

Topic Significance & Study Purpose/Background/Rationale: The purpose of this study was to determine if adding an instructional video to discharge teaching would standardize and increase efficacy of CVC care discharge teaching conducted by nurses and improve BMT patient and caregiver knowledge and comfort level with CVC care.

Central venous catheter (CVC) manipulation and care puts patients at risk of acquiring central-line associated blood stream infections (CLABSIs). Thus it is imperative that caregivers receive standardized education, which takes into account varied learning needs. Research in patient care settings has shown that in addition to traditional patient education methods, videos can provide standardized education and improve both patient knowledge and satisfaction with learning. The current practice at this Academic Medical Facility's Blood and Marrow Transplant (BMT) program provides patients and caregivers with a written BMT manual describing CVC care, CVC care class, and verbal CVC care teaching prior to discharge.

Methods, Intervention, & Analysis: BMT patients and caregivers that received discharge teaching were surveyed to assess their comfort level and knowledge of their CVC care. In addition, nurses who performed CVC care discharge teaching with BMT patients were surveyed regarding their teaching content and procedure. A pilot instructional video demonstrating all aspects of CVC care was developed using current standards. The video was shown to BMT patients and caregivers with pre- and post-surveys assessing knowledge and comfort level with CVC care.

Findings & Interpretation: The nurse surveys as well the patient and caregiver surveys revealed both knowledge and practice discrepancies. The pre- and post-surveys showed an increase in both CVC care knowledge and comfort level following the viewing of the pilot instructional video.

Discussion & Implications: The addition of an instructional video to the current CVC care teaching process will provide standardized CVC care education for patients and caregivers. The video will also ensure that multiple preferred learning methods are being utilized. This is essential in reducing the risk of CVC complications, improving patient knowledge, and increasing patient comfort with CVC care.

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Nurses' Role in Decreasing Cardiopulmonary Damage in a Setting of Necessary Cardiopulmonary Toxic Therapy

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Topic Significance & Study Purpose/Background/Rationale: Transplant physicians study t-cell modulated therapy, novel immunosuppressive therapies, and cell selection during mobilization—the very construct of transplantation. Traditionally nurses focus on symptom-management. The concept of nurse-driven symptom management should be expanded. Transplant nurses are in an excellent position to broaden their scope and significantly impact patient outcomes by protecting patients from untoward cardiac and pulmonary effects.

Methods, Intervention, & Analysis: During transplantation, chemotherapeutic agents, radiation, immunosuppressive medications, antiemetic medications and antibody therapies can damage the cardiovascular and/or pulmonary systems. In fact, Chow et. al. found increased frequency of cardiovascular hospitalizations and mortality among transplant recipients (*Annals of Internal Medicine*, 2011). While some heart and lung functional loss is unavoidable due to essential therapies,

some cardiopulmonary injuries are preventable. Nurses have a paramount role in preventing patients from worsening to critical care status as well as safeguarding patients from short-term mortality and long-term morbidity. The severity and frequency of some untoward cardiac and pulmonary effects can be avoided with more informed management.

Findings & Interpretation and Discussion & Implications: This discussion will review common therapies that damage the cardiovascular and pulmonary systems. For instance, radiation can cause pneumonitis, and tacrolimus can prolong a QTc on an ECG. However, normal saline is a therapy as well. During certain induction and conditioning regimens as well as hypotensive events, fluids are administered liberally and often without diagnostics in place. Many patients with transient hypotension are transferred to a higher level of care due to fluid volume overload. This example is but one area where nurses can improve care. Acute and long-term signs and symptoms will be explored with an emphasis on pathophysiology and diagnostics. Stroke volume research from fluid volume recipients will be briefly presented (Aim 3 of USCOM Feasibility Study, 2014). Finally, interventions will be reviewed. In short, the unavoidable cardiopulmonary side effects will be separated from preventable ones.

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Improvement of Patient Education in Preparation for the Inpatient Transplant Stay

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Topic Significance & Study Purpose/Background/Rationale: BMT patients at our institution receive extensive education prior to transplantation through written materials, classes, and discussion with physicians, nurses, and transition nurses. The amount of information received has been described as “overwhelming” by the patient and caregiver and often is variable and inconsistent amongst disciplines.

Methods, Intervention, & Analysis: To better understand and address our patient and caregiver educational needs, a written survey was developed and administered to post-transplant patients (n=28) the day before discharge from the inpatient unit. The survey assessed perception of pre-transplant education, education preferences, preferred time to receive education, and how well the current education prepared patients for their inpatient admission. Results indicated that patients noticed inconsistencies in information presented. Patients also expressed a preference for multiple learning experiences using written material, one on one interaction, and classroom lecture. A survey was also administered to all BMT nurses (n=70, 57% response rate) across the continuum to assess thoughts on current education, barriers to education, and what gaps in education existed. Results confirmed that education was inconsistent.

Based on survey results, the program's education plan was revised by a multidisciplinary team. Classroom sessions were previously three hours long and discussed both autologous and allogeneic transplant. Classes have been shortened and separated into autologous and allogeneic classes, allowing for presentation of focused information. The program's autologous and allogeneic transplant handbooks were completely revised to eliminate long sections, remove areas of duplication, change paragraphs to bullet format, and add pictures and color. Individual patient education sessions were standardized by development of a checklist, ensuring that each nurse reviewed the same information with each patient.