EB26 Increasing the Use of an Electronic Medical Record Weaning Assessment Tool Within an Intensive Care Unit

Melinda Catubig-Espiritu, Mary Lawanson-Nichols; Santa Monica-UCLA Medical Center, Santa Monica, CA

**Purpose:** This multidisciplinary evidence-based practice project was intended to evaluate the effect of focused education on compliance in the use of a nurse-driven ventilator weaning assessment tool, hospital and intensive care unit (ICU) lengths of stay, failed extubation rates, and the duration of mechanical ventilation. **Description:** Use of the standard protocol for ventilator weaning, which is essential in assessing patients’ weaning readiness, was inconsistent. Respiratory therapists reported that the protocol were not consistently completed, resulting in delays in starting breathing trials. The use of a standardized protocol assists with an objective assessment of the patient’s respiratory status and is linked to reductions in the duration of mechanical ventilation, weaning, and shorter ICU and hospital stays. Nurses were the driving force in achieving timely ventilator weaning, and they would be more effective at using the protocol when given an educational intervention that outlined the rationale of the protocol. Prospective and retrospective chart review occurred during a 13-month period. Educational intervention was implemented during a 2-month period to improve compliance with use of the protocol. Focused education was provided to clinical nurses through staff meeting presentations, huddle messages, and face-to-face education. Follow-up discussions on adherence to the electronic medical record assessment tool were done with the individual staff, and reminder cards were placed on top of every computer monitor in the ICU. **Evaluation/Outcomes:** Before the educational initiative, only 4.2% of tools were completed, but after the intervention, the completion rate increased to 72%, with the sustainability rate at 88.3%. Physicians had higher rates of ordering ventilator weaning, it increased to 49% from 17.1% with a sustainability rate at 53%. Although the duration of mechanical ventilation and ICU length of stay did not change significantly, the number of unsuccessful weanings due to respiratory instability actually decreased and the hospital length of stay decreased from 17.4 to 13.6 days.

EB27 Treatment of Stable Supraventricular Tachycardia: Vagal Maneuver and Positioning

Alfie Ignacio; Torrance Memorial Medical Center, Torrance, CA

**Purpose:** To implement a standard protocol in the treatment of stable supraventricular tachycardia (SVT) using a vagal maneuver and modified positioning. Patients with supraventricular tachycardia often require rapid and effective treatment to prevent untoward complications. Vagal maneuvers have been the first-line treatment for stable SVT. However, performance of the vagal maneuver varies from provider to provider and among different institutions. A knowledge gap exists with this emergency procedure. **Description:** Studies have shown that a standardized vagal maneuver and modified positioning may increase conversion of SVT to sinus rhythm by as much as 43%. The standard
Valsalva protocol includes blowing through a manometer at a pressure of 40 mm Hg for 10-15 seconds while in a semirecumbent position followed by supine positioning and a passive leg raise (45°) for 15 seconds immediately after the strain. This simple and inexpensive procedure may be repeated 2 to 3 times as tolerated by the patient with SVT. This project included 84 emergency department (ED) registered nurses who assessed baseline practice and knowledge of initial treatment of stable SVT, particularly performing the Valsalva maneuver and modified positioning. An evidence-based policy/procedure on “Treatment of Stable SVT” was developed and approved by the nursing practice council and the ED committee. Baseline knowledge assessment, staff education, and pretest-posttest evaluation were included in the design. ED nurses’ knowledge on the treatment of SVT was assessed using a pretest questionnaire. A posttest was conducted after the education intervention to assess competency of ED nurses on the standardized SVT protocol. **Evaluation/Outcomes:** Findings showed significant differences in nurses’ knowledge regarding procedure for Valsalva maneuver and positioning in the treatment of stable SVT: a pretest mean score of 7.38 vs a posttest mean score of 9.92 ($P < .001$). Assessment after the education intervention increased the competency scores of ED nurses from 74% to 99%. Implementation of a standardized vagal maneuver and positioning in the treatment of stable SVT can effectively increase nurses’ knowledge through standardized education. Educating staff on a standard SVT protocol may increase staff members’ knowledge of and adherence to evidence-based interventions and ultimately increase the chances of successful conversion of SVT to sinus rhythm.

**EB28 Prevention of Pressure Injuries in Pediatric and Adult Congenital Heart Surgical Patients**

Connie Myres; University of Michigan, Ann Arbor, MI

**Purpose:** The congenital heart disease (CHD) population is a rapidly growing demographic. Pressure injury (PI) has been well documented in critically ill adults after bypass surgery. The CHD surgical population spans all ages. Risk of PIs is increased because of their unique physiology, chronic hypoxemia, and need for multiple procedures. A significant PI in an adolescent patient was the driver of this collaborative project. The aim was to prevent PIs of the coccyx and heels for a select high-risk group. **Description:** A nursing literature review was conducted for both the adult and pediatric population. Critical determinants of injury in both groups are intensity and duration of pressure, tissue tolerance, length of bypass time, induced hypothermia, and low cardiac output. No studies have addressed pressure injury in the CHD population. The Braden Q pediatric assessment scale study specifically excluded CHD patients. Evidence-based interventions aimed at prevention were reviewed. A multidisciplinary group of stakeholders reviewed unit PI data to identify groups at the highest risk. Adolescents >12 years of age were included because of their adult body size. Children >3 years old receiving a heart transplant or ventricular assist device were included because they experience prolonged surgical times from 7 to 10 hours. The use of a soft silicone border dressing applied before bypass surgery has reduced the frequency of PIs in adult bypass surgical patients. We implemented the preoperative application of a soft silicone border dressing to the heels and coccyx for the high-risk group. Skin assessment occurred immediately after surgery, and every 24 hours in the pediatric cardiothoracic ICU. Education was provided to the nurses in the postanesthesia care unit, operating rooms, and ICUs. **Evaluation/Outcomes:** The project showed excellent engagement and collaboration among stakeholders, including surgeons, anesthesia, perioperative nurses, and ICU nursing. The aim of the evidence-based project was achieved. The year before the project, we had 1 deep tissue and 4 unstageable PIs in the high-risk group. Skin assessment occurred immediately after surgery, and every 24 hours in the pediatric cardiothoracic ICU. Education was provided to the nurses in the postanesthesia care unit, operating rooms, and ICUs.

**EB29 Increasing Novice Nurse Retention With Education Evaluations**

Lauren Smith, Jennifer Taylor; Baylor University Medical Center at Dallas, Dallas, TX

**Purpose:** From the summer of 2012 to the spring of 2015, 53 graduate or intensive care unit (ICU) novice nurses completed the formal internship for the cardiothoracic ICU at Baylor University Medical Center. Of these 53 nurses, 9 left before completing 1 year of employment, resulting in a significant financial loss and negative staff morale. Our solution was a formalized program that provides feedback, strategic goal setting, and educational
development tools for the transitioning nurse. **Description:** Before developing the program, a thorough review of the literature was performed with an emphasis on the transition of the novice nurse to advanced beginner. The literature supports a formalized process that highlights the nurses’ strengths and provides opportunities for growth. The program was developed with leadership support to meet the strategic goal of staff retention. Program development centers on the immediate, 3-month, and 6-month postinternship evaluation with the unit’s professional development educators (PDE). During these meetings, the PDEs use a postinternship evaluation template. This evaluation highlights the nurse’s top strengths, areas for improvement, and goals for the next 3 months. Nurses are given a clinical performance goal based on unit expectations, a professional development goal based on current knowledge/skill level, and self-identified professional development needs. Additionally, the PDE provides specific tasks and action points to help the nurses reach their goals. A developmental educational plan tool was designed to discuss SMART goals and tasks for goal completion for any nurse struggling with knowledge or skills. **Evaluation/Outcomes:** The outcome of the project was the successful retention of 8 of 9 nurses who have completed the internship following implementation. The program was implemented in the summer of 2015, and 1-year retention rates were collected. The education evaluations have been continued during each internship following the successful pilot test. Application of the program to improve 2-year retention is an area for investigation and possible implementation.

**EB30 Improving Dialysis Nurses’ Adherence to Administering the Heparin Bolus Through an Improved Workflow**

Courtney Wilson; Milwaukee Veterans Affairs Medical Center, Milwaukee, WI

**Purpose:** To describe an evidence-based practice quality improvement project to decrease the incidence of coagulation complications and blood loss during dialysis, and to improve the quality of this treatment for the chronic dialysis veteran population through adhering to the American Nephrology Nurses Association’s (ANNA’s) evidence-based practice (EBP) recommendation for a heparin bolus. This practice concern was identified after investigating electronic patient event reports relating to dialysis coagulation complications. **Description:** The ANNA EBP recommendation for a heparin bolus indicates that the bolus should be administered 3 to 5 minutes before initiating the dialysis treatment in order to enable successful systemic anticoagulation. The framework used to implement this quality improvement (QI) project was the Iowa Model of Evidence-Based Practice to Promote Quality Care. The goal of the QI project was to improve compliance of dialysis nurses with the ANNA EBP recommendation for a heparin bolus from 0% before the pilot study to 50% by January 23, 2016, and then to 100% by February 27, 2016. The pilot study began on December 14, 2015 and concluded on February 27, 2016. It was designed to have 3 phases. Phase I consisted of implementing an effective team approach to caring for the veteran, versus the prior individual approach. Phase I was implemented during week 1 of the pilot study. Phase II initiated the use of 2 heparin syringes from pharmacy to the dialysis workflow to allow for safe administration of the bolus and maintenance dosing according to the ANNA EBP recommendation. This phase began during the second week of the pilot study. Last, phase III involved instituting formal staggered patient start and off times within the team assignments. **Evaluation/Outcomes:** A significant improvement was noted from pretest scores (mean, 0%) to scores 1 month (mean, 59%) and to scores 2 months (mean, 100%) after implementation of the ANNA EBP heparin bolus recommendation. The data were generated through 17 random electronic health record (EHR) chart audits of the eligible patient sample size. The documented times of administration of the heparin bolus and the start times of dialysis treatment were obtained from the same 17 patients: 2 weeks before the pilot implementation, and at 1 and 2 months after pilot implementation. The sample size is reliable and represents 50% of the chronic dialysis patient population that used heparin during their treatment. A pretest-posttest design was used.

**EB31 The STAT Acuity Team: An Exercise in True Collaboration to Improve Outcomes**

Holly Losurdo, Shonda Morrow, Heather Cook; Rush University Medical Center, Chicago, IL

**Purpose:** The STAT Acuity Team (STAT) was developed to address patient throughput in an academic medical center. During this process, STAT established meaningful relationships with bedside nurses and
physicians, exposing a need for critical care outreach. Interdisciplinary collaboration served as a catalyst empowering Stat to evolve to consulting, advocating, and supporting the clinical needs of nurses by providing specialized care across 14 inpatient units and outpatient, procedural, and public areas. **Description:** Senior nursing leaders reappropriated full-time equivalents (FTE) to ensure support of the Stat acuity nurse role. Metrics were identified to measure use and effectiveness of Stat. A dynamic environment requires the Stat nurse to autonomously triage multiple requests during a shift. In an effort to identify patients at risk for decompensation, the Stat nurse continually engages in proactive surveillance. Patients are monitored remotely using hand-held technology that provides access to the electronic medical record (EMR) and telemetry readings. Stat consultation is provided to patients identified via surveillance and by bedside nurse or physician request. Consultations may consist of targeted assessment, EMR review, immediate critical care intervention, plan-of-care revision, staff education, procedural assistance, or expedited transfer to higher level of care. The inception of Stat has fostered an environment conducive to improved patient and nurse outcomes while providing an opportunity for certified critical care nurses to practice to the full extent of their license. Based on stakeholder feedback and achievement of improved patient outcomes, Stat has recently expanded from 1.8 FTE to 5.1 FTE.

**Evaluation/Outcomes:** Implementation and expansion of Stat have revealed a decrease in emergency response calls and response time. In 2016, Stat responded to 6616 nursing and 52 physician consultations. A recent survey (n = 237) indicated that 94.5% of bedside nurses believed Stat had a positive impact on patient throughput, having expedited more than 275 patient transfers to date in 2016. Bedside nurses reported improved job satisfaction (89.5%), improved patient safety (95%), and that Stat had enhanced their skills and knowledge (86.5%). Continued evolution of the role has presented numerous opportunities for collaboration, education, process improvement, and dissemination of evidence-based practice.

**EB32 Prone Positioning for Severe Acute Respiratory Distress Syndrome: A Case Study**

Marian Racco; Hunterdon Medical Center, Flemington, NJ  

**Purpose:** Patients with severe acute respiratory distress syndrome (ARDS) have a mortality rate greater than 80%. This intensive care unit (ICU) relied on low tidal volume ventilation, high positive end-expiratory pressure (PEEP), sedation, paralytic agents, and continuous lateral rotation therapy as treatment modalities, but mortality rates remained high. Research reports positive outcomes with prone positioning for these patients when implemented early and with prone sessions of at least 16 hours. The goal was to develop an evidence-based prone positioning protocol for patients with severe ARDS. **Description:** The ICU journal club, whose members include the clinical coordinator and 6 staff nurses, reviewed and critiqued research studies on prone positioning of patients with severe ARDS. The studies revealed that (1) early application of prolonged prone-positioning sessions reduces ICU mortality of patients with severe ARDS and (2) prone positioning enhances lung recruitment and decreases alveolar instability and hyperinflation observed at high PEEP in ARDS patients. The research results were compelling. A prone positioning protocol was drafted, incorporating the information provided by these studies. Once approvals were obtained from the ICU committee and the nurse practice council, the protocol was introduced to the ICU staff. Equipment to facilitate a manual prone was purchased and included a foam face mask (to maintain head in neutral position), a hard plastic supporting face mask, and gel pads to assist in body support while prone. Equipment was placed on a prone cart. Prone positioning practice sessions were held. Staff was divided into teams of 6 and practiced placing a peer in prone position until they were comfortable with the procedure. When a patient with severe ARDS arrived, we would be ready. **Evaluation/Outcomes:** The patient had a ratio of PaO₂ to FIO₂ (P/F ratio) of 77 on 100% FIO₂ and a PEEP of 18 cm H₂O. The first session of prone positioning was initiated within 4 hours of the results of arterial blood gas analysis and lasted 16 hours. After each session, the patient returned to supine with continuous lateral rotation therapy for at least 4 hours before resuming prone position. Improvements noted in P/F ratios and chest radiographs after each session allowed for gradual decreases in FIO₂ and PEEP. After 3 completed prone sessions, the patient’s P/F ratio was >300 with an FIO₂ of 35% and a PEEP of 5 cm H₂O. The chest radiograph showed resolution of ARDS. Our implementation of an evidence-based prone positioning protocol for severe ARDS was a success!
EB33 Medical/Medical Surgical Intensive Care Units’ Journey to a Healthy Work Environment
Kathryn Rankin, Karen Diorio, Sheenagh Cummings; Methodist Hospital, San Antonio, TX

**Purpose:** The AACN has identified 6 standards for a healthy work environment. On our journey to a healthy work environment, staff in the 12-bed adult medical intensive care unit (MICU) and the 13 bed medical-surgical ICU (MSICU) focused on decreasing reports of bullying and increasing employee engagement. The purpose of the project was to decrease reports of bullying and increase employee engagement in the units to >74% in 2015 and to >79% in 2016. **Description:** The director referred to “The American Nurses Association” (ANA) as a tool for addressing and changing the culture of bullying in the MICU and MSICU. A staff survey about bullying indicated that 88% of employees felt that bullying was a problem for both units. After sharing the survey results with staff, the unit leaders worked with the unit-based council to increase employee engagement. Frontline staff were provided education about bullying and tools to enhance communication. A zero tolerance policy for bullying was established by the units. Each member of the team signed a “Commitment to my Coworkers” that included a pledge that bullying behavior would not be tolerated. Communication activities were conducted during staff meetings to assist the frontline staff to increase their communication skills. Charge nurses participated in emotional intelligence exercises to identify opportunities to increase their communication skills. Formal and informal leaders were sent to “Crucial Conversations” courses to learn skills for communication and providing feedback to staff. Employee engagement was made a standing agenda item for each staff meeting. Focus groups were set up with both shifts to ensure that voices were heard so that action could be taken. **Evaluation/Outcomes:** The MICU/MSICU exceeded the goals for employee engagement in both 2015 and 2016. In 2015, the hospital’s goal was 74% and the unit reached 84%. In 2016, the hospital’s goal was 76% and the unit reached 82%. Working with the staff on skilled communication has resulted in a decrease in reports of bullying and increased employee engagement. The units are continuing their journey to a healthy work environment by promoting AACN standards of true collaboration, effective decision making, appropriate staffing, meaningful recognition, and authentic leadership.

