transplantation. Eventually the classes may include presentations by ancillary staff. While initial feedback is positive, the transplant program would like to formally evaluate the effectiveness of this change. Possible avenues of exploration include a formal literature review, collecting data via patient satisfaction surveys and evaluating patient preparedness.

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**IMPROVING OUTCOMES THROUGH FITNESS: EXERCISE FOR BMT PATIENTS**

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A blood and marrow transplant (BMT) unit at a comprehensive cancer center is piloting an exercise program for inpatients. BMT patients suffer from fatigue, rapid deconditioning, and profound anemia, and often report a sense of isolation and helplessness. Falls with injury are all too frequent. Recent studies have reported that BMT patients who exercise during hospitalization experience less fatigue, fewer blood transfusions, decreased length of stay, and improved well-being. Studies of other populations have shown significant reductions in fall risk resulting from exercise. The planned exercise program can improve patient outcomes by promoting physical mobility, maintaining conditioning, and providing social interaction with other patients sharing the same challenges. Interest in the program was assessed by surveying inpatients regarding their desire to participate in an exercise class. Results indicated that over half would participate if the class were offered. The following steps are planned for implementation and evaluation of the program over a 4 month period: 1) Flyers posted at the nursing station will remind nurses and unit secretaries to ensure a Physical Therapy (PT) consult is ordered for every admission. 2) PT will see each new admission within 48 hours for initial assessment and exercise planing. 3) A 15 minute group exercise class will be offered twice weekly, led by PT or trained RN. 4) Staff nurses will be encouraged to ensure patient compliance with the plan and remind them to attend the group exercise class. 5) Participation in the class and other exercise activities will be charted and monitored. 6) Patient satisfaction with their physical condition and sense of well-being will be re-assessed using a brief questionnaire at discharge to permit comparison of participants and non-participants. The initial findings will serve as a basis for planning a case/control study of exercise and overall outcomes including fall rates, length of stay and use of blood products. A successful program will generate benefits to both patients and society due to improved outcomes and lower costs of care.

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**ADDRESSING THE UNMET SOCIAL NEEDS OF THE AYA STEM CELL TRANSPLANT PATIENT**

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Cancer during the adolescent and young adult years challenges young people’s ability to achieve crucial developmental milestones. Recent studies have demonstrated the unmet social needs of adolescent/young adult (AYA) patients. In order to foster the necessary transition from adolescence into adulthood, services that better meet the needs of AYA patients are necessary. Such needs include identity development, social relationships, employment/education, and physical functioning. Literature demonstrates that AYA patients are clumped into either pediatric or older adult populations. As a large, teaching cancer center in the southwest, our institution has taken this knowledge and has implemented programs that target stem cell transplant patients between 18–25 years of age. These programs include child life services, vocational/educational counseling, and access to developmentally appropriate exercise/gaming equipment. Camp information, diversional activities, and two AYA game rooms are a few of the services offered by child life. The exercise/gaming equipment provided includes Play Station exercise game bikes, Nintendo Wii’s, and dance pads. We will demonstrate how the programs offered address AYA unmet needs and foster social growth. At our institution, patients 25 years and younger currently receive their stem cell transplant on the pediatric unit where there is greater access to these programs. We will present practice stan-

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**MULTIDISCIPLINARY SIMULATION TRAINING FOR TRANSPLANT STAFF TO IMPROVE RESPONSE TO INPATIENT MEDICAL EMERGENCIES**

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The use of multidisciplinary simulation-based training provides a realistic method to recreate the high risk, acute, intensive care environment associated with the BMT patient in a medical emergency. The short term goal of this training is to improve the care provided to BMT patients while in a medical emergency such as shock, arrhythmia, anaphylaxis, status epilepticus or full resuscitation/code events. The ultimate goal is to decrease Serious Safety Events (SSEs) and “near misses” by improving not only the technical skills involved with BMT patients; but also the communication and teamwork among key clinical care providers involved in the care of the BMT patient. The training curriculum emphasizes effective communication in routine and critical situations and pursues the development of personal investment in safety and intervention strategies. These goals directly correspond to the areas identified as priorities for the Agency for Healthcare Research and Quality (AHRQ) including: identifying threats (dormant or latent safety issues that may not be identified until an actual patient occurrence), identifying, evaluating and implementing effective patient safety practices; and maintaining vigilance. In this project, all BMT healthcare providers participate in critical simulations that take place in the simulation lab. Compliance with expected technical interventions and timing of such interventions is evaluated. Simulations are digitally recorded and debriefed in a standardized manner, and evaluated for teamwork behaviors. Knowledge and attitudes of participants are assessed on a longitudinal basis. Identification and classification of safety threats, as well as actions taken to address these threats, are also analyzed. At Cincinnati Children’s Hospital Medical Center we have developed BMT-specific clinical scenarios. We estimate 40 health care providers will complete simulation training; assessment of efficacy is ongoing. This project uses simulation as a tool for providing ongoing reinforcement of technical and teamwork training for the clinical care team. We believe this will establish teamwork training as a routine part of clinical practice and promote frequent deliberate practice of these skills. It is unique in using simulation to increase the knowledge base and skill set in order to positively impact the clinical care environment.

