delays. Overall, 24% of the patients received less than 85% of their planned dose intensity and 3% were hospitalized due to a febrile neutropenic event. It was evident that many of the dose reductions and delays were due to neutropenia and that each physician's results varied depending on how neutropenia was managed. The physicians and key nurses in the practice met to discuss ways to improve the quality of care being delivered to breast cancer patients. A team of nurses and physicians developed guidelines for neutropenia management that included intervention with Filgrastim treatment for breast cancer patients identified as being at risk for dose reductions and dose delays due to neutropenia. The guidelines were implemented in October 1998. In September of 2000 we again conducted a chart review of our breast cancer patients. The results were improved. Twenty percent of the patients experienced dose reductions and 35% experienced dose delays. Only 5% of the patients received less than 85% of their planned dose intensity and there were no patients hospitalized for febrile neutropenia. The patients of all 10 physicians were now being treated in a consistent manner. The key to the success of our guidelines is the nursing staff's responsibility and autonomy in managing patients who become neutropenic. Utilizing guidelines for neutropenia management saves the nursing staff considerable time and has improved the overall flow of patient care for the practice.

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**A LEUKEMIA CARE PATHWAY AND PATIENT RECOVERY.** Lilibeth S. Williamson, RN, BSN, Marina Aing, RN, Marlene Gonzales, RN, BSN, Mihaela Fetea, RN, and Gail Jens, RN, MSN, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Leukemia is one of the cancers for which we have few effective treatments leading to a cure. Currently we are seeing an explosion in phase I and II studies because of efforts to get potentially effective treatments to patients faster. The drugs in these trials are sometimes very toxic requiring constant monitoring and support. The most significant complication in this patient population is infection. At MDACC, we instruct the patients in the self-care that maximizes function, but as blood counts reach nadir, compliance diminishes.

We believed that if the patient completed the prescribed care behaviors and assumed responsibility for checking off the care as it was done, we would have a higher rate of compliance resulting in fewer infections and decreased re-admissions. Several staff nurses volunteered to work with the CNS to improve patient compliance and outcomes. The outcome measures were length of stay (LOS), visits to the emergency center (EC) within three days of discharge, and the presence of fungal pneumonia.

A "Leukemia Pathway to Recovery" booklet was developed. It incorporated oral care, prevention of pulmonary infection, diet, pain management, safety, and the patient goals. Three supplementary forms were also given to the patient on admission: "The Patient's Daily Worksheet," "Your Blood Counts," and "Discharge Care." After the patient completed their care activities, they filled out the daily work sheet; it was collected and replaced everyday. "Your Blood Counts" and "Discharge Care" provided the patient with the information about when to call the nurse and what could be expected when they go home.

Preliminary data from one unit (N = 28) show LOS decreased from 9.19 to 7.48. Return visits to the EC decreased by 50% on the participating unit, and remained the same on the non-participating unit (N = 58). Information on occurrence of fungal infections is not available at this time.

Mouth care, breathing treatments, and maintenance of mobility are important care issues for the patient receiving phase I and II therapies. Increased patient involvement in daily care will improve patient outcomes.

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**YOGA AS A CLINICAL INTERVENTION FOR ONCOLOGY PATIENTS IN AN AMBULATORY SETTING.** Mary Jane Ott, MN, MA, RNCS, and Claire Willis, MS, LISCW, Dana-Farber Cancer Institute, Boston, MA.

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**Background:** People living with cancer have specific and unique self-care needs as a result of diagnostic and treatment procedures including surgery, chemotherapy, and radiation. Studies have shown that pain, fatigue, insomnia, and depression are among the common symptoms experienced by oncology patients. Yoga is an ancient practice of breathing, gentle movement, meditation, chanting, and relaxation that supports health and healing. Studies have demonstrated its efficacy as an adjunct treatment in hypertension, cardiovascular disease, asthma, anxiety, depression, and other illnesses.

**Intervention:** A series of one hour introductory yoga classes were developed and offered to patients in a large academic cancer treatment ambulatory setting. Patients were invited to attend a series of six classes or to attend individual classes, as they were able to do so. The classes were designed to teach and promote breath awareness, abdominal breathing, gentle physical movement, flexibility, meditation, and deep relaxation. An advanced practice nurse and a social worker, each of whom are certified yoga instructors, taught the classes.

**Evaluation:** Self-report evaluations at the end of each of the classes indicated that the participants found the classes to be most helpful. They also reported feeling more calm and relaxed and were pleased to find that they were able to move their bodies more fully. Over time, participants described feeling more comfortable with their bodies and less stressed in general. They reported being able to use breathing and gentle movement outside of class to promote health and well being. Additionally, they reported sleeping better and having an increased sense of well being.

**Discussion:** People living with cancer have unique self-care needs during initial diagnostic work ups and required treatments. As oncology nurses we are consistently faced with the challenge of finding safe, innovative ways to support people through stressful therapies and to promote healing on all levels. Yoga is an appropriate clinical intervention for some oncology patients that can result in a decrease in symptom burden and an improved quality of life.

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**A SKIN CARE PROTOCOL FOR THE ADULT BONE MARROW/PERIPHERAL STEM CELL TRANSPLANT (BM/PSCT) PATIENT.** Linda Abbott, RN, MSN, AOCN®, CWOCN, Rhonda Roeder, RN, BSN, and Jeanette Wigim, RN, BSN, MSN, University of Iowa Hospitals and Clinics, Iowa City, IA.

The skin is the body's largest organ and serves several important protective functions including being a barrier to toxins, chemicals, mechanical and aqueous assaults, and for sensations such as touch, temperature, and pressure.

The mild acidity of the skin is an effective antimicrobial barrier. Sebum also has been identified to have natural fungicidal and bactericidal properties. Maintaining this natural defensive mechanism against bacterial invasion is important. If the integrity of the skin is broken, it creates not only a portal for the entry of infectious organisms but also loss of fluids and electrolytes. Most soaps are alkaline with a pH of as high as 10–12 which can destroy sebum.

Drying of the skin can also interfere with skin integrity. In order to decrease transepidermal water loss, which can result in dryness and flaking of the skin, baths should be followed by an emollient to wet skin.

People undergoing a BM/PSCT are at risk for skin breakdown and subsequent infection as a result of GVHD, treatment related skin changes, pressure, irritation, or infectious complications. It is imperative to maintain skin integrity to afford the best protection from infection for this high risk population.

Traditional skin cleaning in the BM/PSCT patient has included showering and washing hands with antimicrobial (chlorhexidine) soap used to eliminate the normal flora of the skin and thereby reduce the risk of infectious organisms on the skin. Chlorhexidine, though bacteriocidal, also washes away the sebum and the acid mantle is disrupted. Chlorhexidine is also drying and can result in flaking, cracking, and peeling of the skin. With the advent of bag baths, some immunocompromised patients are currently bathed with a cleanser other than chlorhexidine with no increase in infection rates or skin related complications. The purpose of this project is to look at the incidence of skin drying, flaking, cracking, and infection when comparing traditional skin cleansing practice to the use of a pH balanced, non-antimicrobial skin cleanser such as Dove soap or Cetaphil. The hypotheses is that there will be no increase in infection rates with the use of a non-antibacterial cleanser and that there will be a decrease in dryness, flaking, and cracking of the skin. This is a work in progress.

## 175

**MAKING EACH MOMENT COUNT: DEVELOPING A DIVERSIONAL THERAPIES PROGRAM FOR PATIENTS WITH HEMATOLOGIC MALIGNANCIES.** Kristen Haley, RN, BSN, Jennifer Hunt, BSN, RN, Sacha Simmons, BSN, RN, and Anita Reedy, MSN, RN, Johns Hopkins Hospital, Baltimore, MD.

Patients with hematological malignancies receive intensive chemotherapy and are frequently hospitalized for extended periods of time. Side effects of therapy include nausea, vomiting, pain, and fatigue. Patients are often fearful and depressed. Depression is partially

due to feeling isolated, helpless, out of control, or unable to improve an adverse situation (Hirsh, S. & Meckes, D., 2000). Boredom, a less recognized problem, may have the same causes as depression. Severely immunocompromised patients are placed in private rooms with the doors closed. This isolates them, limits their activities, and decreases their opportunity to interact with other patients. Carpenito (1982) defines diversional activity deficit as "the state in which the individual experiences, or is at risk for experiencing, an environment that is devoid of stimulation or interest." Nurses recognized that boredom was a problem and believed a lack of diversion was a contributing factor. A Diversional Therapies Committee was formed to create a volunteer program and develop appropriate diversional activities. The committee solicited donations of books, cassettes, CDs, games, and VCRs for each patient room and, with others, generated unique activities such as walking and golf putting competitions. They met with rehabilitation staff to expand their role in these therapies. Social workers, occupational therapists, and nurses initiated a discussion/support group for patients. This enabled patients to share experiences and learn coping techniques such as relaxation and meditation and other activities based on patients' expressed interests. Barriers faced in implementing this program included a lack of financial support, inadequate space, and inconsistent volunteers. A future goal is to evaluate the effects of diversional therapies on patient depression, nausea, pain, and fatigue. We are confident that this will justify additional support for this program including funding an activity coordinator, designated space, and additional materials.

We are improving our volunteer screening process for time commitment and emphasizing their importance in the diversional therapies program. Our experience has demonstrated the importance of these activities to the overall care of our patients. There is a great deal of enthusiasm among the staff, patients, and other disciplines. We believe other oncology nurses can learn from our experiences in establishing a diversional therapies program.

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**PREDICTORS OF WEIGHT GAIN IN PREMENOPAUSAL WOMEN WITH EARLY-STAGE BREAST CANCER.** Carolyn Ingram, DNSc, RN, CON(C), McMaster University, Hamilton, Ontario, Canada.

Weight gain is common in early breast cancer, and has been linked to risk of early recurrence, later chronic diseases, and impaired adjustment. The author hypothesized that newer, adjuvant chemotherapies had changed this problem over time. Furthermore, premenopausal women have historically gained the most weight, but have been under-represented in past research. Brown's Conceptual Framework for Cancer-Related Weight Change provided the direction for this study. It supports the belief that weight change ultimately results from changes in energy balance and that these must be understood before interventions are planned.

The purposes of this correlational, longitudinal study were to examine the rate and magnitude of breast cancer-associated weight change, to detect changes in body composition and selected energy balance factors, and to determine the relationship between these energy balance factors and weight change. An inception cohort of 91 premenopausal, stage I and II women with breast cancer was assembled. Baseline measures were collected before adjuvant chemotherapy began, and subsequent data were collected at the start of every other treatment cycle. Predictor variables included dietary intake (Block 98 Food Questionnaire), physical activity (Stanford Five Cities Project Questionnaire), resting energy expenditure (derived from bioimpedance analyses), menopausal symptoms (adapted version of Cooper & Baird's Menstrual Status Questionnaire, Cronbach's alpha = .70), and nicotine intake (self-reported smoking rates). Weights and heights were obtained using standardized techniques.

Results indicated that weight gain during adjuvant chemotherapy is not the problem it once was. Of the sample, 55% maintained stable weights while 34% gained and 11% lost weight. Subject mean weight gain was 1.4 kg. Weight gainers and losers gained or lost three to four times as much fat as lean body mass. Physical activity and dietary intake decreased for both weight gainers and losers. The independent variables predicted 31% of the variance in weight. Future studies should examine relationships between treatment-related weight change, diet history, and post-treatment weight change. Subgroups at risk also require further study. These findings identified associations between breast cancer-associated weight change and changes in energy balance. They lay the ground work for identifying patients at risk and designing interventions that are targeted to risk profiles.

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**IMPROVING PAIN MANAGEMENT FOR PATIENTS ON PATIENT-CONTROLLED ANALGESIA (PCA).** Elizabeth Fogarty, RN, Annette Bisanz, RN, MPH, BSN, Mariamma Babu, RN, Nida Dizon, RN, BSN, Tracey Lewis, RN, and Dianne Stephens, RN, MSN, BSN, University of Texas M.D. Anderson Cancer Center, Houston, TX.

While reviewing information on patient satisfaction and outcomes in our inpatient gastrointestinal surgery unit, we found that only 75% of our patients were satisfied with their PCA pain control. We decided to improve our patient pain management by

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decreasing idleness and pulmonary complications and improve mobility and inhalation. We applied the M.D. Anderson quality-improvement process called Plan, Do, Check, Act. The first step was gathering the right people. We traced the steps of the patient through the gastrointestinal clinic, pre-op clinic, post anesthesia care unit, surgical intensive care unit, and gastrointestinal intestinal in-patient unit and added representatives from each of those areas to our team. We also added an anesthesiologist, nursing instructor, patient educator, and quality-improvement representative for advice and guidance. The team then held a brainstorming session, developed a cause-and-effect fishbone diagram, and determined that the problem was caused by patient and staff education deficits. Our goals were to provide consistent education about PCA of patients in all areas of the institution, identify the key elements of patient PCA education, and create interventions to correct the problem. Thirty patients were surveyed for deficits in baseline knowledge. We developed a PCA Guideline Sheet (also known as A.I.R.S.—assessment, intervention, reassessment, and side effects) and on-line educational materials compatible with the guidelines. We incorporated the PCA guidelines into our nursing pain—assessment and management standards and formulated and launched a lesson plan for educating staff. Then, using the two-step back process (looking two cycles backwards in the process) we determined that education of patients on PCA pumps needed to start in the clinic. After patient education materials were used and the staff was educated, we resurveyed the patients for improvement. Patient satisfaction with pain control increased from 75% to 90%. Because of the high success rate, we chose to incorporate these methods and guidelines into nursing practice within our entire institution.

While the outcome and procedures would prove to be helpful to any patient care institution, the process of plan, do, check, act could be used to custom fit any institution's particular needs.

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**EFFECT OF NUTRITIONAL INTERVENTION AFTER HOSPITAL STAY FOLLOWING ALLOGENEIC STEM CELL TRANSPLANT.** Ofelia Quesada, RN, MSN, CNSN, OCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Between April 1996 and April 1997 at this NCI-funded cancer center, a retrospective review of 20 allogeneic stem cell transplant patients without documented GI pathology revealed they had a significant weight loss after discharge from the hospital. A multidisciplinary team consisting of clinical nutrition nurse clinicians, bone marrow transplant nurse clinicians, registered dietitians, pharmacist, the director of the clinical nutrition team, and a bone marrow transplant attending physician was organized to determine if early nutritional intervention would improve quality of life and morbidity. Studies have shown that unintentional weight loss >10% is an independent factor for morbidity and survival after peripheral blood stem cell transplant. Between March 2000 and March 2001, a cohort of 22 patients without documented GI pathology were enrolled in the study. Age ranged from 22–55 years (mean 37.64 years). Twenty of 22 patients received chemotherapy and total body irradiation and two received chemotherapy alone. All were given nutritional counseling consisting of 24-hour calorie counts, dietary recommendations such as high calorie dietary supplements, and counseling by a pharmacist to evaluate drug-nutrient interaction prior to discharge and at one, three, and six-month clinic visits. Feeding tube placement was recommended for those who sustained greater than 5% weight loss. Sixteen patients completed this intervention. Six patients died before this review was completed. Of the survivors, 10 had sustained weight loss at one and three months, and six patients maintained their weight throughout the intervention period. At six months, 62.5% of the patients, including four of the patients who initially lost weight, regained and/or maintained weight. This review revealed that although the majority of patients (62.5%) were able to maintain or regain weight by six months with close counseling and early intervention, more research is needed to evaluate which nutritional support measures will decrease or prevent the incidence of weight loss and improve recovery after transplantation.

