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**Purpose:** The purpose of this project was to develop an educational program to nurses as they assume cardiac monitoring responsibilities on an adult inpatient Blood and Marrow Transplant unit.

**Background:** Blood and Marrow patients are at risk for cardiac toxicities related to the high-dose chemotherapy they receive as part of their conditioning regimen. By initiating cardiac monitoring on the BMT unit continuity of care could be maintained by educating Blood and Marrow Transplant nurses to use the cardiac monitor, manage select arrhythmias and administer specific medications to treat the cardiac situation.

**Method:** With no cardiac patients or equipment, our biggest challenge was how to educate nurses to take cardiac patients on day one after our move. We began our multimodal approach with a three day class provided by the critical care orientation team. We prepared a bucket of practice strips, led one to one and group learning sessions, and read 12 lead EKGs to keep our knowledge fresh. All nurses were required to complete a cardiac arrhythmia test with an 80% pass threshold. They also attended a mandatory four hour class run by BMT leadership nurses that included review of rhythms, Cardiac Monitoring Jeopardy, hands-on practice with the monitor, scenarios in our hospital's simulation laboratory. Once telemetry began, staff members from the hospital's rapid response team rounded daily to review strip interpretation and consult with nurses as needed.

**Results:** A total of 60 nurses completed the program before initiation of cardiac monitoring. All nurses independently care for patients on monitors and use monitors for vital signs. Zero patients have transferred to the telemetry unit and RRT continues support for rhythm checks. We continue to present the cardiac orientation program to new BMT nurses along with precepted time with monitored patients to help them feel prepared for independent practice.

## 512

### Providing Cultural Competent Care

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Our Adult Blood and Marrow Transplant Program at a tertiary health care center is a leader in clinical care and bio-medical research. Patient centered care is the fundamental framework of our organization. Many patients from diverse cultural backgrounds from across our nation and the world travel here, seeking our care. With this growth in diversity, it is critical that as health care providers we understand their particular needs. It is also in our best interest to provide care that is culturally competent. The "Advancing effective communication, cultural competence, and patient and family centered care: A Roadmap for Hospitals" article, published in August 2010, provides recommendations to help hospitals address unique patient needs and comply with existing joint commission requirements. Firstly, our organization purchased a Culture Vision database to help health care providers learn about specific cultures. Then, our ABMT unit took steps to embrace culturally competent care by integrating a cultural knowledge. The nursing staff completed an assessment of their own healthcare beliefs and practices, and existing cultural knowledge. Then, we enlisted the help of nursing staff from different cultural backgrounds

to share their experience in the context of their culture's perception of illness, pain, healing, attitudes toward authority figures, use of nonverbal and verbal communication and its interpretations, spiritual and death practices, and the role of family within the specific group. Unit based nursing grand rounds during staff meetings included presentations from staff members of Latino, African, Caribbean, Native American, and Arabic background. Our focus of presenting unbiased information about the potential cultural behavior of patient's, resulted in tearing down barriers and providing optimal patient care. More importantly, this project helped members of the nursing staff become more aware of our own traditions and motivated us to recognize, respect, and take into account beliefs and practices of our patients. It is no surprise, that health care providers who understand their patients' cultural values, beliefs and practices are more likely to have positive interactions with their patients and provide them with culturally acceptable care. When we embrace other cultures, we learn to understand, accept and respect differences while fostering trusting relationships with our patients and their family members.

## 513

### Where Does Granulocyte Colony Stimulating Factor Use Stand Following Allogeneic Hematopoietic Stem Cell Transplant in 2012

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**Background:** Allogeneic hematopoietic stem cell transplantation (HSCT) is a life-saving measure for malignant hematologic disorders. Infection during neutropenia, however, is a major cause of transplant related morbidity and mortality (TRM). The use of granulocyte colony stimulating factor (GCSF) following HSCT has become a standard of care in many institutions. Although several retrospective studies reported that it accelerates neutrophil recovery by 1-6 days, other meta analyses have failed to demonstrate any significant difference in the days of febrile neutropenia. The CIBMTR working group that reviewed outcomes of patients who received GCSF during HSCT found no benefit or risk in those with myeloid leukemia but no improvement in early TRM despite faster neutrophil recovery. Notably, there have been no standards published regarding its use or timing of use in this setting.

**Methods:** First a review of the published literature on the use of GCSF in the HSCT setting was performed to summarize study findings and recommendations. Second, a survey was undertaken of the use GCSF at 15 transplant centers. Questions included: timing of initiation, duration of therapy, and association with stem cell source and intensity of conditioning. Finally, a cost analysis was performed using standard charges to estimate the cost of various GCSF regimens.

**Results:** Thus far 8 of the 15 centers have responded. The volume of transplants/center ranged from 126-519/year. Use of GCSF is summarized in Table 1.

**Cost analysis:** The standard charge for GCSF is approx. \$1.00/mcg and ranged from \$300-800/dose. Thus cost for GCSF regimens beginning on D0 vs. D+7 for treatment to D+14 could be \$4200-11200 vs \$2100-5600. These are compared to centers that do not utilize GCSF at all where the cost is \$0.