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**EVALUATING EFFICACY AND COST OF STANDARD ANTIEMETIC ADMINISTRATION ROUTE IN THE OUTPATIENT AUTOLOGOUS STEM CELL TRANSPLANT**

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Purpose: To measure the cost effectiveness and symptom control of intravenous (IV) Ondansetron versus oral as an antiemetic in out patient autologous (auto) stem cell transplant (SCT) patients who received high dose Melphalan as a conditioning regimen.

Approach: Ondansetron is typically used as our anti-emetic standard of care throughout the transplant course. For the outpatient SCT patients it is prescribed either as an oral medication or as a continuous infusion along with daily IV hydration (hydration is given from day 0 until engraftment). We know that IV Ondansetron is more expensive than oral Ondansetron but it is not clear in this patient population if route is a variable in better symptom control of nausea and vomiting. If we determine that the IV formulation of the drug is more effective in controlling nausea and vomiting, we will prescribe it day 1 through day 7 with IV fluids for all out patient auto SCT patients. If we learn that there is better control of symptoms with the oral formula of the drug or no difference between
the two then we will give Ondansetron IV during chemotherapy only (day 1 and 2) and prescribe oral Ondansetron 16mg daily for five days as the oral formulation is more cost effective.

Method: Nausea assessment will be completed of twenty patients who are undergoing auto out patient SCT for Myeloma with a conditioning regimen of high dose Melphalan. Ten of those patients will receive IV Ondansetron 16mg day 1 through day 7 and ten will receive IV Ondansetron 16mg day 1 and 2 then oral Ondansetron 16mg on days 3 through 7. Patients will be asked to keep a log of their nausea daily using a nausea assessment scale. The following scale will be used: 0 = not at all, 1 = a little bit, 2 = somewhat, 3 = quite a bit, 4 = very much. This scale is currently being used in our SCT follow-up clinic. Cost will be calculated with the help of our pharmacy staff.

Interpretation: Data will be analyzed and presented and anti-emetic recommendations will be made based on these patient outcomes and costs of two different regimens.

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PEDIATRIC BLOOD AND MARROW TRANSPLANTATION (BMT) MEDICATION ERROR REPORTING SYSTEM (MERS): AN APPROACH TO IMPROVING QUALITY OF CARE OF PEDIATRIC BMT RECIPIENTS

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MERS is an in house electronic system that facilitates all staff members involved in patient care to anonymously report either an error or a near miss. Within the BMT program, the Quality Management (QM) team uses MERS to improve the quality of care provided to the pediatric BMT recipients. Any MERS filed concerning pediatric BMT patients are electronically sent to the Pediatric BMT QM Nurse Coordinator daily. All events and near misses are distributed to the chief of the Pediatric BMT Division, BMT Clinical Pharmacist, BMT CNS and BMT QM Medical Director. All events which are considered as a sentinel event are acted on immediately. Monthly meetings are held with the QM team to review all MERS reports. Quarterly, all MERS reports are compiled and distributed into 6 categories including: Nursing, Pharmacy, Lab, Equipment, Falls and Miscellaneous and are reviewed at our BMT QM Steering Committee Meetings. Performance improvement plans are developed based on trends in the quarterly analysis. From September 2007–September 2008 90 MERS were reported concerning the pediatric BMT population. The breakdown included: Nursing Error: 38%, Pharmacy Error: 16%, Laboratory Error: 13%, Equipment Error 18% Falls: 6% and Miscellaneous: 24%. Two performance improvement initiatives were developed during this past year as a result of BMT MERS reporting in the areas of Pharmacy and Equipment. MERS filed by the BMT nursing staff was focused on anti-thymocyte globulin (ATG) and its location in the medication room on the BMT unit. This medication had no special label and was not separated from similar looking IV bags. Due to multiple MERS reported regarding the danger of having the ATG bags within the same bin as the IVF bins, a performance improvement plan was initiated including nursing and pharmacy education and separation of ATG bags from IVFs. Since then, we have had no MERS reported on labeling or misadministration of ATG. Secondly, BMT nurses filed MERS on new IV connection caps that were causing splashes when the line was accessed, difficulties in drawing blood, and increase CR-BSI. A performance improvement plan resulted in change in caps and a subsequent resolution of difficulties and reduction in CR-BSI. In summary, incident reporting has a huge impact on the BMT QM program. These results suggest that specific pediatric BMT incident reporting by an electronic system can result in change in practice and improvement in quality of care to pediatric BMT recipients.