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**PAIN MANAGEMENT STRATEGIES FOR ACHIEVING QUALITY PATIENT OUTCOMES AND JCAHO STANDARDS.** Susan M. Zuk, RN, MS, AOCN®, and Melanie Hurst, RN, BSN, Jennersville Regional Hospital, West Grove, PA.

Caring for patients with pain in a small community hospital lacked a systematic approach and a method to document outcomes. To meet the goals defined by the JCAHO Standards and provide optimal pain management became a strategic priority.

The pain initiative began with the formation of a multidisciplinary team. A needs assessment quickly determined that only a patient controlled analgesia procedure existed. The committee drafted a pain management standard of care which encompassed procedures for assessment, evaluation, education, and alternative methods to pain control. This policy statement became the foundation for all strategic efforts.

The committee's review identified the assessment process and documentation measures to be inadequate. Working collaboratively with the Nursing Department, the

admission assessment form was modified to incorporate all aspects included in the standard of care. In addition, the daily flow sheet which records all vital signs and assessment data was updated to address the pain response and pain rating (0–10 scale) for each intervention. Educational tools for acute postoperative pain and cancer pain were incorporated into the hospital's education website.

Creative tools were developed to better assess and manage pain. A pain rating scale equipped with descriptive words, face rating, and 0–10 scale was created in both English and Spanish.

This laminated tool was placed at the patient bedside and mailed to all physician offices and home care providers. Also, a newly created opioid equianalgesic conversion pocket guide and educational literature was distributed to all physicians on staff. The nursing and allied staff received pocket guides in conjunction with valuable information on guide usage and highlights of opioid therapy.

Quarterly inservices and physician conferences continue to address critical aspects of pain management. Quality improvement data addressing assessment and education criteria demonstrate significant improvement. An innovative protocol for the prevention of constipation has been recently approved. Also, future initiatives include establishing a pain management team for pain consultation in the acute and outpatient settings.

These strategic measures over the past 12 months were successful in meeting the ascribed standards set by the JCAHO. Hospital wide efforts continue to propel pain management forward into the 21st century.

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**NONHORMONAL MANAGEMENT OF MENOPAUSAL SYMPTOMS: WHAT IS THE CURRENT EVIDENCE?** Randolph E. Gross, MS, RN, CS, AOCN®, Memorial Sloan-Kettering Cancer Center, New York, NY.

Nurses who practice within the specialty of women's health often are responsible for guiding women through the symptoms associated with menopause. These symptoms can occur due to natural menopause or through iatrogenic causes such as chemotherapy or radiation as treatment for cancer. Additionally, several of the drugs (e.g., tamoxifen, raloxifene) used widely have side effects that mimic menopausal symptoms, with the most prevalent being hot flashes. As survival statistics for women with cancer continue to improve due to early detection and advancements in treatment, this quality-of-life issue becomes paramount for many of these women. Furthermore, estrogen replacement is not an option for many of these women either by choice or due to possible increase in risk for recurrent disease. Thus, nurses need to have an understanding of the nonhormonal management of menopausal symptoms. Many of the interventions recommended for such symptom management presently are based more on anecdotal reports, though evidence-based practice is emerging. This presentation will discuss the current evidence on interventions such as diet, exercise, behavioral techniques, and nonhormonal medications, and will also address current knowledge regarding the various complementary therapies used by many women today. In order for nurses to provide the best possible care for the millions of women who are cancer survivors, knowledge regarding such interventions is necessary.

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**THE IMPORTANCE OF QUALITY-IMPROVEMENT SURVEYS IN ALLEVIATING PAIN IN PATIENTS RECEIVING RADIATION TREATMENT.** Sharon Galperin, RN, Christina Fontaine, RN, MSN, Carolyn Grandy, BSN, RN, Mitzi Lasta, RN, and Barbara Bottoms, RN, University of Texas M.D. Anderson Cancer Center, Houston, TX.

A patient-satisfaction survey conducted by our institution showed that 55% of the patients were experiencing pain that interfered with their normal work. Patients experiencing pain do not always complain as they associate cancer with pain. Therefore, we needed to ask the patients about pain and devise a way to decrease pain and improve quality of life. The purpose of this project was to determine the percentage of radiation-treatment patients who had pain at a level of four or above on a pain scale of 0–10, the percentage experiencing good pain relief, and how the nurses could improve pain management for radiation-treatment patients. The radiation oncology nurses created a questionnaire that included questions to determine patient knowledge about their medications, their knowledge about alternative ways to decrease their level of pain, and whether or not they received printed pain-management materials. The questionnaire was distributed to 188 adult patients receiving radiation therapy on one day. The results indicated that not all patients experiencing pain felt they were getting good relief for their pain. The patients felt they understood how to take their pain medication but said they were not given verbal instructions on pain relief. The nursing staff reviewed the results and brainstormed on how they could change their approach to pain management. The nurses decided to ask all patients about pain, educate patients on pain management using printed materials, and inform the physicians when patients experienced pain at a level of four or greater. All the nurses attended a training session on pain management. The weekly documentation was reviewed to monitor documentation of pain management. The survey was repeated six weeks later. The second survey revealed that 19% fewer

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patients were experiencing pain at the level of four or greater. The patient understanding of pain management increased by 13%. It is vital for nurses to teach patients receiving radiation treatment about their pain and how it can be decreased or eliminated to improve quality of life.

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**MANAGING FREQUENT DEFECACTION AFTER TREATMENT FOR COLORECTAL CANCER.** Annette Bisanz, RN, BSN, MPH, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Patients who have had treatment for colorectal cancer experience frequent defecation that can be differentiated from diarrhea based on the more formed consistency of the stool. A literature review revealed that insoluble fiber can be used to either speed up or slow gastrointestinal motility. After piloting a protocol for remedying this symptom and finding it successful in compliant patients, we established a standard of practice. This standard of care was made part of a surgical pathway and included patient education and nursing guidance, and decreased the number of stools per day and enhanced the quality of the patients' lives. Patients were taught to take a small amount of psyllium in very little water so that it acted like a sponge in the gut, absorbing excess fluid and thereby slowing the transit time and to titrate the amount of food, fluid, fiber, and medication they consume. When the number of stools begins to decrease and the stool becomes more formed, the patients were put on a bowel training program to empty the content of the colon at an expected time each day. Patients with incontinence were taught anal sphincter exercises to strengthen the anal sphincter. Maintaining anal sphincter strength is important while a temporary diverting ileostomy is in place so that at the time of reversal, the anal sphincter is in good condition. The outcomes experienced have been favorable in compliant patients. Patients can reduce their defecation from 30 stools per day to three per day on this bowel program. Accomplishing the desired outcomes requires ongoing nursing assessment and problem solving with the patient to achieve adequate results. The outcomes are remarkable, allowing patients to go back to work, socialize, and regain a quality of life not possible when they are confined to the home because of frequent defecation.

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**INTERACTIVE GUIDE TO MANAGING CANCER PAIN.** Ann E. McFarren, RN, BSN, Susan Brink, DrPH, and Jane Lincoln, MSW, HealthMark Multimedia, Washington, DC.

The Cancer Pain: Your Guide to Relief™ CD-ROM will provide information and interactive tools to focus cancer patients' learning, decision making, and treatment planning. This interactive program will increase the knowledge and self-efficacy of patients and caregivers and help them to participate with their healthcare team in the pain management process. The program was developed based on a patient education practice model for design of multimedia interventions to support treatment decision-making during previous research and development efforts. The model assumes that patients spend varying levels of time and energy in each of three activities—information gathering, clarifying values and personal preferences, and problem-solving in order to manage daily activities despite pain or to avoid pain. The Cancer Pain: Your Guide to Relief™ prototype was developed based on the results from the group interviews and patient, caregiver, and consultant feedback on "concept screens." The overall design combines personal goal setting with information about barriers to meeting those goals because of lack of pain control. The prototype product was tested with cancer patients and caregivers. Pre to post, testers showed an increase in knowledge ( $p < .001$ ), a change in beliefs about the inevitability of pain with cancer ( $p = .004$ ), and self-efficacy scores showed a definite improvement overall ( $p = .001$ ). The presentation will include a demonstration of the product's interactivity.

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**"POWER OVER PAIN": A COLLABORATIVE COMMUNITY EDUCATION CAMPAIGN.** Susan Boulet, RN, MSN, OCN®, North Florida Regional Medical Center, Gainesville, FL; Elynn Radson, RN, BSN, University of Florida College of Pharmacy, Gainesville, FL; Karen Allman, RN, BSN, OCN®, Malcolm Randall VA Medical Center, Gainesville, FL; and Winnie Nielson, RN, BA, Hospice of North Central Florida, Gainesville, FL.

Pain, a prevalent and universal human experience, is the most frequent reason that people seek health care. Relief of pain has been a human concern throughout history, while at the same time, the responsibility for pain management has been vaguely defined. Pain, as a healthcare priority, has received increasing attention in recent years, but without a concomitant improvement in the clinical management of pain. Not only does pain impact the health of an individual, it impacts the health of a community. Accordingly, community education may be one avenue to defining accountability for effective pain

management. The North Florida Chapter of the American Society of Pain Management Nurses (ASPMN) has initiated a collaborative community pain education project entitled "Power Over Pain." This project will culminate in a pain awareness week in January 2002 during which community seminars, media education, and 5K fun run will spotlight pain management. The goals of this community education campaign are: a) to inform the community about a person's right to appropriate pain management, b) to provide information about the impact of untreated and under treated pain, and c) to educate people about effective ways to communicate pain to healthcare providers. After obtaining an unrestricted grant from Abbott Laboratories, a planning committee of eight registered nurses representing the major healthcare institutions in a north-central Florida community was established. These nurses, all of whom have an interest in pain management, are active members of one or more of the following organizations: ASPMN, Oncology Nursing Society, American Cancer Society, Hospice Nurses Association, and American Society of Post Anesthesia Nurses. Having established an alliance with the American Pain Foundation (APF), the "Power Over Pain" community education campaign has become a pilot program in the APF "Stop Pain Now" initiative. This poster presentation details the steps taken to develop this campaign: 1) concept development, 2) budget projection and funding, 3) timeline assignment, 4) recruitment of professional and community support, 5) educational content development, 6) promotion and advertising, 7) partnering with a national pain organization, and 8) quantifying community response to the educational campaign.

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**"THIS IS NOT YOUR ORDINARY WALK IN THE PARK" AND OTHER WAYS TO FIGHT FATIGUE AND RESTORE ATTENTION.** Paula Hutchison, RN, BSN, OCN®, Dayton Oncology & Hematology, PA, Dayton, OH; Pamela Gray, RN, OCN®, Medical Oncology Hematology Associates, Inc., Troy, OH; Sandy Hoskins, RN, OCN®, Hematology and Oncology of Dayton, Inc., Dayton, OH; Cathy Jackowski, RN, OCN®, and Joyce Marrs, RN, BSN, OCN®, Medical Oncology Hematology Associates, Inc., Dayton, OH; and Susan Newton, RN, MS, AOCN®, Ortho Biotech Oncology, Dayton, OH.

The Miami Valley Fatigue Coalition is a group of oncology nurses from the Dayton, Ohio area who are passionate about helping patients to combat fatigue. Our goal for the year 2001 was to offer a community based activity to increase awareness of cancer survivors, caregivers, and families on ways to fight fatigue and restore attention.

On Saturday, April 7, 2001, as a culmination of national cancer-related fatigue awareness week, a "restorative walk" was sponsored by the Miami Valley Fatigue Coalition and the West Central Ohio Chapter of the Oncology Nursing Society, with the support of Ortho Biotech.

To make it convenient for cancer survivors and to promote attendance, the event was offered at two local nature centers. More than 100 people attended the event. We discussed the benefits of the natural environment to restore attention, and the importance of exercise in increasing energy. Evidence-based research has shown that activities involving the natural environment can help restore attention in patients undergoing chemotherapy. In addition, more and more data is being reported regarding the benefits of light exercise for cancer patients who are experiencing cancer-related fatigue.

The highlight of the event was a guided walking tour through the beautiful gardens and peaceful woods. Door prizes, goodie bags, and an Easter egg scavenger hunt with "fighting fatigue hints" were distributed to all.

Several newspapers featured articles about the event and provided information about fatigue and conducted interviews with patients as well as nurses from the coalition. Many local businesses provided door prizes and were informed of the cause. Girl Scout and church youth groups facilitated the activities. Coalition nurses disseminated information regarding cancer-related fatigue and what can be done to reduce it. Those who attended the event gained valuable insight concerning cancer-related fatigue. The feedback from participants was overwhelmingly positive. Participants learned firsthand that one must expend energy to create energy. The coalition is concerned about the lack of attention paid to this most common symptom of cancer. Therefore, plans are in place to make this an annual event.

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**PREDICTING THE RISK OF NEUTROPENIC COMPLICATIONS IN PATIENTS TREATED WITH ADJUVANT CHEMOTHERAPY FOR EARLY-STAGE BREAST CANCER.** Carrie Cappozzo, MS, FNP, RN-C, for the ANC Study Group, Cancer Center of Albany Medical Center, Albany, NY.

Neutropenia is associated with increased morbidity and decreased quality of life in patients treated with chemotherapy for cancer. As the primary dose-limiting toxicity of chemotherapy, neutropenia frequently results in chemotherapy delays and dose reductions that can compromise treatment effectiveness and long-term survival. Prophylactic G-CSF reduces the incidence and severity of neutropenic complications including low relative dose intensity (RDI) and febrile neutropenia (FN). A tool to predict the risk of neutropenic complications with chemotherapy would facilitate the proactive manage-

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ment of neutropenia by identifying patients who most likely would benefit from prophylactic G-CSF. The first step in developing such a tool is to identify predictive risk factors associated with neutropenic complications. Accordingly, we retrospectively performed multivariate logistic regression analysis on data from the records of 20,799 patients given multiple cycles of adjuvant chemotherapy for early-stage breast cancer. Developed from a nationwide survey of 1,243 community oncology practices, this large database contains detailed information on patient demographic and clinical characteristics; planned chemotherapy dose and schedule, subsequent treatment delays, dose reductions, and RDI; and the incidence of FN. Study endpoints were low RDI and FN. Covariates that independently predicted low RDI were increasing age, positive estrogen receptors (ER), decreasing body surface area (BSA), low pretreatment blood counts (WBC or ANC), and chemotherapy regimen. The adjusted odds ratios for low RDI were 1.44 for age 65 or older, 1.59 for low pretreatment blood counts, and 2.46 and 2.07 for the CAF and CMF regimens, respectively. The covariates that independently predicted FN were increasing age, negative ER, decreasing BSA, low pretreatment blood counts, and chemotherapy regimen.