EB34 Reactive to Proactive: A Medical Emergency Team Transformed Into a Critical Care Outreach Program
Sandra Simmons, Janet Stedcke, Karen Bono, Peter Doyle, Jeanette Oakley; Lee Memorial Health System, Fort Myers, FL

**Purpose:** Our medical emergency team (MET), implemented in 2007, was reactive in nature. Activation was dependent on recognition of signs of deterioration in a patient’s condition by nurses from outside the intensive care unit (ICU). Our non-ICU cardiac arrest rate was 30% to 50% per month (mean, 31%). Published reports indicate that 70% of patients show evidence of deteriorating condition within 8 hours of cardiopulmonary arrest. Patients who have a cardiac arrest outside the ICU have mortality rates up to 91%. Could we decrease the non-ICU arrest rate with a proactive critical care outreach (CCO) program? **Description:** Upon review of our MET data from several years, we determined that more than two-thirds of patients showed signs of deterioration or lacked sufficient documentation to identify clinical decline within the 8-hour period immediately before the MET activation. This finding is consistent with existing published data and contributes to increased incidences of cardiopulmonary arrest outside the ICU. In a 2007 study, Moore et al demonstrated a 91% mortality rate in patients with cardiac or respiratory arrest outside the ICU. The mortality rate for our non-ICU cardiac arrests was nearly 90%. Based on these trends, we presented a business plan proposing a shift from a reactive MET program to a proactive CCO program. We hypothesized that the decrease in non-ICU arrests and subsequent lowered mortality rate would offset the cost of having a 24/7 dedicated team of critical care nurses proactively rounding and capturing early and subtle changes in patients’ condition outside the ICU. We created specific criteria to assist in continuous prioritization of proactive rounds on non-ICU patients. Our initial goal was to decrease non-ICU arrests by 20% within 3 months of the rollout of the CCO program. **Evaluation/Outcomes:** The CCO program was implemented in April 2016. Using specific criteria consistent with evidence-based early warning signs, the CCO nurses proactively rounded on patients in units outside the ICU. By the end of our initial 3-month period, we exceeded our goal and reduced our non-ICU arrest rate by 75%. Our data also demonstrated a 66% reduction in reactive MET activation. Owing
to early recognition of subtle clinical decline, patients were successfully treated and avoided ICU transfer or non-ICU arrest, or were transferred to the critical care area before significant decompensation. The inpatient mortality rate has decreased by 3% outside the ICU and by 7% within the ICU.

**EB35 Who You Gonna call? Clot Busters: A Nursing Initiative to Improve Dialysis Catheter Management**
Genalin Moscoso-Stafford, Petra Grami, Cheryl Haseeb, Edison Gumatay; CHI Baylor St Luke’s Medical Center, Houston, TX

**Purpose:** Management of dialysis access within critical care units can be challenging for nurses performing renal replacement therapies (RRT). Lack of education and competency training is compounding the delays in treatment and care. The purpose of this nurse-driven initiative was to implement a practice change and educate critical care nurses on techniques to improve dialysis catheter management and catheter clearance.

**Description:** Delays in treatment for unstable patients increase risks for deterioration that can lead to hyperkalemia, acidosis, and even death. The incident event system identified an increase in the number of events related to clotted catheters. The barriers recognized were the timely intervention limited to hemodialysis-trained nurses for catheter malfunctions. With the increasing need for RRT in the intensive care unit (ICU), we focused our efforts on education of dialysis catheter management in the critical care setting. A nurse-driven catheter management task force created an educational plan that incorporated learning sessions and competency check-offs for all critical care nurses. The best-practice interdisciplinary council reviewed our policy on declotting central venous catheters and determined the feasibility of implementing a practice change for ICU nurses to manage dialysis catheters malfunctions. The use of the tissue plasminogen activator (tPA) as the declotting agent was incorporated into the evidence-based training sessions for dialysis catheter management along with approval of the best practice interdisciplinary team. Teaching strategies integrated the use of simulation, case studies, and teach-back techniques to disseminate the information.

**Evaluation/Outcomes:** The overall success of our educational initiative is reflected by an increase in the number of tPA-validated HD catheter competency skilled nurses from 54 to 200 trained nurses. Delay time off the RRT was significantly decreased from 6 to 2 hours, declining a disruption in treatment by 66%. There were no reported adverse events during tPA administration. Nurse and physician satisfaction was measured by survey and feedback, which demonstrated a substantial improvement in satisfaction scores. Our educational program demonstrates the importance and effectiveness of a nurse-driven practice change educational initiative by improving patient care and staff satisfaction.

**EB36 An Evidence-Based Project to Initiate Early Mobility in a Medical-Surgical Intensive Care Unit**
Brenda Artz; WellSpan Health York Hospital, York, PA

**Purpose:** To develop and implement an evidence-based early progressive mobility pilot protocol in a 10-bed medical-surgical intensive care unit (ICU) at a 572-bed community teaching hospital. This evidence-based practice project was undertaken to streamline the mobility process by developing a protocol to promote activity for all patients in the ICU to yield decreased ventilator days, ICU days, and hospital length of stay (LOS).

**Description:** The Johns Hopkins Nursing Evidence-Based Practice Model was selected for evaluation and translation of the literature. MEDLINE, the Cumulative Index to Nursing and Allied Health Literature, and PubMed were searched comprehensively. Fifty-seven articles were reviewed and used in the analysis of the practice question. A protocol was developed on the basis of published recommendations. A safety screening was established that included color-coded inclusion and exclusion criteria. The protocol was based on mobility function levels. Patient progression through levels was determined by tolerance of the activity without signs of decompensation. Data were collected on patient demographics, ventilator days, and ICU and hospital LOS in days for 3 months before and after implementation of the protocol. Following implementation of the protocol, the number and percentage of adverse events for patients during mobility sessions were documented. Data were analyzed to determine whether early mobility resulted in decreased ventilator days and hospital and ICU LOS. Data collection continued for 1 year to evaluate sustainability of outcomes.

**Evaluation/Outcomes:** After the intervention, more patients were discharged to rehabilitation facilities. Hospital LOS decreased by 0.10 days ($P = .62$), ICU LOS by 0.42 days ($P = .50$), and ventilator days by 1.77 days ($P = .001$). Results yielded a cost-avoidance of $147,278.17.
EB37 Preassigned Role During Medical Emergencies
Zoraida Delgado-Sanchez, Jennifer Baranello; Memorial Sloan Kettering Cancer Center, Manhattan, NY

Purpose: Emergencies require an urgent, organized, and coordinated response. Problems identified during random medical code observations that may hinder the effectiveness of the resuscitation efforts were high noise levels, improper amount of staff, poor communication, and undefined roles and expectations. A process was created to improve code management by having preassigned roles for emergencies. The goals are to reduce stress and noise, improve communication, and increase proficiency in each role. Description: The American Heart Association recommends having a 6-member high-quality cardiopulmonary resuscitation (CPR) team. The literature describes the need to have an organized team that can provide timely, uninterrupted, high-quality CPR, defibrillation, and correction of reversible causes. Optimal team performance is based on team members’ own role comfort and the understanding of the other team members’ roles as well. Understanding the importance of each member’s role will contribute to the team’s overall performance. The staff in the intensive care unit (ICU), including respiratory therapists and pharmacists, are certified in advanced cardiac life support (ACLS). ICU staff are trained on the emergency equipment. The charge nurse carries the first important role by assigning each role to the incoming staff before the start of the shift. Assignment decision is based on the levels of experience, scope of practice, and abilities using basic cardiac life support (BCLS) and ACLS 2015 guidelines. The 5 preassigned code roles are (1) compressors/CPR, (2) defibrillator, (3) medication nurse, (4) recorder, and (5) runner. When the code alarm is activated, all staff members with a preassigned role arrive at the scene and identify themselves. The team begins the efforts to improve the patient’s condition in a timely, uninterrupted manner based on each the expectations for each role. Evaluation/Outcomes: The pilot program survey validated reduction in stress and chaos, improvement in communication, and overall effectiveness of the resuscitation efforts. The survey results contributed to the identification of knowledge gaps in content of the code cart, use of defibrillator functionalities, end-tidal carbon dioxide monitoring, and proper recording of the code form. Mock codes and debriefings after codes are the modalities used to address those knowledge gaps identified. Other unexpected results were inpatient units joining in implementing preassigned roles with modifications, extending mock codes to inpatients units, presentation to various councils in the hospital, and review of hospital code management policy.

EB38 Moving Beyond the Rapid Response Team: Empowering Nurses to Construct Robust Rapid Response Systems
Samuel Snell, Rosslyn VanDenBossche, Peter Manring, Tony Di Stefano; Cleveland Clinic, Cleveland, OH

Purpose: Rapid response teams (RRTs) are a tool for reducing hospital mortality and cardiopulmonary arrests (CPAs) occurring outside the intensive care unit (ICU) in a dose-dependent manner through early intervention, proactive rounding, and education. Published reports reaffirm, though, that the durability of an RRT’s impact depends on systemic factors. We implemented a comprehensive rapid response system to help alleviate the demands and stressors placed on today’s nurses and primary providers, ultimately lowering failure-to-rescue rates. Description: In 2010, the Cleveland Clinic, a 1400-bed academic medical center, implemented 2 adult RRTs with the unique distinction of being staffed by nurses, respiratory therapists, physicians, and nurse practitioners dedicated mostly to RRT duties rather than being staffed out of an ICU or emergency department. At the time of design and implementation in 2009 and 2010, the extant literature evinced key components of an RRT (eg, activation triggers, the responding team, and escalation to ICU or operating room care); however, the evidence base lacked consensus on designing a comprehensive rapid response system to support the RRT and, ultimately, the patient’s well-being. Consequently, our frontline RRT nurses were empowered to work collaboratively within a committee of nursing directors, medical directors, and data quality managers to iteratively improve the system surrounding clinically deteriorating patients. These collaborative efforts in the past 6 years...
have resulted in a rapid response system comprising a robust afferent limb (ie, proactive RRT interdisciplinary rounding, activation triggers, repeated and multimodal education of new nurses and residents, and mobile EMR access) and an expert effenter limb (ie, 2 dedicated interdisciplinary RRTs). Evaluation/Outcomes: RRT activation has increased >60% since its implementation. Training sessions with nurses and physician residents contributed to year-over-year improvement in CPA metrics before RRT arrival at bedside (ie, compressions <1 minute; defibrillation <2 minutes), leading to the highest level of recognition (gold) from the American Heart Association. Patient survival to discharge following CPA on a nursing care area increased by 12% relative to hospitals with 500+ beds. Hospital-wide acute admissions have remained steady, indicating that these improvements in patient care and outcomes are connected to the rapid response system’s afferent and effenter limbs rather than to changes in patient acuity.

EB39 The Oncology Patient in the Medical Intensive Care Unit: Meaningful Recognition of the Acronyms
Jessie Brain, Sara Pitman, Alina Mujukian, Amanda Butner; Brigham & Women’s Hospital, Boston, MA
Purpose: Bone marrow and hematopoietic stem cell transplants (BMT/HSCT) have expanded the treatment of oncologic diseases. Many patients who receive a BMT/HSCT have complications that require intensive care management. Critical care nurses need an increased knowledge base of underlying oncologic diseases to improve quality of care. This project aimed to educate nurses in the medical intensive care unit (MICU) about the most common hematologic oncologic diagnoses to optimize patient care. Description: The MICU practice committee (MPC) conducted a baseline survey using a 5-point Likert scale among 90 MICU staff nurses to assess their knowledge of underlying oncologic diseases and treatment regimens. Of those who responded, 41% reported they only somewhat understood the underlying oncologic condition and 14% reported that they had no understanding. The survey also revealed a lack of complete understanding of the treatment regimens, such as chemotherapy and BMT/HSCT. These results indicated an opportunity for improvement driven by the needs of the patients and families to increase the nurses’ knowledge of the diagnoses and treatments for hematologic oncology patients in the MICU. An extensive review of the literature was conducted including information acquired from Dana Farber Cancer Institute, expert consultation by oncology educators, and the medical librarian at Brigham & Women’s Hospital. The MPC developed a poster outlining the major hematologic oncologic diagnoses, various forms of chemotherapy, and descriptions of BMT/HSCT. The poster was displayed in 2 areas of the MICU, and the MPC educated MICU staff members through individual discussions, educational e-mails, and educational sessions during change-of-shift nurse huddles. Evaluation/Outcomes: The MPC sent an end-line survey to staff nurses to assess the impact of the intervention on their knowledge of various oncological diseases and treatments. Of the survey respondents, 100% stated moderate to complete understanding of the information. The intervention also increased our understanding of MICU nurses’ needs for continuing education in response to our growing population of hematology oncology patients. The MPC’s commitment to the AACN mission of fulfilling our promise to our most vulnerable patients includes ongoing education and innovation. This project was successful because it was patient-driven and provided readily accessible, cutting-edge information to the health care team.

EB40 Stroke: Time Is Brain, Every Minute Counts
Kristin Merritt, Morgan Barganz, Abbie Dickersheid; Duke Raleigh Hospital, Raleigh, NC
Purpose: Per the North Carolina Public Health Report (2014), stroke was the leading cause of death from 2008 to 2012, with more than 1300 deaths caused by stroke. Evidence-based research and the 2015 guidelines from the American Heart Association show that endovascular treatment is the best practice for ischemic stroke patients. The purpose of this evidence-based project at Duke Raleigh Hospital (DRAH) was to improve the outcomes of ischemic stroke patients within the community, by implementing the only mechanical thrombectomy program in Wake County. Description: Two nurse leaders formed an interprofessional team to review the 2015 American Stroke Association endovascular guidelines and research studies. A gap analysis identified the lack of endovascular treatment options for acute ischemic stroke patients in the county. The decision was made to implement an endovascular program at DRAH. The 2 nurse leaders identified committee members and metrics and developed policies and workflows. In
addition, the nurse leaders educated the staff in the emergency department, computed tomography, neurology and interventional radiology, physicians, intensive care unit, and neuroscience unit. The endovascular program went live on November 30, 2015. To date, DRAH has performed 28 interventional procedures. After each case, debriefings were conducted to identify strengths, opportunities, and recognition. Real-time feedback was provided to staff for just-in-time process improvement. The committee reconvened after 90 days to review metrics for door to needle (DTN), door to groin (DTG), and door to reperfusion (DTR) times; Modified Rankin Scale; and revised workflows. In addition, the team collaborated and educated staff from emergency medical services (EMS) and surrounding hospitals about stroke intervention. As a result of the partnership with EMS, Duke Raleigh was designated as the only facility capable of interventional therapy for ischemic stroke patients in the 4- to 6-hour last well-known window.

**Evaluation/Outcomes:** The stroke program’s mean DTN times are 56 minutes (national mean, 60 minutes); mean DTG times are 36 minutes (national mean, 90 minutes); and mean DTR times are 61 minutes (national mean, 120 minutes). Disability is assessed using the Modified Rankin Scale in patients who have suffered a stroke and is compared over time to evaluate recovery and degree of continued disability. The most recent data show that 83% of endovascular patients are functionally independent at the time of discharge. The programs stroke metrics are below the national average, but more importantly, the quality of care is significantly improved for the North Carolina stroke population.

**EB41 Reduction and Elimination of Catheter-Associated Bloodstream Infections in Medical and Medical-Surgical Intensive Care Units: Maintaining Zero Infections—It Matters**

Sheenagh Cummings, Karen Diorio, Kathryn Rankin; Methodist Hospital, San Antonio, TX

**Purpose:** Catheter-associated bloodstream infections (CLABSIs) are associated with increased cost, morbidity, and length of stay in intensive care unit (ICU) patients. The cost of CLABSIs is from $3700 to $36 000 per episode. The 12-bed medical ICU (MICU) and the 13-bed medical-surgical ICU (MSICU) had a combined total of 11 CLABSIs in 2014. The purpose of the project was to reduce CLABSIs by 30% in 2015.

**Description:** The unit-based practice council, consisting of frontline staff, assistant nurse manager, and director from the MICU and MSICU, met to research evidence-based interventions. Leadership guidance and participation assisted the entire team to achieve the goal of 30% reduction in CLABSIs. The Centers for Disease Control and Prevention’s CLABSI site and the AACN website were reviewed to obtain current resources on best practices. The hospital infection prevention nurse and the facility vascular access team were consulted for best-practice recommendations. Audits were conducted on the units to evaluate current practice and identify barriers. Audits identified excellent compliance with the insertion bundle, but poor compliance with the maintenance bundle. Therefore, education was focused on adherence to the maintenance bundle such as hand hygiene before accessing the catheter; scrubbing the hub; performing dressing changes using sterile technique; daily review of necessity for the catheter and removal of the catheter as soon as possible; and expediting removal of groin catheters. Charge nurses and unit champions performed daily rounds on patients with central catheters to assess the site, dressing, and date of tubing changes.

**Evaluation/Outcomes:** The number of CLABSIs in the target ICU units was reduced to 6 for the year 2015. This represented a reduction of 45% from 2014 to 2015 and a potential savings ranging from $18 700 to $180 000 for the year. The effort to reduce CLABSIs continues for 2016 with a goal set at 30% reduction. As of the end of the second quarter of 2016, there have been zero CLABSIs in the MICU and MSICU. Maintaining zero CLABSI infections is the team’s end goal.

