

# 2009 National Teaching Institute Creative Solutions Abstracts

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## CS51 A Beacon Unit Provides an Environment Where Critical Care Nurses Can Offer Palliative Care With Confidence

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**Purpose:** ICU nurses too often feel unprepared for or unsupported in end-of-life situations. In our SICU we established an evidence-based practice approach to provide the support, education, and tools bedside nurses need to offer patients palliative and end-of-life care with confidence. Using ELNEC-certified RNs to develop and implement programs, and by creating an ICU Palliative Care Team, we seek to provide active holistic care of patients with advanced illness.

**Description:** The goal of the SICU Palliative Care Team achieving the best quality of life for patients and their families. SICU nursing management supports the palliative care efforts. Two RNs became certified as ELNEC trainers, then provided training with other ELNEC trainers to 9 ICU RNs, establishing the first ICU ELNEC train-the-trainers in the country. Each of these RNs is responsible for the content of 1 module. Modules are presented to the staff; new guidelines for care issues are provided as needed. New resources have been created, such as the palliative care cart. This cart is stocked with memory blankets, massage oils, reading material, CDs, and players. Nutrition services now include a palliative care beverage/snack tray when needed to families of patients with end-of-life expectations. Our goals include presenting the training to other ICUs and the larger hospital system. This new approach has enabled the health care team to respond promptly and efficiently to the needs of our patients and our staff. **Evaluation:** We are creating a more nurturing environment for patients and families in either the recovery or at the end of life. We seek to provide not only relief from pain but true comfort by treating the whole person and their family. This involves the physical, psychological, emotional, and spiritual aspects of each human being. We also seek to provide a more nurturing environment for our staff members. We recognize the stress on caregivers at end of life, especially when they are truly engaged in providing holistic caring. We will focus on improving communication between all members of the SICU team. Ongoing evaluation will continue. vrnclark@yahoo.com

## CS52 A Congestive Heart Failure Ambulator Reduces Length of Stay and Recidivism

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**Purpose:** Initial and recidivistic treatment of congestive heart failure (CHF) is costly both in health care expenses and quality of life (QOL); \$29 billion are spent annually for CHF treatment in the United States, with an average hospital admission costing \$7947. Preventable CHF morbidity and mortality negatively affect patients' QOL. An interdisciplinary team led by APNs created and implemented a unique, specialized, cost-effective position to decrease length of stay (LOS) and recidivism for CHF patients from a high-risk, minority dominated community. **Description:** A Robert Wood Johnson grant funded this initiative to lessen disparity in care among minority populations through creative interventions. A team of nurses, physicians, physical therapists, case managers, and homecare nurses reviewed the relevant literature noting the consistent, evidence-based relationship between early ambulation and quality CHF care. Brainstorming resulted in the creation of the CHF ambulator position, designated the Restorative Aide. The Restorative Aide is a CNA with additional education in CHF, ambulation, and communication, providing early ambulation and facilitating education throughout the continuum of cardiac care, from ICU through discharge. The physical therapist provided specialized training in ambulation and the use of assistive devices. APNs taught the fundamentals of CHF and communication skills. The pilot, 5 days per week program charged the Restorative Aide to weigh, encourage, ambulate, and facilitate education daily for all CHF patients, and to liaison with RNs for education follow-up and patient/family needs. Tools for documentation and communication were developed and position responsibilities revised as the program progressed. The new position is designed to focus solely on CHF patient ambulation and education. **Evaluation:** In the 13 months since implementation, the CHF Ambulator Program has seen a 22% decrease in average LOS for CHF patients from 6.5 days to 5.1 days. The percent of CHF patients readmitted within 30 days of discharge (recidivism) fell from 11% to 9.8%. Patient, family, and nurse satisfaction have all increased significantly. Compliance with providing CHF education to patients and

their families increased from 60% to 100%. A cost/benefit analysis demonstrates an approximate savings of \$1 million since program implementation. Joint Commission disease-specific certification for CHF has recently been achieved. The CHF ambulator position is now permanent. The program has expanded to 7 days per week. [zucconim@sjhs.com](mailto:zucconim@sjhs.com)

**CS53 A Nursing Intervention Database: An eICU**

**Outcome Tool**

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**Purpose:** Penn e-lert eICU, the critical care telemedicine program for the University of Pennsylvania Health System was charged with demonstrating how program interventions affected patient outcomes. A review of the program intervention database revealed that most interventions were documented by eICU physicians. An analysis exposed that the documentation was based on a model of medical diagnoses. We developed a nursing intervention database that provides the quantity and perhaps more importantly the quality of interventions being done via telemedicine. The eICU nurse plays a significant role in evaluating and assessing patients and affecting patients' outcome. **Description:** Using the intervention database, the eICU nurse can breakdown each intervention with what was the clinical trigger for involvement and an assessment of the issue. The intervention is then broken down further to clinical changes and patient safety concerns. A strategy for documenting the interventions to finer details makes querying the information easier, providing the department with the ability to better track certain interventions and outcomes. The eICU nurse then identifies which action needs further followup, either by the eICU nurse or eICU physician. The nurse documents what the patient's outcome was and whether further follow is needed. **Evaluation:** Before the development of this database the eICU nursing staff did not have the proper resources to document their interventions adequately and efficiently without taking them away from monitoring the patients for an extended period. Since the inception of the access intervention database, there has been a large increase in documented interventions allowing the nurse and the hospital to keep track of the important role the eICU nurse plays in successful patient outcomes. [joeydimartino@yahoo.com](mailto:joeydimartino@yahoo.com)

**CS54 A Quality Approach to Glycemic Control**

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**Purpose:** Damaging effects of hyperglycemia during critical illness have made glycemic control the standard of care in ICUs. As nurses and physicians struggle to successfully implement this practice on their units, a process improvement initiative was undertaken by our hospital's adult ICUs to address and remove the barriers for its adoption. **Description:** A team of ICU nurses and physician champions enlisted facilitators and analysts from the Quality Department to guide them through

the DMAIC process improvement model. After defining a primary aim and target blood glucose goal, the group exercised collective brainstorming to create the Ishikawa diagram to identify environmental and human aspect barriers to placing a patient on an insulin drip. Conceptual barriers were further identified and analyzed by issuing a survey of ICU nurses. These results were placed on a Pareto chart for additional analysis. Major barriers identified by the staff included a lack of knowledge about the insulin dosing protocol, nursing avoidance of insulin drips, protocol deviations related to a fear of hypoglycemia, and physician failure to order the protocol. The team brainstormed improvement ideas and selected solutions based on each unit's perceived barriers. The team developed algorithms for initiating the protocol and modified physician orders based on the process improvement activity. Each unit's champions then used these algorithms to in-service, pilot, and test the changes to the processes. Additionally, a data management software program was used for data mining and tracking improvements. **Evaluation:** The adult ICUs that had active champions and implemented the process improvement significantly improved the glycemic control of their patients. Protocol development standardized the approach to glycemic control and guided nursing and physician staff to transition between drips and sliding scales. Staff education increased awareness of the protocols and the importance of glycemic control. Access to real time data through the use of a data mining software program assisted in overcoming the fear of hypoglycemia. Additionally, data monitoring and early recognition permits protocol supervision and revision for improvement. One unit improved the percentage of values in the target range by 60%. [charles.reed@uhs-sa.com](mailto:charles.reed@uhs-sa.com)

**CS55 A Team Approach to the Compassionate Withdrawal of Life Support on a Terminally Ill Patient**

Lindsey L. Robertson, Barbara Gray, Shawnee Brenkman; Vanderbilt University Medical Center, Nashville, TN

**Purpose:** We developed practices to establish effective communication and procedures during the withdrawal of life support on a terminally ill patient. In order to provide comfort and compassion as a team approach for the patient and their family, Withdrawal of Life Support Guidelines were developed to maintain consistency in the way the process is managed. The guidelines address the multiple responsibilities of the health care team and family once the decision is made to withdraw life support. **Description:** The Withdrawal of Life Support Guidelines were developed to improve clinical practice in the critical care environment during withdrawal of life support from a terminally ill patient. Our withdrawal situations were inconsistent and the nurses and physicians involved were requesting help in how to handle the procedure because of their inexperience with death. We realized that we needed a standard format to increase communication between staff and create an environment of care and compassion for patients and their families. We researched practices in other hospitals and journals, and composed the guidelines. The guidelines have been

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reviewed and revised by the surgical ICU Process Improvement Committee, the Multidisciplinary Surgical Critical Care Committee, the Palliative Care Team, Respiratory Care, the Ethics Committee, and the Surgical Intensive Care Unit Board. As we developed the process we were able to use an established set of orders for pain management and ventilator management during withdrawal. Now everyone on the team assists with a compassionate withdrawal process. **Evaluation:** The Withdrawal of Life Support Guidelines have been implemented in the surgical ICU at Vanderbilt Hospital with positive verbal results. Family members, attending physicians, nurses, residents, interns, respiratory therapists, and nurse practitioners have all expressed satisfaction with the smoothness and compassion during withdrawal situations that have been handled since the guidelines have been available. Everyone on the team efficiently completes their role, which allows the family to grieve in comfort and the patient to die with dignity. [Linznurse@aol.com](mailto:Linznurse@aol.com)

### CS57 An Evidence-Based Study on the Minimum Volume of Blood Wastage From Arterial Catheters

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**Purpose:** Laboratory testing continues to be a preventable source of blood loss in critically ill oncology patients. Factors contributing to nosocomial blood loss include frequent testing, lack of standards leading to inconsistent practices, and frequent use of arterial catheters. The Critical Care Evidence Based Practice Committee wanted to standardize the minimum blood volume wasted from arterial catheters before specimen collection. We sought strategies to minimize waste volume from arterial catheters. **Description:** Fifty articles from evidence-based databases were reviewed to determine if current practices or standards exist regarding the minimum volume of blood wasted from arterial catheters during specimen collection. There were a limited number of meta-analysis, randomized experimental design, quasi-experimental and nonexperimental studies related to blood-conserving mechanisms. Expert opinions, outside institutional practices, and observation of current practice at our institution were evaluated. The Stetler Model was used to rank the evidence. Literature recommends using a blood conserving device or equating the discard volume to double the dead space from the catheter tip to the sampling port. Because of the compromised immunity of patients in an oncology center, a closed system was not optimal for our institution. Based on the research, 3 mL was calculated to be double the dead space, thus a dedicated 3-mL waste tube was our solution to achieve standardization. These findings were presented to our multidisciplinary partners in the ICU, PACU, and clinical laboratories. Consensus was achieved and approval was given to implement a dedicated 3-mL waste tube in critical care areas. **Evaluation:** Implementation of this practice change has provided standardization and decreased our current discard volume from 9 mL to 3 mL. In addition to minimizing the waste volume, there are numerous safety advantages of the dedicated waste

tube. It is plastic as opposed to glass and it is distinct from our current inventory of laboratory tubes so to avoid being mistakenly analyzed by the laboratory as a diagnostic test. The waste tube is significantly more cost-effective than the test tube formerly used for wasting blood. The use of a dedicated 3-mL waste tube has allowed us to maintain accurate test results while minimizing blood loss in critically ill patients. [rodriguw@mskcc.org](mailto:rodriguw@mskcc.org)

### CS58 An Innovative Staffing Resource for Unpredictable Census and Acuity Fluctuations in Critical Care

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**Purpose:** Ten critical care nurse managers in an academic medical center identified the need to manage staffing in a proactive, innovative and fiscally responsible way by coming together as a critical care group. The goal was to manage staffing based on volume and acuity rather than a set number of beds. Challenges included matching caregiver skills with patient needs, expediting patient flow among hospital units, and creating staffing contingencies for unplanned ICU admissions. **Description:** Historical data analysis revealed patterns and trends in acuity, census, and emergency department ICU admission history for each unit. Collaborative programmatic planning with physician and administrative leaders provided volume projections and changes in patient populations that would affect staffing. As this project was underway, ICU volume significantly decreased complicating the challenges already identified. As staffing was adjusted to volume and acuity, need for an RN to support unplanned ICU admissions was identified. A designated ICU nurse (DIN) role was created in June 2007. This nurse is immediately available 24/7 and deployed by a nurse administrator for an unplanned admission or acuity change. The DIN provides a bridge for care and staffing for a 4-hour period while unit-based ICU staffing is evaluated and/or adjusted. DIN use was monitored over time, and within 2 months a second DIN was added during times of high use. Contingency plans were created whenever the DIN was assigned in case another unplanned need arose. The credibility and success of this approach in staffing to volume and acuity was dependent on good communication, close monitoring, and reevaluation of this resource. **Evaluation:** The DIN role has been an effective tool in meeting the ICU staffing needs for unplanned admissions and changes in acuity. DIN use has been carefully tracked, and periodic evaluations are conducted regarding use. Times of peak deployment by day, time, reason, and area have been identified and the plan adjusted accordingly. Staffing to volume and acuity, supported by the DIN role, has been achieved more than 90% of the time. It also has had a positive impact on adherence to budget while maintaining the quality of care provided to patients and families. [kdavenport@partners.org](mailto:kdavenport@partners.org)

**CS59 Are You Smarter Than 5 CCRNs? Journey to Certification**

Akiko Kubo; University of Kansas Hospital, Kansas City, KS

**Purpose:** To increase the number of CCRN-certified RNs in the medical and transplant ICUs as a marker of clinical excellence. As a result of our fun and creative strategies we received commitments from 27 nurses and increased the number of certifications 280% in 4 months. **Description:** Nurses and employers benefit from certification as it exhibits a commitment to professionalism, formally validates competency, and has been associated with a higher perception of empowerment and nurse retention. In the past, only 1 to 2 nurses pursued CCRN certification annually. We took advantage of AACN's group discount. Because the discount required commitments from at least 10 nurses, we opened up the pool to include both the medical and transplant ICUs, and we received 27 commitments. For the more experienced nurses who had to put off certification for years, the motivating factor was learning that a group of less experienced nurses had signed up. We started the "Are You Smarter Than 5 CCRNs?" campaign based on the popular game show. Weekly questions were posted on the unit and participants competed against the current CCRNs to see if they were "smarter." This encouraged friendly competition and created a buzz on the unit. We assigned CCRN mentors and provided packets of study material, including practice questions and summary sheets, as well as a 16-week study plan to keep everyone on course. Several review sessions and the local AACN chapter's CCRN Review Course were well attended. **Evaluation:** To aide us in further development of this program, we evaluated the participants' perceived barriers, benefits, and value of certification through the Perceived Value of Certification Tool—a tool with established reliability and validity. Barriers reported were the cost of the examination and lack of study time. Increased personal knowledge and growth and reimbursement of examination fees were reported incentives. The No. 1 perceived value of certification was personal accomplishment. Our number of CCRN certified nurses increased by 280%, from 10 to a total of 28! A new group is being encouraged to continue the momentum. We expect at least 18 more commitments over the next few weeks. akubo@kumc.edu

**CS60 Assuming Command: Using Simulation Training to Develop Leadership Skills for Resuscitation and Critical Care Transport**

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**Purpose:** Leadership skills are often a challenge to create and mentor in nurses who are transitioning from a bedside role to one of leadership. Additionally, these team command skills are required to function flawlessly during high-acuity events such as patient resuscitations and critical care transport. The purpose of this project was to combine the mature technology of patient simulation and the knowledge base of leadership experts to create a training process to develop and test the leadership and command skills of critical care nurses.