The adjusted odds ratios for FN were 1.23 for age 65 or older, 1.70 for low pretreatment blood counts, and 1.87 and 1.92 for the AC-T and A-CMF regimens, respectively. This study confirms the ability to develop predictive models for neutropenic complications with adjuvant chemotherapy for breast cancer. Ultimately, the factors identified here and others may be incorporated into predictive models for determining which patients should be given prophylactic G-CSF. Such models would enable nurses to intervene early to help prevent serious complications related to neutropenia.

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**PHYSIOLOGICAL AND PSYCHOSOCIAL ASSESSMENT MEASURES IN POST-BREAST-CANCER LYMPHEDEMA.** Jane M. Armer, RN, PhD, Davina Porock, PhD, BSN, Deidre Wipke-Tevis, PhD, RN, Donna Williams, PhD, Debbie Daunt Kelly, BSN, BA, University of Missouri-Columbia, Columbia, MO; and Eris Zagar, MS(N), Ellis Fischel Cancer Center, Columbia, MO.

Post-breast cancer lymphedema is a chronic, distressful symptom that is poorly understood, acknowledged, and addressed by health providers. Accurate incidence and prevalence are elusive because it is under-reported, secondary to imprecise physiological measures generally used in clinical practice and common disregard for the serious impact on quality of life.

The research goals were the (1) description of lymphedema prevalence through increased precision in physiological measurement; (2) description of lymphedema management through self-care and health system measures; and (3) identification of effects of lymphedema on quality of life, health locus of control, and overall adjustment to chronic illness. A descriptive-correlational cross-sectional study design was used to document the prevalence of lymphedema among 103 women treated for breast cancer at a Midwestern United States cancer center. Effects and management of lymphedema were explored among women with lymphedema using qualitative and quantitative measures. Certain psychological measures (quality of life, health locus of control, and overall adjustment to chronic illness) were compared among women with and without lymphedema to increase our understanding of the impact of lymphedema on women's well-being. Additional in-depth qualitative interviews were carried out with women with post-breast cancer lymphedema (N = 20) to assess onset, self-management, and impact on functional ability, family relationships, and quality of life. Further work is now completed comparing circumferences, water displacement, and infra-red laser perometry assessments of limb fluid volume in healthy women and breast cancer survivors (N = 80). These measures will be applied in an on-going prospective study of post-breast cancer lymphedema.

A significant portion of the preparation for this study included the development of an assessment tool specific to lymphedema risk factors, identification, onset, and management. The self-care behaviors women used to relieve symptoms were addressed through semi-structured and open-ended questions. The goal was the development of a tool which is useful for scoring risk and guiding recommendations for self-care. Preliminary results, including tool and physiological measurement reliability, will be reported.

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**PEGFILGRASTIM: AN INVESTIGATIONAL SUSTAINED-DURATION G-CSF WITH ONCE-PER-CYCLE DOSING AND SAFETY AND EFFICACY EQUIVALENT TO THOSE OF FILGRASTIM.** Cindi Bedell, RN, MSN, OCN®, and Frankie A. Holmes, MD, US Oncology, Dallas, TX; Michael Green, MD, Royal Medical Hospital, Melbourne, Australia; Jeffrey Crawford, MD, Duke University, Durham, NC; and Bertrand D. Liang, MD, Amgen Inc., Thousand Oaks, CA.

Chemotherapy-induced neutropenia (CIN) is a serious consequence of cancer treatment that can substantially increase a patient's risk of infection and compromise treatment efficacy. Prophylactic G-CSF (Filgrastim [Neupogen]) administered after

chemotherapy reduces neutropenia and related complications. It must be given by daily injection, however, possibly compromising adherence by necessitating extra office visits or administration by patients or caregivers who must master home administration without nursing support. Pegfilgrastim, a sustained-duration formulation of Filgrastim created by adding polyethylene glycol to the Filgrastim molecule, is given only once per chemotherapy cycle. Owing to a novel clearance mechanism, pegfilgrastim stays in the body through the absolute neutrophil count (ANC) nadir, leaving only as the ANC rises. Pegfilgrastim is not removed by the kidneys like Filgrastim, but is instead cleared from the circulation through binding to neutrophils and neutrophil precursors. When the ANC is low there are fewer neutrophils, so the blood levels of pegfilgrastim remain high. This unique self-regulating mechanism protects patients from neutropenia in a patient-specific manner according to their ANC kinetics after chemotherapy. Clinical trials in patients with solid tumors and hematologic malignancies including lung cancer, breast cancer, and non-Hodgkin's lymphoma have shown that pegfilgrastim given prophylactically once-per-cycle is at least as safe and effective as a course of daily Filgrastim. A single injection of pegfilgrastim per chemotherapy cycle was as effective as Filgrastim in reducing days of severe neutropenia and the incidence of febrile neutropenia (FN) in all cycles. In the largest phase III trial in breast cancer patients treated with AT (doxorubicin/docetaxel), pegfilgrastim compared to Filgrastim was associated with significantly less FN over all cycles (9% versus 18%,  $P = 0.029$ ). A median of 10 daily injections of Filgrastim was administered per cycle compared to a single dose of pegfilgrastim. Pegfilgrastim is well tolerated with side effects similar to those with Filgrastim; bone pain did not differ between pegfilgrastim and Filgrastim in randomized blinded clinical trials. Pegfilgrastim is a novel colony-stimulating factor that can simplify how prophylactic growth factors are given after chemotherapy. Minimizing the number of injections given on successive days has positive implications for both patients and nurses.

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**OUTPATIENTS' TITRATION AND EVALUATION OF ORAL TRANSMUCOSAL FENTANYL CITRATE (OTFC®; ACTIQ®) FOR BREAKTHROUGH PAIN (BTP).** Susan Rice, RN, OCN®, Kentucky Cancer Clinic, Hazard, KY; Sally Adelus, RN, Bay Area Pain Center, Los Gatos, CA; and Lorie Bruno, Cephalon, Inc., West Chester, PA.

**Background:** Breakthrough pain (BTP) is an unpredictable, transitory flare of pain superimposed on a background of chronic pain managed by around-the-clock opioids. ACTIQ (oral transmucosal fentanyl citrate; OTFC®) is a novel product designed to provide rapid analgesia for BTP in opioid-tolerant cancer patients. ACTIQ is available in six dosage strengths (200–1600 mcg), thus offering patients personalized control of BTP. The successful dose of ACTIQ is determined using an individualized titration process. Patients are instructed to titrate upward until one ACTIQ dose provides adequate BTP relief with minimal side effects ("successful titration").

**Purpose:** We conducted an 88-site, open-label study with cancer outpatients to characterize the titration process used in clinical practice and assess patient satisfaction with ACTIQ for management of BTP. Patients entered their titration experience information in a diary. Safety was evaluated collecting adverse events (AEs).

**Results:** Over 19 months, 393 patients were enrolled. Summary statistics from initial data review were as follows. At baseline, 72% of patients were experiencing three or more BTP episodes/day; 44% were taking an oxycodone or hydrocodone combination product for BTP. At their physicians' discretion, patients started ACTIQ titration at 200 mcg (65%), 400 mcg (28%), 600 mcg (3%), or 800 mcg (3%). Successful titration was reported by 60% of patients. Of these patients, 88% rated ACTIQ as better or much better overall and 91% rated ACTIQ as better or much better in speed of onset than their prior BTP therapy. Sixty-two percent reported they were better or much better able to perform daily physical activities and 93% planned to continue using ACTIQ to manage BTP. The most common reasons for discontinuation were AEs (11%), insufficient efficacy (10%), or other (19%). The most common AEs (at least possibly related to ACTIQ) were nausea (10%), somnolence (7%), taste perversion (7%), dry mouth (6%), and dizziness (6%).

**Conclusions:** ACTIQ is an effective and well-tolerated treatment option for cancer-related BTP. Based on these preliminary statistics, when successfully titrated, approximately nine out of every 10 of these cancer outpatients considered ACTIQ to be better and faster acting than their previous therapy and planned to continue using ACTIQ for BTP.

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**DELIVERING FULL PLANNED DOSE ON TIME (PDOT) CHEMOTHERAPY (CT) WHILE LOWERING THE INCIDENCE OF FEBRILE NEUTROPENIA (FN) HOSPITALIZATIONS IN HIGH RISK BREAST CANCER PATIENTS (BCP).** Jerry Hinton, RN, OCN®, CCRC, Mid Ohio Oncology Hematology, Columbus, OH; B. Blodeau, RN, MSN, AOCN®, B. Ford, RN, MSN, AOCN®, and D. Sarnacki, RN, MSN, AOCN®, Amgen Inc.; C. Wood, RN, BSN, OCN®, CCRC, Sharp Health Care; and M. Gerbracht, RN, MSN, AOCN®, Amgen Inc.

Recent studies suggest that about 20% of early-stage BCP receive 85% of intended dose intensity (DI) when treated with CT. Neutropenia was found to be the primary reason

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for delays and reductions. Bonadonna et al. have suggested that women who receive less than 85% total planned CT dose have a poorer prognosis. Budman et al. have shown that BCP who received less than standard or moderate dose therapy have inferior outcomes. Dr. Jeffrey Silber published a risk model (JCO, 1998) that showed first cycle nadir absolute neutrophil counts (ANC) can predict the probability of subsequent neutropenic events. To prospectively evaluate the efficacy of such a risk model in delivering PDOT and reducing FN hospitalizations, stage I–III BCP receiving adjuvant AC, CMF, or CAF were enrolled in a non-randomized study. Patients with a first cycle nadir ANC  $\leq 500/\text{mm}^3$  were assigned to the high risk (HR) group; patients with an ANC  $>500/\text{mm}^3$  were assigned to the low risk group. HR patients received G-CSF (Filgrastim) for all subsequent cycles starting 24 hours after CT and continuing to a post nadir ANC  $\geq 10,000/\text{mm}^3$ . LR patients did not receive G-CSF unless an FN episode or a delay due to neutropenia occurred. The relative dose intensity (RDI) for the study subjects was compared to the RDI for a large historical control group consisting of BCP who received the same CT regimens. Overall 20.1% of historical control patients versus 4.7% of all study subjects received  $\geq 85\%$  PDOT while 7.1% versus 2.7% respectively were hospitalized for FN. This trial of 528 patients demonstrates the feasibility of identifying a subgroup of BCP at high risk for neutropenia who would most benefit from targeted use of Filgrastim support to deliver PDOT while reducing these HR patients and assure they achieve greater than 85% planned DI. They also play a crucial educational role in helping patients understand the rationale for maintaining planned dose intensity in early stage breast cancer treatment.

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**PHYSIOLOGICAL BIOMARKERS OF CANCER TREATMENT-RELATED FATIGUE.** Judith K. Payne, PhD, RN, AOCN®, College of Nursing, Wayne State University, Detroit, MI; Ian Rabinowitz, MD, University of New Mexico Cancer Research & Treatment Center, Albuquerque, NM; and Barbara F. Piper, DNSc, RN, AOCN®, FAAN, University of Nebraska Medical Center, Omaha, NE.

Fatigue is the most frequently reported symptom of cancer and cancer therapy. Despite this fact, there is relatively minimal information regarding its intensity, exacerbating factors, and its underlying mechanisms. The purposes of this study were to evaluate changes over time in serum melatonin, serotonin, cortisol, hemoglobin, and bilirubin levels in patients with early stage breast cancer receiving chemotherapy; explore correlations between these posited fatigue biomarkers and subjective fatigue; and determine how changes may be related to insomnia, depression, and health-related quality of life.

Using a conceptual framework viewing fatigue as a multi-dimensional experience, this study used a prospective descriptive repeated measures design. A sample of 20 subjects ( $n = 10$  and  $n = 10$  matched healthy controls) diagnosed with early stage breast cancer and receiving chemotherapy for the first time were recruited from a large academic southwestern medical center. Instruments included a demographic questionnaire, medical record reviews and self-reported medical history, the Piper Fatigue Scale, Fatigue Intensity Scale, Morin Sleep Diary, CES-D, SF36, and sleep wrist actigraphs. Physiological serum measures were drawn pre and post treatment at baseline and three months. Following completion of data collection, final data analysis will include descriptive statistics and repeated measures ANOVA. Preliminary data indicate that subjects experienced fatigue as a common and distressing side effect of chemotherapy treatment, with changes detected in physiological serum markers as well as sleep patterns. Understanding mechanisms of fatigue and the nature of relationships between physiological fatigue biomarkers and subjective fatigue will enable fatigue research-based interventions to be tested in future studies.

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**CHARACTERIZATION OF BIOTHERAPY-INDUCED PERIPHERAL NEUROPATHY.** Constance Visovsky, RN, PhD(c), ACNP, Case Western Reserve University, Cleveland, OH.

**Problem/Purpose:** Patients treated with neurotoxic drugs experience peripheral neuropathy resulting in alterations in hearing, vision, touch, balance, and blood pressure. This study is unique in its prospective design, correlating physical change with clinical and physiologic measures. Limited data exist quantifying physiologic peripheral nerve changes in individuals receiving biotherapy. Studies of factors predictive of susceptibility to neuropathy are lacking.

This exploratory, predictive study will characterize peripheral nerve function over time in individuals undergoing biotherapy. The aims are to determine: 1) changes in peripheral nerve function following treatment with biotherapy, 2) the extent to which individual characteristics predict peripheral nerve changes beyond the effect of drugs, and 3) the relationship between extent of neuropathy and symptom distress. Criterion validity of clinical measures assessing effects of neuropathy will be determined.

**Framework:** A physiologic framework of neuronal degeneration is used.

**Methods:** Independent variable: Cumulative dose of biotherapy over time. Moderating variables: Age and gender. Outcome variables: Sensation, gait/balance, vibration,

muscle strength, vision, hearing, orthostatic blood pressure, and symptom distress. A convenience sample of 65 subjects are being recruited from patients diagnosed with cancer receiving biologic agents at three cancer centers in Cleveland, Ohio. The sample size was determined by power analysis ( $\alpha .05$  power .87, effect size .25). Measures are taken at baseline, one, and three months after treatment, and two months post-treatment.