**EB42 Significantly Reduce Nuisance Alarms For Free**

Carolyn Caruso, Mary Spelis; Sutter Medical Center, Sacramento, CA

**Purpose:** Alarm management is a Joint Commission National Patient Safety Goal (NPSG.06.01.01), which focused Sutter Medical Center on reducing nuisance alarms in order to more effectively manage clinical alarms, leading to efficient and safe patient care. The intent of this project was to significantly reduce the number of low-battery alarms generated by the telemetry monitoring system. Each low-battery alarm results in a phone call that perpetuates noise and may shift focus from patient care.

**Description:** Alarm fatigue
is a well-documented safety risk that can lead to failures in appropriate management of serious physiological alarms. Sutter Medical Center, Sacramento is a 523-bed acute care hospital, with the capability of providing telemetry monitoring for 304 patients. Baseline data for 6 months before the start of the project, collected by tallying the number of alarm notification calls made to nursing units by monitor technicians revealed 10,765 total alarm calls and 1,476 alarms due to telemetry transmitter batteries needing to be replaced (low-battery alarms). Estimating that the mean life of a battery in use is about 36 hours, the facility had previously attempted to standardize a process for daily battery change by nursing assistants during activities of daily living. This was not practiced consistently for several reasons, leading to low-battery alarms throughout the day and interruption of patient care and monitoring of more important physiological alarms. This project’s initial plan-do-study-act (PDSA) cycle involved the daily battery change by day-shift nurses during their receipt of bedside report. Alarm tallies continued and barriers were identified. A second PDSA cycle involved the daily battery change by night-shift nurses during their receipt of bedside report.

**Evaluation/Outcomes:** In a 6-month period, the mean number of low-battery alarms for the cardiac care unit was 246. The first PDSA cycle resulted in a reduction of 147 low-battery alarms (60% reduction). Using feedback and suggestions from staff, it was identified that another test of change was necessary. The final PDSA cycle led to an additional reduction of 57 low-battery alarms on average (83% reduction from baseline). This simple process change significantly reduced the number of nuisance alarms on the cardiac care unit. Remarkably, the process changes related to this project did not require additional equipment, staff, or cost to the organization.

**EB43 Reducing Catheter-Associated Urinary Tract Infections in Medical and Medical-Surgical Intensive Care Units**

Karen Diorio, Kathryn Rankin, Sheenagh Cummings; Methodist Hospital, San Antonio, TX

**Purpose:** Catheter-associated urinary tract infections (CAUTIs) are the most common hospital-acquired condition. CAUTIs lead to increased mortality, morbidity, and length of stay. The mean cost of treating a CAUTI is $911. The 12-bed medical intensive care unit (MICU) and the 13-bed medical-surgical ICU (MSICU) had a combined CAUTI rate of 7.8 in the first quarter of 2014. The purpose of the project was to reduce the rate of CAUTIs in the MICU and MSICU by 50% by the end of 2014. **Description:** The unit-based practice council consisting of frontline staff and the assistant nurse manager from the MICU and MSICU, met to research evidence-based interventions. Leadership guidance and participation assisted the entire team to achieve the goal of 50% reduction in CAUTIs. The Centers for Disease Control and Prevention’s (CDC’s) CAUTI site was used as a resource for best practice for insertion and maintenance of indwelling urinary catheters. The change theory used was Kotter and Cohen’s model for change. A sense of urgency was developed by raising awareness of the number of CAUTIs and their impact on patients. Audits were conducted on the units to evaluate current practice and identify barriers. Education on the CAUTI bundle was provided to the nursing staff. A safety checklist was developed and used each shift by the charge nurse or unit champion to ensure catheter maintenance guidelines are in place for each patient. A deep-dive was conducted by unit champions for each new CAUTI attributed to the unit(s), and lessons learned were shared with staff. A nurse-driven protocol for indwelling catheter removal was implemented, and catheter necessity was discussed at patient handoff and during multidisciplinary rounds. **Evaluation/Outcomes:** CAUTIs were reduced on the target units by 59% from the first quarter of 2014 to the fourth quarter of 2014. The effort to reduce CAUTIs continued for 2015 with a goal set at 30% reduction. The units achieved a rate of 60% reduction from 2014 to 2015. The goal for 2016 is another 30% reduction and the units have reduced CAUTIs by 23% as of the second quarter of 2016. The action plan implemented by the units resulted in a potential cost savings of >$25,000 annually.

**EB44 A Multidisciplinary Evidence-Based Practice Protocol to Reduce Postoperative Nausea in Bariatric Surgery Patients**

Andrea Mason; Loma Linda University Surgical Hospital, Redlands, CA

**Purpose:** Postoperative nausea and vomiting (PONV) is a strong predictor of extended recovery in bariatric surgery. Literature review indicated that increased incidence of PONV is associated with variability in practice. Our institutional baseline data indicated widespread
variability in antiemetic treatment resulting in increased nausea and extended stays. The purpose of this evidence-based practice (EBP) project was to implement best practices to reduce postoperative nausea in adult bariatric surgery patients. **Description:** A nurse-led interprofessional team consisting of perianesthesia nurses, postoperative nurses, advanced practice registered nurses, anesthesiologists, and surgeons reviewed the existing literature examining the level and quality of evidence. The majority of the articles reviewed by the team had good to high levels of quality. This information included the 2014 Consensus Guidelines for the Management of Postoperative Nausea and Vomiting. Interventions were identified from this review and compared with institutional current practice. This comparison revealed several interventions and opportunities for improvement, specifically the use of standardized tools in the assessment of high-risk patients, standardization of prophylactic and rescue PONV therapy, use of nonpharmacological therapy modalities, and consistency in PONV documentation. These best practices were incorporated into a nurse-driven nausea prevention protocol. **Evaluation/Outcomes:** Standardization of care in patients at high risk for postoperative nausea using multiple therapies throughout the perioperative continuum resulted in reduced incidence of PONV. An evaluation of 30 charts were completed before the start of the EBP project establishing baseline data and an additional 30 charts were reviewed after the EBP project was implemented. The incidence of postoperative nausea was reduced by 20% and the length of stay remained unchanged. Qualitative themes expressed by nursing staff included request to use EBP interventions (acupressure bands) on other surgical patients, increased patient satisfaction, and decreased severity of symptoms.

**EB45 Bringing the Intensive Care Unit to the Emergency Department: Nursing’s Journey**

Cassandra Aebersold, Sarah Hauser, Renee Havey; University of Michigan Health System, Ann Arbor, MI

**Purpose:** The current setup of emergency departments (EDs) is ill-prepared to handle the critical care needs of patients. Research suggests that early intervention with intensivist-led care improves patients’ outcomes. Translating the evidence of critical care nursing and providing interventions in the emergency department are needed in order to facilitate intensivist care. By the end of this session, the learner will gain insight into the preparation needed to develop nurses for the ED and the intensive care unit (ICU). **Description:** To ensure quality clinical care in the ED-ICU, benchmarking and consulting occurred with the adult ICUs in the development of order sets, standards of care, and protocols to ensure seamless transition in care for the patient across settings. Quality care cannot happen without proper educational preparation, thus ED nursing partnered with the ICUs and their nursing leadership to coordinate an orientation experience for ED nurses in the ICUs. ED nurses volunteered to participate in an 8-week orientation in 1 of 5 ICUs. An orientation checklist was completed on the basis of the orientation checklists used in the inpatient ICUs. ED nurses also attended Essentials of Critical Care Orientation, an AAN program. Education related to new equipment was provided. Nurses were also required to attend a didactic day focusing on ongoing critical care delivery, standards of care, current trends in critical care, operations, and disease-specific lectures. **Evaluation/Outcomes:** Over the course of 2 years, 82 nurses have been oriented to staff in the ED-ICU and more continue to be trained. Approximately 10 nurses have obtained certification in critical care nursing. Tweaks continue to be made to ensure that nursing preparation meets the needs of the patients being cared for in the space. Emergency nurses can be cross-trained to provide ongoing intensive nursing care to acutely critically ill patients arriving in the ED, bringing intensive care to the ED. Early implementation of interventions to prevent the negative consequences of critical illness can help to change patients’ hospital trajectory and improve outcomes.

**EB46 Ready, Set, Go! Implementing a Pediatric A-F Bundle and Early Mobility Program**

Jodi Thelen, Cheryl McBeth; UC Davis Children’s Hospital, Sacramento, CA

**Purpose:** Early mobility has been linked to preventing and ameliorating delirium in critically ill adults. Emerging publications suggest that although underdiagnosed, delirium is experienced by an estimated 30%-50% of critically ill pediatric patients. Delirium is associated with prolonged hospital stays, motor and behavioral problems, and delusional memories. To improve quality of care and outcomes in critically ill pediatric patients, a pediatric A-F bundle and an early mobility program were
**EB47 Do You Know the Quality of Your Cardiopulmonary Resuscitation? Improving Staff Performance in Code Blues**

Cynthia Ruiz; Northwest Community Hospital, Arlington Heights, IL

**Purpose:** To improve staff performance during code blues, including both cardiopulmonary resuscitation (CPR) quality and emergency tasks. Data were downloaded from defibrillators used during code blues. These data included chest compression rate, ventilations, and pre/post shock pause times. Once these data were analyzed, feedback was given to the cardiac arrest team and unit staff on their performance. **Description:** Survival from in-hospital cardiac arrest remains bleak. The rate of survival is 10%-23%. The quality of CPR provided in hospitals is deficient. High-quality CPR is the focus of the 2015 American Heart Association (AHA) guidelines for basic and advanced cardiac life support and is essential to improving cardiac arrest outcomes. Too often chest compressions are performed too fast, are too shallow, and allow interruptions, which are further intensified by pauses before and after defibrillation. There is also scarce use of end-tidal carbon dioxide monitoring, even though this too is an AHA recommendation. The challenge is that although CPR quality often seems poor, objective data to validate this are lacking. This project started in December 2014. Mock codes were instituted on all inpatient units. At the same time, software was used to analyze impedance signals obtained from defibrillator pads used during code blues. The initial reports identified issues with rapid chest compression rates (often >130/min) and multiple pauses in compressions. Initial chest compression fraction (CCF) measures were <80%. The code blue team leaders focused on minimizing interruptions and slowing compression rates to the AHA recommendation of 100-120/min. Metronome devices were introduced, significantly improving chest compression rates. **Evaluation/Outcomes:** Since December 2014, we have seen a significant improvement in staff performance during code blues and delivery of high-quality CPR. There was noted improvement in chest compression rate, the CCF, and pauses before and after defibrillation. The rates are now often 100-120/min, especially when the metronome is used. The CCF has been consistently > 80%. A notable improvement has also been achieved in the use of end-tidal carbon dioxide monitoring and minimizing pauses before and after defibrillation. Staff surveys regarding their own performance during a code blue and the code blue team’s feedback have been extremely positive.
Many of the patients in the cardiovascular intensive care unit (CVICU) are hemodynamically unstable, with cardiac assist device(s), open sternum, extracorporeal membrane oxygenation (ECMO) therapy, and vasoactive infusions. Most of these patients have endured several hours of major cardiothoracic surgery. Between August 2014 and July 2015, a total of 93 UAPUs were observed (6.76%), with a conservatively estimated $956,412 of associated treatment costs at $10,284 per incident. **Description:** Weekly pressure ulcer audits continued throughout a 24-month period, consisting of closely examining each patient in the unit. During this time, 2 CVICU nurses were successfully trained as certified wound care associates and new technologies (eg, the Sundance Z-flo pillow, Prevalon turn and positioning system (TAPS), and Prevalon boots) were tried out. The hospital-acquired pressure ulcer (HAPU) committee developed an algorithm to determine which high-risk patients would benefit from placement of these preventive measures. Sacral Mepilex was also placed in the preoperative area on all surgical patients with an estimated operating room time longer than 3 hours. Surgical teams were engaged to assist with proper positioning, operating room table surface pressure mapping and evaluation of new products, and earlier transition to ICU beds with low air-loss mattresses. A standardized color-coded approach to early mobility has been rolled out, and patients who have traditionally been deemed as “no-turn” are being microturned.

Standard well-documented HAPU prevention measures were continued simultaneously with these trials. Not only were the weekly HAPU audits continued to assist with data collection, they were also used to identify any patients who would benefit from intervention. **Evaluation/Outcomes:** Observed UAPU rates decreased from 6.76% in the initial 12-month period to 4.52% (57/1262) in the 12-month period following the new interventions. We have conservatively estimated a net cost savings at our hospital of $339,754 and most importantly significantly fewer patients had advanced stage pressure ulcers develop! We are encouraged at the progress made in the past year, but realize there is still a great deal of room for improvement in this very challenging high-risk population of patients we care for. With continued diligence and focus, we strongly feel that we will make progress toward an ultimate goal of zero HAPUs in time.
EB50 CHANGE Academy (Collaboratively Helping to Achieve Nursing Goals and Excellence): A Clinical Scene Investigation Model
Jeanne Gray, Mary Beth Sedwick; Lankenau Medical Center, Wynnewood, PA

**Purpose:** Using the principles of AACN’s Clinical Scene Investigator (CSI) Academy, we hoped to replicate the positive results from a previous CSI Academy project in our critical care units for decreasing hospital acquired pressure ulcers (HAPUs) on 3 telemetry units with high HAPU rates. By empowering the clinical nurses involved in the original project to act in a leader role and mentor the clinical nurses on the telemetry units, we hoped to achieve the same results. **Description:** HAPUs remain a problem on some units in our hospital. According to the Agency for Healthcare Research and Quality, a single pressure ulcer could add $43 180 in costs to a hospital stay. After achieving success in our critical care areas, we decided to focus our attention on the units with the highest rates of HAPUs. We applied for and received a grant from our hospital’s women’s board for $20 000 to fund our project, the CHANGE Academy (Collaboratively Helping to Achieve Nursing Goals and Excellence). The dermal defense champions of 3 units with the highest HAPU rates were asked to participate in the study. The dermal defense champions from the intensive care units were asked to be the mentors, following the same guidelines as the AACN CSI Academy. Baseline data on HAPU rates were obtained from the previous fiscal year for each of the 3 units. A goal was set for a 10% decrease in HAPUs for each unit. A budget was created that used the grant money. This money was used for education, supplies, and a kick-off and celebration party for the units. The mentors met monthly with the dermal defense participants to review data collected by the wound ostomy nurse and to ensure that the education plan was proceeding according to schedule. **Evaluation/Outcomes:** The grant allowed us to purchase items that aided in the awareness of prevention of HAPUs (digital cameras, wedges for proper positioning, and a mapping system used to identify pressure points on the bedridden patient). At the end of the project, positive results were noted in all 3 units. Unit 1 saw a 75% decrease in HAPUs, unit 2 had a 60% decrease, and unit 3 had a 57% decrease. Through the use of a group mentoring model, the nurses were empowered to seek solutions and implement changes on their individual units. The combined decrease in HAPUs on the 3 units in the project resulted in a monetary savings to the institution of $1 338 580.

EB51 Turn Teams: Taking the Pressure Off of Nurses and Patients
Justin Carpenter, John Onofrey, Debbie Gough; St John Hospital and Medical Center, Detroit, MI

**Purpose:** Pressure ulcers affect 2.5 million patients in the United States. The mean cost of care for each pressure ulcer is from $20 900 to $151 700. Despite implementing all interventions recommended in the SKIN bundle, in 2015, the intensive care unit (ICU) division at our facility had 89 hospital-acquired pressure ulcers (HAPUs) with an estimated cost of $1.8 to $13.5 million. The intent of this intervention was to reduce the number of pressure ulcers that occur in the ICU division. **Description:** “The gold standard in prevention is patient turning and repositioning every 2 hours.” One of the gaps identified in our weekly pressure ulcer huddles was the inconsistency of turns being performed every 2 hours. A root-cause analysis showed that the caregiver responsible for turns often missed a turn because of being busy with other duties. The idea was proposed to hire a group of patient care technicians (PCTs) whose primary job responsibility would be to perform patient turns on the unit. This would ensure that a turn was not missed because of other care-related activities. This would also free up the nursing staff and unit PCTs, allowing them to focus more of their time caring for the patients’ other needs. In order to provide 24/7 coverage of the turn teams for 4 critical care units, ensuring that at least 4 turn team members were present per shift, a total of 18 full-time equivalents (FTEs) were approved and hired for an estimated yearly cost of $666 666. Training consisted of orientation time with both nurses and PCTs to help the new turn team members effectively and safely turn critical care patients. **Evaluation/Outcomes:** In 2015, the mean monthly rate of HAPUs for the ICU division was 7.41. The mean monthly HAPU rate in 2016 before hiring the turn team associates was 5.75. Since implementing the turn team, the mean monthly HAPU rate has decreased to 2. Compared with last year at this time, we have a 75% decrease in pressure ulcers in the ICU division (from 16 down to 4). We expect this rate to continue to decline as the turn teams become more proficient. Next steps include continuing to support the turn teams (eg, with resources,
education, and feedback) and monitor their effectiveness in reducing pressure ulcers.