**Conclusions:** Despite the lack of supportive data for the use of GCSF following HSCT, several trials/analyses that

reported no benefit in clinical outcomes, and in fact some reports of detrimental effect, the majority of responding transplant centers continue its use. Furthermore, timing for initiating GCSF varied from D0 to D+12 in those centers.

**Table 1**

Institution #	Cords	RIC/nonmyeloablative BM/PBSC	Myeloablative BM/PBSC
1	D+1	Not used	Not used
2	D+1	D+7	D+7
3	D+7	D+7	D+7
4	D+1	Not used	Not used
5	D+1	Prn MD/clinical status	Prn MD/clinical status
6	D+5	D+5	D+12
7	Not used	Not used	Not used
8	D0	D+5	D0

In the current environment of reducing healthcare costs, these findings suggest the need for reevaluation of its use.

## 514

### A Multidisciplinary Intervention Fosters Dissemination and Rapid Implementation of Evidence Based Medicine

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Research regarding the promotion of evidence based medicine (EBM) suggests that a common barrier to the transition from knowledge acquisition to implementation may be a lack of acceptance from other members of the multidisciplinary healthcare team. A needs assessment conducted on our Pediatric Blood and Marrow Transplantation (PBMT) unit suggested that a journal club would be an effective method to promote EBM. A multidisciplinary journal club (MJC) was introduced to: (i) promote new, valid and relevant evidence into the clinical pipeline; (ii) reduce barriers to implementation of new innovations associated with lack of multidisciplinary collaboration; (iii) foster multidisciplinary communication; (iv) generate new ideas for research; (v) promote EBM. Each month, 3 presenters discussed articles related to their individual scope of practice, related to PBMT. Articles were screened for relevance, innovation and validity by members of a MJC committee. Attendees/presenters included PBMT team members and members of healthcare teams which frequently interact with PBMT. A group discussion followed each presentation with regard to relevance, applicability and implementation of innovations presented. A survey was conducted after 7 consecutive MJCs to determine its impact. Characteristics of attendees (n=53) and presenters (n=19) are shown in Table 1. 100% of PBMT physicians, hospitalists, social workers, nurse practitioners and child life specialists and 50% PBMT nurses attended more than one MJC. Results of the impact survey demonstrated that 90% of respondents (n=21) "thought the articles presented were relevant to their clinical practice." 67% reported that they gained new insights by attending MJC and could identify specific ways to apply concepts discussed. At least six innovations were implemented (changes in practice [n=3] and multidisciplinary research proposals [n=3]) over seven months, as

**Table 1**  
Characteristics of MJC attendees/presenters

Multi-disciplinary team member	Past Attendees (n=53)	Past Presenters (n=19)	Upcoming presenters (n=15)	EBM innovations implemented (n=3)	Innovative research proposed (n=3)
Blood Bank			1		
Chaplain			1		
Dietitian		0	1		
PBMT Attending Physician	4	1	1	1 <sup>^</sup> #	1
PBMT Hospitalist	4	1	2		
PBMT Child-Life Specialist	1	0	1		
PBMT Nurse Practitioner	31	7	5	1 <sup>^</sup>	
PBMT Pharmacist	4	4	1	1 <sup>+</sup>	1+
PBMT Social Worker	1	1		1#	
Pediatric Hematology-Oncology Fellow	2	2			1
Palliative Care	3	1	1		
Psychologist	2	1			1 <sup>+</sup>
	1	0	1		

+<sup>^</sup># indicates collaboration

a direct result of articles presented at MJC (Table 1). Most successfully implemented innovations involved collaboration between multidisciplinary team members. Promotion of EBM can be achieved by a multidisciplinary approach. A MJC allows for rapid implementation of innovation by promoting more simultaneous acceptance from all members of the multidisciplinary healthcare team.

## 515

### Moving Practice Forward: Standardization of Infusion Times for Hematopoietic Cells Utilizing an IV Pump

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**Significance:** BMT recipients have a 12F central venous catheter (CVC) placed prior to transplant to accommodate hydration, medications, and blood testing. This catheter is also required to ensure rapid infusion of hematopoietic cell products via gravity. Variation of cell product infusion time exists during gravity infusions related to patient symptoms, patency of the CVC, rate at which the nurse infuses the product, types of cells infused. Standardizing the cell product infusion time utilizing an IV pump eliminates variation and provides both the nurse and patient with a better experience.

**Purpose:** The main purpose was to determine if hematopoietic cells infused via IV infusion pump over a set period of time provided patients with less symptoms than gravity infusions and nurses with a more efficient way of delivering cells.

**Interventions:** Practices of hematopoietic cell infusions at other transplant centers were assessed. Cell viability of cryopreserved cell products after utilizing an IV pump for infusion was determined. Samples of frozen products were infused via IV infusion pump to determine cell viability post infusion. A new procedure was written to infuse