**Data Analysis:** Data will be analyzed using plots and regression slopes to determine change over time. Hierarchical regression will determine predictors (age, gender) controlling for cumulative drug dose. Multiple regression will examine the relationship between peripheral nerve changes and symptom distress. Pearson's correlation coefficients will determine criterion validity of clinical measures for hearing and muscle strength.

**Implications:** The characterization of peripheral nerve changes would assist oncology nurses to identify clients at risk of severe peripheral nerve injury and in developing educational materials to prepare clients and their families for life-style adjustments. Demonstrating if clinical measures are sufficient in monitoring peripheral neuropathy may result in clinical practice changes. Lastly, study findings are essential to the development of interventions to preserve functional status and decrease symptom distress in clients receiving neurotoxic agents.

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**INVESTIGATIONAL USE OF THE AMINO ACID GLUTAMINE AS A NEUROPROTECTANT.** Judith L. Williamson, RN, MS, AOCN®, OSF Saint Anthony Medical Center, Rockford, IL; and Richard E. Nora, MD, and Karen Burton, RN, CRNI, OCN®, OSF Center for Cancer Care, Rockford, IL.

**Introduction:** Paclitaxel (Taxol®) is a chemotherapeutic agent used for multiple malignancies. Transient treatment induced grade 3 or 4 arthralgias and myalgias may be experienced by 75% of the patients. Symptomatic treatment will rest and non-steroidal anti-inflammatory analgesics may be less than optimal.

Glutamine is an amino acid formed and stored in the skeletal muscles and lungs. It functions as a nitrogen donor for various neural synaptic pathways, as a precursor in both nucleic acid synthesis and nucleotide synthesis, as a part of the acid-base balancing system, as a precursor for various neurotransmitters, and as an energy source for the cells of the immune system.

Glutamine also helps regulate glycogen synthesis and is an important substrate for cells of the intestinal mucosa. When the body experiences metabolic stress or catabolic disease, glutamine is freely released by the skeletal muscles and causes a decrease in intracellular glutamine.

Oral glutamine has been successfully used to treat Paclitaxel (Taxol) induced myalgias and arthralgias in a small number of patients as demonstrated by Savarese et al. at the University of Massachusetts. Glutamine can minimize mucositis/stomatitis in the GI tract with radiation therapy as reported by Loprinzi et al. at the University of Minnesota.

**Objectives:** To determine if the use of oral glutamine after chemotherapy prevents or minimizes the development of myalgias, arthralgias, and peripheral neuropathies in patients receiving Paclitaxel (Taxol).

**The Study:** Twenty patients meeting the eligibility criteria of no prior arthralgias, myalgias, or peripheral neuropathies; receiving a dose of paclitaxel (Taxol) greater than 175mg/m<sup>2</sup>; no previous history of diabetes or circulatory disease; being 18 years of age or older; good performance status within the guidelines for receiving chemotherapy; a life expectancy of longer than two months, currently not being pregnant; and not now taking a Glutamine product.

Results will be reviewed weekly per completion of a Likert scale of a patient self-assessment of symptoms. Every three weeks the physician or nurse practitioner will complete a neurotoxicity assessment, a physical examination, and pertinent laboratory work. The patient will sign an informed consent prior to being placed on the study. Results will be reviewed at six months to determine if the study should be expanded.

**Treatment Plan:** Patients receiving Paclitaxel (Taxol) doses of greater than 175mg/m<sup>2</sup> will be randomized to either Glutamine 10 GMS. by mouth three times a day for five days after chemotherapy or use of the standard non-steroidal anti-inflammatory analgesics and rest. Glutamine will be provided for the patients through the Center for Cancer Care to ensure they will be receiving pure product. Adverse events occurring with the use of Glutamine are not expected; should they occur, they will be reported per the same guidelines of any adverse event to a research participant.

OSF Saint Anthony Medical Center IRB has approved the study and the recruitment of participants has begun. Preliminary data should be available to be reported in three months.

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**MUCOSITIS: A REVIEW OF THE RESEARCH LITERATURE AND IMPLICATIONS FOR CLINICAL PRACTICE.** Stacey Douglas, RN, MSN, OCN®, Renee Browning, MN, RN, Vanderbilt-Ingram Cancer Center, Nashville, TN.

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**Purpose:** Oral mucositis is a common severe side effect of cancer therapy which affects as many as 40% of cancer patients. Mucositis is often the dose-limiting toxicity of chemotherapy, as half of patients develop lesions of such severity to require dose modifications. In addition, mucositis affects nutritional intake, quality of life, pain level, infection and hospitalization rates, and overall survival. The incidence of mucositis is increasing as patients receive higher doses of chemotherapy. Therefore, nurses must be knowledgeable of preventive strategies and effective treatment options that are evidenced based. Outcomes, such as chemotherapy interruption and costs can be avoided if symptoms are successfully prevented or treated. The purpose of this literature review was to examine the evidence surrounding prevention and treatment of mucositis so that practice recommendations could be formulated.

**Theoretical Framework:** The UCSF Symptom Management Model served as the conceptual framework. A basic premise of this model is that an interrelatedness exists between the symptom experience (mucositis) and symptom outcomes (quality of life, treatment interruptions). Thus, careful assessment of each component is necessary for appropriate symptom management.

**Literature Review:** MEDLINE, CANCELIT, and CINAHL databases were searched for the past 10 years to identify articles pertaining to the prevention and treatment of mucositis.

**Data Analysis:** Twelve articles were reviewed to determine the best methods for prevention and treatment based on evidence-based practice. Study design, methods, sample size, feasibility, benefits/risks, results, and costs were analyzed using Polit and Hungler criteria.

**Findings/Implications:** Numerous remedies have been studied for the prevention and treatment of mucositis, but many results are conflicting. Research related to prevention has shown that regular oral hygiene can lower the incidence and severity of mucositis. However, research progress has been impeded by the lack of consistent practice assessment guidelines. Complete oral assessments need to be performed by oncology nurses prior to chemotherapy initiation so treatment of existing oral disease can be done. Research related to treatment showed that the best option remains unknown. Additional research surrounding these symptoms and their management is needed using randomized, double blind clinical trials to make conclusions that are clinically relevant and cost effective.

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A RANDOMIZED CLINICAL TRIAL OF ENERGY CONSERVATION TRAINING VERSUS ATTENTIONAL CONTROL DURING CANCER TREATMENT. Andrea M. Barsevick, RN, DNSc, AOCN®, and Carole Sweeney, MSN, AOCN®, Fox Chase Cancer Center, Philadelphia, PA; Susan Beck, PhD, RN, and William Dudley, PhD, University of Utah, Salt Lake City, UT; Kyra Whitmer, PhD, RN, University of Cincinnati, Cincinnati, OH; and Lillian Nail, PhD, RN, Oregon Health & Science University, Portland, OR.

Cancer treatment-related fatigue, the most common and distressing side effect of cancer treatment, has profound effects on quality of life. Yet, research on interventions for managing fatigue has been limited to correcting chemotherapy-induced anemia or using aerobic exercise. Cognitive behavioral approaches often suggested in clinical practice such as energy conservation have not been systematically evaluated. The purpose of this research was to test the efficacy of energy conservation/activity management (ECAM) on perceived level of fatigue and selected domains of quality of life (functional status and mood) in adults undergoing cancer treatment. The Common Sense Model provided the conceptual basis for the study. In this randomized clinical trial, the ECAM group is compared to an attentional control (nutrition education). Valid and reliable measures of fatigue, functional status, negative mood, sleep disturbance, and other side effects of treatment are used to evaluate key variables at baseline and two follow-up points of expected high and low fatigue. Participants with breast, lung, colorectal, prostate, gynecologic, testicular cancer, or lymphoma receiving at least five to six weeks of radiation (RT), at least three cycles of chemotherapy (CTX), or combined therapy are included. When the trial is completed on October 31, 2001, 350 participants will be enrolled. Preliminary findings ( $N = 101$ ) demonstrated significantly greater use of ECAM strategies ( $p = 0.03$ ) and a trend toward lower fatigue ( $p = 0.09$ ) in the experimental (ECAM) group. MANCOVA will be used to examine a group by time interaction to test the hypothesis that the ECAM group will have lower fatigue, lower negative mood, and better functioning than the control group. This unique study contributes to clinical practice by evaluating a commonly suggested intervention for cancer treatment-related fatigue that has never been systematically defined or tested. Studies such as this are critical in building the knowledge base for oncology nursing practice.

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HELPING WOMEN COMMUNICATE, CELEBRATE, AND RECUPERATE FROM BREAST CANCER THROUGH THE BREAST CANCER "BRIDGE" PROGRAM. Melanie R. Pirollo, MS, RN, AOCN®, and Doris Moore, RN, South Jersey Regional Cancer Center, Millville, NJ.

Women facing breast cancer experience shock, anxiety, and fearful anticipation. Their need for consolation, detailed and accurate information, practical advice, and support is well known. The Breast Cancer Bridge Program at South Jersey Hospital is designed to meet those needs in a timely, personal way.

The Bridge Program is an educational and supportive service offered to women at no charge. Funding is provided by The Susan G. Komen Foundation and South Jersey Hospital. The Bridge has several unique features: The services are offered to women at the time they find a lump or receive a report of an abnormal mammogram, when anxiety is heightened, as well as at any point along the course of their breast cancer. Survivorship concerns are anticipated, discussed, and addressed prospectively. The program is implemented by an experienced nurse community educator (herself a breast cancer survivor), talented volunteers, and an advisory board of healthcare professionals and cancer survivors. The Bridge nurse provides resources tailored for the individual. The nurse guides women in the use of the Internet for health information and she provides suggestions for effective communication with physicians. She helps women gain an understanding of breast cancer and treatment and she encourages them to ask questions and obtain and understand their medical reports. The nurse and volunteers help the women celebrate milestones of their cancer journey with handmade cards and phone calls. The Bridge nurse works successfully with the American Cancer Society providing breast health programs in schools, churches, elder care groups, and community organizations.

The Breast Cancer Bridge has evolved into a comprehensive wellness program with quality of life seminars in which women with breast cancer share concerns about the changes brought on by cancer. The Bridge nurse has acquired a knowledge base of area resources for women with cancer. The South Jersey Hospital is a three-hospital system affiliated with Fox Chase Cancer Center, an NCI-designated comprehensive cancer center. The Bridge Program serves women in a five county region in southern New Jersey.

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AN INTERDISCIPLINARY SYSTEMS APPROACH TO PATIENT EDUCATION ASSESSMENT. Lisa Desjardins, RN, NP, Frances Cartwright-Alcaese, RN, PhD, AOCN®, Jane Gonzales, RN, MA, OCN®, and Ladislao Decentecce, RN, BSN, OCN®, Mount Sinai Health, New York, NY.

The purpose of this abstract is to present a comprehensive educational and symptom management needs assessment project implemented through a collaborative oncology interdisciplinary effort. The project aim was to develop a system that would ensure that there is continuity of care (symptom management and supportive services) in all areas that an oncology patient receives care. This project is in response to the recognition that 1) progressive restructuring of healthcare delivery results in less time for patients to spend with the healthcare team; 2) patients need to take accountability to learn and perform self-care strategies; and 3) there is a need to provide education and supportive resources to patients across the cancer care continuum. Using components from the Symptom Management Model (Dodd, 2001), the team identified the following priority needs: 1) To examine the patient's perception of symptom experience so that education and supportive services are appropriately provided. 2) To identify the existing education and supportive services available to individuals undergoing chemotherapy. 3) Identify resources that are not currently being used but are accessible. 4) Identify resources that are in existence but require outreach in terms of grant-writing, philanthropic fund raising, etc. Based on findings, the following was implemented: 1) Design of a descriptive study to determine patient's perception of symptom experience; 2) a resource of professional volunteers who are training to facilitate support groups; 3) a current list of resources available institution and community wide, and 4) a grant-writing task force to address additional needs.

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THE NEURO CENTER PATIENT HANDBOOK: A RESOURCE GUIDE FOR BRAIN TUMOR PATIENTS AND THEIR CAREGIVERS. Sanghee Kang, RN, BSN, clinical nurse, University of Texas M.D. Anderson Cancer Center, Houston, TX.

Less than 2% of all cancers diagnosed each year in the United States are primary brain tumors. This diagnosis is frequently made after an acute neurologic event such as a seizure, which may leave the patient with difficulty performing usual functions. Patients and families are often unprepared for the diagnosis and neurologic sequelae. Because these malignancies are rare, there are few educational and resource materials for patients and their families. To provide these critical educational materials, a committee was assembled consisting of a multidisciplinary team of physicians and healthcare professionals in nursing, social work, neuro-oncology, neurosurgery, neuropsychology, physical and occupational therapy, speech therapy, and patient education to develop The Neuro Patient Handbook, a resource manual for brain tumor patients. The handbook includes general information on the M.D. Anderson Neuro Center including instructions on making appointments, contacting staff, scheduling tests, sending diagnostic studies for review, and obtaining prescription refills. There are also educational sheets on when to call the doctor; managing common symptoms such as seizures and speaking difficulties;

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descriptions of common diagnostic tests, possible therapies, and support services for both the patient and caregiver; and general information on neuropsychological evaluations and cognitive rehabilitation. The handbook also includes information on coping with a brain tumor diagnosis, caring for the caregiver, applying for disability, returning to work, support groups, contact information for brain tumor organizations, websites, and helpful resource books. The first section of the handbook is for the patient's medical history, medication list, and individual treatment plan. Individualized educational materials are inserted as needed, including protocol information; chemotherapy, radiotherapy, or surgery information; laboratory and diagnostic tests; and follow-up. We will report a staff and patient satisfaction survey used to evaluate this handbook and address quality improvement issues. This resource provides patients and caregivers with an organizer for all their information and also assists other care providers with continuity of care. In addition, the handbook promotes comprehensive patient education and fosters teamwork among the multiple disciplines involved in the patient's care.

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**EDUCATIONAL POSTER PROGRAM FOR PATIENTS AWAITING RADIATION TREATMENT.** Maureen Keaty, RN, OCN®, Radiation Oncology, Brigham & Women's Hospital, Boston, MA; Kristin Roper, RN, MSN, OCN®, Dana-Farber Cancer Institute, Boston, MA; and Carol McGarigle, RNC, OCN®, Mary Rhude, MS, CLS, Catherine Lew, RN, BSN, and Barbara Kalinowski, RN, MSN, Brigham & Women's, Boston, MA.

**Background/Rationale:** Patients receive radiation therapy daily for several weeks. Waiting time can be long because of patient volume, complicated treatments, and technical issues. The nursing staff of a radiation oncology department in an urban tertiary care medical center was interested in devising a plan to creatively present information on managing side effects and preventative health practices in the waiting area. Posters, which are visually appealing and suitable for individuals who are illiterate, have been used in nonclinical academic areas as an adjunct to traditional teaching techniques. Therefore an educational poster program was developed and is currently in use as part of the educational strategy for patients in the department of radiation oncology.