**EB52 Interprofessional Approach to the Prevention of Tracheostomy-Related Pressure Injuries**

Desiree Ong-Futalan, Theresa Slazinski, Portia Dimailig, Azucena Aldana; Cedars-Sinai Medical Center, Los Angeles, CA

**Purpose:** This study was undertaken to test a standardizing tracheostomy care protocol using Biatain foam dressing under the tracheostomy tube in preventing device-related pressure injuries. Nurses in our surgical-trauma intensive care unit were concerned about the lack of a skin protectant under the tracheostomy tube and about constant friction between the device and skin resulting in skin breakdown. In reviewing nursing documentation, inconsistent usual tracheostomy care was found. **Description:** Our shared governance team reviewed tracheostomy injuries between March 2015 to August 2015, and 6 out of 35 patients (17%) had pressure injuries develop. Also, tracheostomy care was properly documented 35% of the time. An interprofessional unit-based team consisting of physicians, wound care experts, clinical nurse specialists, unit champions, and leaders explored this problem. After reviewing the literature and AACN guidelines for tracheostomy care, a protocol was developed to include Biatain foam, a nonadherent, absorbent dressing that has antimicrobial components that can be in place for up to 1 week. In one month, the interprofessional unit-based team educated the staff through in-service training sessions, staff meetings, physician/nurse collaboration, and unit practice council to ensure that medical staff followed the new guideline. With buy-in from key stakeholders (physicians) regarding the placement of the Biatain dressing before suturing the device or on postoperative day 1 (patients admitted from the operating room), we implemented our practice change. Tracheostomy care guidelines included changing the Biatain foam as needed when soiled or saturated per clinical needs. Nurses provided the physicians with the Biatain foam dressing and essential supplies. **Evaluation/Outcomes:** From September 2015 to July 2016, 2 of 67 tracheostomy patients (3%) had tracheostomy-related pressure injuries develop, demonstrating an 83% decrease. Additionally, after 1213 nursing shifts were audited, the documentation of tracheostomy care increased to 84%. Biatain foam was documented as being in place 86% of the time. Since December 28, 2015, there have been zero tracheostomy-related pressure injuries on our surgical-trauma intensive care unit. Prevention of pressure injuries is an important aspect of caring for this patient population. Continual education, assessment, and providing evidence-based care all contributed to preventing tracheostomy-related pressure injuries.

**EB53 Increasing Nursing Efficiency by Implementing a Step-Down Acuity-Based Staffing Tool**

Jennifer Morrow, Kristi Cain; Aultman Hospital, Canton, OH

**Purpose:** Our purpose was to use evidence-based research to introduce an acuity-based staffing tool to a 26-bed step-down unit to promote effective time spent on care and define complexity using an objective means rather than subjective means. Also the purpose was to provide accurate and objective acuity data to make staffing assignments equal and fair for each nursing shift, thereby creating a healthier working environment. **Description:** A literature review was initiated but yielded only data from a medical-surgical unit and a neonatal intensive care unit. Nurses and a physician champion collaborated to create an acuity scale based on objective criteria typical for this 26-bed step-down unit. The tool used an objective assessment by the care team to develop an acuity score. Objective data included scoring from nurses’ head-to-toe assessments and patients’ activities of daily living. The goal of the tool was to determine an accurate evaluation of acuity and complexity, while creating a healthy work environment and a fair distribution of patient assignments. Education consisted of 1-to-1 meetings with staff to explain the new acuity tool for scoring each patient. Bedside nurses update the charge nurse before the end of each shift to enable an equal and fair distribution of patient assignments. Nurses were surveyed on perception of the accuracy in patient acuity of both the untested tool and the evidence-based tool. A survey before implementation, and 6 months after implementation of the new acuity tool was conducted to determine if the new tool would fit the unit’s needs. **Evaluation/Outcomes:** Nurses’ perception of time required to provide care for patients was 25% higher with the new acuity tool than it had been with the previous tool. In addition, the measurement of the complexity of the patient in creating nursing
assignment increased 21%. Most nurses on the unit (80%) agreed that the new tool was effective in creating patient assignments. The survey did identify areas of opportunity for increasing consistency in assessment of acuity by nursing staff. For example, nursing staff consistently adjust the acuity score up when needed, but staff are inconsistent in adjusting the acuity score down as a patient improves. A task force was created with nursing to enhance the scoring and roll out the tool to other units.

**EB54 Meaningful Recognition: Does It Matter?**
Shirley Roman, Kendra Stephens; The Ohio State University Wexner Medical Center, Columbus, OH

**Purpose:** Results from a recent Press Ganey Engagement Survey indicated that 61% of staff nurse respondents were unsatisfied with current staff recognition efforts. Studies have shown that meaningful recognition has a positive impact on employee satisfaction, leading to improved outcomes for patients. The goal of this project was to use meaningful recognition to improve the job satisfaction of staff nurses in a surgical intensive care unit (SICU) in a large academic medical center.

**Description:** In 2014, the SICU recognition committee, consisting of 2 bedside nurses, was formed to address the issue of staff recognition. Using the AACN’s meaningful recognition standard, the committee developed a unit recognition program. Current publications indicate that incorporating meaningful recognition has a positive effect on healthy work environments. Meaningful recognition programs such as the Daisy Foundation Awards show recipients how their actions make a difference. The committee developed a unit-based, peer-nominated annual award to recognize a staff nurse. Following recommendations from the meaningful recognition standard for establishing recognition programs, a formal, structured process for nomination and selection of recipients was established. The award was created through researching existing award programs to develop criteria. Once nominations are collected, unit managers select a winner using a blind selection process. Additionally, before the committee was formed, hospital-wide recognition programs had been underused, but the committee has worked to maximize the use of such hospital-based recognition programs.

**Evaluation/Outcomes:** Using the process just described, the committee has nominated 17 nurses for 6 different awards, with 14 nurses being awarded accolades. Nurses who have won awards have been honored, and we have had success in our efforts to gain recognition that is meaningful to the individual. After 2 years, staff were surveyed to measure the impact of increased recognition. The results indicate that 70% of staff feel that unit-based recognition and 78% of staff feel that hospital-based recognition has had a positive effect on morale and job satisfaction. The committee reports that 60% of nurses indicated that the committee had a positive effect on job satisfaction, and 70% were satisfied with the work of the committee.

**EB55 Up and At ‘Em: Creating an Interprofessional Early Progressive Mobility Program for the Critically Ill**
Amy Hiner, Kim Dougan; Aultman Hospital, Canton, OH

**Purpose:** Early progressive mobility (EPM) initiated early in recovery from critical illness improves patients’ outcomes. EPM has the potential to shorten length of stay, decrease incidences of delirium, and improve functional outcomes. The goal of the EPM program is to maintain consistent positive team engagement using guidelines set by AACN and The Society of Critical Care Medicine and to form a sustainable program that supports safe EPM.

**Description:** A nurse-driven interprofessional EPM team formed for the primary goal of improving EPM in the intensive care unit (ICU). The team of nurses, physicians, respiratory therapists, and physical therapists referenced guidelines set by AACN and The Society of Critical Care Medicine to create a comprehensive interprofessional collaboration supporting a consistent and sustainable EPM bundle. Included in the program are daily mobility safety screenings by nurses, guidelines for mobility level progression and interprofessional rounding scripts for all members. The process fosters interprofessional collaboration and early recognition of patients that could benefit from EPM. Once the patient has no medical exclusions and is eligible to begin the program, the team collaborates to set short- and long-term goals to provide safe and effective EPM. The entire team rounds daily to discuss patient progress and concerns the team members, patients, or patients’ families may have. The EPM team goals remain to increase the number of patients evaluated and receiving mobility therapy, to initiate mobility earlier in their illness/recovery, and to maintain a higher level of mobility throughout the hospital stay. Additionally, the interprofessional team helps support
and sustain the EPM program. **Evaluation/Outcomes:** Since the implementation of the EPM team, physical therapy consultations have increased 50%. Since 2015, 98% of all patients admitted to the ICU have had their EPM needs addressed by the team using a nurse-created safety screen and interprofessional rounds. Before, the majority of mobility performed in the ICU was active range-of-motion exercises (93%), currently 79% of EPM performed more actively engages patients in mobility (eg, dangling legs and walking in the hallway, even while on a ventilator). In the test groups, delirium rates have decreased to 17.6%. The mean length of stay before EPM was 11.85 days, after initiation of EPM, the LOS decreased to 7.8 days.

**EB56 Early Warning System Leading to Reduction in Cardiac Arrests and Medical Emergency Team Activations**

Bryan McCurdy, Roy Primero, Julie Rogers, Amir Haq; John Peter Smith Hospital, Fort Worth, TX

**Purpose:** Upon assessment after the implementation of a medical emergency team (MET), some cardiac arrest patients continued to display subtle signs of deterioration before the arrest. The addition of an early warning system, with each set of vital signs measured outside of the intensive care unit (ICU) and the emergency department (ED), sought to further reduce the number of cardiac arrests. This intervention brought the medical emergency response from a reactive to a proactive approach and enables quick identification of patients at risk for decompensating. **Description:** The institution’s resuscitation readiness committee began to formulate the adoption of an early warning system. Modifying the system from the Institute for Healthcare Improvement, the institution employed a Modified Early Warning System (MEWS), pilot tested on a progressive care unit. The MEWS score is composed of heart rate, respiratory rate, oxygen saturation shown by pulse oximetry, oxygen modality, temperature, systolic blood pressure, and score on the Glasgow Coma Scale. An algorithm was also established for the nursing staff to follow, depending on their patient’s MEWS score. The algorithm alerted nurses to notify physicians and reassess MEWS scores within 2 hours. As the MEWS program moved throughout the institution, additional personnel were added to the MET. These additions allowed the formation of a team of dedicated critical care–trained nurses to respond to all code blue and MET activations. This team’s duties also include reviewing the chart and assessing any patient who has a MEWS score of 4 or greater. These nurses collaborate with the primary nurse and the assigned physician to assist with facilitating treatment changes and transfers to higher level of care as needed for the patient’s status. **Evaluation/Outcomes:** Initially started in July 2011, the program had expanded throughout all inpatient areas by July 2012. Through redesign and eventual expansion of the house-wide MEWS program and full time MET nurses, a reduction in cardiac arrests and MET activations outside the ICU and ED settings occurred. In 2012, 86 cardiac arrests and 767 MET activations occurred outside the ED and ICU. By 2014, only 60 cardiac arrests and 395 MET activations occurred in those same areas. Through the expansion of MEWS scores and a highly trained team, cardiac arrests have been reduced by 30% and MET activations by 49%.

**EB57 A Daily Rounding Tool Improves Patients’ Outcomes in a Neuroscience Intensive Care Unit**

Sharmila Sardinha Soares, Megan Brissie, Casey Olm-Shipman, Christa Williams; UNC Health Care, Chapel Hill, NC

**Purpose:** Challenges to effective multidisciplinary communication are commonly experienced in intensive care units (ICUs): variable rounding practices, frequent handoffs, and dynamically shifting health care teams. These factors may lead to fragmented care and errors of omission. The neurosciences intensive care unit (NSICU) at our institution implemented a daily goals tool to promote structured communication among members of the health care team and standardized adherence to evidence-based quality indicators. **Description:** ICU rounds have traditionally been physician-led, focusing on the physiological needs of the patient, with relatively less emphasis placed on team communication and individualized patient- and family-centered care. The Society of Critical Care Medicine supports the use of multidisciplinary tools, such as daily goal checklists, to improve communication among team members. These tools reduce health care–associated infections, decrease length of stay, and improve coordination between team members. A daily goals tool for the NSICU was designed and implemented with a goal of improving interprofessional team communication, patient-centeredness, and clinical outcomes. Key stakeholders, including nurses, physicians, advanced practice providers, respiratory
therapists, and pharmacists were recruited to lead the initiative. The daily goals tool emphasized: (1) closed-loop communication between physician and nurse regarding care plan by system, (2) prompts for discussion of evidence-based quality indicators (such as prophylaxis of deep venous thrombosis, code status, and catheter and tube removal), and (3) structured rounding workflows with interdisciplinary team member roles clearly delineated. **Evaluation/Outcomes:** The successful implementation of a multidisciplinary team-driven daily goals tool has resulted in improved closed-loop communication, increased adherence to addressing evidence-based quality indicators on all patients on a daily basis, decreased falls, and decreased hospital-acquired infections, including catheter-associated urinary tract infections, and ventilator-associated pneumonia. In addition, staff members report high satisfaction with use of the tool.

**EB58 Effect of Visits From an Intensive Care Unit Charge Nurse on Patients’ Outcomes After Critical Care Discharge**

Elvira Ballar, Kathy Weinberg, Erna Edejer-Lacebal, Cindy Wojdon; Washington Hospital Healthcare Systems, Fremont, CA

**Purpose:** Performance metrics, particularly outcomes-based metrics are important in measuring quality of care. One indicator that can be used to determine quality of care in the intensive care unit (ICU) is readmission within 24 hours. Patients may return to the ICU for a variety of reasons related to their physiological status. Additionally, anxiety about changes in their treatment team, especially when they feel safe in the ICU, may contribute to readmission. This project was implemented to decrease our readmission to ICU rate to <1%. **Description:** Readmission rate to ICU (defined as number of patients returning within 24 hours/total number of patients admitted to ICU) is monitored by the ICU clinical operations committee. In our community hospital, the 28-bed critical care unit had a readmission rate of 2.9%. Although national benchmark rates are not available, the committee set a readmission rate goal of <1%. The ICU nurse unit-based council retrospectively reviewed patient charts to determine the reasons for return to ICU; respiratory distress was the most common reason. A member of the council attended a presentation that included the intervention of posttransfer patient visits. The unit-based council determined that visits to patients within 24 hours after transfer would be implemented. A log book with patient information and standard questions was developed. The visit by a charge nurse included an assessment of physiological stability, reassurance to the patient/family, and education on tests/treatment to enhance patients’ experience. The charge nurse would then collaborate with the medical-surgical nurse caring for the patient to make recommendations for interventions as needed. This intervention was implemented during the third quarter of 2013. **Evaluation/Outcomes:** Readmission rates decreased to 0.81% in the quarter during the intervention and were from 1.45% to 1.68% during the immediate 3 quarters after intervention. Patients’ satisfaction with the nurse helping the patient understand the tests/treatment was 86.5 (scale 0-100) before the intervention in quarter 2 of 2013 and had increased to 93.7 by quarter 2 of 2014 after the intervention. Based on the decrease in readmission rate and the increase in patient satisfaction scores, the practice of visiting patients after critical care discharge continues. An unanticipated finding was nurse satisfaction; they expressed pleasure in their ability to influence a patient’s risk of readmission, and receiving positive feedback from patients/families about care provided.

**EB59 Formula 1: Decreasing Emergency Department to Critical Care Wait Time**

Matthew Mascari; Overlook Medical Center–Atlantic Health, Summit, NJ

**Purpose:** Patients who remain in the emergency department (ED) for an extended period require extended critical care, with prolonged overall hospital stays, critical care mortality increased by 27%, and hospital mortality increased by 34%. Decreasing wait time for all ED patients is a hospital-wide goal; critical care is one of the first areas where proactive measures are being taken to evaluate various interventions facilitating the transfer of critically ill patients. **Description:** Readmission rate to ICU (defined as number of patients returning within 24 hours/total number of patients admitted to ICU) is monitored by the ICU clinical operations committee. In our community hospital, the 28-bed critical care unit had a readmission rate of 2.9%. Although national benchmark rates are not available, the committee set a readmission rate goal of <1%. The ICU nurse unit-based council retrospectively reviewed patient charts to determine the reasons for return to ICU; respiratory distress was the most common reason. A member of the council attended a presentation that included the intervention of posttransfer patient visits. The unit-based council determined that visits to patients within 24 hours after transfer would be implemented. A log book with patient information and standard questions was developed. The visit by a charge nurse included an assessment of physiological stability, reassurance to the patient/family, and education on tests/treatment to enhance patients’ experience. The charge nurse would then collaborate with the medical-surgical nurse caring for the patient to make recommendations for interventions as needed. This intervention was implemented during the third quarter of 2013. **Evaluation/Outcomes:** Readmission rates decreased to 0.81% in the quarter during the intervention and were from 1.45% to 1.68% during the immediate 3 quarters after intervention. Patients’ satisfaction with the nurse helping the patient understand the tests/treatment was 86.5 (scale 0-100) before the intervention in quarter 2 of 2013 and had increased to 93.7 by quarter 2 of 2014 after the intervention. Based on the decrease in readmission rate and the increase in patient satisfaction scores, the practice of visiting patients after critical care discharge continues. An unanticipated finding was nurse satisfaction; they expressed pleasure in their ability to influence a patient’s risk of readmission, and receiving positive feedback from patients/families about care provided.
admitting resident or attending physician, time when the ED nurse gave the critical care nurse report, time when patient physically arrived in the unit, and time when the patient was moved via electronic patient tracking application. During the first collection phase, commonly noted themes were multidisciplinary, although nursing is the easiest to modify. The most significant delay was the time it took to receive report on the patient. Interventions to expedite the report process include a reward-based system for nurses who are proactive and/or transfer the patient under 1 hour, all unit nurses having access to ED charting to view the current situation and care provided, unit nurses going to the ED when feasible, receiving bedside report, and transferring the patient back to the unit with them, and fellow nurses taking report if the primary nurse is unavailable to expedite. Evaluation/Outcomes: Since the commencement of the project, we have been able to drive our total disposition to physical unit admission time down to 2 hours. Previously ED hold times have exceeded 5 hours, trending toward approximately 3.5 hours. Although the process of using a critical care nurse to help bring the patient back to the unit is relatively new, wait times and patient satisfaction have improved. Hold hours continue to trend downward. This project has been brought to the medical center’s critical care council, ED throughput committee, and executive committees and will remain a priority project in CCU as a trial with plans to roll out across the medical center by the end of the year. 