**Description:** A group was created to develop a curriculum for the training of nurses who would be in the role of commanding events during periods of crisis or high risk. The curriculum reflects the diverse scope of leadership including interpersonal communication, critical thinking, organizational skills, and development of strategy and tactics. The didactic training was combined with an intensive simulation experience on high-acuity patients in crisis. This experience allows attendees to practice communication and leadership skills with interdisciplinary teams of health care members. The simulation activities require learners to overcome the potential chaos and bring order and control to situations through various leadership strategies. Team members from hybrid transport teams are required to attend the class before working together in real world transports. Participants develop skill sets to return to patient care areas to create team creation and discipline needed to have successful teams. **Evaluation:** The course has progressed into the Medical Events Command Course that is offered regularly to critical care transport teams, nurses, and physicians. The simulation component now includes simulated surgical scenarios using bovine hearts. Additionally, the course includes the using the National Incident Management System for table top simulation of larger scale events. william\_hallinan@urmc.rochester.edu

**CS61 Beyond the Basics of Training: Development of a Pediatric Cardiac Mentoring Program**

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**Purpose:** Pediatric critical care training programs for new nurses are often limited to 8 weeks of didactic education and clinical training, which is often inadequate to ensure safe care of complex pediatric cardiac patients. We enhanced an existing cardiac training program in our pediatric cardiac ICU to extend the graduate nurses mentoring 1 year beyond their training program using existing resources. **Description:** We extended the new nurses orientation to include followup courses at 6 months and 1 year following the completion of their training program. These courses prepared nurses to care for cardiac patients on arrival from the operating room. In conjunction with the course content, we developed Web-based competency modules that each nurse independently completed before being mentored. Pediatric cardiac ICU charge nurses who met established criteria were trained and educated to be cardiac mentors. From the staffing schedule, new nurses were paired with cardiac mentors to receive bedside mentoring for postoperative cardiac admissions. Before the admission, the new nurse works with the mentor for 10 minutes to describe the patient's history and congenital heart defect. The mentor assists the new nurse with a review of the surgical procedure, the identification of potential postoperative problems, and the development of a plan of care. The cardiac mentor assists and observes the admission process. A brief evaluation occurs at the end of the shift at which emphasis is placed on the new nurse's ability to complete a rapid patient assessment, identify urgent clinical problems,

and prioritize interventions appropriately. **Evaluation:** Of 104 scheduled mentored shifts, 66 were completed (64%) and 37 were canceled (36%). Reasons for canceling shifts included ill calls, canceled surgical cases, and unanticipated patient complexity. Mentors provided 10 minutes of bedside mentoring in addition to their charge nurse responsibilities. Thirty-seven mentors and 40 new nurses completed evaluations. Mentors rated the new nurses excellent in areas of clinical knowledge, patient assessment, and communication. New nurses rated mentors excellent in areas of knowledge, availability, and professionalism. Areas for improvement include improved end-of-shift debriefing. No additional hospital costs were incurred. wardhogs@yahoo.com

### CS62 CCRN Program Interventions

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**Purpose:** In the last 2 years, the pediatric ICU at Children's Mercy hospital has implemented various interventions aimed at increasing the percentage of bedside nurses who obtain and maintain certification. The program has been effective in achieving success with strong involvement at the nurse, management, and hospital levels. **Description:** This is a pediatric ICU nurse-led study group. Interest is generated by e-mailing those who have eligibility to take the examination. After the members of the study group are identified, they meet to discuss the study group model. During this first meeting several aspects are discussed, eg, what study aids are required. This currently consists of the Pediatric Critical Care Core Curriculum as a primary source in regards to text. Each member is given the application paperwork and assistance is provided in filling out the paperwork. They are encouraged to turn in the paperwork during this first meeting, but it is not mandatory. The study group meets weekly and covers the material using a systems approach. The management level of involvement includes the nurse manager who, as a staff nurse, initiated the current model. She attends the study groups as a "guest speaker" to reinforce learning points. She also meets one-on-one with nurses before they take the test. Unit and hospital level recognition is done a variety of ways throughout the year. The hospital also pays for the first examination and pays an hourly differential for those who have obtained and maintain their CCRN. **Evaluation:** The outcomes are based on previous years' data. Before the initiation of our study group model the average number of nurses attempting to take the examination was 4. Over the last 2 years the average number is 10. In addition, everyone using this model during the past 2 years has passed the examination; currently there is a 100% pass rate. The percentage of CCRN nurses has increased from 25% to 30% of staff to 40%. The model is frequently reevaluated and updated as improved methods are discovered. Because of the success of this model it has been implemented as a recruitment tool during the interview and hiring process of new nurses. wearewiley@aol.com

### CS63 Charge Nurse Alerts: A Tool for the New Critical Care Nurse to Enhance Communication, Performance and Safety

Lawrence G. Healey, Brenda Everett; Harborview Medical Center, Seattle, WA

**Purpose:** Our neuroscience ICU is expanding from 10 to 30 beds. Expansion of this magnitude required us to open our hiring to greater numbers of inexperienced ICU RNs and new graduates. Having an ICU that is composed of many nurses who have no previous ICU experience is a big challenge because these nurses require continued support and guidance after their training period. We decided we needed to develop a plan to enhance safety, encourage communication, and create a framework for continuing education. **Description:** Orientation consisted of an ICU consortium or Essentials of Critical Care Orientation (ECCO) and clinical training with an experienced ICU nurse. Despite demonstrating competence, we began to find errors in judgment once the new RN was working independently. We puzzled over how to support the nurses and promote critical thinking and safe patient care. We surveyed the nurses to evaluate perceptions related to confidence, clinical skill, and safety. The surveys confirmed new RNs could benefit from and be open to additional support. By adopting the Rapid Response model that is used nationwide, we modified our hospital's triggers to guide our RNs' assessments, provide early intervention and avoid complications. We designed "Charge Nurse Alerts," which encompass all body systems, laboratory, and other diagnostic abnormalities. Some examples are confusion, uncontrolled HTN, increased oxygen needs, and an intuition or gut feeling that something is not right. The alerts are printed on cards and worn with our ID badges for easy reference. When a nurse identifies an alert, he or she communicates with the charge nurse and together they evaluate the patient. These cards and interaction enhance safety, communication, and support continuing education. **Evaluation:** The response to the "Charge Nurse Alerts" program has been overwhelming positive. Many nurses began using the new resource immediately. Other nurses needed to familiarize themselves with the process to use the tool more effectively. The charge nurses began to model the card's use by interacting with nurses in patient's rooms by simply reviewing the triggers and encouraging questions. Now, most nurses are routinely referring to the cards and requesting input at the bedside. In addition, several other units within the hospital have expressed interest and are eager to implement the program in their own areas. healey@u.washington.edu

### CS64 Clinical Nurse Champions Improve Patient Outcome: Sustaining Catheter-Related BSI Reduction in Neurocritical Care

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**Purpose:** A significant number of patients in neurocritical care are at risk for catheter-related blood stream infections (CR-BSI). Multiple factors contribute to this risk including



provider practice during catheter insertion; nursing practice related to catheter maintenance; and patient risk factors such as oral secretions, skin integrity, and intrahospital transport. Using a Champion model, clinical nurses have led efforts to improve patient safety, change practice, and sustain a reduced CR-BSI rate. **Description:** In our Clinical Nurse Champion Model, nurses are engaged in determining practice guidelines, maintaining standards, educating providers on catheter safety, and evaluating patient outcomes. Initially, interdisciplinary evidence-based standards implemented addressed aseptic technique during insertion, catheter dressing, and catheter maintenance, central catheter access, and intravenous tubing changes. Clinical nurse champions use checklists to evaluate standards at the point of care; these measures produced a reduction in CR-BSI. After evaluation, specific guidelines for blood sampling and daily review for catheter need were established and further reduced incidence. Champions routinely conduct surveillance for practice compliance; deviations from these standards are discussed directly with our team. A clinical nurse designated as the Quality Council representative and another designated as the BSI Champion participate in hospital-wide initiatives addressing CR-BSI. Monthly incidence is posted in the unit for review. Clinical nurses examine patient and system factors that contribute to each hospital-acquired infection; these nurses provide peer review and identify further recommendations for improvement. **Evaluation:** The incidence of CR-BSI decreased from 75th percentile to 10th percentile nationally; this reduction has been sustained for 1 year without additional unit-based operational costs. Our project demonstrates that although initial reduction of CR-BSI is related to practice change, sustained reduction requires communication, interprofessional collaboration, and established improvement processes. Using a Champion model successfully engages clinical nurses to ensure patient safety and improve outcome. [hujcsm@uphs.upenn.edu](mailto:hujcsm@uphs.upenn.edu)

**CS65 Clinical Nurses Finding Evidence for Practice: Reducing Catheter-Associated Urinary Tract Infections**

Susan M. Reiling, Marianne Hujcs; Hospital of the University of Pennsylvania, Philadelphia, PA

**Purpose:** Although evidence for guidelines to reduce catheter-associated urinary tract infection (CAUTI) exists, implementing these measures and ensuring practice compliance did not significantly reduce incidence in our neurocritical care unit. As part of an ongoing performance improvement initiative the impact of pericare frequency and pericleanser product on CAUTI reduction was evaluated. **Description:** In order to decrease CAUTI incidence, clinical nurses and a clinical nurse specialist established guidelines for pericare frequency and specific pericleanser product evaluation. After a literature review, few similar standards were identified to define our new practice. Clinical nurses used unit-based data generated from CAUTI incidence, device days, and practice compliance to measure patient outcome related to this change and the product use. Clinical nurses educated nurse colleagues and nursing assistants to the new guideline and evaluation process. After implementation, clinical nurses collected, analyzed, and

reviewed data monthly. Over 1 year, a new pericare standard and 5 pericleanser products were implemented and evaluated. Recommendations for a unit-based guideline and product selection were determined. **Evaluation:** Increasing the frequency of pericare alone reduced CAUTI in our unit from the 90th percentile nationally to the 75th percentile. The impact of pericleanser product was varied. Antimicrobial sprays increased CAUTI incidence by increasing the frequency of yeast pathogens. Significant reduction in CAUTI incidence was observed with one specific product; this product was reevaluated for sustained results. CAUTI incidence decreased from an average 6 infections per month to 1 infection per month. Our project exemplifies clinical nurse effectiveness in establishing evidence to promote practice and sustained patient outcomes. [susan.reiling@uphs.upenn.edu](mailto:susan.reiling@uphs.upenn.edu)

**CS66 Code Blue U: An Interactive Multimedia Teaching Tool**

Christina Canfield, Catherine Skowronsky; Cleveland Clinic, Cleveland, OH

**Purpose:** Record numbers of new nurses entered practice at Cleveland Clinic over the past 2 years. Most of these nurses were new graduates without previous experience in acute care or emergency response. The nurses working on internal medicine units expressed apprehension about their role in an emergency “code blue” situation and frequently requested code blue education. The “Code Blue U” curriculum was created by the CNS and nurse educator to meet the educational needs of these nurses. **Description:** The objective of the 4-hour Code Blue U class is to increase the bedside nurse’s comfort with the roles, equipment, and procedures necessary during a code blue situation. The class is presented in an interactive multimedia format and includes preassessment of comfort level, review of crash cart with hands-on cart seek-and-find, the Down-Low on Documentation, drug box review with opportunity to mix medications and program the IV pump, defibrillator review, review of organization-specific resuscitation status regulations, family presence, recognizing changes in patient status, and hands-on opportunity to practice. Teaching strategies such as short lecture, open dialogue, humor, PowerPoint presentation, demonstration, and hands-on practice are used to accommodate different learning styles. **Evaluation:** Participants are anonymously surveyed regarding their comfort with skills associated with a Code Blue situation such as initiating CPR, mixing medications, performing defibrillation, and documenting events. Participants rate their comfort on a Likert scale of 1, not at all comfortable, to 5, perfectly comfortable, before and after attending class. Postclass surveys consistently demonstrate increased comfort levels with each aspect queried (mean increase in comfort level across all queried aspects was 1.47). [canfiec@ccf.org](mailto:canfiec@ccf.org)

**CS67 Community Wide Critical Care Training: Educating beyond the Basics Using Simulation**

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**Purpose:** Innovative continuing education programs are a means to enhance the self-confidence of the novice nurse entering the realm of critical care. The "Preparing the Critical Care Nurse" program was developed for novice critical care nurses. This course was designed to foster collaboration between area hospitals and a large baccalaureate nursing program by facilitating the transition of undergraduate nurses as well as seasoned nurses to the critical care setting using high-fidelity simulation. **Description:** After discovering a community-wide need for critical care continuing education, the "Preparing the Critical Care Nurse" program provided the opportunity to incorporate high-fidelity simulation as a key component in developing the skills needed in critical care nursing. The course was designed to accommodate the learning needs of the novice nurse or the seasoned nurse new to critical care, foster the development of critical thinking skills in a stimulating learning environment, and prepare the participant to assume the role of the nurse in an adult critical care setting. The week-long course consisted of interactive lectures using the body-system approach. A state-of-the-art critical care simulation laboratory provided the venue in which the nurse participants transferred the knowledge obtained in the didactic portion of the course to application in a simulated ICU. Nurses participated in realistic, interactive critical care scenarios that exposed the participants to authentic situations and/or critical events that occur in the critical care setting. Short discussions following each scenario focused on critical aspects imperative to successful outcomes. **Evaluation:** Goals of the simulation component of the course were evaluated by adapting the National League for Nursing's Student Satisfaction and Self-Confidence in Learning instrument. This tool addressed the participants' satisfaction with learning through simulation and how self-confidence was enhanced. Applying critical care concepts using high-fidelity simulation proved to be successful. A participant survey administered 6 months after the program offered a means for participants to provide their impressions of simulation as a learning tool. rosslerkelly@yahoo.com

#### **CS68 Confidence in Certification: Growing a Pediatric CCRN Culture**

Heather Maude, Coleeta Davis, Cindie Raulerson, Becky Service; Children's Healthcare of Atlanta, GA

**Purpose:** In 2005, the Michael P. Fisher cardiac ICU employed approximately 60 full- and part-time RNs. Nurses in the 17-bed unit cared for high-acuity pediatric patients. Many nurses were Pediatric Advanced Life Support and Adult Cardiac Advanced Life Support certified but only 2 nurses held the pediatric CCRN designation. Our goal was to create a culture of excellence, leading to an increase in the numbers of nurses who held pediatric CCRN designation. **Description:** The cardiac ICU nurse management team decided to support an aggressive CCRN initiative, which included a designated AACN/CCRN ambassador on staff; organizing a CCRN education council; providing a free 2-day examination review course; paid time off to attend review classes; study materials including

books, audio CDs, and sample questions; and reimbursement for examination costs. Priority was given to nurses who had obtained CCRN certification to attend the NTI conference with full or partial reimbursement of conference expenses. A CCRN sponsorship program was also developed, which included paying CCRN examination fees up front and providing the nurse with a CCRN mentor. Newly certified nurses were recognized on the hospital's Web site and a "Wall of Honor" was developed to celebrate the entire group of certified nurses. **Evaluation:** The number of nurses with the pediatric CCRN designation in the cardiac ICU increased from 2 to 17. The overall examination pass rate of 88% exceeded the national average of 74% (according to AACN 2007 statistics). Other accomplishments included 2 additional nurses committed to taking the examination and several nurses who attended the initial review course, obtained certification, and started teaching the course. With the success of the program in our unit we decided to expand the program by offering the review class to the staff of the pediatric ICU and invasive cardiology department. heather.maude@choa.org

#### **CS69 Creating a Culture Change: Tight Glucose Control in a Trauma/Neuro Intensive Care Unit**

Susan O'Neill; Lehigh Valley Hospital, Allentown, PA

**Purpose:** To examine methods used to teach physicians and nurses a new protocol designed to control critically injured patients' blood glucose levels between 80 to 110 mg/dL in a level 1 trauma center over a 16-month period. **Description:** Clinical research has demonstrated that patients cared for in surgical and medical ICUs have decreased mortality and morbidity when their blood glucose levels are maintained within a range of 80 to 110 mg/dL. Although less research is presented in the literature demonstrating positive outcomes with tight glucose control in the trauma population, our physician and nurse team members decided to adopt the concept. We incorporated a paper-based columnar tool that proved to be a challenge to the nurse educator and leader of this project. Creative teaching strategies included initially using the 90 to 140 mg/dL target range until nurses were comfortable using the complicated tool, frequent staff feedback in the form of e-mails, screen shots of blood glucose trends, informative bulletin boards, spending time at the bedside teaching, and providing data such as daily real time reports of percentages of time spent within target range. **Evaluation:** The project was initiated in May 2007. Patients' blood glucose levels within the range of 80 to 110 mg/dL currently average around 50% each month, improved from 30% last year. The greatest learning achieved from our project is that culture changes take time. Acceptance of hyperglycemia related to the stress response for so many years is the most challenging aspect of this culture change. More research is needed to study patient outcomes for specialized populations, such as trauma and neuro patients when using tight glucose control. A retrospective and IRB study is in progress including such variable as length of stay, ventilator days and adverse events. susan.oneill@lvh.com

**CS70 Creating Excellence in Palliative and End-of-Life Care**

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**Purpose:** Nurses are privileged to support patients and their families at the end of life. Creating awareness for available palliative and end-of-life resources and how to access them empowers nurses to comfort and care for patients and their families. Conservatively, we have 20 patients per month who pass away on our comfort care pathway. **Description:** We implemented a Palliative End-of-Life Care program in 1999 that continues to evolve and mature. Through the efforts of the Palliative Care Committee and many others, a Comfort Care Pathway was designed to address the special needs and comfort of our patients at the end of life. The Comfort Care Pathway order set addresses pain management, sedation, delirium, nausea, constipation, nutrition, respiratory treatment, pet visitation, and spiritual and emotional support. We offer a Comfort Care food service that brings food to families and enables them to stay at the bedside and close to their loved one. A Next Steps brochure was implemented to assist families in making their loved one's final arrangements. Our nurses advocated for a sympathy card now known as the Bereavement Card. This process offers staff the opportunity to sign a card and express their sympathy to families over their loss. In addition, Tea Time For The Soul is an interdisciplinary initiative offered as a forum for nurses to discuss the care they gave, grieve the loss of their patients, and share their feelings and concerns for the families left behind. Finally, we have a Palliative Care Team Web site for staff to reference and use as appropriate. **Evaluation:** Conservatively, 20 patients per month pass away on our comfort care pathway. This pathway provides families relief as they observe their loved one dying with peace and dignity. Our hospital received the Circle of Life Award in 2005 presented by the American Hospital Association for the provision of excellent care at end of life. The Caring Hearts Award is a new initiative in which staff is presented a Caring Heart pin for providing excellent end-of-life care. Numerous cards and letters of appreciation received from grateful family members who experienced loss of a loved one on our Comfort Care Pathway represent our best evaluations and outcomes.