**Program:** The program includes posters covering patient education information on diverse topics. The posters are created on 30 x 40 inch colorful foamboard. Key points are bulleted in large print and, when appropriate, posters include pictures or photographs. The posters are in a display frame on a table at the waiting room entrance, a highly trafficked area, and remain for several weeks. A variety of approaches are used including bilingual material, handouts, and audiovisual presentations. Perks such as food and giveaways add appeal. Poster topics to date have been "How to manage treatment related fatigue," "Questions to ask about clinical trials," "How to protect your skin from the sun," and "Brain Tumor Week." Additional posters are scheduled with topics such as pain, constipation, prevention of infection, and nutrition.

**Interpretation/Discussion:** Both patients and staff have expressed positive comments on the content, presentation, and upbeat distraction that these posters provide. The driving force behind this project was the opportunity to create a fun environment for a captive audience. The radiation oncology nurses involved in this project appreciate the chance to provide additional education in an ordinarily passive experience and secondarily have the opportunity to acquire and demonstrate expertise in a subject area of their choice. Educational posters that are placed in a busy waiting area have a clear instructive message and are attractive to the eye, can capture patients' attention, and can turn time spent in the waiting room to productive learning time.

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**RISK-REDUCTION STRATEGIES FOR WOMEN AT INCREASED RISK OF DEVELOPING BREAST CANCER.** Lynda L. Lahl, RN, MS, CCRN, National Cancer Institute, Bethesda, MD; Laurel Snyder, RN, MS, National Naval Medical Center, Bethesda, MD; Michele Nehrebecky, MS, CRNP, U.S.P.H.S., Bethesda, MD; Peter Soballe, CAPT, MC, USN, U.S. Navy, Bethesda, MD; and Pamela Klein, MD, Genentech, Inc., South San Francisco, CA.

**Background:** In 1999, the National Naval Medical Center's Breast Care Center (BCC), in conjunction with the National Cancer Institute, established a high-risk program for women identified as being at increased risk for developing breast cancer. Members of the high-risk team include a high-risk nurse coordinator, research nurse, medical oncologist, surgical oncologist, and nurse practitioner. Women identified at increased risk attend an education class on breast cancer risk. Following the class, women interested in a one-on-one appointment are scheduled to meet with a high-risk healthcare provider.

**Intervention:** Approximately 200 women have attended the education class and been seen by a healthcare provider to discuss risk reduction options. During the visit, providers discuss appropriate interventions which may include surveillance, chemopreventive medication, chemoprevention research studies, genetic testing, and prophylactic mastectomy.

**Results:** Thirty-seven percent of the women chose a chemopreventive agent, either with or without a research study. Fourteen percent of the women were not candidates for a chemoprevention agent due to a history of deep vein thrombosis (DVT) or another medical problem. Almost half of the women chose high-risk breast surveillance. One woman opted to have bilateral prophylactic mastectomies.

**Discussion:** Although high-risk women have new options available for risk reduction, less than half chose to take a chemoprevention agent. The BCC high-risk program offers women education and counseling on risk reduction options and allows women to participate in decisions on their health care. While chemoprevention is not a suitable choice for all women, every participant in the high-risk program is evaluated for this option. Nurses are an integral part of the high-risk program, assisting in the identification of women at increased risk and counseling women interested in learning more about their risk reduction options.

**Conclusion:** The BCC high-risk program has empowered women to make a choice between appropriate risk reduction options. Oncology nurses should be able to identify available resources for high-risk women to assure participants receive appropriate counseling on current options. It is imperative that oncology nurses be able to discuss these choices so they can reinforce and clarify cancer risk reduction options.

## 201

**LYMPHEDEMA FOLLOWING SENTINEL LYMPH NODE BIOPSY FOR BREAST CANCER: ROLE OF THE NURSE IN CLINICAL SURVEILLANCE AND PROBLEM EVALUATION.** Carole H. Martz, RN, MS, AOCN®, Beth Weigel, RN, BSN, OCN®, Kathy Bonnefoi, RN, MS, OCN®, Stephen F. Sener, MD, Katina Kirby, MS, OTR/L, and Joseph Feldman, MD, Evanston Northwestern Healthcare, Evanston, IL.

The use of sentinel lymph node biopsy (SLNB) in the staging of breast cancer has rapidly gained acceptance as an accurate predictor of lymph node status. At our institution, this procedure has remained part of a clinical research project with close clinical follow-up to identify potential side effects and complications. The physical medicine staff instructed the breast surgical staff in early lymphedema identification. However, it was felt that the risk for development in the SLNB-alone population would be negligible. Preoperative baseline and postoperative circumferential arm and range-of-motion measurements were taken by the surgical nursing staff on patients scheduled for SLNB or axillary node dissection (AND). Patients were also verbally instructed on standard lymphedema precautions supplemented by both written and audiovisual materials. Initially those patients who underwent a SLNB-alone procedure were told that only minimal lymphedema precautions were needed. It slowly became apparent that a small subset of these patients was developing lymphedema. Retrospective chart reviews were performed on the 303 SLNB alone patients (nine, or 3%, of whom developed lymphedema), and on the 117 SLNB-plus-AND patients (20, or 17.1%, of whom developed lymphedema) enrolled in our study at that time. Data evaluation highlighted certain variables were associated with lymphedema development. In the nine patients with SLNB-alone procedures that developed lymphedema, those patients with upper outer quadrant (UOQ) tumors who sustained some type of infection, trauma (hematoma, blood pressure cuff, airline travel, multiple surgeries), or postoperative weight gain were at increased risk regardless of the type of breast surgery performed. The presence of an UOQ tumor was not highly associated with increased lymphedema risk in the SLNB-plus-AND group.

As a result of these findings, all patients undergoing breast cancer surgery with any type of axillary procedure, and in particular those with upper outer quadrant lesions, were instructed to follow full lymphedema precautions. This recommendation continues to be given even though the risk of lymphedema development in the SLNB-alone group is low (3%). Ongoing lymphedema precaution education including weight management and airline travel precautions are also stressed.

## 202

**A PATIENT ORIENTATION AND PRETREATMENT VENOUS ASSESSMENT PROGRAM FOR CANCER PATIENTS BEGINNING CHEMOTHERAPY.** Jean Roberson, RN, BSN, OCN®, Dana-Farber Cancer Institute, Boston, MA.

**Rationale:** Oncology nurses have recognized that the initial visit to the infusion unit is often the most difficult and anxiety-producing visit for patients and their families. Patients beginning treatment face tremendous stress: Being in an overwhelming environment and receiving treatment for a life-threatening disease that will change the way they feel, look, and function. Sometimes this difficult experience is exacerbated by poor venous access, necessitating numerous uncomfortable needle sticks. Infusion unit nurses at this urban NCI-designated comprehensive cancer center were concerned with patients beginning treatment and wanted to provide proactive versus reactive nursing care. Therefore, a formalized Patient Orientation and Pretreatment Venous Assessment Program (POPVAP) were piloted with patients from our women's cancers program.

**Program:** The POPVAP includes a tour of the infusion unit, pre-chemotherapy venous assessment, and discussion with the patient and family. An infusion room nurse conducts



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the tour and reviews issues such as clinic procedures, geography of the unit, comfort measures, and available support services. The patient and family have an opportunity to ask questions and voice their concerns. The nurse also performs a pre-chemotherapy venous assessment. For patients with limited access to one arm, receiving chemotherapy is often a concern to the patient and a challenge to the nurse. If necessary, the patient's oncologist is contacted and a referral is made to place a central venous device before the first treatment. At the completion of the POPVAP visit, the nurse and patient complete an evaluation form.

**Discussion:** Preliminary evaluation shows that patients find benefit in establishing an early relationship with an oncology nurse and having knowledge regarding the usual routine in the unit prior to the initiation of treatment. The issue of repeated needle sticks has also improved by the pre-treatment venous assessment with early referral for central venous devices.

Due to this success, POPVAP continues and is expanding at our institution. We recommend oncology nurses at other cancer centers adopt a similar systematic program for new cancer patients beginning treatment.

## 203

**STRUCTURING A PATIENT EDUCATION PROGRAM: THE JOURNEY GUIDE PROJECT.** Susan Mazanec, MSN, RN, AOCN®, Meri Armour, MSN, RN, and Rosalie Tyner, MSN, RN, University Hospitals of Cleveland, Cleveland, OH.

Assuring consistent, high-quality patient education across the care continuum remains a challenge for oncology nurses. Forces in society and healthcare are driving the changes in delivery of patient education. Societal forces include the Internet, variable literacy, and patient autonomy in decision making. Healthcare forces include multiple entry points to the healthcare system, short hospital stays, complex treatment plans, numerous caregivers, and a nursing shortage. The overall goal of this program is to provide patient education that will empower patients and families to make informed healthcare decisions. Patient education begins at the time of diagnosis and is interdisciplinary.

In 1999, the associate director for patient education at a NCI-designated comprehensive cancer center convened task forces consisting of nurses and other professionals caring for a particular patient population: Breast cancer, prostate cancer, lymphoma, colorectal cancer, lung cancer, head/neck cancer, pediatric cancer, and transplantation. Each task force met to discuss education needs of patients, share written materials, and define the standard for their population. They constructed a product to meet the standard.

Six of the task forces designed educational binders for patients called "The Journey Guide." The binders consist of instruction sheets and booklets about diagnosis, treatment, clinical trials, nutrition, coping, self-care, resources, and complementary therapies. The binder and a journal are given to patients in tote bags after diagnosis or when they enter the hospital system. The binder format allows for tailoring of patient education and assists patients in organizing materials. Patients are instructed to use the binder as a reference throughout their cancer experience. Patient satisfaction surveys are mailed routinely to patients receiving "The Journey Guide." Results from the surveys are shared with the task force to improve the product.

"The Journey Guide" product facilitates and streamlines the education process while defining a standard for patient education across multiple entry points. The product is tailored to individual learning needs and styles. Patient satisfaction is high. Benefits of the task force process include networking, team building, and creative problem solving. Utilizing interdisciplinary task forces is an effective way to define and implement patient education standards.

## 204

**B.E.A.D.S. PROGRAM (BREAST EDUCATION, AWARENESS, DETECTION, AND SCREENING).** Karen L. Wells, RN, MS, OCN®, Freeman Health System, Joplin, MO.

Breast cancer is the leading cancer in incidence and second in mortality among women. In the year 2001 the American Cancer Society estimated that 8,000 new cases of breast cancer would be diagnosed in Missouri, with 1,700 deaths. The latest American Cancer Society's Heartland Division report shows that Missouri women aged 40 years and older who had a mammogram in the last year was 65.8%. For our Joplin region, that number was 59.1%. Women aged 20 years and over who had a clinical breast exam was 78.3% statewide, and 74.4% for our region. These statistics showed that we were well below the state and national averages. The BEADS program focuses on increasing awareness of the importance of monthly self breast exam, clinical breast exam, and mammography by using a "teaching tool." The BEADS program uses a "hands on" project to help visualize the importance of practicing healthy breast habits using American Cancer Society guidelines. A key chain, using beads to represent the size lumps that may be found by each detection method, are either made by the participant or handed out at the end of the presentation. The program is presented to all ages and is evaluated at the conclusion. The participants are urged to repeat this teaching to all who see the key chain. The presentations have taken place in churches, banks, department stores, women's clubs, health fairs, community clinics, physician and nursing educational workshops, volunteer

groups, schools, and support groups, reaching over 400 participants since January, 2001. Grants for the BEADS project have been obtained from the Freeman Foundation, Missouri Regional Affiliate of the Susan G. Komen Foundation, and an ONS Challenge Course Grant. The response has been overwhelming and many more presentations are planned. Only future statistics will reveal the ultimate outcome of this teaching.

## 205

**THE EVOLUTION OF AN ONCOLOGY PATIENT HANDBOOK.** Joanne P. Finley, RN, MS, Johns Hopkins Oncology Center, Baltimore, MD.

The importance of patient education in our healthcare environment of increased complexity and decreased length of stay has been well documented. Based on the literature regarding patient and family educational needs, an oncology patient handbook was developed by a multidisciplinary patient education committee. Prior to the development of the handbook, education had been inconsistent. There was no standard or process for the review, acquisition, or development of patient education materials. Some materials were outdated, inconsistent, and lacked visual appeal. Loose papers and pamphlets were handed to patients. The multidisciplinary committee, consisting of representatives from nursing, social work, physical medicine, rehabilitation, pharmacy, nutrition, and public affairs met on a regular basis to brainstorm the format and topics to be included in the handbook. Physicians reviewed materials. The group decided on a three-ring binder with pockets which would enable staff to customize handbooks for patients and allow staff to easily update inserts. The binder contains ten preprinted tabs encompassing the most common categories of all patient information needs. They include General Information, Disease Information, Treatment Information, Managing Side Effects, Nutrition, Exercise, Coping, Care at Home, Survivorship Issues, and Other Documents. A graphic artist designed the preprinted, color cover, giving the handbook a professional look. The committee reviewed all handbook inserts for reading level, content accuracy, and compliance with graphic standards. To date, 80 inserts have been reviewed and/or developed, providing staff with the materials needed to individualize patient and family teaching. Commercially developed materials are used when appropriate. Patient satisfaction has been high. Patient and family members completed evaluations. The average score was 8.25 on a scale of 10 being the most helpful. Some patients stated that, while there was a lot of information, it was all useful. Handbook materials have recently been placed online for easier access. Cost, logistical issues, and future plans will be presented. The Oncology Patient Handbook has enabled our institution to establish a high standard and implement an effective process for educating our patients and families.

## 206

**MULTI-MEDIA RESOURCES FOR EDUCATION AND SUPPORT OF ONCOLOGY PATIENTS AND FAMILIES: PILOTING A SATELLITE TO HEALTH LEARNING CENTER RESOURCES ON 15 FEINBERG.** Deborah Mast, RN, BSN, OCN®, Tina Ban, RN, OCN®, Denise Rooney, RN, BSN, OCN®, Mary Gillaspay, MEd, Sue Laub, RN, MS, and JoAnn Verdin, PhD, Northwestern Memorial Hospital, Chicago, IL.

Education and support for patients and their families are essential throughout the cancer care continuum. On the inpatient oncology unit, the nursing staff recognized the need for technologically advanced educational media to supplement locally available materials. A resource to facilitate access to such material was lacking in this care environment. Internet access, while not available in Feinberg patient rooms, was available at the health learning center. Using this facility was often difficult for this acutely ill patient population. The oncology nursing leadership staff developed a pilot program with the objective of allowing patients and families more convenient access to multi-media materials (including the Internet) during their lengthy hospital stays.