EB60 Zapping Ventilator-Associated Pneumonia in the Pediatric Intensive Care Unit for Half a Decade
Sophon North, Joanne Natale, Cheryl McBeth, Amy Powne; UC Davis Children’s Hospital, Sacramento, CA
Purpose: Ventilator-associated pneumonia (VAP) increases morbidity, mortality, and health care costs in the pediatric population. In 2010, the pediatric intensive care unit’s (PICU) VAP rate (7.86/1000 ventilator days) hovered at 4 times the National Healthcare Safety Network (NHSN) benchmark rate (1.8/1000 ventilator days). The goal of this evidence-based project was to develop and implement a VAP prevention bundle to reduce the VAP rate to less than the NHSN benchmark within 24 months and sustain the goal rate for 5 years. Description: A 5-element VAP prevention bundle was developed and implemented by an interdisciplinary committee using the design-measure-analyze-improve-control (DMAIC) method. The project began with a comprehensive literature review to determine best practice in preventing VAP in children. Next, the current state of prevention practices was determined by conducting baseline bedside audits, which demonstrated inconsistencies in prevention practices. Through weekly interdisciplinary meetings, baseline bedside audit findings were assessed, barriers were identified, and the evidence was critiqued to develop a standardized, evidence-based VAP prevention bundle. The bundle consisted of (1) age-appropriate oral care, (2) proper airway suction technique, (3) maintenance of safe endotracheal tube cuff pressures, (4) application of aspiration precautions, and (5) head-of-bed elevation. Upon development of the bundle, an extensive educational campaign was conducted in a 5-month period through 1-on-1 teaching, in-service training sessions, posters, quizzes, and bedside signs. After the bundle was implemented, the VAP committee performed ongoing bedside compliance audits to ensure consistent and correct completion of all bundle elements. Evaluation/Outcomes: The implementation of a 5-element VAP prevention bundle was associated with a sustained reduction in VAP rates. Before the intervention, the VAP rate in 2010 was 7.86 infections per 1000 ventilator days. After intervention, the VAP rate was reduced to 1.16, 0, 0.9, and 0.41 infections per 1000 ventilator days in 2012, 2013, 2014, and 2015, respectively. Success of this project was measured by achieving goal VAP rates within 24 months of intervention, sustaining goal VAP rates for 5 years, and increasing staff compliance with VAP bundle elements. This was accomplished during the unit’s new expansion from 16 to 24 beds, the opening of a pediatric cardiothoracic unit, and the hiring of more than 60 new nurses. 

EB61 Targeted Temperature Management: Educational Intervention and Device Change to Improve Patient Safety
Lauren Johnson, Sarah Perman, Stephanie Cradick, Sara Knippa; University of Colorado Hospital, Aurora, CO
Purpose: Targeted temperature management (TTM) provides neuroprotection after cardiac arrest when patients are cooled for 24 hours to a specific temperature and gradually rewarmed. If appropriate temperatures are not achieved and maintained, adverse effects can occur. This project was a multifaceted quality improvement
(QI) project aimed at improving the process of TTM through improved temperature control, nurse satisfaction with equipment, and frequency of shivering assessment. **Description:** The 2015 American Heart Association guidelines recommend that patients be cooled as quickly as possible after cardiac arrest, as there is a 20% increase in mortality for every hour of delay in initiation of TTM. A constant temperature between 32ºC and 36ºC should be maintained. Overshooting is problematic because a temperature <32ºC is associated with life-threatening dysrhythmias, resistance to defibrillation, and ineffective vasopressors. Temperature fluctuations and rewarming too quickly have been associated with electrolyte shifts and cerebral edema. Return to normothermia should happen no faster than 0.25ºC to 0.5ºC per hour. A QI project was developed to align practice with the evidence-based guidelines. A large-scale training effort was implemented before a 3-month trial with a new cooling device. More than 200 intensive care nurses used the new device in high-fidelity simulations. In groups of 4-6 people, nurses were able to simulate the initiation of TTM and manage shivering in cardiac arrest case-based scenarios. During this training, a strong emphasis was placed on the importance of rapid initiation, close temperature regulation, use of the Bedside Shivering Assessment Scale (BSAS), and shivering management. **Evaluation/Outcomes:** Patient data was obtained by chart review before \( n = 21 \), device A) and after \( n = 7 \), device B) the QI project. Nurse satisfaction was measured by a survey \( n = 64 \) before, \( n = 15 \) after. Mean time to target temperature decreased from 3.8 to 2.3 hours. Time outside target temperature decreased from 25% to 6%, with a 1ºC margin. Mean rewarming time slowed to a more preferable 13.2 hours from 6.7 hours (goal, 8-12 hours). Eighty-nine percent of patients in the after group were assessed with the BSAS, up from 62% in the before group. Nurse confidence in equipment increased from 17% to 67%. Need to adjust the temperature setting decreased from 48% to 0%. Equipment failure and skin breakdown decreased from 41% and 50%, respectively, to 0%.

**EB62 Implementing a Nurse-Driven Interprofessional Nutrition Protocol in the Medical Intensive Care Unit**
Patricia Radovich, Khongmany Wells; Loma Linda University Medical Center, Loma Linda, CA

**Purpose:** Nutrition is essential in the treatment of malnourished and critically ill hospitalized patients. Malnutrition in hospitalized patients is associated with hospital-acquired complications. The purpose of this nurse-driven evidence-based practice (EBP) project was to reduce the amount of time adult MICU patients were without nutrition or delayed nutrition because of diagnostic testing, awaiting formal swallowing evaluations, surgery, increased gastric residual volumes, or delayed interdisciplinary involvement. **Description:** Using an EBP approach, a nurse-led interprofessional team of nurses, nutritional support team members, and respiratory care providers reviewed the literature on nutrition in hospitalized patients for best practices using Johns Hopkins EBP method. The interprofessional team reviewed more than 40 studies, finding the related literature to be level 2 or 3 with good to high quality. From this review, the team identified tools and methods to develop nurse-driven protocol that included a systematic approach to the early screening and assessment of the patient’s nutritional status and reducing barriers, optimizing nutritional intake, the use of indirect calorimetry using mechanical ventilators and earlier initiation of tube feeding. Modification of the electronic health record by including contraindication to enteral feedings as part of the nursing screening tool prompted earlier involvement by dietitians. Initial staff education on the nurse-driven protocol included nursing nutritional screening on admission to the unit, the accuracy of Braden subscale nutritional assessments, use of the ventilatory metabolic module, and actions to be taken to reduce barriers to providing nutrition. **Evaluation/Outcomes:** The primary outcome measures for this project examined the duration of nothing-by-mouth (NPO) status, the impact of the protocol on the percentage of patients meeting their caloric requirements. Before implementation of the protocol, a baseline survey indicated that patients were having delays of 7-25 days in implementation of nutritional support. The implementation of nutritional support within 48 hours of admission improved from 36% to 69%. In patients receiving mechanical ventilation, the initiation of nutritional support increased from 50% to 67% within 48 hours of ventilator support being initiated.

**EB63 Beyond the Bundle: A Multidisciplinary Approach to Prevention of Catheter-Associated Bloodstream Infections**
Heather Pena; Duke University Hospital, Durham, NC
**Purpose:** Approximately 30,000 central catheter–associated bloodstream infections (CLABSIs) occur annually in intensive care units across the United States. CLABSIs are associated with increased mortality of 12% to 25% and increase patients’ length of stay, costing the hospital approximately $45,000 per case. The performance improvement (PI) team observed an increase in the hospital’s CLABSI rates. The purpose of this project was to identify practices to decrease CLABSI rates and sustain improvements.

**Description:** Although research demonstrates that strict bundle adherence can reduce the occurrence of CLABSIs, further interventions beyond the bundle may help to reduce and sustain low CLABSI rates. To implement interventions beyond the bundle, we used real-time feedback during our weekly audit to provide one-on-one education to staff. We perform a root-cause analysis on each CLABSI. A reward and recognition system was created for staff who were complying fully with the bundle. CLABSI education is taught during skills validation, and education was added to orientation for new hires. Finally, to show staff the success of going “Beyond the Bundle,” the PI board is updated with the number of CLABSI-free days. The PI team initially included staff nurses and an infection prevention nurse. Recognized that an interprofessional team was needed to improve practice. An advanced practice provider, 2 intensivists, nursing leadership, and a surgeon were added to the team. Improvements implemented by our interprofessional team included education about the need to order cultures for patients with known or suspected infections who are transferred to our unit and better communication to all members of the team.

**Evaluation/Outcomes:** After launching our “Beyond the Bundle” program, the team went CLABSI free for 280 days. Because of a change in the National Health and Safety Network criteria for 2016, CLABSI rates at our hospital have once again increased. However, when compared with the guidelines at the start of the project, the rate of 0.7/1000 central catheter days for the year is the same. The interprofessional team is collaborating on how to adapt to the changing criteria. Audit compliance has been greater than 90% for the year.

**EB64 Evidence-Based Education Plan: Intervention to Reduce Central Catheter–Associated Bloodstream Infections**

Joellan Mullen, Angela Morgan, Sharon Demel, Karla Abela; Texas Children’s Hospital, Houston, TX

**Purpose:** Proper management of central venous catheters (CVCs) is a core nursing responsibility essential to the health and safety of pediatric patients. In October 2015, the institution saw a great opportunity in reducing harm caused by central catheter–associated bloodstream infections (CLABSIs). CLABSI is associated with increased length of stay, morbidity, and mortality in the pediatric and neonatal populations. Education with a curriculum applicable to a diverse workforce is key in prevention of CLABSIs. **Description:** An interprofessional team collaborated to review aggregate root-cause analysis data and develop strategies to prevent further increase in the CLABSI rate. Recognizing the urgency of preventing further infections, an aggressive timeline of several months was set. A literature review revealed several best approaches in reducing CLABSIs. Most included a care-bundling concept, standardization of practice, and education. The team of clinical experts from a variety of subspecialties across all campuses reviewed the policy line by line and came to a consensus using current evidence. This revealed hidden gaps in the system and a need for continued education and skills validation. Standardized skill validation checklists were developed on the basis of the new policy and procedures. The team collaborated with multimedia experts to develop procedural videos. The challenge of educating >2500 nurses was mitigated by having the core group become the trainers who then educated central catheter champions throughout the system. Armed with new knowledge and scripting, the trainers and the champions held video-mediated sessions with hands-on training. Education began in January 2015 and was completed at the end of February.

**Evaluation/Outcomes:** The interprofessional team recognized the need for a professional education program to assist in decreasing the CLABSI rate to improve patient outcomes. Once the staff education and policy changes were completed, the CLABSI rate decreased from 2.9 to 1.3/1000 catheter days per the infection control department. The reduction was >55%. The rate has continued to be less than 1.7/1000 catheter days. New staff are trained on orientation, and the videos and policy are housed online within the policy software for easy access at the bedside.
EB65 Prevention of Accidental Decannulation Is as Easy as 1 . . . 2 . . . 3 . . .
Joellan Mullen, Royanne Lichliter; Texas Children’s Hospital, Houston, TX

Purpose: Pediatric patients are at high risk for tracheostomy decannulation because of normal growth and development. The progressive care unit in a large teaching facility did not have standard guidelines to check the safety and securement of tracheostomy tubes. Ancillary partners were unaware that the patients may be at high risk of decannulation. A practice change was needed. Providing staff with an evidence-based tracheostomy protocol and other resources can help to decrease accidental decannulation. Description: Previously, nurses assessed tracheostomy ties once per shift to ensure that they were secure and that no more than 1 to 2 fingers fit between the tie and the neck of the patient. It was customary for them to perform this duty at the beginning of a shift or when tracheostomy care was performed that was not evidence based and highly variable. Baseline decannulation data were collected and analyzed for commonalities. A literature review was performed and evidence-based practice guidelines were developed to decrease the rate of accidental decannulations and decrease harm to the patient: only 1 finger depth between the ties and the neck of the patient, 2 caregivers should perform a tie change and routine care, standardization of checking tracheostomy ties 3 times per shift, and patients at high risk should be identified using signage. All of these interventions are known to help mitigate the risk of accidental decannulation. Key stakeholders were identified to ensure an easy transition of the practice change. A slogan of “trach securement is as easy as 1, 2, 3” was developed to promote these practice changes. Staff were educated on the practice change, and an implementation date was established as was a plan for sustainability. Evaluation/Outcomes: Daily monitoring of the decannulation rate was obtained by the institution’s event-reporting system and the unit’s shift summary reports. A total of 8 decannulations occurred in the month preceding the practice change. In the month following, only 1 decannulation occurred. Evaluation of this practice change is continual. During this process we have learned the following key elements: (1) establish guidelines that are based on current evidence, (2) involve key stakeholders, (3) use a change-management strategy, and (4) develop an evaluation and sustainability plan.

EB66 Interdisciplinary Collaboration to Standardize Care of Alcohol Withdrawal Patients on a Step-Down Unit
Kristi Cain, Jennifer Morrow; Aultman Hospital, Canton, OH

Purpose: To standardize the alcohol withdrawal protocol among all physicians and increase nurses’ knowledge of caring for patients in active alcohol withdrawal. Aultman Hospital has seen an increase in patients being admitted with a diagnosis of alcohol withdrawal on the step-down unit but there was not a consistent protocol/process for treating these patients outside of the intensive care unit. Description: Nurses on the step-down unit completed a presurvey assessing their knowledge and confidence in caring for active withdrawal patients. A task force was developed that included nurses, an intensivist, and a hospitalist physician champion to review evidence-based research and develop a protocol that would empower the step-down staff to care for patients experiencing withdrawal. The protocol also provides for a seamless transition between the ICU and the step-down unit. A protocol based on the Clinical Institute Withdrawal Assessment for Alcohol was developed for step-down units to care for patients undergoing alcohol withdrawal. The protocol also included a pathway, based on score, to evaluate for transfer to a higher level of care. A trial of the protocol was done on a medical step-down unit. The trial began on the step-down unit in September 2015 and completed in April 2016. Only Aultman inpatient medicine and 1 other hospitalist group were permitted to use the protocol during the trial. All staff in the unit were educated on alcohol withdrawal and the protocol. The physician champion was identified and was an active participant in the trial with nursing staff and physicians. A resource book was created for staff assistance, as well as reeducation throughout and after the trial. Evaluation/Outcomes: During the trial, staff in the step-down unit cared for 27 patients on the protocol; of the 27 patients, 6 were transferred to a higher level of care for symptom management. A posttrial survey was conducted to determine if nurses’ knowledge and confidence increased after the trial. Data on nurses’ knowledge and confidence in caring for patients in active alcohol withdrawal were compared from before to after the trial. Nurses’ recognition of early symptoms of alcohol withdrawal increased by 51%. The
perceived confidence level of nurses on the unit in caring for patients in alcohol withdrawal increased by 65%. After completion of the trial, the protocol went live on 4 other step-down units. The staff in the original step-down unit assisted in education and assessment in the other units.

**EB67 Light as a Feather . . . I’m Not Stiff as a Board**  
Crystal Toll, University of Virginia, Charlottesville, VA  

**Purpose:** To evaluate the effectiveness of a turn and reposition assist system to reduce staff musculoskeletal injury related to patient handling by comparing injury data, strain index, muscle fatigue assessment, and staff perception of risk for injury and physical demand in a medical intensive care unit at a large academic medical center. **Description:** The Occupational Safety and Health Administration recognizes that hospitals have high rates of occupational injuries. Rates of workplace injury are the highest in health care despite identified controls, education, and policies. On average, US hospitals recorded 6.4 work-related injuries for every 100 full-time employees, compared with 3.3 per 100 full-time employees for all US industries combined. Each patient-handling event exposes caregivers to a potential injury. A turn and reposition assist system was provided to nurses. A convenience sample of 37 staff members who used the turn and reposition assist system completed a survey of perceived risk for injury, physical demand, and user satisfaction with the system. Historical data was used to compare the incidence of musculoskeletal injury related to handling of patients before and after implementation. Observation was used to assess workload in terms of the number of staff required per patient repositioning. Roger’s Muscle Fatigue Analysis (MFA) was used to assess the risk for fatigue accumulation. The Moore-Garg Strain Index (JSI) was used to assess risk of musculoskeletal injury. **Evaluation/Outcomes:** Repositioning patients is associated with injury (JSI >7). Using a turn and reposition assist device reduced the risk for injury by 44% (MFA <3), self-perceived risk for injury (10%-29% maximum effort exerted), and actual injuries (0). The number of staff required for each repositioning event decreased by 1. Sustained reposition was achieved (83% >2 hours). Every patient was repositioned at a mean of 2.65 hours.