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SPIRITUALITY: THE ESSENTIAL SECRET

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The subject of spirituality and its relation to health and specifically oncology, has risen to the forefront in nursing literature and research over the last decade. However, despite the increasing body of literature on this topic, many healthcare providers feel ill prepared to address a patient’s spiritual needs, and despite patients’ desire to discuss the topic, many providers ignore it altogether. A program was developed for oncology healthcare providers with the purpose of reporting an integrative literature review, to increase participants understanding of spirituality as a concept with a broad definition to encompass all patients. It also incorporated Parse’s nursing theory of human becoming into this concept along with the key components of spirituality, including a search for meaning, connectedness, and survival of hope. These components were explored to purport the importance of addressing spirituality with all patients, particularly those in the oncology population, as existential questioning occurs with a cancer diagnosis and patients struggle to find coping mechanisms. The program also addressed the findings that the spirituality of an oncology patient affects not only the patient, but the family as a whole. The focus of patients and their caregivers may differ, thus causing conflicts within a family. Ways to acknowledge these struggles and interventions were discussed, providing a knowledge base for providers. It is also important for the provider to understand that to support a patient during a time of spiritual need or to address spirituality as a piece of holistic care, the provider must first understand his/her own spirituality. The audience participated in a short spiritual exercise to direct them in exploring their own spiritual facet. Spiritual assessment tools have improved over the last decade and are available for clinical use. These were discussed and assessed as well. Finally, interventions for patients in spiritual distress were discussed in the form of an original acronym, REST. The findings of this literature review and program development will be presented as sections addressing the definitions of spirituality with the key components found as commonalities throughout all definitions, the importance of addressing spirituality, the affect of spiritual distress on the family, available assessment tools and their validity and reliability, and interventions for spiritual distress, in the form of REST, an original acronym.

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THE PRIMARY MYELOMA NURSE: AN EXPANDED ROLE OF THE TRANSPLANT COORDINATOR

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Traditionally, the role of the transplant coordinator in the care of multiple myeloma (MM) patients is focused on coordination of transplant screening, stem cell mobilization and collection, high dose chemotherapy, stem cell rescue and post-transplant recovery. The Moffitt Myeloma Program recognizes MM as a chronic disease and provides comprehensive care over the entire continuum from diagnosis to end of life. Rather than "hopping from lily pad to lily pad" of care providers (from primary physician, to hematologist, to transplant specialist then returning to hematologist), the patient experiences unfragmented transitions in care through remissions and exacerbations of MM. Within this novel model of care delivery, the transplant coordinator has an expanded role as Primary Myeloma Nurse (PMN). The role of the PMN may be compared to that of primary nurses in the care of other chronic diseases such as chronic heart failure and chronic obstructive pulmonary disease. A patient is referred by their primary physician and will remain with the Moffitt Myeloma Team for diagnosis, induction, possible transplant, relapse treatment, clinical trials and end of life care. The PMN is "the tie that binds", essential to linking all aspects of care and assisting implementation of all phases of this trajectory. Beyond transplantation, the PMN acquires knowledge and expertise of chemotherapy, novel and experimental agents for induction and relapse treatment of MM. The PMN establishes a stable therapeutic relationship and develops a personalized plan of care for patients and families according to the unique needs during each phase of MM. She ensures consistent delivery of care in multiple locations including outpatient clinics, outpatient infusion centers, inpatient units and the patient’s home. At this time, the benefit of the novel role of PMN over that of traditional coordinator has not been examined. Our goal is to offer an alternative approach to caring for MM as it has evolved into a chronic disease. In the future, we hope that like a primary nurse of other chronic diseases, a primary nurse for MM is recognized as beneficial to patients and families.