Assisting patients and families to navigate these resources was essential to the success of the program so volunteers skilled in computer and Internet technology were sought. Their role as a volunteer support person was to assist patients and families in accessing resources specific to their individual illness and care needs. A cancer supporter made new laptop computers and disease-specific CD-ROM programs available to our unit through a generous donation. Six volunteers underwent training sessions beginning in August 2000 to provide orientation to the health learning center and cancer-specific web sites. As part of their orientation they also received education regarding the special needs of oncology and bone marrow transplant patients including a focus on psychosocial support. This multi-media resource program was launched in September 2000 and comments from patients, families, and the staff who care for them has been positive. Eight more volunteers were recently recruited to build the program and expand its availability to patients.

## 207

**INFORMATION NEEDS RELATED TO GENETIC TESTING FOR BREAST CANCER RISK: TARGETING EDUCATIONAL EFFORTS.** Mary McCullum, RN, BSN, CON(C), Hereditary Cancer Program, British Columbia Cancer Agency, Vancouver, British Columbia, Canada; Joan L. Botorff, RN, PhD, Pamela A. Ratner, RN, PhD, and

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Lynda Balneaves, RN, PhD(c), University of British Columbia School of Nursing, Vancouver, British Columbia, Canada; Chris Richardson, MSc, PhD student, University of British Columbia Health Care & Epidemiology, Vancouver, British Columbia, Canada; and Jane Buxton, MBBS, MHS, Laboratory Centre for Disease Control, Health Canada, Vancouver, British Columbia, Canada.

Many women perceive themselves to be at high risk for developing breast cancer. Media reports of genetic discoveries (e.g., BRCA1 and BRCA2 genes) have heightened interest in genetic testing, often with unrealistic expectations. Oncology nurses are ideally positioned to implement cancer risk communication strategies that are responsive to women's needs and that support cost-effective use of genetic testing services. The purpose of this study was to assess women's interest in and knowledge of genetic testing for breast cancer risk in order to direct the development of appropriate education approaches. A telephone survey of women in one western Canadian province was conducted. Two random samples included 761 women from the general population who had never been diagnosed with breast cancer and 235 women from the provincial cancer registry who had been diagnosed with breast cancer. The survey included questions to assess awareness and knowledge of genetic testing, interest in and reasons for wanting testing, and factors associated with level of understanding and interest.

Almost 50% of each sample had heard or read at least a fair amount about "breast cancer genes." Of the women with breast cancer, 30.8% reported interest in genetic testing compared with 28.5% of women without breast cancer. Breast cancer status, family history of breast cancer, years of education, and knowledge of genetic testing were significant predictors of interest in genetic testing. Significant interactions were found between breast cancer status and education, and knowledge of genetic testing and age. Women with breast cancer did not possess superior knowledge of breast cancer genetics compared with women from the general population, and critical gaps in knowledge were identified in both samples. Our findings support the importance of education approaches that address specific information needs. Tailoring strategies to match women's personal and family history of breast cancer, age, education, and knowledge of genetics will enhance effectiveness.

## 208

CAPACITY FOR DIRECT ATTENTION AND PSYCHOLOGICAL DISTRESS IN PATIENTS RECEIVING OUTPATIENT CANCER CHEMOTHERAPY. Joan Agretelis, PhD, RNCS-ANP, AOCN®, Diane Carroll, PhD, RN, Joanne LaFrancesca, MSN, RN, and Susan Finn, BSN, RN, Massachusetts General Hospital, Boston, MA.

**Problem:** Ambulatory infusion units are caring for a consistently higher volume of cancer patients. Large amounts of complex information regarding disease, treatment, side effects, and self-care strategies are presented to patients during the first chemotherapy visit. This information is provided to distressed patients in a distracting environment. Patients may need to increase mental effort to suppress competing stimuli and direct attention. This increased effort could result in attentional fatigue and impair learning. There are no published reports regarding these factors in patients embarking on an initial course of chemotherapy. Assessing patient capacity to direct attention and identifying factors that inhibit directed attention can assist the nurse in developing strategies to enhance patient education.

**Purpose:** The purpose of this study is to identify and compare the level of capacity for direct attention and psychological distress during an initial visit for chemotherapy and at four to six weeks thereafter.

**Theoretical/Scientific Framework:** This study utilizes Cimprich's (1992) theoretical perspective of attention in relation to patient education.

**Methods:** This descriptive study uses a repeated measures design. Forty cancer patients scheduled for initial chemotherapy will be enrolled. The Digit Span Test will be used to measure focused attention and working memory. The Letter-Number Sequencing Test will be used to measure auditory working memory (The Psychological Corporation, 1997). As subtests of the Wechsler Memory Scale, both the Digit Span Test (0.87) and Letter Number Sequencing (0.75–0.88) are highly correlated with a variety of attention and concentration measures. Psychological distress will be measured with the short form of the Profile of Mood States (POMS) (McNair, Lorr, & Droppelman, 1992). This instrument is highly correlated with the 65-item POMS ( $r=0.95$ ). All study variables will be repeated during a routine visit to the infusion unit four to six weeks later.

**Data Analysis:** Descriptive statistics will be presented for demographic and medical data. Paired t-tests will examine differences in POMS total score, Digit Span, and Letter Numbering Sequencing Tests. Pearson correlation will examine relationships between level of psychological distress (POMS total score), and ability for direct attention (Digit Span and Letter Number Sequencing Test scores).

## 209

THE EFFECT OF EDUCATION ON SELF-CARE BEHAVIORS OF WOMEN RECEIVING ADJUVANT CHEMOTHERAPY FOR BREAST CANCER. Ann M. Schreier, PhD, RN, and Susan Williams, DNS, East Carolina University School of Nursing, Greenville, NC.

**Purpose/specific aims:** To determine the efficacy of informational audiotapes on patient self-care behaviors (SCB) and state anxiety during outpatient intravenous chemotherapy, and to describe the occurrence and intensity of common side effects (SE) and to determine the use of SCB in a group of patients with breast cancer.

**Design:** Experimental.

**Setting:** Outpatient chemotherapy clinics operated by a university center in a south-eastern rural area.

**Sample:** Seventy newly diagnosed patients with breast cancer receiving chemotherapy. Randomly assigned to experimental and control groups.

**Methods:** Demographic data, a knowledge test, and the Spielberger State Trait Anxiety (STAI) prior to therapy. At one month and three months, the subjects completed the modified Nail Self-Care Diary (SCD) and the Spielberger State Anxiety Inventory (SAI). At fourth month, SAI, SCD, & a post-knowledge test.

**Research variable:** Independent variable: Two 15-minute informational audiotapes on SCB for SE of chemotherapy. The dependent variables: State anxiety, severity of SE, and the use and efficacy of SCB.

**Findings:** With repeated measures ANOVA, the control group exhibited a statistically significant higher level of state anxiety throughout the course of chemotherapy. Trait anxiety was not significantly different between groups. The most frequently experienced SE for the control and experimental groups were fatigue, nausea/vomiting, and taste change at cycle one and four. The highest severity ratings were for the SE of fatigue, taste change, and appetite loss at cycle one, and fatigue, constipation, and appetite loss at cycle four. There were no statistically significant differences in SCB performed by the control and experimental groups. The experimental group rated the efficacy of the SCB higher than the control group.

**Conclusions:** The intervention did not stimulate more SCB. However, there were differences between groups in the use of more healthful and efficacious SCB. The intervention lowered state anxiety levels.

**Implications for practice:** Time constraints on nursing time in busy clinics may decrease the length of time for teaching related to SE of chemotherapy. Audiotapes provide for patient education when anxiety is high in the clinic. Additional interventions and reinforcement need to be explored for effective education and for reducing anxiety levels.

## 210

THE PRO-SELF PAIN CONTROL PROGRAM IMPROVES PATIENTS AND FAMILY CAREGIVERS (FCs) KNOWLEDGE ABOUT PAIN MANAGEMENT. Christine Miaszkowski, RN, PhD, FAAN, Claudia West, RN, MS, Marilyn Dodd, RN, PhD, FAAN, and Steven Paul, PhD, University of California, San Francisco, CA; Karen Schumacher, RN, PhD, University of Pennsylvania, Philadelphia, PA; and Debu Tripathy, MD, University of California, San Francisco, CA.

Several studies have documented that patients and FCs have inadequate knowledge about cancer pain management. The purpose of this study was to determine if a psycho-educational intervention that emphasized education, skills training, and nurse coaching (i.e., the PRO-SELF Pain Control Program) compared to standard care could improve patients and FCs knowledge regarding cancer pain management. Self-care theory and the principles of academic detailing served as the conceptual framework for this study. Patients and FCs were recruited from seven outpatient oncology practices. Patients who were over 18 years of age and were experiencing pain from bone metastasis were randomized into the PRO-SELF or standard care group. The FC was an individual identified by the patient as the person most involved in their care. At the time of enrollment into the study and again six weeks later, the participants completed the Pain Experience Scale (PES) developed by Ferrell and colleagues. The PES contains nine items that participants rated using a visual analogue scale. The scores on the individual items are totaled and the total score is converted to range between 0 and 100. Data were analyzed using t-tests and analysis of variance. Patients in the PRO-SELF group had significant increases in their knowledge scores (from 61 to 73,  $p < 0.0000$ ). In addition, FCs in the PRO-SELF group reported significant increases in knowledge scores (from 59.4 to 77.4;  $p < 0.0000$ ). The most significant improvements in knowledge in both groups were in more effective approaches to improve adherence with the analgesic regimen. For example, patients and FCs reported higher levels of disagreement with the statement "Pain medicines should be given only when the pain is severe." The results of this study suggest that a psychoeducational intervention that is aimed at enhancing knowledge and improving self-care abilities is effective in increasing patient and FC knowledge of cancer pain management. (This study was funded by a grant from the National Cancer Institute.)

## 211

A CELEBRATION OF HOPE: CHEMOTHERAPY PATIENT GRADUATION. Rita Flaska, BSN, MBA, and Patricia A Murray, BSN, OCN®, Loyola University Health System, Cardinal Bernardin Cancer Center, Maywood, IL.

On the final day of chemotherapy the patient arrives, receives the treatment and obtains verbal congratulations on a job well done. This experience, after an arduous journey, is

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anticlimactic. The individual completing chemotherapy deserves the recognition of having done so. To honor these patients we looked at the similarities to a school class. With our treatment plans there is a syllabus of chemotherapeutic agents, education, a treatment calendar, and tests of IV insertions and phlebotomy culminating in the final treatment. Upon graduation from the difficult “school” of chemotherapy, we believe they should receive tangible proof of completion.

The idea of a chemotherapy “Certificate of Completion” was born. Each certificate of completion is personalized and has a message of congratulations on a job well done. In addition to the communication of congratulations, we wanted to relay another message—the message of hope. The patients’ strength to endure the toxic agents given to them is based on hope: Hope to survive, to be cured, to be in remission, and to live. Hence, the certificate is a symbol of their success and also a reminder to continue to have hope. In large bold print the words “Hope is Life” stream across the top of the bordered certificate. When the certificate is presented to the patient a graduation gift (a key ring with “Hope Is Life”) is also given. Once the certificate was created, the need of support during and after treatment was addressed.

Nurses give support throughout treatment and we wanted a tangible object to enhance our words of support. We chose a rock to exemplify strength and power while also being a little piece of art. A picture and a single word are hand painted (by staff members’, families, and friends) on each rock. A variety of words such as faith, hope, pray, joy, and calm are easily readable. The patients select one at graduation or at a low point during their treatment. The rock, graduation gift, and certificate have enhanced the air of celebration at this very challenging time in the patients’ lives.

## 212

EFFECTS OF A NURSING INTERVENTION ON MARITAL, PHYSICAL, AND SOCIAL DIMENSIONS AFTER RADICAL PROSTATECTOMY. Mary Pickett, PhD, RN, Villanova University College of Nursing, Villanova, PA; Ruth McCorkle, PhD, FAAN, Yale University, New Haven, CT; Eileen Burns, PhD, University of Pennsylvania, Philadelphia, PA; Joanne Robinson, PhD, RN, C, Rutgers University, Newark, NJ; and Ellen Giarelli, EdD, RN, C, University of Pennsylvania, Philadelphia, PA.

Prostate cancer survivors may experience immediate and long-term negative consequences related to treatment effects. Psychological distress, urinary incontinence, impotence, marital communication problems, and fatigue frequently define the postoperative recovery period following radical prostatectomy. These symptoms can exert a negative impact on patient physical and psychosocial functioning and alter the marital relationship either temporarily or permanently. Cost containment efforts within the healthcare environment fostering short-stay hospitalizations and development of evidence based practice guidelines designed to support couples through the process of recovery after radical prostatectomy are needed. The conceptual framework guiding this study was based on a competency-based model of coping with cancer that involves individuals interacting with the environment (Meyerowitz, Henrich, & Schag, 1983). A randomized clinical trial of a home-based nursing protocol designed to provide information and support for post-prostatectomy patients and spouses during an eight-week period immediately following hospital discharge was launched in 1998. The protocol focused on three key areas: (1) symptom management; (2) restoration of urinary continence; and (3) promotion of marital communication and psychosexual functioning. This study employed a prospective, randomized, experimental design. Subjects were randomly assigned to a group (control or intervention) using a blinded randomization procedure. Advanced practice nurses provided the standardized intervention during 16 contacts (eight home visits, eight telephone consultations). This report describes findings obtained from a sample of 99 men recruited at two urology clinics of a large university health system. Reliable and valid measures were used for data collection at baseline (one to two days post-op) and repeated at three and six months. Between-group comparisons using repeated measures analyses were performed for the following subscales: SF-36 Physical Functioning, SF-36 Social Functioning (Ware, et al.,), and the CARES Marital (Coscarelli & Henrich, 1988). Significant between-group differences were detected and clinical implications of these findings will be reported. Study results support that the nursing intervention facilitated rehabilitation outcomes during the initial six months following radical prostatectomy.

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## 213

THE LIVED EXPERIENCE OF IDENTIFIED CAREGIVERS OF CANCER PATIENTS AT THE TIME OF RECURRENCE/PROGRESSION. Sandra Creamer, RN, PhDc, NP, OCN®, Saints Memorial Cancer Center, Lowell, MA.

This phenomenological study was designed to describe and understand the lived experience of identified caregivers of cancer patients at recurrence/progression. Cancer patients have increasingly longer survival patterns due to a host of treatment options rising from advanced technology. Identified caregivers, usually family members, take care of the cancer patient throughout the disease trajectory, yet little is known

about the experience of cancer care giving specifically at this crucial phase. This is the point when hope is diminished and the possibility of cancer being terminal, may be a reality. Phenomenology is the framework that guided the researcher. It is an inductive, descriptive, qualitative study which describes the unique subjective and objective experiences of caregivers based at a community cancer center in eastern Massachusetts. The sample includes 13 English-speaking family members or significant others age 31–76 years, seven females and six males. One hour interviews were conducted utilizing a tape recorder and 11 open-ended probes to guide the phenomenon of care giving.