**EB68 An Interprofessional Quality Improvement Project to Reduce Unnecessary Arrhythmia Monitoring**  
Katie Scheel, Jose Bernard, Anna Herrmann, Kristin Sandau; United Hospital, a part of Allina Health, St Paul, MN  

**Purpose:** Unnecessary arrhythmia monitoring is associated with alarm fatigue, inconvenience to patients, unnecessary diagnostic tests, and lack of available telemetry beds. In our 364-bed urban hospital, we instituted a quality improvement project addressing AACN’s values of good stewardship and interprofessional collaboration. The purpose of this project was to reduce the number of patients receiving unnecessary arrhythmia monitoring. **Description:** A baseline audit of charts from the first quarter of 2015 (n = 180 patient charts) was performed by 2 cardiovascular nurse educators who reviewed patients’ admission diagnoses, procedure results, and daily laboratory values to determine whether patients on 3 progressive care units had (1) an indication for arrhythmia monitoring upon admission to the unit, and (2) appropriate duration of monitoring. During the subsequent 9-month period, a multidisciplinary team developed education and resources based on the American Heart Association’s 2004 practice standards for electrocardiographic monitoring in hospital settings. In-person education by the nurse educators and hospitalist director was provided to the hospitalist team and family practice residents and included case studies based on common findings from the chart audits. All cardiologists completed a 15-minute interactive, online mandatory learning module. A prompt for evaluating whether electrocardiographic monitoring was needed was added to the nurses’ electronic sign-out reports and to the charge nurses’ checklists. A resource brochure summarizing telemetry indications by patient population was distributed to providers and nurses. **Evaluation/Outcomes:** A postintervention audit of charts from first quarter 2016 (n = 169 patient charts) was performed by the same 2 cardiovascular nurse educators. $\chi^2$ tests were conducted to compare audit results from before to after the intervention. At baseline, 139/180 (77%) patients had appropriate indications for arrhythmia monitoring, increasing to 161/169 (95%) patients after the intervention; $\chi^2 = 23.5, P < .001$. At baseline, 110/139 (79%) patients had appropriate duration of monitoring, increasing to 147/161 (91%) patients after the intervention; $\chi^2 = 8.99, P = .003$. No subsequent increase in hospital cardiac arrests, nonmonitored hospital cardiac arrests, or mortality was observed.
EB69 Improving Patient and Family Experiences using Structured Family Meetings in a Respiratory Care Unit

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Purpose: In today's health care, multidisciplinary communication has become a significant indicator of patient satisfaction. On the respiratory care unit (RCU), a 9-bed inpatient hospital unit, patients typically arrive after a lengthy stay in the intensive care unit (ICU) and may require prolonged mechanical ventilation and an extended length of stay. A multidisciplinary team identified a goal to decrease patients' length of stay by improving communication among the medical team, patients, and their advocates. Description: The Center to Advance Palliative Care initiative, Improving Palliative Care in the ICU (IPAL-ICU) addresses multidisciplinary communication in a care and communication bundle. This framework was modified using a multidisciplinary team to fit the needs of post-ICU care. In this process, a family meeting was scheduled to take place within 5-7 days of the patient's transfer or admission to the RCU, with subsequent meetings occurring every 10-14 days. Patients and their care partners were introduced to the family meeting process by nursing staff upon admission and provided a written description of the purpose of the meetings. After each meeting was scheduled, the unit-based clinical nurse specialist sent team members (social work, primary service, consulting services, etc) an e-mail invitation to participate in the meeting. The meeting time was recorded at the nursing station and the patient's room for reference. The implementation team developed a standardized discussion outline and documentation template for providers leading the family meetings for consistency. Topics of discussion included current medical status, nursing and consulting services' assessments, anticipated dismissal care needs, and goals of care. Evaluation/Outcomes: During the trial period, the median length of stay for patients on the RCU decreased from 9.5 days to 7 days. Staff satisfaction surveys were favorable in all project goals, including frequency of family meetings, efficiency of family meetings, effective discussions of goals of care, and frequency of palliative care consultation. Family meetings have become a standard of practice in the RCU. Opportunities to improve the frequency of palliative care consultation remain. The post-ICU structured family meeting framework is a practical and replicable way to decrease patients' length of stay and improve communication among members of the health care team, patients, and their care partners.

EB70 Culture Change in the Intensive Care Unit With Bedside Shift Report

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Purpose: Bedside report (BSR) during shift change improves patients' safety and satisfaction and nurses' communication and accountability. BSR also improves nursing satisfaction by providing an opportunity to ask questions, improving accuracy and teamwork during change of shift. Current practice in intensive care units (ICUs) is shift report at the desk with the potential for vital information not being communicated between shifts, which affects patient safety. Patients and their families are not included in transfer of care. Description: A presurvey was conducted of ICU staff on perceptions of existing shift report practice. The presurvey revealed mixed responses on the benefits of desk report. Change project included a checklist for items to be reported outside the room and items to be covered at the bedside, which included limited physical assessment and essential safety checks. The presence of patients' families is encouraged. Staff education was assigned through the hospital education portal and included a video demonstrating BSR and a checklist. Staff feedback was obtained throughout the implementation process, and the charge nurses assisted with staff compliance. Staff concerns, questions, and recommendations were addressed through frequent communication updates. Efforts to minimize interruptions from phone calls and visitors during shift change were implemented by using ancillary staff. The manager provided regular updates to the staff and concerns were addressed. A flyer was developed for visitors to increase awareness, cooperation, and accountability. A survey was conducted 6 months after implementation to measure staff perceptions, self-reported compliance, and barriers. Results of the presurvey and the postsurvey were analyzed and displayed at the end of the project. Evaluation/Outcomes: Bedside report was a major culture change in the ICU. With the new process, both off-going and oncoming nurses check the patients together and communicate with patients' families early in the shift. The leadership team has
experienced less finger pointing among staff, which is related to increased accountability and collaboration between shifts. Increased compliance with practices in care bundles for central catheters and urinary catheters were identified and hospital-associated events such as central catheter infections, falls, ventilator-associated events, and medication errors have decreased. Several other units in the hospital are adopting BSR in order to model the best practices implemented in the ICU.

**EB71 Delirium Screening in an Adult Trauma Intensive Care Unit: Overcoming the Barriers**

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**Purpose:** Delirium affects up to 88% of adult critical care patients. It is an independent predictor of mortality in intensive care unit (ICU) patients and is associated with a 40% increase in health care costs. Despite education and implementation of the delirium screening tool in the trauma ICU, delirium screening audits revealed poor compliance. The purpose of this project was to overcome the perceived barriers: time constraints, complexity of the screening tool, and difficulty screening intubated patients. **Description:** Literature review indicated that keys to effective implementation include addressing barriers to delirium screening through multifaceted training such as lectures, case-based scenarios, 1-on-1 teaching, and real-time feedback of delirium screening, and interdisciplinary communication through discussion of a patient’s delirium status during bedside rounds. This project was conducted in 14-bed trauma ICU using the Confusion Assessment Method for the ICU (CAM-ICU) tool. First, the project champion group was formed including nurse, physician, and pharmacy champions. Nurses’ knowledge of delirium and screening using CAM-ICU was assessed by using a 5-question knowledge assessment test with 1 open-ended question asking for general feedback. Multifaceted education intervention was developed to address the delirium screening barriers based on the feedback and test results. The first part of the educational intervention included a lecture from a visiting expert physician and a nursing PowerPoint lecture and video case presentation including CAM-ICU assessment of intubated and nonverbal patients. The second part of the education was conducted 1-on-1 by the project champions at the bedside performing CAM-ICU assessments using poster board and laminated reference tools. **Evaluation/Outcomes:** The multifaceted educational intervention increased trauma ICU nurses’ baseline knowledge of delirium and the CAM-ICU tool. A delirium knowledge assessment test was administered after the intervention. The overall mean test scores increased by 26% (pretest 58%; posttest 84%). Chart audits indicated increase in CAM-ICU completion compliance from 5% to 32%. Implementation of effective delirium screening requires attention to implementation methods and change in the current ICU culture that views delirium as a dangerous syndrome that portends poor clinical outcomes and is potentially modifiable. The trauma ICU will continue the journey toward incorporating delirium screening into the daily ICU routine.

**EB72 Implementing a Nurse-Driven Protocol for Continuous Renal Replacement Therapy Improves Patients’ Outcomes and Saves Resources**

Mary Ellen DiMatteo, Cynthia Zaletel; Advocate Good Samaritan Hospital, Downers Grove, IL

**Purpose:** Renal replacement therapy is prescribed for critically ill patients to correct metabolic and fluid disorders. Continuous renal replacement therapy (CRRT) is an artificial extracorporeal blood purification process that is intended to serve the function of the native kidney. This therapy is performed by nurses in critical care units (CCU) and requires an understanding of equipment and underlying therapeutic principles. Our first objective was to develop a nurse-driven protocol for proper initiation, management, and discontinuation of CRRT in the CCU. Another objective was to improve patients’ outcomes and enhance safety and nursing clinical practice. **Description:** A program was developed to educate CCU nurses on principles of CRRT, initial setup, management, troubleshooting, and discontinuation of CRRT. Through collaboration with nephrologists, the policy and order set was revised to include a nurse-driven process. Nurse-driven CRRT programs improve safety and optimize delivery of renal replacement therapy, which minimizes the potential for harm. With a nurse-driven protocol, CRRT is initiated in a timely manner and continued without interruption. The CCU nurses are comfortable managing equipment, troubleshooting, and collaborating with nephrologists for accurate therapy dosing. **Evaluation/Outcomes:** Implementing a nurse-driven protocol for CRRT can be challenging for nurses with little experience in caring...
EB73 Making It Matter: Implementation of a Mentoring Program to Improve Nurse Retention

Tiffany Mullen, Daniel Marx; Children’s Mercy Hospital and Clinics, Kansas City, MO

Purpose: The Robert Wood Johnson Foundation reports that 18.1% of nurses leave their first employer within a year of starting, and 91.8% of these nurses will take another job with a different employer. Because of a fast-paced hiring cycle, a new orientation process, and the effects of turnover, a mentoring program was implemented on the pediatric intensive care unit (PICU). The goal was to support new nurses and allow experienced nurses to take pride in growing a new nurse. Description: Mentoring programs are one of the measures taken by organizations to retain nurses and foster a welcoming atmosphere for new graduates. After a literature review and verbal feedback on the needs of staff, a program was created to fit the needs of the unit. Formal mentoring programs improve new graduate retention and improve job satisfaction. Mentoring helps health care organizations retain nurses, which can address the nursing shortage. With support of nursing management, the program kicked off in July 2015. Implementation was highly reliant on staff buy-in to the necessity and feasibility of such a program. The program and pairing process starts with a kick-off event for voluntary participants. Participants are paired with a combination of background information and top preferences. Retention and turnover rates are evaluated by the data collection team. The mentoring program coordinators use the plan-do-study-act (PDSA) format to evaluate and improve the program with each new cycle of participants. Evaluation/Outcomes: Outcomes were measured by nurse turnover rates. Cycle 1 completed in August 2016. Hiring cycles occur 4 times a year with a kick-off event for each cycle of new hires. Each new nurse is paired with an experienced (>2 years) nurse. Turnover of new hires was 22% (22/98) the year before implementation, and 13% (5/38) during the 18 months after implementation. Turnover of the nurses who participated in the mentoring program was 6.9% (2/29). Data collection is ongoing, with 3 current cycles and 2 additional cycles by the end of 2016. Sustainability is possible with leadership support, staff participation, and 4 program coordinators.

EB74 Changing Culture at the Bedside: Five-Year Look at Improving Practice and Outcomes in Critical Care

Ellen Duell, Ann Banda, Cathy Roy, Denise Grieco; Saint Francis Hospital and Medical Center, Hartford, CT

Purpose: Despite the implementation of quality improvement initiatives and reduction in pressure injury (PI) rates, it was evident that pressure injury development in patients in the medical-surgical intensive care unit was an ongoing challenge. Using data collected on unit-acquired pressure injuries, a comprehensive quality improvement program was developed with the goal of creating sustainable changes in clinical practice, enhanced staff engagement in prevention of PIs, and initiatives to target most common contributing factors. Description: Program initiatives focused on 3 major areas; prevention, staff engagement, and targeted practice changes. Prevention-focused interventions included a “Taking the Pressure Off” campaign. Current practice was to turn left, back, right, back, resulting in patients’ spending 50% of the time supine. Redesigned repositioning practices were implemented to limit time positioned supine. Pressure injury prevention rounds were implemented. Three times weekly, skin champions and bedside nurses round on all high-risk patients and identify strategies to address PI prevention. In addition, high-risk patients are discussed during daily safety huddles to maintain focus on early prevention. Strategies to increase staff engagement include verification of all PIs by 2 nurses and end-of-shift bedside handoff with dual assessment of skin and wounds. Role expectations for skin champions, bedside nurses, and wound service consultants were defined to improve collaboration and continuity of care. Analysis of quality improvement data supported targeted practice changes. Device-related pressure ulcers represented 50% of our unit-acquired PIs. To address this issue, practice changes addressing endotracheal tubes,
tracheostomies, nasogastric tubes, oxygen tubing, and feeding tubes were implemented. **Evaluation/Outcomes:** With ongoing implementation of strategies to address prevention, improve staff engagement, and targeted practice changes, pressure injuries acquired in the unit showed a steady decline in a 5-year period. Device-related pressure injuries were reduced from 63 in 2012 to 2 in 2016, a 97% reduction. All unit-acquired pressure injuries for the same 5-year period were reduced by 95% (128 in 2012 to 6 in 2016). In addition, bedside nurses’ response to data collection and analysis of unit-acquired pressure injuries has empowered them to find new approaches to eliminating and preventing these injuries and changing the culture of patient care.

**EB75 Reduction of Nasal Endotracheal Tube Pressure Injuries in Pediatric Patients**

Brooke English, Tiffany Mullen, Kathlyn Baharaeen; Children’s Mercy Hospital, Kansas City, MO

**Purpose:** Nasal endotracheal tubes (ETTs) are used for select patients in our pediatric intensive care unit (PICU). Although we use this device infrequently, a high incidence of pressure injuries (PI), including serious harm, was noted with this device. The specific aim was to reduce PIs related to nasal ETTs by 50% within 1 year.

**Description:** The setting was a single-center tertiary care PICU. The incidence of nasal ETT PIs was 23% during the previous 2 years. A multidisciplinary work group was formed that included a physician and several nurses and respiratory therapists (RTs). The initial plan-do-study-act (PDSA) cycle focused on standardizing and monitoring current practice around ETT taping and pressure-reduction practices related to these devices. The standardization included using the “H-method” of taping and the implementation of a nasal ETT bundle. After 3 months, no improvement was noted, even with very high bundle compliance. Feedback during the initial PDSA cycle noted that the current taping method (H-method) caused pressure directly to the nare and made it difficult to assess the skin. A different method with which the nurses and RTs were familiar (VV method) was chosen as it would hold the ETT more in the center of the nare and allow better skin assessment. All nurses and RTs were educated and did hands-on practice with this method before using it on patients. The primary outcome measure was percentage of patients with a nasal ETT acquiring a stage II or greater PI. Process measures included reliability to the bundle. Balancing measures included unplanned extubation. **Evaluation/Outcomes:** The first quarter of 2016 showed a 23% incidence of PIs related to ETTs. Following implementation of the new taping method, none of the 18 patients with nasal ETTs had a PI (June-July 2016). The VV method was used in 100% of the patients. No patients with nasal ETTs had an unplanned extubation. Reduction of PIs related to specific devices is possible by using multidisciplinary teamwork and quality improvement methods. The standardization of securing nasal ETTs with the VV method combined with proper education resulted in a drastic reduction in PIs.

**EB76 Making It Matter: Adding Oxygen Saturation and Oxygen Requirement Monitoring to Modified Early Warning Score**

Theresa Heineman, John Davis, Shannon Chalk; University of Texas Southwestern Medical Center, Dallas, TX

**Purpose:** The rapid response team (RRT) proactively rounds on inpatients based on Modified Early Warning Score (MEWS) of 3 or higher. Hospital data from 2014 showed that 40% of RRT activations had MEWS scores of 0, 1, or 2. Two of the top 5 reasons for RRT activations were respiratory related. The MEWS was inadequately recognizing respiratory instability. The purpose is to modify the existing MEWS tool by adding oxygen saturation shown by pulse oximetry \( (\text{SpO}_2) \) and oxygen requirement to recognize early deterioration and reduce codes outside the intensive care unit (ICU). **Description:** The 2014 MEWS tool scores heart rate, blood pressure, respiratory rate, level of consciousness, and body temperature. MEWS scores were calculated using 0, 1, 2, or 3 points for each category depending on the patient’s vital signs in the electronic medical record (EMR). A MEWS score of 3 or greater demands further assessment. The more elevated the MEWS score, the higher the priority for RRT members to round on the patient. A literature review showed that other hospitals adapted the MEWS tool to meet the needs of their patient population. In 2015, a multidisciplinary team was assembled to reassess the scoring values for MEWS. Two more parameters addressing pulse oximetry \( (\text{SpO}_2) \) and oxygen requirements were added in addition to the previous variables. The new scoring parameters for \( \text{SpO}_2 \) and oxygen requirements...
were calculated using 0, 1, 2, or 3 points for varying SpO2 levels and 1 point for supplemental oxygen more than or equal to 40%. During our 7.5-month trial, 1507 patients were seen by RRT members, some multiple times. Patients were then stratified into groups comparing the MEWS scores with and without the new parameters. **Evaluation/Outcomes:** MEWS rounding provided early recognition of deterioration, resulting in 121 interventions and 13 transfers to a higher level of care. Of the 13 patients transferred to a higher level of care, 4 were intubated within 24 hours, 3 started treatment with vaspressors, 3 were monitored for high oxygen requirements, and 3 were given comfort care. Although the codes outside the ICU did not decrease during the pilot time period, 24% of the patients seen would not have been rounded on using the old MEWS parameters. In addition, 90 patients had an increase in MEWS score with the new parameters resulting in higher priority of being seen by the RRT.