**CS71 Developing a Postoperative Pain Management Guideline for the Surgical Neonate**

Michelle A. LaBrecque, Christina Di Coscia, Jennifer Bilak; Children's Hospital Boston, MA

**Purpose:** Approximately 1.4 million neonates and infants have surgery each year in the United States. Although prevention and treatment of pain in this population is universally accepted, strategies used are often inconsistent, suboptimal, and potentially harmful. Physiologic immaturity places the neonate at increased risk for analgesic toxicity. Our goal was to develop a guideline for postoperative pain management in neonates, which optimizes comfort while decreasing the potential for adverse effects. **Description:** With expanding expertise of neonatal surgery, the volume and complexity of the neonatal ICU surgical patient continues to grow. Several challenges in

neonatal postoperative pain management include inadequate pain management, toxic effects of opioids, and withdrawal. A multidisciplinary neonatal ICU pain committee was established to address these issues, provide education, and act as a resource on and explore new alternatives for pain management. Through an evidenced-based review of the literature and communication with experts in neonatal analgesia and surgery, a postoperative pain management guideline was developed. Components of this guideline include individualized pain management plans based on extensiveness of surgical procedure, pain history, and anesthesia received; early and effective pain treatment; use of opioids as the mainstay of therapy; and maximal use of adjunctive therapy and regional analgesia when appropriate. Opioid infusions were started immediately on arrival to the ICU, initial doses used were lower than previous standard and titrated more frequently to reach the minimal effective dose. Guideline implementation was achieved through presentations to staff, computer-based education module and bedside education. **Evaluation:** Effective management of neonatal surgical pain is not only an ethical obligation but improves outcomes. Initial concerns from nursing staff on this change in practice centered on the lower opioid doses used; however, the comfort level of staff has increased as the number of patients have been effectively managed on this new guideline. Overall patients required less opioid administration during the postoperative period and adequate comfort has been achieved. Future directions in this area include implementation of nurse controlled analgesia and use of nonsteroidal anti-inflammatory agents as adjuncts to this guideline. michelle.labrecque@childrens.harvard.edu

**CS72 Do Your Best Quietly!**

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**Purpose:** In May 2007, through analysis of the patient satisfaction survey performed in the dedicated heart failure unit, it was identified that an opportunity existed to address the noise level on the unit. Physicians and other clinical staff commented on the high level of ambient noise and "chatter" that resulted in an environment that was not conducive to healing. **Description:** An interdisciplinary team met and the department head shared the "burning platform"—the need for change on the basis of patient satisfaction data and patient safety information focusing on creating a healthy work environment that minimized distractions. The team then brainstormed ideas to reduce the noise level. The first item implemented was to measure the decibels of noise on the unit. A "noise traffic light" was installed near the nursing station. This traffic light provided a visual in which a green light meant <90 decibels, yellow was 90-110 decibels, and red was >110. Data from the traffic light could be downloaded and provides a graphic display of decibels over time. Another strategy consisted of turning off the telemetry station audible alarm located in the nursing station. Satellite STAT phones were installed throughout the unit, in which the centralized telemetry staff would call if a lethal state existed. All phones ring simultaneously and all nursing



staff are required to answer immediately. This was a change from dedicated phones near the nursing station. Other strategies included “siesta time” daily between 2 to 4 PM; during this time the lights are dimmed and quietness is encouraged. **Evaluation:** Traffic light baseline data from a random 48-hour period show 1 episode of >110 decibels, 52 episodes of 90-110 decibels, and all other recorded noise level was <90 decibels. After telemetry alarms were silenced noise level recorded decreased. During a 48-hour period there were no recorded episodes of >110 decibels, 30 episodes of 90-110 decibels and all other time, noise level was <90 decibels. The unit’s Press Ganey score for “noise level in and around room” before implementation was a mean of 64.8, which is 4% ranking. After implementation the mean score improved to 88.6, which is 99% ranking. There have been no patient safety issues related to reliance on centralized telemetry rather than unit alarms.  
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### CS73 Eating Our Young Is Over: Graduate Nurse Addition in a Large Tertiary Cardiac Intensive Care Unit Using a Team Approach

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**Purpose:** The coronary ICU intended to fill a large vacancy rate by introducing graduate nurses into a high-acuity environment and nursing staff with more than 10 years of experience. Leadership and staff had to change candidate selection and orientation format to forge success. The staff was challenged to provide a successful orientation for graduate nurses amidst high vacancy, limited preceptors, and broad age differences and experience levels between groups. **Description:** The coronary ICU at a large tertiary urban hospital serves severely compromised, hemodynamically unstable cardiac patients. Recruitment and retention had been a challenge with few experienced applicants. Seasoned staff was skeptical of the feasibility of graduate nurse success at skill acquisition and commitment to the unit. By 2007, the vacancy rate had exceeded 30%. Leadership responded by changing the interview and selection process. Candidates shadowed seasoned nurses before an offer was extended. Employment offers were extended on the basis of previous unlicensed technician experience, recommendation, level of commitment to the unit, and staff input. As a result, 5 inexperienced nurses (4 graduates and 1 with <1 year of experience) were selected and assigned preceptors. The average age difference between orientee and preceptor was 18.1 years (average age 25.2 to 43.3 years). Preceptors had an average of 18.25 years experience. A unit-based clinical nurse specialist was added to assist with mentoring orientees, preceptors, and complex patient management. Lead charge nurses were challenged daily to make assignments that would provide opportunities without compromising safety. **Evaluation:** All 5 inexperienced staff successfully completed 12 weeks of orientation and were trained to safely function by the end of 2007. All 5 are employed in the coronary ICU over a year later. The success

was due to a team approach and staff inclusion in interviewing, selection, and mentoring of candidates. Although the new staff was much younger, they were mature, motivated, and self-directed learners, not easily intimidated. Over time, all staff not only preceptors, were mentoring the new staff. Because of acuity, and necessity, there was no time to eat the young. Experienced and inexperienced staff was able to bridge age and experience gaps. jjs9256@bjc.org

### CS74 Enhancing Knowledge of Evidence-based Practice and Integration Into Nursing Practice Through Use of EBP Workout Sessions

Sherri C. Goldsmith; Medical Center of Bowling Green, KY

**Purpose:** Evidence-based practice (EBP) is a process used by nurses to facilitate clinical decision making on the basis of their clinical expertise, patient population preferences, and the best available research. EBP Workout Sessions were designed and provided to educate nurses on what is EBP, how to integrate EBP into practice, and how to communicate that to nursing peers. **Description:** EBP was new terminology for many of our nurses in the patient care areas. A committee was established with the purpose of identifying and coordinating the implementation of EBP within the facility. The goals of the committee were to educate the nurses on EBP and to provide adequate resources to research EBP. A number of initiatives were started to enculturate EBP but the most effective became the EBP Workout Sessions for the Chairs of the Unit Practice Councils. The EBP Workout Sessions were designed with a “starting from scratch” mentality. The first session focused on what EBP was, including didactic information; a few examples of what one unit had already implemented; and what EBP should look like in the rest of the facility. At the end of the first session attendees brainstormed EBP ideas that they would like to investigate within their specialty. They were then challenged to research and scope the topic and then explore implementing within their unit. Subsequent workout sessions included one-on-one coaching of desired EBP topic with a clinical educator. Laptop computers to research topics were available as well as support from members of our clinical informatics team for technical and research guidance. Members of our performance excellence department were also available to offer tools and resources in data collection. The sessions were well attended because there was time allowed for the staff to ask questions, review policies, and search for information at work. Four sessions (16 hours) were held over 8 months. **Evaluation:** Each nursing unit did poster presentations featuring their project at the facility’s “Journey to Excellence” celebration. Forty-seven posters were presented and more than 750 staff and physicians attended the exhibit. Twenty-nine of the 47 posters were on EBP issues. Eleven of those 29 units had implemented their findings and continue to collect data.

### CS75 Evidence-based Enteral Nutrition Guidelines in the PICU

Heather E. Skillman, Beth Wathen; The Children’s Hospital, Aurora, CO

**Purpose:** Critically ill infants and children are vulnerable to the effects of prolonged metabolic stress, and many have preexisting malnutrition. Early enteral nutrition may influence morbidity and mortality. Variations in practice related to the initiation, advancement, and management of enteral nutrition were observed during interdisciplinary PICU rounds. Clinical practice guidelines are intended to improve patient outcomes through consistent application of evidenced-based interventions. **Description:** The PICU dietitian and PICU Practice Council developed enteral nutrition guidelines following a thorough literature search. Strategies for feeding patients requiring invasive and noninvasive ventilation, including standard mechanical ventilation, oscillation, CPAP, BiPAP, and those positioned prone were included. Separate guidelines were created for feeding children with severe acute pancreatitis. Guidelines were disseminated by inservicing staff at monthly resident classes, printed on laminated pocket cards, and posted on the hospital's PICU Web site. Before and after implementation of the PICU Feeding Guidelines data were collected to determine when enteral nutrition was initiated. It was hypothesized that enteral nutrition was started more promptly after protocol implementation. **Evaluation:** Acceptance of the PICU Enteral Feeding Guidelines was universal. For 6 months before implementation, 108 patients started enteral nutrition within 1.81 + 1.54 days from PICU admission. During the first 6 months of protocol use, 136 patients started enteral feedings within 1.66 + 3.39 days ( $P = .7$ ). Despite a lack of statistically significant results, the protocol appears to increase recognition of the importance of timely and appropriate enteral nutrition. Consistent feeding practices will provide our PICU with exciting opportunities to participate in multicenter studies designed to evaluate the effects of early enteral nutrition on important outcomes in PICU patients. skillman.heather@tchden.org

#### CS76 Evidence-based Practice Project on Sedation in the Mechanically Ventilated Adult Patient in the Critical Care Unit

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**Purpose:** To implement an interdisciplinary driven evidence-based practice (EBP) protocol to adequately manage, treat, and evaluate sedation, agitation, delirium, and pain in the ventilated patient in the critical care unit; to improve patient outcomes as evidenced by decreased ventilator days and increased patient, family, and nurse satisfaction. **Description:** After identification of inconsistencies when medicating ventilated patients in the critical care unit (CCU) an EBP project was initiated. A review and synthesis of the literature identified several areas for improvement in our CCU. We were using Ramsey scale, an outdated scale. In addition, our sedation protocol was outdated. Patients received sedation drips at very high doses, which prolonged ventilator time and length of stay in the CCU and the hospital. In addition, our CCU had experienced a high turnover of experienced staff necessitating the need to "grow our own" resulting in a high percentage of inexperienced and new

nurses. The Riker sedation agitation scale (SAS) was selected. Staff education was done and the flow sheet was modified for the new scale. Previous studies suggest that there are improved patient outcomes when patients are given a sedation holiday. A pilot project raised questions about the safety of sedation holidays. The most current literature supports tapering of sedation with the goal of keeping patients at a sedation goal. **Evaluation:** The data collection instrument found documentation of the SAS at 64%. Patients receiving combination drug infusions 50% with 86% of patients at sedation goal. Analysis of the data showed poor documentation of pain in the nonverbal patient, pain was documented 23% of the time. The EBP team is currently looking at the evidence to implement a nonverbal pain scale. In addition, guidelines are needed for titration of drips up or down based on the patients SAS and numbers of PRN medication. Protocol changes are underway to decrease inconsistencies and provide guidelines when sedating ventilated patients improving nurse satisfaction and patient outcomes by decreasing complications and length of stay.

#### CS77 Evidence-based Practice: Hyperosmolar Therapy in Neurocritical Care

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**Purpose:** Practice variations exist in the treatment of intracranial pressure (ICP) in neurocritical care. Although parameters for administering hyperosmolar agents to reduce ICP have been established for mannitol, no accepted guidelines are available for hypertonic saline (HTS). A performance improvement project was undertaken to standardize coadministration of mannitol and HTS in patients with ICP greater than 20 mm Hg after traumatic brain injury, subarachnoid hemorrhage, and stroke. **Description:** A systematic review of the literature accomplished by an interprofessional neurocritical care team revealed compelling evidence to support the use of hyperosmotic agents in ICP management. Practice standards were developed for IV mannitol and HTS to promote clinical decision making and safe and efficient care. An educational program based on current research, medication safety, monitoring guidelines, collaborative care, and endpoints for desired treatment outcomes prepared clinical nurses for independent and interdependent practice decisions. Prescribing guidelines for osmotherapy predicated on weight-based dosing, osmolar gap calculations, and criteria defining treatment response were outlined for physicians and nurse practitioners. If mannitol failed to reduce ICP, HTS was considered using 5% HTS solution by bolus delivery along with vigilant patient monitoring to assess response. A progressive titration protocol with 3% HTS solution via continuous infusion guided by a rate-based sliding scale was implemented if no improvement in ICP measurements and serum sodium were evident. A retrospective audit of medical records was conducted to measure practice compliance, patient outcomes, and safety and effectiveness of care. **Evaluation:** Results indicated that mannitol was first initiated for increased ICP when suggested (100% sample). Guidelines

for 5% HTS administration were followed in 85% reviewed cases; reasons for protocol departure were identified and reviewed. Results also demonstrated that 5% HTS bolus reduced mean ICP below 20 mm Hg within 43 minutes. Finally, when ICP necessitated treatment with 3% HTS continuous infusion, results indicated that mean ICP decreased below threshold within an average 22 hours and that using a titration table safely guided this therapy. Our project demonstrated that implementing best evidence for practice, patient safety, and team collaboration leads to improved patient outcomes. [hujcsm@uphs.upenn.edu](mailto:hujcsm@uphs.upenn.edu)