**Findings:** The overarching theme of caring and commitment is “Being at Hand.” Caregivers remain attentive to the patient and maintain balance and harmony as much as possible. They are cheerleaders amidst a losing battle. The essence of “Being at Hand” incorporates sub-categories, namely: Being and Time; the Adaptable Being; Being in Relationship; Being in Hope; and Being Beyond. To understand what it is to be a caregiver is meaningful and informative. It provides another dimension for the art of caring. Nursing will be enriched by this study, those in oncology and those nurses whose positions are central in assisting families to live with the changes, disruptions, and losses that disease may cause in their lives. This study will expand the nursing role in the care of the family caregiver by bringing nurses to another level of awareness. It will add to nursing’s knowledge base and give credence to the establishment of new assessments and interventions designed specifically for caregivers.

## 214

AN ANALYSIS OF SPIRITUAL EXPRESSION AND SPIRITUAL CARE. Anne E. Belcher, PhD, RN, AOCN®, FAAN, and Margaret Griffiths, MSN, RN, AOCN®, Thomas Jefferson University, Philadelphia, PA.

Increasing focus on holism in health care has resulted in organized efforts to attend to spiritual care and to examine the concept of spirituality in a systematic manner. Evidence exists that many nurses misconstrue patient manifestations of spiritual needs, possibly because spirituality was not a focus in their nursing curricula and/or lack of awareness of a personal spirituality upon which to draw. To provide holistic care, nurses in practice need to develop awareness of their own spirituality and spiritual needs, to learn how to assess the spiritual well-being of patients, and to implement interventions which meet the defined spiritual needs of their patients and themselves. The purpose of this study was to determine the extent to which nurses express their spirituality in practice environments and are able to integrate spiritual care into their role. Spirituality is differentiated from religion. Religion includes those beliefs, rituals, and practices that define a community of believers and is the way in which many individuals manifest their spirituality. Nurses who equate these concepts only address the practices consistent with that religion. Spirituality has a broader meaning in that it reflects the individual search for purpose and meaning in life.

Spirituality includes but is not limited to faith, hope, love, and transcendence. Nurses who are aware of what spirituality encompasses appreciate the need to incorporate spiritual assessment and care into their practice. This research design utilized a qualitative approach that addressed issues/questions related to expression of spirituality both personally and professionally. Nurses practicing in oncology and other specialties completed a questionnaire that elicited spiritual practices and the application of their spirituality to patient care. A focus group was utilized to refine the survey instrument prior to distribution. Demographic data were collected. Data are being analyzed using a content analysis method to measure the frequency, order, and/or intensity of responses. The presentation will focus on identified themes and their impact on quality of care. Findings will provide the basis for suggested “best practices” in spiritual care. In addition, implications for nursing education and research will be reported.

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WINNING THE RACE: A PROACTIVE, NURSE-MANAGED TREATMENT PLAN FOR HEAD AND NECK CANCER. Rosemary Costello, RN, BSN, OCN®, Mary Ann Case, RN, BSN, OCN®, and Marshall R. Posner, MD, Dana-Farber Cancer Institute, Boston, MA.

**Background:** Head and neck cancer is curable in approximately 40% of cases. Aggressive therapy with appropriately selected patients improves these odds, but is accompanied by numerous side effects. In order to achieve the best results, it is important to deliver treatment at full doses, without treatment breaks. Our current curative protocol consists of three cycles of chemotherapy followed by seven weeks of chemoradiation.

**Program:** We have a proactive, nurse-managed treatment program that supports the patient before, during, and after therapy in order to ensure that maximum therapy is delivered and long-term complications are minimized. We accomplish these goals through our RACE approach. We “R”eady the patients by educating them regarding what to expect and how to be active participants in their care. Each patient receives a binder

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with educational materials detailing chemotherapy, expected side effects, portacath, PEG, radiation, nutrition, and dental information. We also screen each patient for depression and substance abuse. We “A”nticipate side effects and are proactive in partnering with the patient to prevent and handle adverse events. The patients are given computer-generated calendars with detailed instructions for taking prophylactic medicines. Daily phone calls keep us informed of their welfare and enable us to make prompt interventions. Patients are hydrated either at home or in clinic until they are able to maintain adequate po intake. Blood work is checked frequently and growth factors are ordered as necessary. We “C”ollaborate with other disciplines including nutrition, social work, speech, and swallowing experts, dentistry, and psychiatry to support the patient throughout. We continually “E”valuate this program in order to maximize the patient’s quality of life after treatment.

Long-term side effects include dysphagia, xerostomia, fatigue, and prolonged mucositis. We continue to investigate ways to minimize these sequelae in order to improve patient well being after treatment. Current interests include salivary stimulants and ROM exercises to improve swallowing.

**Discussion:** Of 26 patients who finished treatment, only five were dose-reduced and one had a radiation break. Patients expressed feelings of safety and security with such close management.

As access to aggressive therapy becomes more widespread, the oncology nurse role is essential to successful patient outcomes.

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**DEPRESSION IN FACE-TO-FACE AND INTERNET CANCER SUPPORT GROUPS: A PILOT STUDY.** Paula Klemm, DNSc, RN, OCN®, and Thomas Hardie, PhD, RN, CS, NP, University of Delaware, Newark, DE.

The purpose of this pilot study was to examine depression in Internet and traditional (face-to-face) cancer support groups. Bandura’s Social Cognitive Theory formed the framework for this work. Subjects were recruited from traditional and Internet cancer support groups over a one-month period. The sample consisted of 40 cancer patients, 14 from traditional groups and 26 from an Internet cancer support group with different cancer diagnoses. The face-to-face group was 100% male and the online group was 56 percent male (n = 14) and 44 percent female (n = 12). Data collection instruments consisted of a researcher developed demographic survey and the Center for Epidemiological Studies Depression Scale (CES-D). The cutoff score for the diagnosis of Major Depressive Disorder on the CES-D is 16. Findings revealed that the groups differed significantly on level of depression.

The traditional (face-to-face) group had a mean score of 1.86 (SD = 2.69) on the CES-D and the online group had a mean score of 29.27 (SD = 11.89); p = 0.00. Ninety-two percent of the online group had CES-D scores that indicated depression, as compared to zero percent for the face-to-face groups. When CES-D scores were correlated to total time on the Internet, results indicated that depression rates decreased over time (p = 0.06).

This study provided provocative data suggesting that more depressed patients with cancer use Internet support groups as compared to face-to-face support. Results may be explained by variance between the types of cancer, gender, or the self-selection of subjects participating in both groups. These factors limit applicability findings, as does the small sample size and lack of female participation in the face-to-face groups. Before online interventions can be effectively implemented, their efficacy needs to be evaluated. Nurses should be aware of the potential relationship between time online and depression in cancer patients. Early assessment and treatment of depressive symptoms in cancer patients is essential.

## 217

**THE DEVELOPMENT OF A SUPPORT GROUP PROGRAM FOR AFRICAN-AMERICAN PATIENTS AND HISPANIC/LATINO PATIENTS WITH CANCER.** Beryl Davis, MN, RN, Cynthia Medeiros, LICSW, Norma Gerton, MS, RN, and Eduardo Berinstein, Dana-Farber Cancer Institute, Boston, MA.

**Background/Rationale:** Support groups help patients and family members by providing the opportunity to increase the patient’s social network, discover solutions to common problems, and change perception of self and environment. Very little has been found in the literature about support groups for minority patients. Minority patients at our institute felt there would be a higher level of comfort in support groups with other patients of the same ethnic background.

**Program/Intervention:** Development of our support groups for two specific patient populations, African-American and Hispanic/Latino, included a needs assessment survey and focus groups. The survey, administered to a random sample of our patients from the two populations of interest, included a short description of a support group followed by four open-ended questions about format, time, and preference. Two focus groups for each population targeted specific interests and needs of the ethnic population.

**Interpretation/Discussion:** The cancer experience for the patient and family cannot be understood as an objective event separated from its cultural content. Seeking order to the chaos imposed by a cancer diagnosis and the likely changes in one’s lifestyle comes from an understanding of the cause and meaning of one’s cancer. The patient population is changing at our institution with a growing number of minority patients. In order to give excellent cancer care to our minority patients we must know their needs. This program will allow us to collaborate with patients of color to help them find an understanding and meaning of their cancers within the patients’ cultural context. This is true compassion and a critical component of oncology nursing.

## 218

**NURTURING FAMILIES: A BMT BEREAVEMENT PROGRAM.** Sallie Brovitz-Palmer, RN, BSN, OCN®, and Sandra Johnson, RN, BSN, Johns Hopkins Oncology Center, Baltimore, MD.

Blood and marrow transplant (BMT) nursing is focused on the physical, psychosocial, and spiritual needs of patients and their family members and significant others (FMSOs). Unfortunately, some patients do not survive. As the final step in a long journey, the patient’s death may be the most challenging circumstance that FMSOs endure. Nurses must therefore include caring for the survivors in their continuum of care.

One way to assist bereaved individuals is through a bereavement follow-up program. This allows the already established nurse-survivor relationship to continue to a point of closure and provides time for grieving and sharing of feelings.

Our BMT bereavement program was developed over 10 years ago as a research utilization project. A committee using a structured one-year plan manages it. A committee member prepares a contact file and sends a sympathy card within the first two weeks following the patient’s death. The committee member contacts the patient’s primary nurse to ascertain his/her interest in completing follow-up phone calls. To ensure consistency, the nurse who makes the call follows a list of specific questions. At two-months, we mail an informational packet containing a list of resource materials, information on grieving, and an explanatory cover letter. During the six-month phone call, physician contact information is given to FMSOs who are interested in discussing autopsy results. At this time termination is mentioned, allowing preparation time for FMSOs and the nurse. The 12-month follow-up call uses an informal script to assist the nurse in reaching closure with FMSOs. Ongoing contact is not offered. If FMSOs express the need for continued contact, they are referred to our institution’s cancer counseling center.

We also mail a separate holiday packet to FMSOs prior to the first Thanksgiving after the patient’s death. It gives coping suggestions, addresses many cultural and religious issues, and is accompanied by a letter explaining its purpose.

Bereavement follow-up of BMT FMSOs is a critical aspect of our total care. During BMT, patients and FMSOs depend upon nursing staff for information as well as emotional support. Our structured bereavement program provides a mechanism to shift care to the survivors.

## 219

**DEVELOPMENT OF A MULTIDISCIPLINARY PEDIATRIC GRIEF CENTER.** G. Eileen Bennett, RN, OCN®, CHPN, Wellmont Hospice, Bristol, TN; Teresa Bailey, RN, BSN, OCN®, Wellmont Health Systems, Kingsport, TN; and Wendy Vogel, MSN, FNP, AOCN®, Blue Ridge Medical Specialists, Bristol, TN.

Grief has many faces, but perhaps none so poignant as that of pediatric grief. The grief work of a child is unique, individualistic, and distinctly different from that of adults. Although as many as 2% of all children lose a parent before the age of 18, there is a distinct lack of pediatric grief resources and counseling services, particularly in rural areas. Parents are not given information or counseling on how to discuss bereavement issues with their children. Teachers and school counselors generally do not feel adequately prepared to deal with children who have experienced a loss. There is also growing evidence that inadequate support during and following the childhood loss of a parent may complicate the grieving process and negatively impact the child’s physical and psychological health status into adulthood. The development of a multidisciplinary grief resource center was undertaken to address and begin to resolve some of these difficulties. The primary goal of this undertaking was to provide pediatric grief counseling services and resources in a rural community and to enhance existing adult grieving services. A trio of oncology nurses applied for and received a seed-grant to initiate this project. A multidisciplinary board of directors was formed including oncology nurses, an oncologist, social workers, school counselors, grief counselor, parish nurse, and a hospice volunteer coordinator. A director was hired to set up the center and to begin seeking other sources of continued funding. A multidisciplinary, community-wide educational program is to be offered. Following this, a multidisciplinary volunteer group will be offered a series of training classes in pediatric grief counseling. The center will offer pediatric grief counseling, group counseling, and parental classes. A pediatric grief camp is being

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planned. The grief center library will hold books, videos, audios, and software resources on pediatric grief and will serve as a resource for community education on the grieving process. This project is an example of the impact that a multidisciplinary team lead by oncology nurses can make on a rural community.

## 220

**PSYCHOSOCIAL ISSUES ASSOCIATED WITH INCREASED BREAST AND OVARIAN CANCER RISK.** Jeannie V. Pascretta, PhD, RN, CS, and Stephanie (Siew Tzuh) Tang, RN, MSN, doctoral candidate, Yale University School of Nursing, New Haven, CT.

**Background:** Perception of genetic susceptibility may precipitate significant psychosocial sequelae. In order to develop effective breast cancer detection and prevention programs, it is essential to consider psychosocial issues that may foster or hinder utilization of genetic testing.

**Framework:** Studies suggest that a crisis response precedes the clinical presentation of the disease once susceptibility is determined. Awareness of genetic risk may constitute the first point of crisis in the cancer trajectory even though a diagnosis may be years away or may not occur at all. Many women, in fact, experience psychological distress based on their family history and their subsequent determination of their vulnerability whether or not they actually seek genetic testing. The study aims were to describe the psychological characteristics of women at increased risk for developing breast or ovarian cancer and to distinguish women who obtained genetic testing from those who did not.

**Sample and Methods:** Ninety-five women at increased risk for developing breast or ovarian cancer were surveyed using a mailed questionnaire to obtain demographic and psychological data. Subjects had at least two first degree relatives with a history of breast or ovarian cancer and were recruited from a university affiliated cancer center.

**Results:** Most participants were white, married, had children, were well-educated, employed, and with a mean age of 49 years. All women had varied relatives with breast or ovarian cancer and one-third experienced the death of a relative from breast/ovarian cancer. The mean score on the CES-D depression scale was 19.3, exceeding the cutoff score for clinical depression (mean = 16). Global psychological distress as measured by the Brief Symptom Inventory was significantly higher than in the general population. Variables that characterized women who actually had predisposition genetic testing included lower perceived risk of developing breast cancer, not having a mother with a history of breast cancer, having a sister with a history of ovarian cancer, experiencing the death of a relative, lower overall psychological distress, and lower depression.

**Implications:** Depression and psychological distress in these women are profound, thus psychosocial problems must be ascertained so that targeted interventions can be instituted early in the lengthening cancer trajectory.

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## 221

**WHAT ABOUT MY CHILDREN?** Mary Ropka, PhD, RN, FAAN, Susan Miesfeldt, MD, Wendy Cohn, PhD, and Susan Jones, MS, University of Virginia School of Medicine & School of Nursing, Charlottesville, VA.

**Problem:** Scientific progress has increased the ability to estimate hereditary breast cancer (HBC) risk. This presents concerns about communicating HBC risk information, especially with children.

