

## Hematologic Malignancy Education for Stem Cell Transplantation Nurses

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**P**atient presentations and treatment protocols in the stem cell transplantation (SCT) practice setting are constantly evolving, multiple clinical trials are ongoing, state-of-the-art advanced care changes rapidly, and care of the patient before, during, and following transplantation is complex. Nursing practice in this population requires a specialized knowledge of individual protocols coupled with a broad understanding of disease presentation and treatment for the variety of diagnoses for which patients undergo SCT. The sheer volume of information related to the care of patients undergoing SCT is challenging for the most experienced nurses and, particularly, for new oncology nurses. The complexity and diversity of the SCT patient population and their care parallels the increasing generational, educational, and professional backgrounds of nursing staff, all of which necessitate the provision of consistent and evidence-based education for safe and effective patient care.

Both new oncology nurses and those unfamiliar with complex treatment protocols must quickly integrate a breadth of knowledge along with an advanced set of clinical skills specific to SCT. In addition, increasing subspecialization may require novice nurses to quickly become experts, particularly in the oncology practice setting, where the numerous dose-intensive conditioning regimens administered before transplantation are complicated and require knowledge of individual protocols and medications for specific cancer diagnoses.

To provide SCT nurses, particularly those new to the practice setting, with contemporary evidence-based information on the prominent underlying hematologic malignancies for which individuals undergo SCT, as well as the complications and oncologic emergencies for which these populations are at increased risk, an educational reference chart was developed by the first author of this article.

### Background and Significance

Nurses' lack of knowledge on how to locate accurate and reliable information, lack of access to the tools necessary to search for evidence-based information, and insufficient time to resolve these shortcomings are frequent barriers to meeting the demands of evidence-based practice (Pravikoff, Tanner, & Pierce, 2005). Pravikoff et al. (2005) reported that most RNs recognize the need for evidence-based information in their practice, but the majority admitted to obtaining that information from a peer or colleague rather than from a printed or electronic resource, largely because of nurses' trust in their colleagues.

Nurses can access information in many ways. For example, some nurses may be inclined to search the Internet for information, which can provide unreliable, non-evidence-based data. In Pravikoff et al. (2005), 73% (n = 741) of nurse respondents stated they sometimes, frequently, or always use the Internet to obtain clinical information. In the acute care practice setting, where new graduate nurses composed more than 10% of a typical hospital or health-care system staff, this instinctual use of the Internet for clinical resources may, in part, account for the fact that only 10% of hospital and health system executives felt that newly graduated nurses were completely prepared to provide safe care (Berkow, Virkstis, Stewart, & Conway, 2009). This is particularly true for SCT and cellular therapies, services that address the needs of patients from a variety of oncologic backgrounds.

In many ways, SCT nurses are isolated from the specialty areas from which their patient populations are derived in the context of a large, subspecialized National Cancer Institute (NCI)-designated comprehensive cancer care center. An increasing number of patients with hematologic malignancies, such as leukemia, lymphoma, and myeloma, undergo SCT as a treatment option. Therefore, an

evidence-based working knowledge of these malignancies is essential for SCT nurses to effectively understand and care for patients undergoing transplantation to treat these disease presentations. Although a wealth of resources are available to nurses at the authors' institution, most require accessing databases, which can be time consuming.

### Educational Chart Development

To address the information needs of an SCT unit nursing staff of almost 150 individuals within the authors' institution, 23% of whom were newly graduated or within the first two years of their nursing career, the first author developed a comprehensive quick-reference chart (see Table 1) regarding the prominent underlying hematologic malignancies for which individuals undergo SCT, as well as the complications and oncologic emergencies for which these populations are at increased risk.

Prior to the development of the chart, an educational needs assessment was provided to the nursing staff of this 52-bed unit to determine their learning needs related to primary hematologic diagnoses and oncologic emergencies. The assessment also queried nurses as to the preferences for the formatting of such information. The assessment results were overwhelmingly in favor of an easily accessible quick reference for the purposes of education in the clinical setting. Using this feedback as a guide, the first author then identified the most common hematologic diseases for which SCT is used as treatment. Primary information was obtained based on a search of the literature to ensure evidence-based content regarding oncology and SCT and to establish background on the hematologic diagnoses most commonly treated with SCT. In addition, a review of the most common complications and oncologic emergencies associated with these hematologic malignancies and their management was conducted. With the help of a