### CS78 Extending the Benefits of Interdisciplinary ICU Rounds to Nightshift

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**Purpose:** The ICU nightshift nurses are typically excluded from the benefits of interdisciplinary patient rounding such as education, communication, camaraderie, and reinforcement of core measures and therapeutic care bundles. These nurses may also feel less empowered because of decreased opportunities for interaction with other members of the health care team. The Quality Rounds program was developed by staff to extend the benefits of morning ICU interdisciplinary rounds to nightshift nurses. **Description:** After identifying unacceptable compliance with several core measures and care bundles, the nightshift staff of a New Jersey nonteaching community hospital conducted a literature review and observed daytime interdisciplinary rounds for their effective practices. The idea of "nursing huddles" as described in the literature was then adapted to include a review of the various core measures and IHI bundle standards, which are often discussed with the ICU director and the interdisciplinary team during the daytime rounds. The nightshift staff developed and then redesigned a tool to guide these discussions. This tool, the Quality Checklist, includes essential elements of recommended treatment protocols that have been drawn from various organizations viewed to be leaders in quality outcomes. The nightshift staff increased their familiarity with these measures and bundles and were able to identify potential fallouts before they reached the 24-hour mark. Their findings were then followed up with the appropriate members of the health care team. Handoff communication is thus enhanced. **Evaluation:** Use of the Quality Checklist has brought indicators, initiatives, and measures typically discussed only on dayshift into the daily practice and discussion of the nightshift. As a result, the previously "left out" nightshift staff became increasingly motivated and engaged in improving the quality of care delivered to patients 24 hours a day. Quality indicator data have continued to improve since the inception of the Quality Rounds, which began in earnest in October 2007. At this time, the CICU has been without an incidence of ventilator-associated pneumonia since November 2007 and without an incidence of a central line-associated bacteremia since October 2007. [zucconim@sjhs.com](mailto:zucconim@sjhs.com)

### CS79 Fostering Success: The Facilitation of Learning and Understanding of Critical Care Staff

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**Purpose:** To facilitate learning, foster success, and increase understanding of frequently seen health issues and medical therapies and protocols in the medical ICU. **Description:** The medical ICU has a diverse population with multiple medical problems and comorbidities. During expansion from 12 to 20 beds, staff size increased significantly. To increase the knowledge level of novice ICU nurses and ease the transition into the medical ICU, the unit-based education committee developed a plan to further enhance orientation. Mentors picked a topic in which he or she had clinical expertise and developed a 1-hour educational program. The presentations were combined and bound in a workbook for lecture attendees. Finally, dates were chosen for a lunch and learn inservice for each topic. The members of the education committee covered nurse's assignments to help facilitate attendance at the entire session and create a learning environment in which the attendee could focus on the presentation without interruption and ensured optimal care of the patient. Continuing education contact hours were provided to each attendee after completion of the program. **Evaluation:** To date, 11 sessions have been held. Attendance has ranged from 8-14 staff members. In addition, the physician assistance have started to attend. Feedback from staff has been enthusiastic and positive. Evaluations have revealed the lunch and learns helped to foster confidence in nursing practice and increase understanding of more complex patients. In addition, several staff members have expressed interest in presenting and have sent the committee topics for future consideration. Feedback from staff unable to attend because of schedule prompted the committee to videotape the sessions to make available to all. [vpelly@christianacare.org](mailto:vpelly@christianacare.org)

### CS80 CSI: Challenges in Sharing Information in a Small Community Hospital ICU

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**Purpose:** In a fast-paced, high-acuity world, hospitals generate large amounts of critical information that must be quickly disseminated and implemented by staff. Communication has been shown to be a leading factor in achieving patient safety as well as healthy work environments. In an effort to enhance vital communication of important data to bedside caregivers, our ICU nurses sought to find enhanced, easily accessible avenues of communication for all staff. **Description:** Staff nurses assessed challenges impeding their access to current information. Obstacles included lack of a central location for information, inaccurate messages passed along verbally, and confidentiality issues with posting information at various places in the unit. There were also problems with frequently revised application software programs, staff lack of computer

proficiency, computer availability issues, and staff having difficulty staying current on rapid cycle changes in protocols in an evidence-based environment. Several avenues to disseminate information were tried, including bulletin boards, mailboxes for all staff, unit meetings, automated voice reporting systems with messages added, and e-mail for all staff. ICU management then set up an ICU Web site specifically for the unit and accessible from every hospital computer. It has a calendar with important unit dates and deadlines, unit meeting dates, minutes from meetings, committee notes, and contact information. New policies, protocols, updates, links to other Web sites, safety alerts, resources, unit forms, and a place for comments and questions are also included. **Evaluation:** The development of an accessible, central resource for the transmission of recent relevant information to staff nurses at the point of care has resulted in increased RN satisfaction with team communications, better collaboration, respect, and team cohesiveness. Without this concise, one-step communication medium, valuable information would be underreported, lost, or not accessed by caregivers. Staff nurses have responded positively to this new forum for sending, receiving, and discussing relevant information. The Web site, specific to our unit staff, serves to promote excellence, positive patient outcomes, as well as patient safety and a healthy work environment. mgooding@seton.org

**CS81 Herding CATs: A Nurse Manager's Dream to Increase Quality of Care**

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**Purpose:** Managing an adult medical-surgical ICU can be a nightmare when it comes to ensuring positive patient outcomes in various populations of patients. Quality improvements include monitoring use and education of evidence-based practice for all staff. The manager needed assistance to move forward in improving quality of care within the unit. Nursing leadership and staff nurse collaboration was needed to educate staff and improve patient outcomes. **Description:** The manager, educator and critical care clinical nurse specialist formulated and implemented a team of staff nurses to form a Clinical Action Team, also known as a CAT. First, a respiratory CAT was developed to reduce the rate of ventilator-associated pneumonia (VAP) among the ICU population. The team included staff nurses, physicians, critical care clinical nurse specialist, respiratory therapist, and infection control nurse. The nurse manager and educator were ad hoc members of the team. The CAT met monthly for 4 hours. The CAT coordinated VAP prevention strategies, monitored compliance with the ventilator bundle, and educated the nursing staff. Monthly progress reports were given to the nurse manager and presented before the Critical Care Quality Improvement Committee. The development and implementation of the respiratory CAT has been extremely successful with reducing VAP in the ICU. The team is still meeting monthly and continues to implement strategies to improve patient outcomes within the respiratory population. **Evaluation:** Because of the success of the first CAT, 3 more ICU

CATs have been developed: infection prevention, neuro trauma, and critical care. The success of the ICU CATs has also been seen by other units within the hospital and they have implemented their own CATs. Staff nurses are engaged in the work of their CAT; they are proud of their accomplishments. Quality initiatives are implemented and monitored through the CATs. There has been a reduction in nosocomial infections and patient outcomes have improved within the ICU. louise.jacobs@allina.com

**CS82 Hospital Nursing Staff Acting as Adjunct Clinical Instructors and the Impact on Nurse Vacancy Rates**

Katherine H. Miller, Stephanie Baker; Sisters of Charity Providence Hospitals Columbia, SC

**Purpose:** Nurse recruitment/retention is a national problem. Hospitals with high turnover rates, defined as 22%-43% annually, have 36% higher costs per discharge, experience a lower return on assets, have increased length of stay, and have higher risk adjusted mortality than hospitals with turnover rates less than 12% annually. A nonprofit hospital with vacancy rates as high as 40% had 2 nurses teach 1 clinical group of students from a local program each semester. **Description:** In an attempt to increase nursing student clinical rotations this hospital collaborated with a local college of nursing program to have hospital nurses become clinical adjunct instructors. Organizational development sought out clinical nurse managers with the appropriate credentials who would have an interest in teaching one clinical student group per semester, 2 semesters annually. The chief nursing officer was instrumental in assisting with the selection of clinical managers that would be able to teach nursing students. Each clinical nurse manager was allowed to adjust to a compressed work week of four 10-hour days to accommodate the clinical instruction of nursing students. The managers are able to stay on their own units with the students. Each manager has attended orientation as a clinical adjunct at the college of nursing and follows all faculty guidelines in the instruction of the students. **Evaluations:** With the addition of 2 clinical nurse managers as adjunct clinical instructors, nursing student clinical rotations have increased at this hospital. The vacancy rates on these managers' units are now 0%-7%. Other units in the hospital run as high as 40%. Nursing recruitment hospital wide has improved with the increased exposure through the nursing clinical rotations. Nursing student satisfaction with the 2 managers/adjunct clinical instructors is high and other qualified nurses are now working as adjunct clinical instructors on nursing units with higher vacancy rates. kamilrn@sc.rr.com

**CS83 Impact of a Dedicated IV Team**

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**Purpose:** Catheter-related bloodstream infections (CR-BSI) are a costly risk associated with central venous catheters both in terms of monetary expenditures and patient outcomes. Patients with CR-BSI experience increased length of stay, higher

morbidity and mortality rates, and increased pain and suffering. The purpose of this study was to evaluate the effectiveness of a dedicated IV team in reducing CR-BSI rates and improving patient satisfaction. **Description:** A dedicated IV team was established using input from other hospital departments to determine the structure, purpose, and responsibilities of the team. Team duties included surveillance, care, and maintenance of all vascular access devices in the in-patient setting, education of IV practices, and data collection. Viability of all central catheters is ensured by assessing patency and treating with thrombolytics if indicated. The team was trained in using ultrasound to place peripheral IVs for difficult placements. Between December 2007 and May 2008 the IV team collected data during the course of their daily duties including the number of patients seen, new IV catheters placed, central catheter dressings changed, central catheters removed, peripheral and central catheters in place, expired IVs and dressings, thrombolytic therapies required, and laboratory draws from central catheters. Infection surveillance data were collected and analyzed monthly by the Infection Control Department based on national guidelines. Descriptive statistics were performed to explore the impact of IV team implementation and CR-BSIs. **Evaluation:** A total of 7787 patients were seen by the IV team between December and May. The rates of infection per 1000 catheter days during this period were 6.3, 6.6, 4.7, 7.8, 1.8, and 1.3, respectively. Preliminarily, there has been a downward trend in the rate of CR-BSIs in April and May 2008. The rate has gone from being unacceptably high to below the national average. Although the program is still young, the positive outcomes of the implementation of the IV team are becoming apparent. Initially, data collection was sporadic because of the team not being fully staffed. More data over the next year will provide a better picture of the effectiveness but the preliminary results are positive. julia.wagner@va.gov

#### **CS84 Improving Infection Control Practices of Nurses on a Telemetry Unit**

Allison K. Perkins, Bonnie Wayne, Princess Hopes, Kristin Corn, Ann Kim; San Diego VA Medical Center, CA

**Purpose:** Reducing hospital-acquired infections has been a high priority for many health care facilities during the last several years, as well as a National Patient Safety Goal. Growing health care and public concern regarding hospital-acquired MRSA infections led to a staff-nurse initiative to improve adherence to best practices in infection control on the telemetry unit. **Description:** The committee began by evaluating staff knowledge of infection control, nurse perceptions of their own infection control practices, and observations of nurses working with patients on isolation precautions. Based on initial data, this committee implemented the following to improve practice: 1. Educated 100% of staff on infection control best practice; 2. Created an infection control bulletin board for staff to use as a quick resource; 3. Designed 1-page educational handouts for patients on isolation; 4. Initiated the Take 3 at 3 campaign, a staff driven cleaning and disinfection program performed

twice daily of vector sources such as computers, door knobs, and telephones; 5. Implemented the Caught Being Good program to recognize and reward staff who adhere consistently to infection control best practices; and 6. Performed monthly staff observation audits to monitor staff compliance. **Evaluation:** Audit results from the last 6 months demonstrate an overall improvement with best practices from 20% to 88% compliance. MRSA acquisitions on the telemetry unit during this timeframe decreased from 9% to less than 2%. The group will continue to monitor the unit's compliance, and will now expand their educational in-services to include providers and ancillary staff, who have been noted in the literature to be important vectors. The creation of an infection control best practice program has allowed this unit to improve their practice, decrease the percentage of unit-acquired infections, and improve the quality of care they provide to the patients. allison.perkins@va.gov

#### **CS85 Improving Patient Safety Outcomes Through Increased Compliance With Patient Identification**

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**Purpose:** Patient safety, our top priority in health care, is compromised when health care professionals fail to verify patient identification before performing any procedure or treatment. Patient error and fatalities are well documented when patient identification has not been secured. A nursing initiative was developed and implemented in the medical respiratory ICU for all health team members to correctly identify patients before procedures. **Description:** As evidenced by non-compliance with patient identification in our unit, patient safety was being compromised. Various health care team members in the medical respiratory ICU were inconsistently complying with hospital and regulatory guidelines that explicitly describe how and when to verify patient identification. A Patient Identification Scrabble game was designed to generate data regarding our compliance within our unit. The unit was divided into 2 teams, each receiving a different clinical question of the day. All patients in each half had their patient identification armbands partially obscured with a letter sticker. When entering the patient's room, and before treatments and/or procedures, the health care team member was expected to identify the patient by his or her armband, thus revealing a letter to the answer of the question of the day. All members of this half of the team then collaborated on the answer, hoping to answer their question before the other team. The team that answered their question correctly first won! This game currently occurs unannounced, further demonstrating our commitment in making patient safety first everyday. **Evaluation:** Before the implementation of the Patient Identification Scrabble game, lack of compliance with patient identification was observed 8 times in a quarter. When this safety initiative was first introduced, lack of compliance decreased to 5 observations the following quarter. Observations for the following 6 months noted only 2 occurrences of noncompliance. In the above-mentioned violations, the staff members involved were reeducated on the



patient identification policy and reinforcement of practices compliance. Although initially intended to correct compliance with nursing staff, the game has since brought forth practice changes for all staff members caring for our patients. [viszla4us@comcast.net](mailto:viszla4us@comcast.net)

**CS86 Induced Hypothermia After Cardiac Arrest: Finding a Noninvasive Solution, Developing the Protocol and Tracking Success**

Michelle E. Deckard, Jan Tackitt; Clarian Health-Methodist Hospital, Indianapolis, IN

**Purpose:** To make the practice of induced hypothermia after cardiac arrest as efficient as possible, and do it without using invasive techniques. To track the process and outcome measures associated with the therapy and identify areas for improvement. **Description:** We researched the market for available noninvasive options to induce hypothermia. A database was developed to track process and outcome measures. Initial education was completed by a company representative. A specific competency-based education program was developed and staff nurses were trained to facilitate the education. Protocol order sets were written and revised several times as problems in the process were identified. The emergency department staff were included in the education so that hypothermia could be initiated soon after arrival to the hospital. **Evaluation:** The time from initiation of therapy to the target temperature decreased significantly with use of new equipment and protocol. Maintaining the target temperature was accomplished efficiently with the new equipment and protocol, and rewarming was easily controlled. We have had tremendous success with the use of the new hypothermia protocol. Of 41 patients who received the new therapy, 33% have survived and been discharged with a Glasgow Coma Scale score of 14 or greater. Patients who presented with VT/VF as an initial cardiac rhythm have had a survival rate of 52% (11 of 21). The survival rate in patients with PEA or asystole has been 20% (6 of 30). [mdeckard@clarian.org](mailto:mdeckard@clarian.org)

**CS87 Induced Hypothermia: Instituting Outreach Education to Feeder Hospitals and Transport Teams**

Cindy L. Martin; Kadlec Medical Center, Richland, WA

**Purpose:** Development of a nurturing educational program that will influence staff from outlying hospitals and transport teams to change their practice in managing cardiac arrest victims. The program will share an organized educational approach to discuss current data collection results, standardized algorithmic approaches, and known benefits of induced hypothermia therapy. **Description:** After reviewing induced hypothermia data collected since June 2006, we discovered a significant portion of these patients were transported to our facility from other outlying hospitals. Currently, induced hypothermia is only performed within our ICU. The designated hypothermia group (made up of several ICU nurses and a critical care intensivist) have reviewed the evidence, developed a standardized algorithm, implemented the algorithm, revised the algorithm,

and monitored the results. The need to share our results and encourage others within the area to develop their own initial approaches in management of cardiac arrest patients became evident. Appointments were arranged at various transport teams and outlying hospitals. The responsibilities for providing the educational component were divided among the hypothermia group team members. A PowerPoint presentation, review of the current algorithm, and an open discussion reiterating essential steps in patient care management before or during transport. **Evaluation:** Over the course of 4 months, the Hypothermia Outreach Education program has reached the majority of the outlying hospitals and transport teams. We have had some initial success. Several of the transport teams have submitted budget requests to purchase special refrigeration units to keep cold saline available and begun the process of developing an algorithm. We have had one facility begin cold saline and ice packs before the transport team arrived. When the patient arrived at our facility their temperature had significantly decreased. Our team has provided education to 5 transport teams and 8 hospital emergency and ICUs. [cmartin7160@verizon.net](mailto:cmartin7160@verizon.net)

**CS88 Integrating Nursing Evidence-based Practice and Information Technology**

Eloise V. Catrett, Thanh Dao, Connie Tillman, Rosalie Francois, Kristi Custard, Margaret Price, Layne Gentry, Susan Baimbridge; St. Luke's Episcopal Hospital, Houston, TX

**Purpose:** Surgical site infections (SSI) are recognized as major medical complications of significant mortality, morbidity, and cost. A nursing initiative to reduce the incidence of superficial SSIs in cardiovascular surgery patients was implemented and information technology was used to assist in sustaining evidence-based practices. **Description:** Research indicates most superficial SSI pathogens are the endogenous flora of the patient's skin and mucous membranes. Further analysis of SSIs in cardiovascular surgery patients indicates a higher superficial than deep sternal wound infection rate. Although deep wound infections are attributed to surgical techniques and tissue contamination in the operating room, superficial wound infections are shown to be associated with nursing care. The Sternal Wound Collaborative Practice Team (SWCPT) implemented the following wound care interventions: daily dressing change for 4 days and as needed, surgical site care with 2% chlorhexidine daily until discharge, dressing integrity assessments every shift, patient showering with dressing off, and periodic on-site and routine remote compliance audits. This new protocol did not begin until all nurses and patient care assistants in the cardiovascular patient care areas were educated on proper procedures for prevention of SSI. **Evaluation:** A 43% reduction in superficial sternal wound infection rate was observed over a 6-month period. Compliance audits were necessary to ensure performance. As audits indicated noncompliance, management was notified and staff education was reinforced. Management support was the key to program success and policy enforcement. Frequent feedback

was shared between members of the SWCPT and nursing staff to promote employee engagement, encourage active participation, and nourish a sense of pride among the nursing team. Above all, the electronic method for daily auditing, a computer-generated report that aggregates nursing wound assessment documentations, was essential to sustain quality. [ecatrett@sleh.com](mailto:ecatrett@sleh.com)

### **CS90 Jack's Crown and Jill's Hip: A Falls Algorithm to Optimize Best Practices and Resources**

Diane U. Smith, Mary Arnett, Michele Zimmer; University of Maryland Medical Center, Baltimore, MD

**Purpose:** To develop an algorithm that complements the Morse Fall Risk Assessment and interventions. Patients most at risk for falling are weak or have an impaired gait and overestimate or forget their limitations. An algorithm provides a guide to (1) identify the highest risk patients within the high and critical fall risk groups, (2) select best practices, (3) select interventions to minimize the \$130 000 cost of dedicated observers (sitters), and (4) reduce the unfilled sitter orders.