**Purpose:** Among women with early-onset breast cancer (BrCa), examine: 1) concerns regarding children's BrCa risk, 2) perceptions of children's BRCA1 concerns, and 3) beliefs regarding whether, at what age, and how children should be informed about BRCA1 risk.

**Theoretical Framework:** Levant Hal's Common-sense Model guided this study.

**Methods:** Study sample was recruited from all 71 Virginia hospitals reporting (1994–1997) BRCA1 cases in women before age 50. Women were sent: 1) Family History Questionnaire (FHQ) to assess if criteria for suspected HBC were met, and 2) Knowledge, Attitudes, and Beliefs Questionnaire (KABQ) to collect information about demographics and BRCA1 risk concerns. FHQ and KABQ were developed based on literature review, a validated ELSI/NHGRI/NIH questionnaire, and experience of investigators, then pilot tested and revised.

**Data Analysis:** Descriptive statistics for KABQ items were calculated (SPSS 9.0).

**Results:** Eighty seven percent (273/314) of study participants returned both questionnaires. Demographic characteristics reported by 267 participants included 91% Caucasian; 23% high school graduates, 27% college graduates, 18% graduate degrees; 6% never married; 72% with children. Fifty two percent met study criteria for suspected HBC. Of 231 women with children, 82% were concerned about their children's breast cancer risk "because of your diagnosis of breast cancer." Fifty five percent of women reported their children, both sons and daughters, were concerned about his/her own breast cancer risk "because of your diagnosis of breast cancer." Sixty one percent believed that children should "first be given information about their own risk for getting breast cancer" before

age 18. Women who thought children should be given BRCA1 risk information reported it should be provided by any of the following: a parent (84%), primary care provider (65%), gynecologist (33%), oncologist (19%), nurse or nurse practitioner (17.5%), genetic counselor (12%), or friends (4%).

**Implications:** Future cancer nursing practice, research, education, and policy should address potential BRCA1 risk in children. Our study suggests the need for HBC informational resources for children and families, and can guide their development.

## 222

**SELF-TRANSCENDENCE IN BREAST CANCER SUPPORT GROUPS.** Doris Dickerson Coward, RN, PhD, APN, University of Texas at Austin School of Nursing, Austin, TX.

The traditional goals of cancer support groups are to provide basic information about cancer and treatment, offer emotional support, and teach coping mechanisms. The purpose of this NIH-funded experimental design study is to expand those traditional goals by consciously promoting self-transcendence views and behaviors within a support group for women with newly diagnosed breast cancer. It was hypothesized that there would be greater changes on measures of self-transcendence and well-being over an eight month period in 80 women participating in experimental breast cancer support groups compared with 80 women in traditional cancer support groups. The intervention was developed from theory and research connecting multidimensional expansion of self-concept boundaries with maintaining/restoring well being within adverse situations.

The 160 participants are recruited sequentially in groups of nine into experimental and control groups. Experimental group participants attend an eight-session breast cancer support group facilitated by an oncology clinical nurse specialist, a mental health consultant, and a breast cancer survivor. Activities promoting expansion of self-concept boundaries are implemented during group sessions. Women are encouraged maintain contact between sessions and after the end of the group. Control group participants are assisted in locating conventional cancer support groups within the local community.

Participants complete paper and pencil questionnaires three times (at baseline, after the experimental support group or two to three months later, and six months later). All study instruments (Self-Transcendence Scale, Purpose-in-Life Test, Symptom Distress Scale, Karnofsky Performance Status, Profile of Mood States, Cognitive Well-Being Scale, and Dyadic Adjustment Scale) were used previously with cancer patients and demonstrated acceptable reliability in the first 120 women completing the study. Lymphocyte proliferative status is assessed in a subset of 40 participants. Data are analyzed using descriptive statistics, correlation, t-test, MANOVA, and ANOVA.

Preliminary findings support results of previous correlational and phenomenological studies, and the investigator's pilot support group research. Findings will help oncology nurses recognize the centrality of self-transcendence in the lives of women with breast cancer. Development and implementation within cancer support groups of techniques to facilitate expansion of self-concept boundaries may help survivors more easily find purpose and meaning and healing within the context of cancer.

## 224

**CHEMOTHERAPY SYMPTOM DISTRESS: IMPACT ON QUALITY OF LIFE.** Li-Chen Lin Wann, RN, NP, Mount Sinai Medical Center, New York, NY; and Diane Zgalzic, RN, NP, Frances Cartwright, RN, PhD, AOCN®, Lisa Desjardins, RN, NP, Patricia Doughan, RN, BSN, and Raptis George, MD, Mount Sinai Health, New York, NY.

Individuals diagnosed with cancer who are undergoing chemotherapy will experience a variety of symptoms based on their diagnosis and treatment which will subsequently impact their quality of life (QOL). While the incidence of symptoms common to chemotherapy is well known, the distress that individuals perceive from these symptoms is less clear. This descriptive study is an interdisciplinary team response to the challenges associated with the restructuring of healthcare delivery in meeting patient needs in both inpatient and ambulatory settings. The framework used to guide this study is the Model of Symptom Management (Dodd et al., 2001), a comprehensive QOL model that considers the person, environment, and health/illness factors that influence the symptom experience of patients undergoing chemotherapy. The dimensions of QOL related to chemotherapy in this framework are the physical, psychological, and social aspects of caring. Using a longitudinal, descriptive design, data are collected from a mixed cancer sample stratified to four groups classified by type of chemotherapy. The Memorial Symptom Assessment Scale – Short Form (MSAS SF, Chang et al. 2000) captures the patients perception of physical and psychological symptom distress, and the Social Support Network Inventory (SSNI, Flaherty & Gaviria, 1981) captures the patients perception of social support. Demographics are collected. A treatment form includes diagnosis, stage of disease, and chemotherapy regimen. The data collection points are prior to the start of the first chemotherapy cycle, midway, at completion of the regimen, and at recovery. With 15 patients per group, the 95% C.I. has a half-width of 0.5 SD. A polynomial function of time will be fit to the scores using a mixed model where time is

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a fixed effect and the patients are the random effects. This data will provide information regarding chemotherapy impact on QOL and will be used as a guideline to assess existing patient teaching strategies and need for supportive services.

Findings will be presented to appropriate committee's to identify and develop a plan to meet these needs. The need for controlled randomized clinical trials, essential to determine which interventions are most effective in improving QOL outcomes, can then be examined.

## 225

**LYMPHEDEMA, PAIN, AND QUALITY OF LIFE IN AXILLARY LYMPH NODE DISSECTION AND SENTINEL LYMPH NODE BIOPSY BREAST CANCER PATIENTS.** Elizabeth J. White, RN, MN, AOCN®, VA Puget Sound Health Care System, Seattle, WA; Alison Perrin, MD, Northwest Surgical Specialists, Seattle, WA; Ron Rowbotham, MS, Northwest Hospital, Seattle, WA; Barbara Chasan, RN, BSN, Seattle Breast Center, Seattle, WA; and Linda Lake, RN, MN, US Navy, Bremerton, WA.

Axillary lymph node dissection (ALND) is performed in women with breast cancer to predict survival, to stage disease, and to reduce the risk of regional recurrence. Complications associated with ALND include lymphedema, pain, and reduced range of motion. These complications may impact quality of life.

Sentinel lymph node biopsy (SLNB), an alternative to ALND, involves the removal of the first lymph node drained by the invasive tumor, theoretically reducing the complications associated with ALND. The aim of this study is to compare the complications experienced by patients receiving ALND and SLNB. Forty-six subjects with stage I and II tumors without axillary node disease (based on clinical assessment) were approached prior to surgery. Of the 44 subjects who agreed to participate, three subjects were excluded post operatively based on final pathology (change in stage of disease). Eleven subjects (12 cases) underwent an ALND and 32 subjects (32 cases) underwent SLND. Subjects were evaluated preoperatively, at six months, and at 12 months for change in arm circumference, range of motion (goniometer readings), pain (McGill Pain Questionnaire), and quality of life (CARES-SF). Six-month evaluation has been completed on all but one subject. Twelve-month evaluations will be completed on all subjects in February 2002.

Thirty-six of the subjects (88%) were Caucasian, 20 subjects (49%) had at least some college education, ages ranged from 29 to 83 years (average 61.4 years). The number of nodes in SLNBs ranged from one to four nodes (average 1.88), while the number of nodes in ALNDs ranged from seven to 17 nodes (average 11 nodes).

A higher proportion of subjects with ALND showed notable arm swelling and decreased range of motion measurements on three out of four measures than SLND subjects. Sample size precluded statistically significant differences. Pre-operatively, pain scores were low and remained low at the six-month evaluation for women with SLNB. While reporting low pain scores, SLND subjects did use numerous descriptive terms suggesting a change in sensation not identified as "pain."

Quality-of-life scores and ALND pain scores will be evaluated at the end of the study for differences between surgical groups at the three time intervals.

## 226

**QUALITY-OF-LIFE ISSUES IN OVARIAN CANCER: "CONVERSATIONS!" WITH 21,806 WOMEN.** Betty R. Ferrell, RN, PhD, FAAN, Stephany Smith, BA, Jen Itano, and Thais Marek, City of Hope National Medical Center, Duarte, CA; and Cindy Melancon, *Conversations!* newsletter, Amarillo, TX.

Quality of life (QOL) concerns are prominent for the 23,400 women in the United States who will be diagnosed with ovarian cancer this year and for the 13,900 women who will die of this disease in 2001. The purpose of this qualitative study was to describe QOL concerns and experiences in women with ovarian cancer in order to advance future care. The conceptual framework for the study was the model of QOL in Cancer Survivors developed by Ferrell, Dow, and Grant (1999). The model encompasses four dimensions of physical, psychosocial, social, and spiritual well being. The study methods were based on qualitative research procedures of ethnography (Leininger, 1985) involving the study of the culture of mutual support offered by ovarian cancer survivors. The data was received from women with ovarian cancer who corresponded through an ovarian support newsletter, "Conversations!". The correspondence (n = 21, 826) occurred from 1990–2000. Analysis procedures included data reduction and content analysis using the QOL model as a guiding framework. An expert panel of nurse experts in ovarian cancer, QOL, and an ovarian cancer survivor validated the coding. Findings based on major themes derived from the analysis include intense expressions of pain and fatigue as symptoms of their primary disease as well as the result of treatment. Fears of recurrence and distress over treatments are coupled with profoundly candid explanations of methods to cope and maintain hope. The overwhelming support that these women are receiving from their family and friends is not successful in alleviating feelings of isolation, and the need to confide in other survivors who identify with their personal battle. Faith in God for comfort and healing is strong in the vast majority of the letters as well as the meaning that they have found in illness and its ability to enact positive changes in their lives.

**Implications:** This study provided a rare opportunity for an ethnographic exploration of QOL from the naturalistic correspondence between women with ovarian cancer. The findings serve as a voice for women with ovarian cancer to share their experiences from diagnosis through treatment, survivorship, or advanced disease and death.

## 227

**DETERMINANTS OF CONGRUENCE BETWEEN THE PREFERRED AND ACTUAL PLACE OF DEATH FOR TERMINAL CANCER PATIENTS.** Stephanie (Siew Tzuh) Tang, RN, MSN, doctoral candidate, Yale University School of Nursing, New Haven, CT.

**Background:** Approximately two-thirds of cancer patients wish to die at home. However, the majority of deaths from cancer occur in a hospital. In order to provide end-of-life care in accord with the wishes of terminal cancer patients, it is essential to understand the determinants of congruence between the preferred and actual place of death.

**Purpose:** The purposes of this study were 1) to explore the degree of congruence, and 2) to identify the determinants of congruence between the preferred and actual place of death for terminal cancer patients.

**Theoretical Framework:** Antonovsky's (1987) sense of coherence is the theoretical framework of this study. It is hypothesized that if patients perceive that dying at the preferred place has significant value, that necessary resources for achieving this preference are adequate at their disposal, and that they can comprehend the demands imposed by achieving the preference, the probability of congruence between their preferred and actual place of death will be high.

**Methods:** Based on power analysis, a projected 160 terminal cancer patients will be recruited by a convenience sampling method. Preference of place of death was gathered by semi-structured interviews. Sense of coherence, symptom distress, and level of functional dependency were measured by Sense of Coherence Scale (SOC), Symptom Distress Scale (SDS), and Enforced Social Dependency Scale (ESDS), respectively. After the data collection interview, subjects were followed until they die to find their actual place of death.

**Data Analysis:** The degree of congruence between the preferred and actual place of death will be addressed by kappa statistics. Logistic regression with backward selection will be used to identify determinants of congruence between the preferred and actual place of death.

**Results:** Over 50% of the sample has been recruited. Preliminary data indicated that only approximately one-third of subjects could die at the place as they preferred. There are differences in scores of SOC, SDS, and ESDS between the congruent and noncongruent groups.

**Implications:** Results from this study will provide the groundwork for future intervention studies or policy modification to promote death at a place in accord with patient wishes and ultimately end-of-life care can be enhanced.

## 228

**PATIENT CONTROL AND END-OF-LIFE CARE.** Debbie Volker, RN, PhD, AOCN®, University of Texas at Austin School of Nursing, Austin, TX.

Collectively, the lay public and healthcare professionals share an interest in improving care of the dying and promoting dignified dying. Although maintaining a sense of control and comfort appear to be important components to patients in end-of-life (EOL) care, empirical evidence for what constitutes dignified dying as a patient-defined outcome is lacking. Oncology advanced practice nurses (APNs) have the theoretical and research-based knowledge and skills to provide insight into individualized care requirements and needs of the dying. Hence, the advanced practice nursing perspective on strategies to facilitate patient control and comfort at EOL adds an invaluable viewpoint to this challenging component of cancer patient care. The purpose of this descriptive, qualitative study is to 1) explore the nature of what patients with advanced cancer want regarding personal control and comfort at EOL, and 2) explore strategies oncology APNs use to assist those patients to achieve personal control and comfort at EOL. The conceptual orientation of this study is grounded in the theoretical concept of personal control and Lewis' conceptual typology of control. A purposive, statewide sample of 8–12 oncology APNs and 8–12 of their patients with advanced cancer is being recruited. The study design is based on Denzin's model of interpretive interactionism, a postpositivist research method that blends the schools of hermeneutics, symbolic interactionism, ethnography, and naturalistic inquiry. Interviews of nurses and patients will be analyzed using Denzin's interpretive process for data analysis. Standards for maintaining trustworthiness in qualitative research will be implemented. Study findings will be presented in the poster display. As the group of professionals who provide the most sustained care at the end of life, nurses must be prepared to assist patients to achieve a dignified death that is respectful of patient values and preferences. Findings from this study will provide insight into patient preferences and nurse strategies for control and comfort at EOL, and can be used to improve clinical care for patients with advanced cancer.

Findings may also provide guidance for future research to design and test interventions designed to identify and promote patient preferences for EOL care.

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