**EB77 It All Matters: Nurse-Driven Communication Tools to Promote a Culture of Safety**

Jordan Lewis, Marcia Perkins, Christopher Rizzo, Shireen Bagheri; The James Cancer Hospital, Columbus, OH

**Purpose:** Following the establishment of a cancer-specific surgical intensive care unit (SICU), an opportunity to implement best practices and instill a culture of safety arose. The unit looked to implement evidence-based initiatives that were supported by our professional practice model to improve patient safety and communication. Structured tools were provided to nursing staff to reduce potential for human error and develop a sustainable culture of safety. **Description:** Current publications indicate that formal staff huddles improve patient safety and structured communication handoff tools avoid missed information and reduce patient harm. At shift change, oncoming staff huddles with the previous shift charge nurse to review the patients on the unit. The unit huddle form relays important patient safety information, such as code status, fall risk, acuity, critical intravenous infusions, etc. During multidisciplinary rounds each day, the bedside nurse begins rounds by providing the Nurse Early Report Facilitation (NERF), which includes the patient’s name, overnight events, and the patient’s pain, agitation, and delirium assessment, enabling the nurse to drive discussion toward the patient’s needs and safety. At the end of rounds, the plan for the day is recapped and written on the communication white board in the patient’s room. When patients arrive in the unit from the operating room (OR), the patient is connected and if stable, everyone is “hands off for handoff.” The surgical team and anesthesia use a formal OR to ICU checklist to provide report, then the ICU team can ask questions. Last, the nurse-to-nurse handoff report is a structured report sheet designed specifically for providing a detailed report on critically ill oncology patients. **Evaluation/Outcomes:** To date, the unit has reported 0 falls and 0 sentinel events. The unit huddles take place 100% of the time and 96% of staff members believe that the huddle has better informed them about patients on the unit. The NERF has significantly increased nurses’ participation in daily rounds and patients’ families verbalize a clear understanding of the patient’s plan of care. The OR to ICU handoff has increased multidisciplinary communication by facilitating a distraction-free, single report given to all team members at once. This has also reduced order entry time, resulting in quicker, safer patient care. The standardized nurse-to-nurse handoff report sheet has almost eliminated missed information while cutting report time in half.

**EB78 Reduction in Pediatric Noninvasive Mask-Related Pressure Injuries After Equipment Standardization**

Kathlyn Baharaeen, Rebecca Duggins, Kelsey Friesen, Kimberly Palmer; Children’s Mercy Hospital, Kansas City, MO

**Purpose:** In our pediatric intensive care unit (PICU), noninvasive ventilation (NIV) masks were the most frequent cause of pressure injury (PI). Identified risk factors for PIs in this population included limited selection of masks, length of time on NIV, and variable pressure applied to the face dependent upon ventilator type. The aim of this quality improvement (QI) project was to decrease the incidence of PIs related to NIV masks by converting to single-limb circuit NIV. **Description:** NIV is a critical resource for patients in respiratory distress, but carries a high risk of pressure injury. Multiple plan-do-study-act (PDSA) cycles were performed to reduce the risk, primarily focusing on padding of the mask. These interventions did not result in significant improvement. A multidisciplinary team
including a physician, nurses, and respiratory therapists was formed to plan the next PDSA. Dual- and single-limb circuit ventilators were both available for NIV in the PICU. Dual-limb circuit ventilators were primarily used for NIV due to convenience. These ventilators had limited leak compensation resulting in discontinuation of positive-pressure delivery when a leak developed around the mask. Single-limb circuit ventilators had improved leak compensation resulting in decreased pressure necessary on the face for adequate positive-pressure delivery. The team decided to transition to using only single-limb circuit ventilators for all NIV patients. Padding of the masks continued. Evaluation/Outcomes: The preintervention PI rate was 2.1, whereas the postintervention aggregate rate was 0.35. After a 3-month run in period, 100% of eligible patients were on single-limb circuit ventilators for NIV. PI rate decreased to zero when compliance with the intervention increased to 100%. Also, NIV days continued to increase throughout the project period. Implementation of single-limb circuit ventilator use in patients requiring NIV in the PICU resulted in a significant decrease in NIV-related PIs despite increased use of NIV.

EB79 Going Beyond the Bundle: Strategies to Reduce Catheter-Associated Urinary Tract Infections
Heather Pena, Janice Febre; Duke University Hospital, Durham, NC

Purpose: Catheter-associated urinary tract infections (CAUTIs) are linked to increased morbidity and mortality. It is estimated that more than 13,000 deaths per year are linked with CAUTIs. CAUTIs result in increased length of stay and excess hospital costs. Our performance improvement team noticed an increase in our CAUTI rate from July 2014 to June 2015. The purpose of this project was to use evidence-based practice to decrease our CAUTI rate. Description: An effective strategy to reduce CAUTI is to use a bundle for insertion and maintenance. Research demonstrates that going beyond the bundle may help to reduce CAUTI rates. These strategies include increasing surveillance, timely feedback to staff, sentinel-event type investigation of a CAUTI, and positive reinforcement strategies. Our performance improvement committee began by increasing surveillance. We began to do audits twice a month rather than once a month and then transitioned to weekly audits. These audits verified that the continuation criteria were appropriate, urinary catheter care was documented, urinary bag is not touching the floor, and so on. During these audits, we provided real-time feedback to our colleagues on best practices and the rationale behind them. In addition, CAUTI prevention is taught in our yearly skills validation. We review all of the best practices in the insertion and maintenance bundles and allow the staff to ask any questions. We perform a root-cause analysis on any CAUTI that occurs and seek feedback from all staff involved in the patient’s care. To show staff the success of Going Beyond the Bundle, the performance improvement committee board is updated with the number of CAUTI-free days. Evaluation/Outcomes: Following the implementation of our CAUTI prevention program, our unit has gone 200 days CAUTI free and we are still going! Our total audit compliance for all aspects of the bundle in this fiscal year was 86.85% compared with 73.4% the previous fiscal year. Our compliance rates related to our documentation of urinary catheter care and continuation criteria have been maintained greater than 90% consistently for several months. Our absence of dependent loops increased from 39% in the previous fiscal year to 72.75% this fiscal year. Finally, according to the National Health and Safety Network, our 32-bed unit has a high utilization rate and is in the top 25% of units with a low CAUTI rate.

EB80 The Mouth Matters: Standardized Oral Hygiene to Prevent Hospital-Acquired Pneumonia
Kelli Eichenlaub; Geisinger Medical Center, Danville, PA

Purpose: Ventilator-associated pneumonia (VAP) is a complication that intensive care units (ICUs) monitor for and continuously strive to eradicate. Nonventilator hospital-acquired pneumonia (NV-HAP) is another complication that many units do not track. Oral care is a common denominator in preventing all types of pneumonia. This performance improvement (PI) project hypothesized that, regardless of airway type, all patients admitted to the ICU should have the same standardized oral hygiene performed. Description: Before this practice change, oral care in ventilator patients was not the same as the oral care given to patients who were not receiving mechanical ventilation. A literature search was performed to locate best-practice guidelines for preventing both VAP and NV-HAP. Key components of proper oral hygiene were identified. Clustering of care activities and location of supplies were 2 additional best-practice
components that increase nurses’ compliance with protocols. This project was then formulated to implement a new oral hygiene protocol as well as introduce new pre-packaged oral care kits. Three different oral care kits were tried by the ICU nurses. Evaluations were collated, and 1 kit was chosen as superior. The oral hygiene protocol was then written and approved by the collaborative effort of the ICU nurse leaders, unit practice council, and critical care provider group. Executive leadership approval was garnered to purchase the kits, as this was a substantial cost increase. Education was formulated and disseminated on the new, “one size fits all” oral hygiene protocol for all patients admitted to this ICU. The oral care kits were added to unit stock, and the new oral care policy was instituted. Evaluation/Outcomes: The mean VAP/NV-HAP rates (pneumonia per 1000 ventilator/nonventilator days) 6 months before the oral hygiene protocol change was 1.58/0.90. The mean rates for 6 months after the kits were implemented were 2.16/0.72. The time from policy change until oral care kit availability was 6 months—no data from this time period were included. Prevention of pneumonia has many more variables and components than just oral care. Despite this, scanning the kits into the electronic health record, as a way of promoting compliance with the product, is one way this ICU is moving forward to help keep pneumonia rates low by improving compliance with oral hygiene policy.

EB81 Pressure Injury Reduction in Pediatric Patients Using Regular Surveillance and Device Padding  
Kathlyn Baharaeen, Kimberly Palmer, Kelsey Friesen, Gianna Swift; Children’s Mercy Hospital, Kansas City, MO

Purpose: Medical devices are the leading cause of pressure injuries (PI) in pediatric intensive care units (PICUs), although the specific devices at fault vary widely. The current prevention bundle does not address most device-related PIs. This PICU project reduced PIs through regular surveillance and device padding. Description: The PICU’s PI committee, comprising a physician, PICU staff nurses, and care assistants, implemented twice-monthly PI surveillance that included “head to toe” skin assessment of every PICU patient, device padding, and PI prevention education. Surveillance was completed by 2 to 4 team members during their regular shifts. Multiple plan-do-study-act (PDSA) cycles were needed to improve consistency of the process and transparency of the data. Ultimately, increased staffing on surveillance days improved reliability to complete the labor-intensive process and was supported by unit managers. Following each surveillance event, the results were provided to staff via e-mail with educational pointers specifically focused on device padding to improve transparency. Evaluation/Outcomes: The PICU stage II+ PI rate decreased from 6.4 in 2013 to 4.0 per 1000 patient days in 2015. The rate of serious-harm PIs (stage III, stage IV, and unstageable) decreased from 2.9 in 2013 to 1.2 per 1000 patient days in 2015. A deliberate, systematic approach to PI surveillance with a focus on padding devices as well as the concurrent peer-to-peer education has significantly decreased the incidence of PIs in the PICU.

EB82 Mornin’ Sunshine: A Strategy to Decrease Delirium and Promote Early Mobilization in an Oncology Intensive Care Unit  
Amber Tarvin, Mary Warren, Maria Dent; University of Texas M D Anderson Medical Center, Houston, TX

Purpose: Delirium has been established as an independent predictor of mortality in critically ill patients. Baseline data collected in our medical oncology intensive care unit (ICU) using the Intensive Care Delirium Screening Checklist (ICDSC) showed that up to 60% of patients requiring mechanical ventilation were positive for delirium. The purpose of our project was to decrease the rate of patients who were screened as positive for delirium. Description: Studies have demonstrated a correlation between poor sleep hygiene in the ICU and delirium. ICU patients have poor sleep/wake cycles, with half of sleep occurring during daytime hours. Promoting wakefulness during daytime hours, decreasing sedation, and increasing early mobilization decreases the risk of delirium. The ICU morning bundle was created by a multidisciplinary team for use in a 34-bed medical oncology ICU. The bundle was implemented on all patients including those undergoing mechanical ventilation, but data collection was limited to 10 beds. The bundle is made up of nurse-led components: turn lights on, raise window shade/open room curtain, and raise head of bed (HOB) to 45°. The components were completed during morning shift change, followed by a sedation holiday at 8 AM, and bed in chair position/out of bed (OOB) by 10 AM. The holiday was completed using established unit criteria. Before implementation, education was completed with e-mail notification to all staff, small group in-service training sessions, and
discussion during staff meetings. A door tag was developed to assist with identification of patients qualifying for the bundle. Compliance with each component of the bundle and the rate of positive ICDSC scores for delirium were collected. Evaluation/Outcomes: Compliance was monitored for 4 weeks and demonstrated mixed results: lights on (73%); shades up (87%); HOB at 45° (70%); chair position/OOB to chair (20%); holidays (31%). Although compliance was low with sedation holidays and chair positioning, compliance with keeping the lights on, raising shades up, and raising the HOB each morning was favorable. The rate of patients who scored positive for delirium during implementation and compliance monitoring was 36%. The rates of patients who scored positive for delirium for the 2 months following implementation were 32% and 40%. Based on the results, the morning bundle was implemented ICU-wide with further emphasis on all components.

EB83 Elimination of Hospital-Acquired Pressure Ulcers

Jessica Finch; Overlake Hospital Medical Center, Bellevue, WA

Purpose: Identify preexisting pressure ulcers on admission. Reduce the incidence of hospital-acquired pressure ulcers (HAPUs) in the critical care unit. Description: The National Pressure Ulcer Advisory Panel (NPUAP) developed guidelines to assist facilities in reducing the incidence of HAPU. The NPUAP guidelines recommend completing a comprehensive skin assessment as soon as possible and within 8 hours of admission. Three patients in critical care had HAPUs develop in 2014. Dual skin assessments were initiated and required to be completed upon admission, during handoff, and during transfer from another unit. The objective of the dual assessments was to identify any preexisting pressure ulcers or areas of redness. A unit-based wound resource team was created. Several critical care nurses attended a wound management fundamentals course. This course educated the team in best practices in pressure ulcer identification, prevention, and wound management. The wound resource team provided peer-to-peer and unit-based education on wound management. The wound resource team identified successful measures for pressure ulcer prevention: comprehensive dual skin checks, the use of protective heel boots to alleviate pressure on reddened heels, and placement of preventative bordered foam dressing on the sacrum of patients at risk for pressure ulcers. Evaluation/Outcomes: The critical care nursing staff reduced the incidence of HAPUs from 3 pressure ulcers in 2014 to 0 through August 28, 2016. The achievement of reaching zero was driven by implementation of dual head-to-toe skin assessments, and creation of the wound resource team. The wound resource team used peer-to-peer, real-time audits, and unit-based education to achieve best practice. A change of culture took place from one of apathy toward pressure ulcer prevention to one of pride and motivation to sustain our success of zero HAPUs.

EB84 Turnover Turmoil: A Fearless Journey Fostering Growth and Excellence by Creating a Mentorship Program

Melissa Sorrell, Danielle Ely; IU Health-Methodist, Indianapolis, IN

Purpose: The goal of the mentorship group was to create positive change in unit culture by combating negative attitudes, horizontal aggression, and decreased morale. The group desired an environment of support and trust among newly hired and experienced nurses to increase nurse retention rates. In 2014, turnover on the cardiac medical critical care unit (CMCC) was 12.5% before the initiation of the mentorship group. Description: Bedside nurses recognized a negative environment with disruptive behaviors and rose to action by performing literature reviews. A mentorship group became the desired outcome, and one nurse went to AACN’s National Teaching Institute in 2014 to learn more about implementing a supportive group for bedside nurses. According to the literature, absence of mentorship may result in poor retention rates and fiscal outcomes. Critical care units rank the second highest in incidences of bullying, with younger nurses most frequently targeted. Manifestations of bullying include: curt communication, gossiping, creating social isolation or clicks, and dismissive behaviors, all of which were observed on CMCC. Owing to lack of documented mentorship groups, bedside nurses created their own mentorship format that has undergone multiple revisions based on mentor and mentee feedback. Support from unit leadership is crucial to facilitating healthy organizational culture. The unit leadership team, comprising the manager, shift coordinator, and educator, has supported the mentorship group throughout its
growth and development. Evaluation/Outcomes: Horizontal aggression has greatly decreased as new nurses are empowered to openly communicate with any peer when there is a question or concern regarding patient care. Feedback, as opposed to constructive “criticism”, has been adopted by mentees, preceptors, and fellow nurses to aid in positive communication skills. Trust is established among mentees and the mentor group; when concerns regarding negative preceptorships or patient care issues arise, the mentor group handles these anonymously with peers or escalates issues to the leadership team. After implementation of the mentorship group in September 2014, turnover rates decreased to 8% in 2015. In 2016, first-year turnover was 0%.