**Description:** Nurses use an electronic Morse assessment tool to level patients into standard, high, or critical fall risk. Interventions are selected per risk level. On some units nurses are faced with almost all patients scored as high or critical risk. The dilemma is how to prioritize resources. The tendency is to order a sitter from the limited sitter pool. The lack of sitters and patient protection, while minimizing restraints and preventing falls, can be a source of stress and frustration for staff. The prescriber may be reluctant to discontinue a sitter order. Nurses identified a need for guidance in selecting alternative resources such as a lap belt fastened in front, removal lap trays, chair alarms, and low beds. Staff developed an algorithm that (1) quickly identifies patients with both physical and mental vulnerability, (2) maximizes restraint alternatives, (3) engages the family to partner in care, and (4) promotes selection of the best alternative resource before requesting a sitter from the limited pool. **Evaluation:** The algorithm helps nurses identify and protect weak or unsteady patients who overestimate their abilities but who may be cognitively intact. It helps to maximize interventions beyond the locked bed, sitters, and restraints. It helps decrease variability of care within and across units. Despite the tool's limited pilot, the overall hospital falls rate is below benchmark—2.18 (hospital) versus 3.40 (Maryland Hospital Association) and 3.71 (NDNQI). Preliminary impact measures point to nurse satisfaction and reduced fall rates and injuries from falls. The use of the algorithm is expected to also decrease sitter costs. [dsmith2@umm.edu](mailto:dsmith2@umm.edu)

### **CS91 Joining Forces: ICU and Acute Care Nurses Avert Disaster Through Early Sepsis Recognition and Treatment**

Tisha Norman, Geraldine Jones, Claudia Smith, Melissa Howell, Petra Grami, Jennifer Hoffman, Gregory Laine; St. Luke's Episcopal Hospital, Houston, TX

**Purpose:** Sepsis wreaks havoc on the human body. Like a natural disaster, it moves fast and furiously, leaving devastation

in its wake. The aftermath leaves us wrought with uncertainty, and expense. Sepsis survivors face increased mortality, length of stay, and costs. Sepsis drains the health care resources of our patients, hospitals, and nation. By providing Sepsis Guidelines education to hospital staff, we are promoting early recognition and treatment to avoid full-blown disaster. **Description:** According to the 2008 Surviving Sepsis Campaign early recognition of sepsis and implementation of key strategies in the first 6 hours is paramount to averting disaster. Data from previous implementation of an ICU sepsis protocol illustrated statistically significant reductions in mortality, length of stay, ICU length of stay, and ventilator days, demonstrating the need to initiate a hospital-wide program. This creative solution educates staff nurses in the acute care setting to recognize signs and symptoms of sepsis and implement a 6-hour bundle. Early recognition enables nurses to initiate early treatment outside the ICU setting. Development of an interprofessional Sepsis Task Force combined efforts to revise the existing sepsis protocol to facilitate early intervention in the acute care setting. The Task Force designed an educational offering that moved implementation of treatment across service lines, out of the ICU/ED and into the acute care setting. The taskforce used key stakeholders to promote collaboration and buy-in from physicians and RNs outside the ICU. Educational opportunities are ongoing, with continuing education credits offered for RNs, and quarterly updates for physicians, pharmacy, and hospital leadership. **Evaluation:** Initial implementation of an ICU "Sepsis Protocol" yielded a reduction of in-house sepsis-associated mortality rates from 40% to <20%. To evaluate hospital-wide implementation efficacy, identical metrics will be used. Effectiveness of RN education will be measured through satisfaction surveys; physician education by use of the 6-hour bundle outside the ICU. Ongoing hospital-wide education will ensure sustainability of the sepsis initiative. Early recognition and treatment of sepsis must become ingrained into the hospital culture and evolve as the standard of care to ensure that we will continue to see positive outcomes associated with early sepsis intervention. [tnormanrn@comcast.net](mailto:tnormanrn@comcast.net)

### **CS92 Kick the Fluff—Let's Standardize: A Standardized Approach to Pediatric Parenteral Medication Delivery**

Tess M. Idea; The Children's Cancer Hospital of M.D. Anderson cancer Center, Houston, TX

**Purpose:** To evaluate the best practice in parenteral medication delivery process among pediatric institutions in the country. Delivering medications safely to hospitalized pediatric patients presents a significant challenge as there are wide variations in patients' weight and drug dose. Critically ill children pose a unique challenge because they require fluid restrictions. Variability in the delivery of medications is inherently unsafe. **Description:** We embarked on an evidence-based project to standardize the volume of flushes given after infusion of IV medication to provide accurate drug dosage necessary for our patients. A literature review on the topic of "flushing after parenteral delivery of medications" resulted in no available

publications related to this subject. The search was then conducted through list-serves and interviews with the clinical nurses and nurse specialists from various pediatric institutions in the country. After reviewing evidence-based practices and benchmark evaluations of the top 10 pediatric hospitals in the nation, the Children's Cancer Hospital of the University of Texas M. D. Anderson Cancer Center developed a practice guidelines in administering parenteral medications. The fundamental process is as follows: 1. Pharmacy will not dispense overfill medications; 2. A 2-mL normal saline flush will be given after the medication is infused if a drug is delivered via syringe pump, and a 20-mL of normal saline flush if the medication is administered via regular infusion pump; 3. The use of injection ports proximally located next to IV insertion site is ideal; 4. The nursing staff will continue to use mechanical infusion devices to deliver IV medications and continue use of microbore IV tubing with small intraluminal diameter. **Evaluation:** A special policy and procedure on IV drug delivery in the PICU will be presented for approval to the Nursing Policy and Procedure Committee. Compliance with the procedure will be evaluated 6 months after implementation using a standardized tool. A pharmacokinetics study will be conducted to evaluate accuracy in drug delivery. This guideline will reduce variability in practice, simplify the delivery of parenteral medications, and prevent medication errors. The clinical nurses in our PICU were gratified with the empowerment provided to them with this practice change. tessidea@aol.com

**CS93 LISTEN to What I Say, So I Can SEE What I Need: Visual Aids Make the Difference**

Linda H. LaTour, Linda Bowling, Kathryn Mcbroom; Duke University Health System, Durham, NC

**Purpose:** Understanding and compliance with medical regimes is a key factor in helping heart failure patients stay out of the hospital. Patients can get frustrated when attempting to schedule complicated medical regimes and daily activities. The purpose of this project was to identify an alternative aid and effective teaching style for staff to use in assisting patients to achieve this goal. **Description:** Recognizing successful education as a necessity and a challenge, a staff-driven team composed of front-line leaders and the nurse manager/educator on our progressive care unit met to discuss innovative methods of communicating after discharge instructions. Dialogue targeted on education tailored to individual patient needs. Fresh approaches were encouraged and resulted in a unique teaching tool that has proven to be a practical and functional resource for many of our heart failure patients. One patient, confused by a written schedule for medications and activities, needed a more visual approach to discharge planning: a hand drawn clock face indicating times for daily activities, medications, and intermittent rest periods. Also incorporated were nutritional needs including snacks and supplements, sleep periods, and family time. Integral to the success was allowing the patient and family input while planning postdischarge daily activities for her "clock" schedule. Including family members as well as

the patient promotes support, understanding, and compliance with the overall patient goals. This innovative technique has proven to be a successful approach for many of our visual learners. **Evaluation:** Creative approaches tailored to individual patient and family learning styles promote understanding and aid in patient compliance. This method of teaching allowed patients to voice opinions and make choices. We now promote compliance by increasing the patient's capacity to exercise control over areas of their discharge planning. This offers patients a degree of ownership and "buy-in" of a sometimes very complicated medical regime. A secondary benefit is increased staff interest in better understanding the need to coordinate their teaching style with the patient's learning styles. LISTEN to What I Say, So I Can SEE What I Need may be the answer for many patients. latour4222@gmail.com

**CS94 Mentoring Beyond Structured Orientation: Simulation-Based Education to Enhance Critical Thinking Skills**

Jody Lynn Faldet, Pam Haala; Rochester Methodist Hospital, Rochester, MN

**Purpose:** To provide an educational opportunity for nurses after orientation to practice critical thinking skills in a simulation environment and foster continued advancement in bedside vigilance and safety in patient care. **Description:** Our unit-based preceptor committee has developed a followup class for new nurses approximately 6-9 months after completion of the formal critical care orientation. The critical care orientation provides a strong knowledge base but the challenge for preceptors is to facilitate the integration of that information in the dynamic ICU environment. The class focuses on hemodynamic review and uses simulation-based learning. The selected critical care scenarios have been an effective way to expose new staff to situations that frequently occur in our specialty ICU. The class provides opportunities to observe behavior under stress and intervene for learning or to allow mistakes to be made without jeopardizing patient safety. Over time the scenarios have changed to accommodate the newest practices on our specialty ICU. We are able to evaluate how orientation prepared new staff for our environment and challenge them to broaden their individual view of the situations simulated. **Evaluation:** We believe simulation-based learning promotes higher level integration of specialty information, enabling more effective learning and patient care. Participants complete a survey after going through the simulation sessions to evaluate the class and to suggest possible improvements. Our preceptor group and leadership have validated the benefit of the class. We plan to continue to use this type to education to further support and empower our new colleagues. jlfaldet@iowatelecom.net

**CS95 Mission Impossible? Decreasing Acquisition Rates of MDROs in the SICU**

Sharon P. Dickinson, Connie Rickelmann, Margaret Moscheck, Fadi Islim, Rebecca Horner, Mary LaBeske, Christy Zalewski; University of Michigan Hospitals and Health Centers, Ann Arbor, MI



guidance. Staff members value the opportunity to have input into preceptor selection. They have effectively given constructive feedback to applicants. Recommendations from the staff and committee have directed applicants to work on professional development in the areas of clinical skills, communication, organization of patient care, and unit involvement. After much success with the preceptor application process, our unit is now developing a similar model for selection of new charge nurses. [davis066@mc.duke.edu](mailto:davis066@mc.duke.edu)

**CS98 No Nurse Left Behind: Sharing the Lessons Learned After 4 Years of the Surviving Sepsis Campaign**

Kirsten R. Pyle; Mission Hospital, Mission Viejo, CA

**Purpose:** In response to the unacceptably high morbidity and mortality of severe sepsis and septic shock patients, the adoption of the Surviving Sepsis Campaign (SSC) guidelines was instituted in a nonprofit, community, trauma hospital. Our goal was to reduce morbidity and mortality, to drive compliance with the bundle elements, and to create a culture change. For our goals to be accomplished we had to engage every nurse on every unit; no nurse left behind. **Description:** Because knowledge of the SSC may be more difficult to implement than other evidence-based therapies, the initiative was driven by a dedicated sepsis coordinator. We had a trauma coordinator and a stroke coordinator, why not a sepsis coordinator? Using Meditech, we were easily able to capture robust data from the SICU, CICU, and medical/surgical wards. We used statistical analysis to determine efficacy. We analyzed the systems in place, the care provided, and patient outcomes. Essential for success, we paid attention to the lessons learned nationally over the past 4 years surrounding sepsis implementation. A “tool-kit” approach with broad, hospital-wide implementation was completed. Ten multidisciplinary groups collaborated to produce a “root-cause analysis” on each barrier to implementation. Emergency, critical care, and medical/surgical units worked with one focus in mind: patient flow, communication across units, and problem-solving areas of opportunity. Since implementation, we have full data on 76 patients with severe sepsis or septic shock who were admitted with an intent-to-treat and had at least 1 critical care bed day. **Evaluation:** When compared against 2007 data ( $n = 57$ ), in-hospital mortality decreased from 29.8% to 15.8% ( $P < .05$ ). The percentage of respiratory failure requiring intubation was reduced from 58% to 35% ( $P < .05$ ). The percentage of sepsis patients who developed acute renal failure requiring hemodialysis was reduced from 18% to 11% ( $P = .32$ ). Compliance with early goal-directed therapy improved from 0% to 71% and the rate of lactate screening increased from 63% to 96% (both  $P < .05$ ). A dedicated sepsis coordinator with a clear understanding of common barriers in sepsis care can more easily develop creative, house-wide system solutions and may increase the probability of successful implementation. [kirsten.springer@yahoo.com](mailto:kirsten.springer@yahoo.com)

**CS99 Nosocomial Infections? Get a CAT!**

Pamela A. Madrid, Kathleen Berkowitz, Michelle Farber, Stacy Weldon, Larry Bachmeier; Mercy Hospital, Coon Rapids, MN

**Purpose:** There is an increased focus from patients, payers, and ICU staff on nosocomial infections. A clinical action team (CAT) was formed to decrease the rates of urinary tract infections (UTIs) and blood stream infections (BSIs). The goal of the ICU was to reduce infections to zero. To facilitate work to achieve this goal, an infection prevention CAT was formed in October 2007. The team consisted of 3 ICU staff nurses, CNS, and the hospital ICP who meet for 4 hours monthly. **Description:** Staff became content experts integrating best practice in daily work. They were role models for the rest of their peers and were willing to challenge them when they observed a “bad practice.” Activities for BSI included a campaign to “scrub the hub” for 15 seconds, auditing tubing changes with follow-up education, and education concerning the importance of the Biopatch application. The team emphasized the importance of the central catheter bundle by using a checklist. UTI prevention was also a key initiative for this team. A pilot of impregnated Foley catheters was completed with no statistical improvement in the infection rate. The team used a device utilization ratio (DUR) tool to measure intensity of use of Foley catheters and a Foley bundle to measure compliance with securement, pericare, no dependent loops, and removal if no longer needed. When the team compiled the monthly audit, they used “misses” in the bundle as teaching moments. Hand hygiene compliance was observed for all roles during the meeting. They were willing to counsel their own peers and other roles were counseled by the ICP. The team believed that this “just in time” education changed practice. **Evaluation:** The rate of BSIs from October 2006 to September 2007 was 3.15/1000 catheter days. The rate of BSIs from October 2007 to September 2008 was 1.73/1000 catheter days, a 45% reduction. The rate of UTIs from December 2006 until September 2007 was 3.35/1000 catheter days. The rate of UTIs from October 2006 until September 2008 was 3.38/1000 catheter days. The DUR (catheter days/ patient days) from January 2007 until September 2008 was 0.76. The DUR from October 2007 until September, 2008 was 0.74, which is slightly closer to the benchmark of 0.66. The trend over the past 3 months is closer to the benchmark with 1 recent month actually below the benchmark. [pamela.madrid@allina.com](mailto:pamela.madrid@allina.com)

**CS100 Patient Transfer Hall Pass**

Penny S. Huddleston; Baylor Medical Center at Irving, TX

**Purpose:** To provide a method for hand-off communication of patient information to other health care providers and allow safe passage of the patient through the health care system. **Description:** The Joint Commission’s second National Patient Safety Goal is to improve the effectiveness of communication among caregivers through the management of hand-off communication. Baylor Medical Center at Irving implemented the Patient Transfer Hall Pass to meet this goal. The Patient Transfer Hall Pass is used for all in-patients who temporarily leave a nursing unit and go to a procedural or a diagnostic area as well as upon return to the nursing unit. This tool communicates patient information such as the patient’s name, room



number, fall risk, code status, language barrier, isolation precautions, pertinent medical history, allergies, diabetic condition, anticoagulant therapy, medications, preprocedure and postprocedure assessment (location of IV access, neurological, respiratory, and cardiovascular status). Health care providers may seek further clarification of any patient information by telephone if needed. **Evaluation:** The Patient Transfer Hall Pass has resulted in safe passage of the patient through the procedural or diagnostic area because of clear communication handed-off to the next health care provider. In addition, the staff nurses verbalized an increase in efficiency for the sending nurse and receiving health care provider by decreasing the number of telephone calls seeking clarification of the patient's information. Finally, the length of time the patient spends in the procedural or diagnostic area has decreased because of enhanced patient information being readily available to the next health care provider. penny.hu@baylorhealth.edu

### **CS101 Paving the Way to Staffing Success: Developing a PACU Internship Program**

Beth Pam Carrion, Carol Shalaway; Lehigh Valley Hospital, Allentown, PA

**Purpose:** In preparation for future perioperative expansion, a plan was developed to address the projected staffing needs of a postanesthesia care unit (PACU) in a Magnet designated level 1 trauma center. A comprehensive internship program was developed using an existing critical care course. This program was tailored to meet specific needs of the PACU. Historically, only nurses with a minimum of 2 years of critical care experience were considered for PACU staff positions. **Description:** Existing PACU nurses demonstrating clinical proficiency and a willingness to teach are educated as preceptors and mentors. Preceptor preparation and facilitator courses are provided for preceptors to finetune teaching and communication skills. Graduate and medical surgical nurses are interviewed and selected based on drive and initiative for success. Combining the Essential of Critical Care Orientation (ECCO) program with a 24-week clinical experience, learners are given the opportunity to integrate didactic knowledge with clinical skills. Hands-on workshops augment each ECCO module. Clinical experiences in specialized high-acuity areas such as the open heart unit and neuroscience ICU are provided. In a collaborative effort, the patient care specialist, preceptors, respiratory therapists, and nurse educators ensure interns receive academic and clinical training. Student progress is monitored using written examination, clinical observation, and weekly progress meetings. Assessment of clinical development is accomplished using a Baseline Knowledge Assessment Test (BKAT) at the start and completion of the internship. BKAT scores improved at least 20% from the initial examination. **Evaluation:** Clinical development and professional growth occurred with all interns. Each intern has achieved successful completion of the program and retention rates are 100%. A required minimal passing score for each ECCO module of 80% is achieved. BKAT scores improved from an average precourse score of 66% to an

average postcourse score of 86%. Each intern completes a postinternship evaluation and offers valuable feedback to their experiences during the program. PACU staff has been empowered by their contributions to succession planning and future of their nursing specialty. beth\_p.carrion@lvh.com

### **CS102 Pediatric Emergency Team Training Using Multidimensional Simulation**

Michael Nickerson, Exeter Hospital, Exeter, NH

**Purpose:** The emergency management of compromised pediatric patients in the emergency department or in the pediatric unit is often a chaotic and stressful event, especially in a community hospital. A nursing quality care initiative was undertaken to create an interdisciplinary team training program in the management of pediatric emergencies and resuscitation and to increase communication and collaboration among physicians, nurses, paramedics, and respiratory therapists. **Description:** The program was developed by a committee composed of representatives from nursing education, the family center, emergency department nursing and physician staff, paramedicine, respiratory therapy, and pediatrics. The committee was chaired by the hospital's simulation specialist. Program objectives were written and an evidenced-based curriculum was developed. Scenarios for Laerdal's SimBaby were written by the simulation specialist and were based on actual case reviews. The simulations were trialed with the committee members and revisions made according to their recommendations. Members of the 5 clinical units participated in a 2 1/2 hour session. Each session incorporated 2 scenarios, 1 respiratory and 1 cardio/respiratory/sepsis. After each simulated case learners participated in a debriefing session. Discussion focused on team concepts, interpersonal communications, team leadership versus patient management, use of Broselow pediatric equipment and the use of multidimensional simulation as a training modality. At the completion of the training program the participants were required to complete evaluations on the achievement of objectives, what went right and wrong, and the simulation experience. **Evaluation:** After 10 training sessions the evaluations demonstrated a >95% score of 4 or 5 on a 5-point Likert scale for program satisfaction, achievement of objectives, and increase in knowledge regarding teamwork and interpersonal communications. The Simulation Program Evaluation also demonstrated satisfaction with the simulation experience, its realism, complexity, and the scenario's ability to promote teamwork and collaboration. The participants also gave the debriefing session high marks for its ability to promote reflection, critical thinking, and learning. All would recommend the program to their colleagues. Participant comments lead to changes in the pediatric code cart and unit equipment needs. mnickrim@comcast.net

### **CS103 Preceptor Power-Up**

Karlyn E. Pierson; Mayo Clinic Rochester, MN

**Purpose:** Multiple preceptors orient new nurses throughout the year, leading to a variation of topics and skills covered

during orientation. Our challenge was two-fold, to provide a standardized and consistent orientation and support and educate our preceptors. A 4-hour preceptor educational session entitled Preceptor Power-Up was developed. The content is continually revised for the twice yearly sessions. **Description:** The curriculum is a compilation of lecture, interactive activities, demonstration, brainstorming, and social integration activities. The lecture highlights the Department of Nursing Orientation, unit-specific orientation, new changes to the orientation process, and preceptor frequently asked questions. Interactive activities such as each preceptor completing a learning style inventory to help them understand and enhance their teaching style, developing preceptor to preceptor communication tools, and scenarios for when to explore other resources are done. A demonstration of Web-based resources of instructional modalities, critical thinking tools, and questions to ask orientees, using SBAR, and prioritization tools is provided. A brainstorming session tackles teaching issues and gives an opportunity to give feedback regarding the orientation process. Activities to promote social integration of the new orientees begin in the Preceptor Power-Up. The preceptors write letters to the new orientees and complete a "Getting to Know Your Preceptor" survey. Classes to enhance precepting skills are recommended. An article review on precepting is done. The class creates competent and confident preceptors to meet the needs of our orientees. **Evaluation:** An e-mail survey is distributed to preceptors and orientees approximately 3 months after the Preceptor Power-Up. Formal and informal feedback has shown the Preceptor Power-Up has enhanced our orientation program. The feedback from the preceptors found that it was beneficial and the new orientees felt that their preceptors were consistent in their teaching and had different solutions for addressing their needs. Feedback combined with continual review of the content allows us to support our preceptors with a session that is unique to their needs and the needs of the unit. This program creates an attitude of confidence and collegiality among our preceptors and orientees. pierson.karlyn@mayo.edu

#### CS104 Preserving Cognition in the Critically Ill: Our Educational Path to Improving Outcome

Alicia B. Harner; Tampa General Hospital, Tampa, FL

**Purpose:** A majority of patients in our ICU receive mechanical ventilation. Many of these patients, and others who were critically ill yet did not require ventilatory assistance, show signs of confusion and cognitive impairment. Research of recent studies led us to the CAM-ICU tool. We wanted to use this tool in our clinical assessment and therapy to improve outcomes for our critically ill patients. **Description:** Implementation of the CAM-ICU in a hospital as large as ours would be a great undertaking. Nursing and pharmacy met several times to discuss method, content, education, and how to move forward in a timely way. Several calls were made to Vanderbilt University Medical Center to discuss their successful use of the CAM-ICU tool. Their help and willingness to share their knowledge with us was welcomed. A policy was completed and work was

begun. Nurse managers of all our ICUs selected staff members to be "superusers" who would assist in training the remainder of the staff. A committee member was chosen to design a training packet and educate the superusers. Again with the help of Vanderbilt, a complete educational plan was completed and training began. The actual training process was not quick because each person had to read the information, learn how to do the assessment and how to present the findings to the physician, and know the appropriate therapy. The assessment was done in the presence of the trainer, and a short posttest was given. The actual training of all staff took slightly over a year. **Evaluation:** We have educated more than 450 nurses, and 150 nurses in our critical care program. During this time we opened a critical care wing and a vascular ICU that required additional training. We have added the CAM-ICU training to our orientation program to ensure all new nurses are trained. The assessment has been added to our flow sheet and is checked randomly to assess compliance. The pharmacy established a protocol for sedation of mechanically ventilated patients that includes treatment for agitation and confusion when other methods of treatment have not had the desired outcome. We are doing all that is possible to prevent cognitive impairment in our critically patients. aharner@tgh.org

#### CS105 Pressure Ulcer Prevention in High-Risk Postoperative Cardiovascular Surgery Patients

Jennifer L. Drumm, Brian Merrick, Melissa Jackson, Tamara LeMaster, Teresa McKenney, Catherine VanGilder; St. Joseph Hospital, Lexington, KY

**Purpose:** A lack of evidence exists in the literature about how to prevent pressure ulcers in severely debilitated, immobile ICU patients. This study presents a possible prevention strategy for these patients. Postoperative cardiovascular surgery patients are at high risk for developing pressure ulcers because they have decreased tissue perfusion resulting from hypotension, shock, or dehydration. Also, they are immobile because of sedatives or paralytics, and have poor nutrition and incontinence. **Description:** In the St. Joseph's CTVU, a retrospective analysis of patients who developed pressure ulcers revealed that these patients had high doses and a variety of vasopressor orders, they received multiple blood products in the operating room before skin breakdown, and they received mechanical ventilation postoperatively. The skin breakdown rate was approximately 10%, and patients commonly developed severe pressure ulcers. In an effort to prevent pressure ulcer development the CTVU staff chose to implement air fluidized therapy (AFT) beds, which provide maximal emersion and envelopment as a pressure ulcer prevention measure for patients who (1) required vasopressors for at least 24 hours and (2) required mechanical ventilation for at least 24 hours postoperatively. **Evaluation:** The results of this implementation have been extremely positive during the last 7 months the program has been in place (February 2008 through August 2008). Only 1 patient of 27 patients developing a pressure ulcer while on the AFT bed, and this ulcer was only a stage I ulcer.

Patients spent an average of 7.9 days on the mattress and the cost of bed rental was approximately \$18 000, which compared to the cost of treatment of 1 stage III or IV pressure ulcer (about \$40 000) was considered cost-effective. We are developing further efforts to expand this high-risk pressure ulcer prevention program. [jenniferdrumm@sjhlex.org](mailto:jenniferdrumm@sjhlex.org)

### CS106 Rapid Rescuers: Sepsis Survivors

Patricia A. McCabe, Petronilla Onwu, Dina Rosenthal;  
Washington Hospital Center, Washington, DC

**Purpose:** Nearly 600 patients die every day because of severe sepsis. Forty percent of all ICU expenditures are related to the care of patients with severe sepsis. Our rapid response statistics show that 38% of calls are for patients who screen positive for severe sepsis. Our goal was to identify potential severe sepsis patients using our proactive rapid response screening tool. This tool combines computerized laboratory and test results to screen patients before a rapid response.

**Description:** For more than 1 year each rapid response patient was screened for severe sepsis. The inclusion of the usual sepsis screening tool helped to broaden the team's focus and assisted with early recognition and treatment of patients with severe sepsis. Currently we have a screening tool to identify potential rapid response patients using laboratory and test data. By adding the white blood cell count and creatinine level to the rapid response screening, the team is able to identify potential severe sepsis patients earlier, before a rapid response is called or the patient requires emergent intervention. Our proactive screening can be viewed 24/7. The team may screen patients 2 or more times a day. Once the screening identifies a potential sepsis patient a team member will go the patient's bedside to assess him or her for severe sepsis. Treatment is begun with the initiation of the Severe Sepsis Orderset preventing treatment delays and reducing the need to transfer the patient to a higher level of care. **Evaluation:** Seventy-five percent of the patients who were identified by the proactive screening were positive for severe sepsis using the usual severe sepsis screening tool. We have just begun to see a decrease in our sepsis mortality index from 2.2 to 1.6. By identifying and treating our non-ICU patients earlier we have decreased the number of Code Blues by 20.6% compared to the same time last year. We have decreased the number of ICU/IMC transfers from the floors by 56%. Our nurses have embraced this new initiative, and view their rapid response team role as an opportunity to help their peers in a non-ICU environment. [patricia.mccabe@medstar.net](mailto:patricia.mccabe@medstar.net)

### CS107 Rinsing Away Ventilator Days With a Peridex Protocol in an Abdominal Transplant ICU

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**Purpose:** The abdominal transplant ICU (TICU) is a 28-bed unit for pre- and postoperative kidney/pancreas, liver, and small bowel/multivisceral transplant patients. This patient population often has a long recovery time that requires extended periods of mechanical ventilation. Ventilator-associated

pneumonia (VAP) rates in the TICU were consistently above Center for Disease Control guidelines. A multidisciplinary team was formed to address the current standard of care for patients receiving mechanical ventilation in the TICU. **Description:** After reviewing the mouth care practice for patients receiving mechanical ventilation in the TICU, a Peridex Protocol for mouth care was initiated as standard of care for all patients receiving mechanical ventilation to decrease VAP rates, improve patient outcomes, and decrease length of stay. A plan of care was developed to ensure that mouth care was done consistently and correctly by all nursing staff using chlorhexidine gluconate (Peridex) instead of standard alcohol-based mouthwash. In-services were provided to the medical, nursing, and respiratory staff outlining the mouth care procedure, the mouth care documentation and the evidence-based literature concerning VAP and Peridex oral rinse. Daily audits were performed on all patients receiving mechanical ventilation ensuring proper procedure and documentation. Monthly TICU VAP rates were trended. **Evaluation:** The outcome of the Peridex Protocol was that VAP rates dropped from above the 50th percentile (based on NNIS Percentile Ranking) to remaining consistently below the 50th percentile rate. VAP rates have been as low as 1.6 per 1000 ventilator days. The highest monthly rate in the year preceding the initiative was 16.9. Monthly VAP rates continue to be trended and staff education is done twice yearly. The average monthly compliance with patients receiving mechanical ventilation who are started on the protocol—correct documentation and implementation—is between 92% and 96%. Peridex has also been added to the preprinted order set for liver and small bowel transplant patients. Peridex is now used throughout our hospital system as a standard of care. [mccafferydm@upmc.edu](mailto:mccafferydm@upmc.edu)