EB85 New-Graduate Nurses in the Intensive Care Unit! Critical Care Pipeline Orientation Program
Stacy Jepsen, Carol Anderson; Abbott Northwestern Hospital, Minneapolis, MN
Purpose: In order to meet the demand for nurses in the intensive care units (ICU) and keep up with a turnover rate of 8%-13%, an evidence-based critical care orientation program was created that allowed a new-graduate nurse to be hired into the ICU and succeed. Newly graduated nurses are the largest pool of available nurses in the current job market. Recruitment and orientation of these new nurses to make up for the turnover rate are as important as the recruitment of experienced nurses. Description: About 17.5% of newly licensed registered nurses leave their first job within a year and 33.5% leave within 2 years. To ensure the success, retention, and continued growth in critical thinking and technical skills along with knowledge of the newly graduated novice nurse in the ICU, innovative orientation programs have been successfully developed and implemented. We developed a critical care pipeline orientation program that sought new-graduate nurses who had done a capstone or leadership rotation in ICU as a student, or had experience in the ICU setting in another role (nursing aide, respiratory therapist). The program moves the new-graduate nurse through a successful orientation on a medical/surgical unit to the ICU within a short period. The ICU orientation is a blend of modules (AACN’s Essentials of Critical Care Orientation), classroom lecture, simulation, and hands-on clinical training. The new-graduate orientation program included a year-long mentorship and critical care residency program that supports and enhances the growth of nurses in their critical care knowledge and skills. Evaluation/Outcomes: After 7 months, 24 graduate nurses have been hired into the program; 21 have either passed nursing boards or are pending taking them and 3 did not pass boards. Three new graduates started in February, with 2 having completed half of their ICU orientation. Another 10 new graduates have started on the medical/surgical care areas with the rest starting later this year. Nursing leaders and preceptors who oriented new graduates will be surveyed to determine what is working well and what can be improved. The Casey-Fink survey will be given to new graduates at the beginning and end of the residency program. Completion of the full program along with 2-year retention will be tracked as measures of success.

EB86 TeleStroke: Helping to Keep Stroke Patients Closer to Home
Anna Helms; Carolinas Healthcare System, Charlotte, NC
Purpose: The goal of a successful telestroke program is to quickly evaluate the patient who is having a suspected stroke, make diagnosis and treatment recommendations via digital cameras and telecommunications, and ensure that the patient receives the appropriate treatment in order to improve patients’ outcomes. Another goal of telemedicine is help patients stay closer to home by using technology. Description: The use of telestroke services to assess and treat a potential stroke patient, keeping them in their community, has resulted in reduction in cost of care by $1436 and a gain of 0.2 quality-adjusted life years when compared with stroke patients receiving care without the benefit of telestroke. In August 2015, the virtual critical care team, in conjunction with Carolinas Healthcare System-Northeast (CHS-NE), initiated a program to remotely assess all code stroke patients. The theory of organizational readiness for change by Brian Weiner was the blueprint used during the implementation, assessing barriers and strategically implementing tactics to ensure success of the program. Before CHS went live with the tele-stroke program, potential stroke patients were evaluated by phone to see if they were candidates for use of tissue plasminogen activator (tPA) and then transferred to 1 of the 2 stroke centers, CHS-Main in downtown Charlotte or to CHS-NE in Concord, NC. Extensive training with the neurohospitalist and virtual critical
care nurses was started in October 2014 months before the go-live in August 2015. **Evaluation/Outcomes:**
Telestroke went live in 3 facilities within the system CHS-NE emergency department, Harrisburg and Kannapolis free-standing emergency centers on August 17, 2015. In the past year, 7 additional sites have gone live with the intent to add 14 sites. The validation of data is essential to process improvement. At the 6-month mark, data analysis showed a 5.6% increase in use of tPA at the original sites. After the expansion of the program to Union, Anson, and Waxhaw, a 17.2% increase in treatment rate was seen. Union is able to keep the patients that receive tPA, no longer are the patients transferred; their care can be followed by staff from the e-intensive care unit.

**EB87 Understanding the Family Experience in the Pediatric Intensive Care Unit**
Jennifer Tcharmtchi, Karla Abela, M. Hossein Tcharmtchi, Jill Kelly; Texas Children’s Hospital, Houston, TX

**Purpose:** Current methods for evaluating family experience in the pediatric intensive care unit (PICU) provide us with limited actionable information. Feedback regarding experience is received from patients who are discharged to home from the PICU, making complaints and grievances a primary source for information. We hypothesized that gaps exist in how we communicate with the families in our care. We aimed to (1) develop a reliable process to learn about the experience of families in the PICU and (2) develop improvement strategies. **Description:** Because family partnership is essential in the PICU, we developed a brief survey to learn how well our team partners with patients’ families. We used an electronic point-of-care survey to obtain a baseline assessment during the first phase of the project. Gaps were identified and distribution of the family care journal (FCJ) was implemented in the second phase. The FCJ’s purpose is to facilitate communication between the patient’s family and the health care team. Families are encouraged to write down questions, names of team members, procedures, and any feelings they may be experiencing. Surveys continued throughout the second phase of the project to determine the impact of the FCJ. **Evaluation/Outcomes:** 155 completed responses (~20% of transfers) were received. We saw significant improvement in almost all of the questions between the 2 phases of the project: encouraging families to write down questions (+30%), inviting families to join rounds (+8.6%), and providing daily updates to the family (+4.3%). About 78% found the FCJ to be a useful tool during their PICU stay. Open-ended questions revealed more improvement opportunities, including communication with non-ICU teams, comfort with transfer to a lower level of care, and environment. Distribution of FCJs has improved the family experience in the PICU by engaging families in their child’s care.

**EB88 Prevention of Catheter-Associated Urinary Tract Infections the HOUlDINI Way**
Judith Rojo; The Valley Hospital, Ridgewood, NJ

**Purpose:** Catheter-associated urinary tract infection (CAUTI) is one of the most common and serious hospital-associated infections. In 2013, the Valley Hospital coronary care unit (CCU) had a CAUTI rate of 3.9 which was well above the National Healthcare Safety Network benchmark of 2.0. Our unit goal was to eliminate the occurrence of CAUTIs and reduce the use of urinary catheters. **Description:** The manager, champions, and the unit-based advanced practice nurse worked in collaboration with the critical care CAUTI task force to implement changes in practice to decrease the CAUTI rate. Articles on CAUTI prevention were highlighted during the monthly journal club sessions to educate the staff on current evidence-based practice. In 2014, the critical care CAUTI task force worked with the medical board to establish a rule that would allow the nurses to remove the urinary catheters when they assessed the catheters were no longer clinically indicated. Whenever an inappropriate reason to maintain the catheter was brought up, education was provided to make sure the staff members were basing their practice on the most current published evidence when it came to CAUTI prevention. This protocol was called the “Houdini Protocol.” It is basically a mnemonic that identifies reasons when the urinary catheters may be clinically indicated. The mnemonic stands for (H)ematuria, (O)bstruction/neurogenic bladder, (U)rologic/gynecologic/lower gastrointestinal surgery or under care of urologist, (D)ecubitus sacral stage VI sacral, (I) intake/output, critical for patient management, (N)o code/hospice/palliative care, (I)mobility, unstable fractures or intra-aortic balloon pumps. **Evaluation/Outcomes:** A checklist
was created for the charge nurse to complete each day at 5:00 AM to determine if a urinary catheter can be removed. The checklist also addresses other issues regarding the urinary catheters, such as orders, use of securement device, insertion date, intact seal on bag/catheter connection, bag maintained off floor, and maintaining the bag lower than the level of the bladder. An educational campaign was launched that included poster boards, flip charts, e-mails, and unit staff meetings. The sum of these efforts has decreased our CAUTI rate to zero. As of July 2016, CCU has been CAUTI free for 31 months.

**EB89 Bringing Back Florence: A “Quiet at Night” Patient Experience Initiative**

Olaoti Opaleye, Andre Scott; University of Virginia Health System, Charlottesville, VA

**Purpose:** The experience of hospitalized patients is receiving a renewed emphasis in health care. Efforts to improve patient satisfaction are gaining attention as institutions strive to enhance overall quality performance through Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS). The patient’s sleep experience is one facet of care that can significantly influence patient satisfaction. From as far back as Florence Nightingale, the importance of sleep in facilitating healing and aiding recovery is documented. Yet, clinicians often struggle to prioritize sleep among competing care needs. In fact, the average HCAHPS “Quiet at Night” rating at the target institution was below the 1st percentile. **Description:** A Quiet at Night committee was established to promote awareness of noise levels amongst staff and to create an action plan to enhance sleep quality. New practice habits were introduced as standard work was incorporated. Features of a patient sleep menu, protected quiet time and the use of “hug” lights by night staff to reduce light disruption were key attributes of the standard work. The sleep menu offered options of foam ear plugs, eye masks, television headphones, relaxation channels, white noise, and decaffeinated tea. Also, we addressed patients’ pain just before bedtime; in collaboration with the day clinicians, we staggered pain medication administration during the day to ensure that there was a dose available for the patient at bedtime. We improved communication between the day crew and the night crew, relying on the day crew to collect perishable data from the patients about the effectiveness of the night crew’s sleep interventions. **Evaluation/Outcomes:** The percentage of patients who said the area around their rooms at night is always quiet improved from 37.1% (January 2015-January 2016) to 66.7% in March 2016, a 79.8% improvement in HCAHPS scores. We have also seen a 50% reduction in call bell activations in March 2016; this reduction has endured moving forward. With the implementation of the standard work, HCAHPS scores reached the 92nd percentile within 2 months and staff reported a 72% reduction in negative environmental impacts on patient sleep. The sleep pilot study was so successful that hospital management decided to implement it house-wide on June 29, 2016.

**EB90 Collaborative Approach Produced Reduction in Blood Transfusion Rates During Coronary Artery Bypass Graft by 65%**

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**Purpose:** Nationally and within our institution, isolated coronary artery bypass graft (CABG) surgery has been associated with 40%-50% of patients receiving blood transfusions. Recognizing that evidence shows exposure to as little as 1-2 units of packed red blood cells (PRBCs) can increase the risk of mortality by 16% in cardiac surgery patients, the staff and physicians of the operating rooms, cardiovascular intensive care unit (ICU), and cardiac step-down unit undertook a collaborative approach to reduce all perioperative blood transfusions in our CABG patients. **Description:** Our process began with the implementation of a monthly cardiothoracic surgery quality meeting of related departments to discuss and track outcomes and the implementation of any new initiatives. It was through this data-driven process that we identified the opportunity to address blood transfusion policies. Past trends and current literature identified 3 areas of care that affect blood transfusion: the preoperative evaluation, the intraoperative period, and the postoperative period. Preoperatively, we streamlined our evaluation process to ensure that every patient received appropriate laboratory work and medication review. Intraoperatively, our team of surgeons and operating room staff worked to implement maximum conservation techniques: cell saver transfusion, the use of cerebral oximetry monitoring, and retrograde autologous priming of perfusion circuits.
Postoperatively, we recognized the need to change the culture of transfusion requirements to adopt new transfusion triggers through individualized patient-specific conditions. Specifically, we adopted transfusion triggers modeled around the following: RBC transfusion for hemoglobin level <7 g/dL or hematocrit <21% and one of the following: increased oxygen need, hypotension, end-organ dysfunction, or ongoing bleeding. Evaluation/Outcomes: Evidence has shown that CABG patients receiving blood transfusions have longer ICU and postoperative stays, mechanical ventilation times, and mortality rates. Within the first quarter of beginning this process, we saw transfusion rates decrease from 44% the previous year to 18.8%. These numbers continued to improve to reflect a year-to-year decrease in transfusion rates by 65% to 15.7% for the year. Concurrently, we saw a drop in mean postoperative length of stay by 27%, readmission rates by 27%, ICU length of stay by 32%, mechanical ventilation times by 50%, and mortalities by 55%.

EB91 Delirium Management: Finding Clarity in the Confusion
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Purpose: Delirium may occur in up to 80% of critical care patients and is associated with increased length of stay, cognitive impairment, and mortality. A literature review of delirium management was conducted and knowledge gaps were identified. A delirium task force (DTF) was created to provide the health care team, patients, and families with delirium education. The purpose was to increase compliance with delirium assessment and understanding of the Grami-Smith Delirium Prevention Bundle (GSDPB). Description: The initiative launched in February 2016. By implementing previous research conducted at our institution, the DTF focused education on delirium prevention and early detection across the critical care service line (157 beds). Four delirium coordinators created education sessions, which included delirium assessment tools and prevention strategies found in the GSDPB. Train-the-trainer education methods were used, and unit leaders were identified as “delirium champions” (DC) in 13 intensive care units (ICUs). In return, the DC taught the nurse end-users. PowerPoint presentations were used to teach delirium assessment, use of the Richmond Agitation-Sedation Scale and the Confusion Assessment Method for the ICU (CAM-ICU), implementation of the GSDPB, and documentation. Simulation videos demonstrated use of the CAM-ICU and scenarios of delirious patients. Delirium posters and mouse pads were placed as visual cues to reinforce compliance and documentation. Delirium status was added to multidisciplinary rounding and reviewed with other members of the health care team to identify causative agents. Delirium coordinators served as resources during the 2-month period to reinforce education. A DC recognition celebration was held to spotlight the achievements and success of the dedicated team. Evaluation/Outcomes: Outcomes evaluated were compliance with CAM-ICU assessment, CAM-ICU accuracy before and after the initiative, and nurses’ satisfaction. Delirium assessment increased from 21% to 81% 2 months after the initiative. CAM-ICU accuracy was measured with an interrater reliability tool, which demonstrated DC accuracy of 100% (n = 95) and an end-user accuracy of 94% (n = 107). A survey on nurses’ satisfaction revealed an increase in knowledge and comfort level with delirium assessment and implementation of delirium prevention strategies (n = 99). The delirium initiative headed by the DTF improved compliance and learning; however, success of any delirium initiative relies on buy-in of all stakeholders.

EB92 No-Cost Tool to Improve Nursing Communication and Decrease Overcrowding in Emergency Departments
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Purpose: Overcrowding is a common problem facing emergency departments, resulting in increased medical errors, decreased adherence to quality measures, and decreased patient satisfaction. The most commonly cited reason for overcrowding is the inability to transfer or difficulty in transferring patients from the emergency department to an inpatient bed. This project evaluated transfer times before and after implementation of an electronically transmitted handoff form, the PASS form, to help speed the processing of an available bed. Description: In a 4-month period, in an urban-based community hospital, a 1-page form was created and faxed for the purpose of nursing handoff of patients admitted through the emergency
A mean time from bed request to patient transfer from the emergency department was compared for 2 months before the intervention (n = 142 patients admitted) and 2 months after the intervention (n = 147 patients admitted). A feedback form was created and given to nursing staff. Four feedback forums were held after the intervention to ensure nursing awareness and education of the forms. **Evaluation/Outcomes:** Following intervention, the mean transfer time of admitted patients decreased 40 minutes (from 291 minutes to 251 minutes). The percentage of patients spending more than 6 hours in the emergency department decreased from 33.3% to 24.5%. Of 7 feedback forms that were completed, 100% stated that the handoff form made transfers easier, 0% stated that the handoff form made transfers more difficult. The PASS form was successful in decreasing the mean transfer time by 40 minutes and eased transfers for both inpatient and emergency nurses. Length of stay in the emergency department for admitted patients improved following implementation of the form. Further research may help identify the applicability and generalizability of this simple intervention.

**EB93 Scaling a Delirium Assessment Improvement Project in Populations of High-Risk Patient**

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**Purpose:** Delirium occurs in 60%-80% of intensive care unit (ICU) patients and is a significant predictor of negative outcomes, yet many cases remain unrecognized because of inaccurate assessments. The purpose of this project was to scale an innovative nurse-led Clinical Scene Investigator (CSI) initiative previously implemented in our medical ICUs to our surgical ICUs. The goal was to achieve >90% assessment accuracy in these units among difficult-to-assess patients such as those who were sedate, had underlying dementia, or had a neurological diagnosis. **Description:** During participation in the AACN CSI Academy, 4 front-line nurses from our medical ICUs designed and implemented an innovative delirium assessment improvement project that resulted in a sustained improvement in assessment accuracy to >90%, >80% reduction in benzodiazepine use, and an estimated cost avoidance of $2.6 million annually. Two goals of the CSI Academy include scaling initial improvement innovations and the transfer of leadership skills to others so that improvements can benefit a greater number of patients. In following this philosophy, 4 staff nurse volunteers from our surgical ICUs were mentored by the CSI team in the application of key leadership skills and were empowered to adapt our CSI delirium improvement model to their patient populations. These staff nurses performed audits to determine baseline accuracy, planned and implemented education sessions for all staff on the units, and provided real-time auditing, feedback, and coaching for staff at the bedside. **Evaluation/Outcomes:** This project resulted in improvement in assessment accuracy from <30% to >90% in our surgical ICUs, and these outcomes have been sustained for >2 years since the intervention. As with our original CSI participants, the staff nurses who led this work in the surgical ICUs have continued their quest toward leadership development. Some have obtained new leadership positions, others have advanced on the clinical ladder, and all have become involved in leading ongoing quality improvement work. This project has demonstrated the power of staff nurse–led initiatives on sustainable and scalable improvement and has provided a model for expanding the tenets of the CSI Academy to others.