### CS108 Strategies for Improving Daily Interruption of Sedation by Nurses in the MICU

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**Purpose:** Daily interruption of sedation (DIS) is an independent nursing intervention that decreases both the number of days patients receive mechanical ventilation and ICU length of stay. Because of knowledge deficits and a lack of a standardized approach for triggering and recording DIS performance, DIS was performed approximately half of the time on eligible patients at our institution. We undertook a nursing-led multidisciplinary initiative to improve knowledge of and adherence with DIS in the MICU. **Description:** After reviewing evidence-based practice and successful strategies at other institutions, a multidisciplinary committee developed several strategies for improving adherence with DIS performance. First, a pathway was developed in the physician ordering system so that a DIS was automatically ordered on any patient for whom a sedative drip was ordered. This triggered a scheduled DIS at 9 AM in the computerized medication administration. By having to chart whether a DIS was performed, the triggered scheduling provided a daily reminder for the nurse. Reasons why a DIS

was not done could be selected, providing further education. This also provided an easy means of auditing adherence with DIS. During implementation of the pathway, numerous opportunities for education, including didactic sessions, poster presentations, and clinical pearls about DIS were provided. We partnered with respiratory therapy to pick a standardized time for DIS performance so it could be paired with ventilator weaning trials. Finally, charge nurses did more extensive audits during the first 2 months of implementation to provide detailed information about barriers to and adherence with performance of DIS. **Evaluation:** Data from the audit tool were analyzed and compared to rates of DIS before implementation of the pathway and education. In the first 2 months after the new ordering and charting pathway was instituted for sedation drips and DIS, 82% of patients who met the criteria for receiving DIS had one performed, compared to 50% before implementation. Performance of DIS also resulted in a decrease in the use of continuous sedative drips, with only 25% of patients receiving mechanical ventilation also receiving a sedative drip. [maire24@yahoo.com](mailto:maire24@yahoo.com)

#### CS109 Surviving Sepsis League! Tackling the Sepsis Bundle on the MICU Gridiron

Akiko Kubo, Michelle Bolen; The University of Kansas Hospital, Kansas City, KS

**Purpose:** The Surviving Sepsis Campaign introduced evidence-based guidelines for the management of sepsis. Because of the complexity and time-sensitive nature of these interventions, our overall compliance with the Resuscitation Bundle and Management Bundle averaged 50% and 54%, respectively, in the medical ICU. Through the “Surviving Sepsis League!”—a football-themed contest—we were able to improve bundle compliance while promoting staff participation and enthusiasm toward meeting the sepsis guidelines. **Description:** We were challenged with increasing adherence to a complex set of interventions that is also time sensitive, such as the Sepsis Bundles. Instead of the traditional methods of educating the staff, we created a football themed contest called the “Surviving Sepsis League!” to promote compliance. The “rules” are simple. A team consists of nurses and physicians assigned to care for that patient in the first 24 hours following initiation of the severe sepsis/septic shock order set. Therefore, the team changes each time and there are as many teams as sepsis cases. Each team is scored on its ability to meet all 11 bundle items. A large bulletin board in the break room was transformed into a “gridiron” football field and teams are placed into brackets. Between 2 teams, the team meeting more bundle items advances to the next bracket. If the compliance number is tied, the team with the best resuscitation time advances toward the Sepsis Bowl. To help with the 6-hour and 24-hour countdown, the order set comes with a bright yellow sheet listing all 11 interventions. One can simply write-in the “due” times to be posted in a prominent location so every team member is aware of the timeline. **Evaluation:** The campaign has been successful for several reasons. Contests are a fun way to learn. Our nurses

are all competitive and they do not want to let their teammates down. In the first 6 weeks, the nursing staff has become knowledgeable about the 11 bundle items and the specific time requirements. After reviewing 30 teams in 6 weeks, our current Resuscitation bundle compliance has increased from 50% to 100% with 1 hour as the time to beat. The Management bundle compliance has increased from 54% to 71%, although inconsistent glucose control continues to hinder us from achieving a higher rate. Our overall Sepsis bundle compliance has improved from 25% to 71%. [akubo@kumc.edu](mailto:akubo@kumc.edu)

#### CS110 Taking Orientation From Simulation to Reality

Janice L. Davis, Kathryn McBroom; Duke University Health System, Durham, NC

**Purpose:** During the past year, 75% of RN hires in our progressive care unit were new graduates. During orientation we realized that the level of anxiety among new nurses was a barrier to learning in the reality of patient care. To maximize the orientation experience, we decided we needed to nurture the nurses to help transition them from simulation to reality.

**Description:** Following an influx of new graduate nurses to our 31-bed step-down unit, the unit orientation coordinator scheduled each new graduate nurse a 2-hour block of time in the Simulation Suite with the laboratory’s educational trainer. We wanted the new nurses’ orientation phase to include opportunities in which they would be better prepared and thus more confident in the provision of nursing care. While integrating nursing skills, knowledge, and judgment, they were challenged with multiple hands-on clinical scenarios that involved the simulation manikin, SimMan. SimMan could introduce practical patient care to the new graduate nurses without the stress that sometimes accompanies their first exposure to actual patient care situations. Using SimMan, the new nurses performed head-to-toe assessments, placed IV lines, inserted Foley catheters, assessed cardiac telemetry, and participated in cardiac arrest episodes. **Evaluation:** The new graduate nurses conveyed that the hands-on experience with the SimMan highlighted the skills they received from nursing school, as well as provided them with new invaluable nursing competencies needed for our unit. They felt more confident with their provision of nursing care and the potential critical events that may occur with our patient population. The new nurses demonstrated that through simulation, they were better able to retain the information provided during the remainder of orientation as evidenced by their ability to safely and effectively manage real patient events. [jld1diva@nc.rr.com](mailto:jld1diva@nc.rr.com)

#### CS111 Terrific Tuesday: Building Confidence and Improving Outcomes Through a Staff Driven Education Program

Jean E. Bollinger, Dawn Greene; Mission Hospital, Asheville, NC

**Purpose:** Our unit-based Standard of Practice Committee identified learning needs for nurses new to cardiovascular nursing as well as those nurses seasoned in the care of this population. With the goal of developing confident nurses

through knowledge and skill, an initiative was undertaken to provide access to ongoing education opportunities. This process includes both didactic learning and hands-on skill practice.

**Description:** The committee identified patient care concerns in our cardiovascular patient population. Frequent, repetitive, and consistent education of evidence-based data was identified as one mechanism to address these concerns and ultimately “grow” seasoned critical care nurses. Minimum annual requirements for education contact hours specific to our patient population were determined. The focus of our program is (1) low-frequency, high-risk practices; (2) staff-identified bedside clinical concerns; and (3) outcome-driven issues. For consistency, the education day is scheduled on the second Tuesday of each month and is named Terrific Tuesday. Classes are repeated throughout the day to accommodate all shifts and personal schedules. Classes are taught by staff nurses, critical care educators, medical staff, and expert guests. Staff formally evaluate each class and provide feedback annually on the program. Staff nurses are given the opportunity to gain confidence by focusing on learning in preparation for teaching others, becoming role models in their area of expertise, and communicating ideas in a classroom setting. Participants receive repetitive exposure to evidence-based practice monthly. **Evaluation:** Between establishment of the program December 2006 and September 2008, staff participated in 1539 hours of educational opportunities obtaining 1268 CE hours. Nurses gained confidence and knowledge as demonstrated by our CCRN certification rate, which increased from 10% to 62%. Staff satisfaction improved 10%, ventilator-acquired pneumonia decreased from 16 occurrences in 2006 to 1 occurrence in 2008, catheter-related blood stream infections decreased from 13 occurrences in 2006 to 1 occurrence in 2008, and CVICU mortality has decreased 18%. These outcomes demonstrate that our staff is making a difference in patients’ lives and that an environment of education is paramount to this success. [bollingerx2@bellsouth.net](mailto:bollingerx2@bellsouth.net)

### **CS112 The Change Calendar: Enhancing Patient Safety Amid an Avalanche of Change**

Beth LaVelle, Skip Valusek, Meghan LaVelle; St. Joseph’s Hospital, St. Paul, MN

**Purpose:** Faced with too many competing demands for implementing change, our staff, educators, and managers were burning out. Without situational awareness, “planners” underestimated the energy it took to implement and sustain each change and the potential negative impact of “just one more thing” on patient safety and staff retention. In Fall 2007, we decided to create a healthier work environment by controlling the avalanche of change. **Description:** Change Calendars are tools used to reduce change fatigue and improve patient safety by providing a structure to (1) forecast and proactively schedule changes that affect caregivers, (2) accurately assess degree of impact of each change, (3) purposefully plan how to meet educational needs, and (4) justify requests to increase preceptor/educator staffing or even delay implementation. Individual changes are listed along the vertical axis of the grid;

dates are rolled out along the horizontal axis; and within the body of the table are the departments affected and stages of actual and potential changes (plan, implement, evaluate, sustain). Overlays include the breadth of each change (system, site, department), key stakeholders, level of education needed (low, moderate, high), critical mass versus mandatory, predicted ease of transition for staff, and concurrent demands for educational and unit resources. In fall 2007, nurses and other staff were surveyed of the changes in their departments, their perceptions of changes, and how changes affected patient safety. Then, a hospital-wide Change Calendar was created. The Calendar is continually updated with pilots, initiative, and changes submitted by our staff, educators, and directors. **Evaluation:** More than 250 staff shared their perceptions of changes at work and the effect on patient safety. Administrators quickly came on board as the Change Calendar helped them grasp the volume and potential impact of changes on nursing staff and our patients. We have more balance in our initiatives. Reviews of changes that have gone badly usually indicate that closer consideration of the Calendar would have greatly facilitated the process and reduced staff angst. Some support departments have been slower to participate or recognize the consequences of their changes, but increasingly nurses push back, asking “Have you looked at the Change Calendar?” A formal reassessment of change is planned for 2009. [skypony2@baldwin-telecom.net](mailto:skypony2@baldwin-telecom.net)

### **CS113 The Development of an Evidence-Based Postoperative Nausea and Vomiting Protocol in the Perioperative Setting**

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**Purpose:** Thirty percent of preoperative patients in general and up to 70% of patients at high risk suffer from postoperative nausea and vomiting (PONV). PONV can increase the patient’s risk for aspiration and extended stay, increase financial burden to the patient and institution, increase the patient’s discomfort, and decrease patient satisfaction. An evidence-based protocol was developed to proactively promote a decrease or elimination of PONV in the perioperative setting. **Description:** A collaborative perioperative team was formed. After reviewing extensive literature of the patient at risk for developing PONV (including surgical procedures, treatment modalities, and patient demographics) a risk scoring tool was developed. Points were assigned preoperatively for 8 identified risk factors such as patient gender, smoking history, type of surgical procedure, anesthesia type, procedure duration, use of postoperative opioids, and previous history of motion sickness or incidence of PONV. For each risk factor level identified, prophylactic strategies were defined, both pharmacological and nonpharmacological, that could be implemented to benefit the patient for a positive outcome. A physician order set was created to include the risk factor level, intravenous hydration, and medications categorized by drug class for use during the perioperative time frame. Before initiation, the protocol was approved by multiple hospital committees. Once approval was achieved, a copy



of the order set, and risk and prophylaxis table were placed on every patient's chart for use by the anesthesia provider and the rest of the perioperative team. **Evaluation:** Through use of the evidence-based protocol for PONV, patients were identified at risk for developing PONV and were treated before anesthesia administration. Monthly audits occur by the perioperative nursing team with known positive outcomes reported accordingly. A positive outcome identified for the preoperative severe risk patient for development of PONV is the preprocedure placement of a scopolamine 1.5 mg dermal patch. During an 18-month period, all high-risk patients interviewed postprocedure denied incidence of PONV. debkc@msn.com

**CS114 The Impact of Evidenced-Based Practices in Reducing Catheter-Related Blood Stream Infections in a Pediatric CTICU**

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**Purpose:** Catheter-related blood stream infection (CR-BSI) is the cause of 12%-25% of morbidity and mortality and has a marginal cost to the health care system of \$28 000 per infection. Among 54 pediatric ICUs surveyed in the United States, there was a 6.6 CR-BSI rate per 1000 catheter days. Therefore, the aim of this study is to examine the best evidence-based interventions that a cardiothoracic intensive care unit (CTICU) has implemented and its impact in the reduction of CR-BSIs. **Description:** During a 3-year study period, we tracked the incidence of CR-BSIs and used several interventions based on strong evidence from the CDC and Hospital Infection Control Practices Advisory Committee and the AACN Practice Alert: Preventing Catheter Related Blood Stream Infection. The evidence-based interventions are strongly supported with scientific data, categorized as level I-A. The performance indicators we used in reducing CR-BSIs were (1) implementation of educational programs including didactic and interactive components for those who insert and maintain catheters, (2) implementation of a catheter insertion bundle using maximal sterile barrier precautions during catheter placement and the maintenance bundle for dressing changes, (3) use of chlorhexidine for skin antiseptics, (4) daily needs assessment for central catheters added to CTICU Daily Goal Tracking for catheter discontinuation when it is no longer essential for medical management, and (5) use of alcohol-based rub with hand hygiene practices. We performed compliance audits and reported data to the CTICU Performance Improvement Committee on a monthly basis. **Evaluation:** Based on the audits, the compliance rates were (1) hand hygiene, 30%-80 %; (2) insertion bundle, 25%-100%; (3) maintenance bundle, 83%-100%; and (4) daily goals tracking, 61%-100%. CR-BSI occurrences decreased to 84% and BSI occurrences improved from 17 to 289 days. The combined use of evidence-based practices made a significant impact in the reduction of CR-BSIs in the CTICU. To sustain practice compliance, continuing education to heighten awareness of BSIs and the use of evidence-based strategies for prevention will be included in staff meetings, e-mails, poster updates, and a CR-BSI board. nidaoriza@hotmail.com

**CS115 The Importance and Implications of Understanding Blood Glucose Variability**

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**Purpose:** Stress-induced hyperglycemia has been associated with poor outcomes and death in critically ill patients. Blood glucose (BG) variability, a component of stress-related hyperglycemia, has recently been reported as a significant independent predictor of ICU and hospital mortality. We sought to evaluate the feasibility of using BG variability as a predictor or warning sign for a worsening patient condition requiring intervention. **Description:** A convenience sample of 3 patients with stabilized BG levels who received a consistent IV insulin dose rate for up to 20 hours in a surgical trauma ICU was selected. Point-of-care BG values and other clinical measures were collected from the medical record of the 3 patients who received intensive insulin therapy. Data were collected manually and electronically using the Remote Automated Laboratory System-Tight Glycemic Control Module (RALS-TGCM) BG management and monitoring system. Each critically ill, nondiabetic patient, requiring continuous IV insulin therapy for hyperglycemia exhibited increased BG variability. In each instance, BG variability was present in a worsening patient condition after a period of normalization of hyperglycemia with no other apparent causes or explanations for the increased hyperglycemia. Additionally, each patient required medical intervention during the hyperglycemic episode. **Evaluation:** Although decreasing the variability of BG with intensive insulin therapy may be an important aspect of treatment for critical illness in general, acute episodes of glucose fluctuation may be interpreted as sentinel events that signal impending clinical worsening. These events warrant investigation of the underlying cause and potentially offer opportunity for earlier treatment to offset the patients' further decline. Further studies in variability in BG concentration would reasonably include subgroup analyses to determine clinical conditions that place patients at most risk for these dangerous fluctuations. charles.reed@uhs-sa.com

**CS116 The Link to Relevant Research: The Research Collaborative Practice Model and the Critical Care CNS**

Fiona A. Winterbottom, Karen Rice, Marsha Bennett; Ochsner Medical Center, New Orleans, LA

**Purpose:** The purpose of this research collaborative practice model is to facilitate the development of staff nurse competencies in actively engaging in EBP and research. The focus of this clinical-academic partnership was to link CNSs and expert clinicians with nurse scientists. This model represents a joint center for nursing research that is driven by an infrastructure supported by both academic and hospital resources. **Description:** In 2006, this 541-bed tertiary care facility formally partnered with a local health sciences center school of nursing. This relationship creates a dynamic environment to facilitate relevant research. The expectations of this collaborative partnership included the promotion of joint research projects; sharing and optimizing resources such as key personnel, clinical

facilities, academic resources, and faculty expertise; and planning and implementing joint research conferences. These objectives have been facilitated by the provision of a joint appointment faculty/clinician position; support for the advancement of nursing education; promotion of research at the unit level; and transition of the nursing culture toward clinical decision making based on the best scientific evidence available. The critical care CNS has played a pivotal role in the success of this model. Performance measures, deliverables, and a monitoring plan have positively affected the success of the collaboration. This presentation will provide an overview of the research collaborative practice model that was developed and implemented as the Center for Nursing Research. Strategies used to facilitate an organizational needs assessment, resource management, and program evaluation that can be translated for use in any size acute care facility will be discussed. **Evaluation:** The role of the critical care CNS has positively affected critical care nurses' active participation in journal clubs and dissemination of scholarly activities (poster and oral presentations, and publications). This program is also responsible for developing competencies in critical analysis of scientific evidence, translation of evidence into practice, and the generation of researchable questions. Examples of scholarly works completed by critical care nurses addressing rapid response teams, implementation of end-of-life care order sets, and hypothermia therapy for STEMI will be highlighted. fwinterbottom@ochsner.org

#### **CS117 The Medical Assessment and Treatment Unit: Providing Timely Care for General Medical and Critical Care Patients**

Mary Lu Daly, Tina Dickinson; Rochester General Hospital, Rochester, NY

**Purpose:** It has been all too common to have a disparity between patient needs and resources within busy hospitals operating at maximum capacity. The result has been that patients deemed to be candidates for admission linger in the emergency department (ED). We have recently created the Medical Assessment and Treatment Unit (MATU) that goes above and beyond transitional care. The goal is to provide timely assessment and treatment to patients admitted, yet still awaiting an inpatient general medical or ICU bed. **Description:** Our solution has been to designate "real estate" within the ED as the MATU and provide quality care upon arrival. Key components of this initiative included improving flow at the time the decision to admit is made, assigning patients to the right bed the first time, improving patient satisfaction and care, improving nurse and provider satisfaction, and decreasing length of stay. This collaborative process involved many changes. The medical ICU became "joined at the hip" with the MATU. Transitional beds in the ED were transferred to the medical ICU management team. Once fully operational, there were a total of 17 beds in the MATU including 6 ICU beds and 11 general medical beds. The staff composition of the MATU includes ICU nurses, general medical nurses, unlicensed assistive personnel, and around the clock secretarial support. All medical

patients are filtered through the MATU, thus providing an opportunity for the nursing staff to fully assess each patient. The nursing staff collaborates with other health care team members to determine each patient's ultimate disposition. Patients may be treated and released, or transferred to medical or ICU beds as appropriate. **Evaluation:** Although the MATU has been in operation less than a year, positive changes have been evident. Prompt treatment has, at times, resulted in patients being safely discharged home from the MATU, rather than experiencing a prolonged hospitalization. Patients originally designated for admission to ICU received earlier treatment and improved. They were then safe to be admitted to a general medical bed. Most patients who began their hospital admission in the MATU were sent to their designated hospital bed with admission orders transcribed and initiated. The result has been positive to the units receiving these patients. Long-term analysis of benefits is underway. tbase2@hughes.net

#### **CS118 The Sound of Music: Integrating Arts and Humanities in a Progressive Care Unit**

Stephanie A. Niemchak, Delores Fuller; Duke University Hospital, Durham, NC

**Purpose:** Patients in our 28-bed progressive care unit have an average length of stay of 5 days, but many chronic patients stay for months. In an effort to improve patient satisfaction and create a healthy work environment, we went in search of alternative opportunities to enhance the unit environment for patients, families, and staff. In our own institution, we discovered a treasure that we felt was underused and underappreciated: Health Arts Network @ ——. (HAND). **Description:** Our progressive care unit often has patients receiving chronic mechanical ventilation or other types of restrictive technology, which makes leaving their rooms or even the unit impossible. We partnered with HAND to increase their visibility on our unit and in individual patient rooms. We discussed ideal times of day, when patients were awake and families were likely to be present. In an effort to avoid disturbing our multidisciplinary, collaborative patient morning rounds, afternoons and evenings were determined to be the ideal times of day. Artists, singers, musicians, dancers, and poets would come to our unit as soloists or in small group ensembles. They checked in with the charge nurse each visit, to inquire on patients or families who might benefit from their artistry, time, and talent. When possible, they would go directly into patient rooms. When isolation prohibited this, they would stand outside the patient room and perform in the hallway, often taking requests. **Evaluation:** HAND has visited our unit often, with performances every week or two. As a result of the positive feedback, the staff assembled a choral group to perform during the Christmas holidays, visiting each patient room on Christmas Eve. End-of-life care sometimes includes staff singing to patients upon request. Individual nurses have also been asked to sing at patient funerals on more than 1 occasion, a direct result of this performing arts initiative. A final measure of success has been our patient satisfaction ratings not only improving from last

year, but exceeding the goal on our balanced scorecard, indicative of an improved and healthy work environment.  
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**CS119 The Use of High-fidelity Simulation to Train an Interdisciplinary Rapid Response Team**

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**Purpose:** The Joint Commission's Patient Safety Goal No. 16 requires that hospitals have a system in place to recognize and respond to acute changes in patient conditions. In addition, the Institute of Medicine report *Cross the Quality Chasm* recommends that interdisciplinary training occur whenever possible. Therefore, the purpose of our project was to use high-fidelity simulation to prepare rapid response team (RRT) members to recognize and treat patients in danger of imminent deterioration. **Description:** In health care it is difficult to provide training and assess competency for low-volume/high-risk critical situations. In real life, training and teaching cannot readily take place because of the emergent nature of the situation. In some training exercises, like "mock codes," the sense of urgency may be lost. Therefore, our solution to training interdisciplinary members of the RRT included the use of a high-fidelity patient simulator (SimMan). The SimMan was programmed using real patient scenarios, including seizure, abdominal pain, status asthmaticus, gastrointestinal bleeding, hypertension and stroke, diabetic emergency, heart failure exacerbation, and full cardiac arrest. Before responding to a rapid response call, all nurses, physicians, and respiratory therapists were required to attend the interdisciplinary training. Interdisciplinary groups of 4 to 6 caregivers participated in all scenarios. In addition to clinical assessment and decision making, the training approach also emphasized team communication, interdisciplinary dynamics, and a rotation of the person in charge. After the scenarios are completed the clinicians debrief to discuss aspects of the clinical response. At the end of each session evaluations were requested. **Evaluation:** In all sessions the first scenario had the longest time to definitive care. In subsequent scenarios increased familiarity of team members, regardless of who was in charge, resulted in improved communication and organization. Also in each subsequent scenario low-volume/high-risk procedures became more accurate. Evaluations showed that participants felt they were better prepared to respond with the RRT. Interdisciplinary and simulation-based practice promotes RRT members' recognition of deteriorating patients, facilitates communication, and improves the performance of procedures. Organized responses of the RRT may lead to improved patient outcomes when time and decision making are critical. tcarr15@uic.edu

**CS120 There's a Kind of Hush... Quiet Time in the MICU**

Parvaneh Mostaghimi, Stephanie Niemchak; Duke University Hospital, Durham, NC

**Purpose:** Our MICU was constantly flooded with the noise of a multidisciplinary, collaborative team hard at work. In our

16-bed MICU, procedures, teaching, and activity occurred 24/7, sometimes resulting in patient and family complaints. This often prevented patients from receiving the rest they needed to quickly recover to their optimal health. Health care providers, students, visiting scholars, and well meaning families all contributed to an increasing noise level. **Description:** To provide a healthy work environment, our noise problem had to be first acknowledged. We obtained the cooperation of unit leadership, as well as our medical director. After an extensive search of the literature, the idea of MICU Quiet Time was successfully introduced at our monthly staff meeting in March 2008. We then asked the Occupational and Environmental Safety Office (OESO) to evaluate the noise level in the MICU at different times of the day for several days. The 8-hour time weighted average was 60.2 to 64.8 decibels, (dB), with the threshold for hazardous noise being 85 dB. We announced our plan to go live on April 1, 2008, to the members of the MICU team. We then implemented quiet time from 2 to 4 PM daily and set rules for staff and visitors. For 2 hours a day we dimmed lights, decreased phone ring volumes, silenced beepers, avoided over-head pages, rescheduled nonemergent procedures, pulled down blinds, and played soft music while the televisions were turned off. Families were educated about Quiet Time upon admission, and encouraged to use that time for personal errands, meals, and rest themselves. Staff were encouraged to use that time for documentation, meal breaks, and continuing education. **Evaluation:** After one-quarter of implementing MICU Quiet Time, a survey was conducted with staff and families; 85% of families approved of the plan, while 100% of the staff stated that quiet time helps them to provide better care in a controlled environment. The OESO also returned to measure the noise level during quiet time, and it was 58 to 58.3 dB after quiet time, markedly less than the 60.2 to 64.8 dB before quiet time. Our patients are getting much needed rest, our families get a scheduled break, our unit is quieter, and staff now have precious time designated for necessary documentation, breaks and continuing education. A healthy work environment indeed! mosta001@mc.duke.edu

**CS121 Three's Company in New Graduate Orientation**

Megan P. O'Connor, Rebecca Adams; UNC Health Care, Chapel Hill, NC

**Purpose:** As nursing changes, it is challenging to provide an efficient and comprehensive orientation program for new nurses. Challenges include the lack of experienced and skilled preceptors, increased patient acuity, staffing shortages, and generational differences. A 12-bed PCU trialed a team mentoring orientation program with a group of 6 new nurses. The program was designed to meet the needs of new nurses, including emotional and professional support, while using a small group of mentors. **Description:** New graduate nurses were divided into 2 teams of 3 nurses. Each team was paired with 1 preceptor. During the first week of orientation they attended 2 unit-specific seminar days, which included survival tips, orientation guidelines, nursing policies, and team building

games. The new graduate nurses worked two 8-hour shifts and two 12-hour shifts the second week of orientation. The 8-hour shifts were provided by the hospital's nursing education department and included a review of critical care skills. The 12-hour shifts were worked on the unit in their teams. Each team was responsible for the care of 3 patients. Within the teams, each new graduate nurse was assigned to 1 patient and was primarily responsible for that patient's care with assistance from the preceptor. Weeks 3 through 7 both teams worked 12-hour shifts. The patient load went from 1 to 2 patients. Both preceptors managed a maximum of 4 patients and 2 new graduate nurses. The third nurse rotated through a series of shadow experiences and night shifts. At the beginning of week 8, a third orientation seminar day was completed. During weeks 8 through 10 new graduates were paired with individual preceptors and patient load increased to 3 patients. **Evaluation:** We retained all 6 new graduates at the 1 year mark. Two of the new graduates have informed us of their intention to leave because of preparation for CRNA school and moving back to a home state. There has been an increase in patient satisfaction scores from 86.8% to 88.2%. Our vacancy decreased to 9%. Several quality indicators improved including PRN medication documentation from 86% to 0% noncompliance, nosocomial infections decreased from 6.9% to 0.8%, and patient/family education documentation from 100% to 0% noncompliance. The program has radically improved participant confidence and expertise, as well as unit morale and cohesion. moconnor@unch.unc.edu

### **CS122 Time Is Brain: Rapid Response Team for Acute In-Hospital Strokes**

Mary K. Hewett, Deborah Mastrolia, Debbie Lepman; Hoag Memorial Hospital Presbyterian Newport Beach, CA

**Purpose:** Stroke is a medical emergency; it is the No. 3 cause of death and the leading cause of adult disability. The treatment goal is to reperfuse ischemic brain tissue. Unlike the response for cardiac arrest, most hospitals have no system for rapid intervention if a patient has a stroke in the hospital, leading to delayed neuro imaging, laboratory results, and thrombolytic interventions and resulting in poorer patient outcomes. An in-hospital code for stroke was initiated with the help of the rapid response team (RRT). **Description:** The first step in treating a stroke is rapid assessment and brain imaging. There is a 3-hour window of opportunity for IV thrombolytic therapy and 8 hours for intra-arterial techniques. All staff RNs were educated to use the FAST test if they suspected a patient was having a stroke. The RN calls for the RRT; the RRT nurse is a critical care nurse who has completed a stroke class and IV tPA competency. The RRT nurse assesses the patient and establishes the time "the patient was last seen normal." If that time is less than 8 hours a Code 20 is called, which means the stroke team is paged, providing a neurologist and alerting CT staff of the need for a stat Code 20 CT scan. The stroke unit charge nurse and another critical care nurse are also paged to the patient's bedside. The stroke protocol is initiated. The head of bed is put flat, 2 IVs are started, a normal saline bolus is

administered, vital signs and NIH Stroke Scale are performed, blood values are drawn, and blood pressure is maintained less than 220/110 mm Hg. The patient is transported to CT with a goal time of 20 minutes. The RRT nurse will discuss treatment plan with the neurologist and then transfer the patient to appropriate level of care where thrombolytics can be facilitated quickly if needed. **Evaluation:** Hoag's RRT/Code 20 process started 6 months ago. There have been 40 codes called. Fourteen calls were cancelled because of time or seizure. Of the remaining 26 patients, 28% had ischemic strokes, 19% TIAs, 15% seizures, 34% other, and 4% ICH. One patient was treated with IV tPA and returned to home functioning at a normal baseline. Average transport to CT time is 25 minutes. This equals the national benchmark for Door to CT time for emergency department stroke patients. Code 20 gives the RRT nurse an effective tool to use for suspected in-hospital stroke. It allows quicker brain imaging, laboratory results, and treatment decisions leading to improved quality patient care and patient outcomes. mhewett@HoagHospital.org

### **CS123 Txt 2 Staff: A Beacon Unit Uses Simple Innovation for Staffing Effectiveness**

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**Purpose:** Staffing effectively to meet changing acuity and census needs is a challenge in the ICU. In our large academic medical center, it seemed that all too often the charge nurse was spending considerable time each shift making telephone calls to ask staff to come in for extra shifts. We set out to find a more efficient way to contact staff quickly and conveniently. **Description:** The SICU purchased a cellular phone with unlimited text-messaging. It is exclusively used to text message staff with emerging staffing needs or urgent messages. Participation is voluntary. To date, approximately 50% of SICU RNs are participating in the "Txt 2 Staff" program. **Evaluation:** The program has been very successful. Charge nurses verbalize that they are confident they are reaching the maximal number of RNs with an expressed desire to be notified of overtime availability. They do not hesitate to text even when a nurse may be sleeping after a night shift. It is easier to fill staffing holes more quickly. It is a simple use of technology to make an RN's workflow more efficient and effective. We have shared our innovation with other nursing units and are planning to offer the Txt 2 Staff program throughout the critical care divisions. In addition, we will share our insights with our hospital safety officer as it could be helpful in our emergency communication plan. maria.scheutzow@uhhospitals.org

### **CS124 You Are What You Eat From Your Head to Your Feet: Translating Nutritional Therapy Evidence Into Practice**

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**Purpose:** Evidence suggests that nutrition therapy is an important component in the management of critically ill patients.

Our SICU lacked a coordinated effort to consistently and effectively deliver this therapy. An interdisciplinary team consisting of ICU nurses, a dietitian, pharmacist, and physician formed 6 subcommittees to evaluate evidence on nutrition-related care. Standards of care (SOC) were developed to provide safe nutrition therapy and improve clinical outcomes. **Description:** In January 2008, a Clinical Practice Committee in the SICU was formed to address nutrition support therapy. After review of the literature, American Society for Parenteral and Enteral Nutrition standards, American Association of Critical-Care Nurses guidelines regarding enteral feeding, and Society of Critical Care Medicine 2005 guidelines regarding nutrition as a therapeutic agent to improve critical care outcomes, SOC were developed. The SOC detailed evidence-based guidelines related to nutrition therapy for the 6 subcommittees. The focus of the subcommittees included glycemic control, parenteral nutrition, small bowel feeding tube placement, adequacy of nutrition, and mechanical considerations of feeding on the upper and lower GI tract. The addition of a dietitian to the SICU team enhanced the translation of evidence-based guidelines to promote appropriate and efficient nutrition therapy. The work of the subcommittees was operationalized and implemented in the SICU. Data analyses of the SOC were disseminated to the unit leadership and staff to reinforce compliance and improve outcomes. **Evaluation:** Our results provide multiple opportunities for implementation of quality improvement measures by the health care team to enhance nutrition care in the ICU. Implementation of nutrition SOC highlights the importance of a proactive approach to nutrition therapy. Execution of nutrition-based protocols is done best with an interdisciplinary team as evidenced by the end-products of each subgroup, including compliance with moderate glucose control (110-150mg/dL), appropriate use of enteral versus parenteral nutrition, standardized feeding tube placement, early initiation of enteral feeding, advancement to caloric goal, and a bowel protocol was developed to prevent constipation. crickelm@umich.edu