Abstract Title: Patient Safety: Restraint Reduction, Restraint Elimination and Best Practice

Authors: Richard Arbour, MSN, RN, CCRN, CNRN, CCNS, FAAN
Anna Kirk, MSN, RN, CCRN

Introduction: Restrictive devices such as soft wrist restraints, mitts and vests are utilized for falls, preventing device removal having the goal of patient safety. Published evidence shows risk of medical device removal, falls and patient injury remain despite restraint use. Baseline quality data for restraint prevalence in a tertiary-care facility surgical step-down unit (SSU) was 5.08% and in a surgical ICU (SICU) was 25.93%, significantly above NDNQI mean. Project goal was to sustain decreased restraint utilization below NDNQI mean and maintain patient safety with least restrictive means.

Methods: This multiphase project was initiated in SSU. Phase one consisted of restraint rounds in which the APN facilitated detailed, multidisciplinary assessment of each restrained patient. A critical thinking conversation would then be conducted between the APN and bedside clinician based on the assessment data. Patients were continuously re-evaluated for treatable causes of agitation and continued need for restraints. Phase two followed enculturation of re-evaluating restraint use in SSU, consisting of trialing less restrictive measures using mitts, padded belts and elbow splint devices. A collaborative and critical thinking approach was again utilized among the APN, bedside clinician and physician team members. This was welcomed by the SSU staff as less restrictive devices were introduced. After a successful 4 month trial, phase three was started, expanding the initiative, including less restrictive devices, house-wide including surgical/ trauma critical care areas. Introducing this initiative to staff required education and reinforcement, integration of restraint orders and documentation into computerized charting and restraint rounds by the APN, charge nurse, physician team members and staff restraint champions.

Results: Phase one resulted in decreased restraint prevalence in SSU from 5.08% to 3.57%. Phase two resulted in further decline in restraint prevalence from 3.57% to 1.67%, below NDNQI mean. Network-wide expansion in phase three within the SICU resulted in a dramatic decline in wrist restraint prevalence from 18.19% to 7.12%. Data was also collected on the new devices and there was a 7.35% mitt usage and a 3.44% arm immobilizer usage (also below NDNQI mean). The restraint initiative was successful as measured by consistent, significant decline in restraint use to below NDNQI benchmarks without concomitant increase in patient falls or medical device removal.

Conclusions: Sustained decrease in utilization of more restrictive devices such as wrist restraints may be achieved through collaborative multidisciplinary initiatives lead by the APN and involving nursing, physician and manager/director team members. Integration of education initiatives, walking rounds with critical thinking and standard orders as well as computerized documentation are effective tools to meet and sustain restraint reduction goals.
**Abstract Title:** Transitioning Elders Across the Continuum of Healthcare (TEACH©): Outcomes for Critically Injured Elders Related to Multidisciplinary Geriatric Consult Conference

**Author:** Tamara Burket, MS, ACNS-BC, GCNS-BC, CCRN, FGNLA

**Introduction:** The prevalence of chronic conditions and comorbidities in Pennsylvania’s rapidly growing elderly population has provided the impetus for development of the multidisciplinary TEACH© team. The team is composed of physicians, pharmacists, social workers, pastoral staff, nutritionists, staff nurses, and advanced practice nurses. The TEACH© multidisciplinary team seeks early identification and management of geriatric syndromes in older adults after traumatic injury. Substantial evidence demonstrates that proactive management of chronic illness and attention to the special needs of older adults prevents or delays progression of illness and functional loss.

This poster demonstrates the impact of a multidisciplinary geriatric consult conference (GCC) guided by the principles of safety, teamwork, advocacy, rounding, and SPICES assessment (STARS.) The Joint Commission, The Center for Medicare and Medicaid Services, The Hartford Institute for Geriatric Nursing, the Studer Group, and others have endorsed these methods to enhance the processes of providing quality patient care for staff, patients, and families.

**Method:** Expedited review was solicited from the organizational institutional review board for a single pre and post design intervention integrated into the daily work of caregivers for geriatric trauma patients. A single, convenience based setting included 3 acute care surgical units in a 510 bed tertiary care hospital. The STARS process was implemented for select, nonrandomized patients over 65 years of age who were admitted after traumatic injury. Logs were blinded and kept by the advance practice nurse regarding rounding, geriatric assessment, interventions recommended by the multidisciplinary team at Geriatric Consult Conference, and related outcomes for staff, patients and families.

**Results:** The TEACH©/STARS project is ongoing. Outcome measures include the documentation of therapeutic relationships with staff, patients, and families by TEACH© team members. Therapeutic team interventions and related responses are being recorded. Geriatric interventions are increasingly present on individualized patient care plans. Measures for this project include the incidence of geriatric syndromes among this convenience sample, individual patient responses to geriatric management, and responses of staff to the TEACH©/STARS interventions.

Literature supports that STARS interventions such as prioritization of safety, teamwork, advocacy, rounding, and SPICES assessment contribute to staff satisfaction, healthy work environments (HWE), and better patient mortality and morbidity for elders. A complex environment limits ability to generalize, but quantitative data on targeted units reveals improvements in certain aspects of the HWE measured by nurse satisfaction surveys. It is anticipated that nurse sensitive quality indicators for patients will be impacted directly and indirectly as STARS principles become more ingrained in the unit cultures.

**Conclusions:** STARS affirms the value of this and other projects focused on safety, teamwork, advocacy, rounding, and SPICES assessments. Further, more rigorous study might include a comparison group, a more homogenous population, patient and family responses, and organizational impact measures.
Abstract Title: Use of Laboratory Studies in the Clinical Management of Post-Kidney Transplantation Patients

Authors: Brandi Copenhaver, RN, Kelly Rotondo, DNP, MSN, RN-BC, and Sandra Ryan, MSN, RN

Introduction: This poster is intended to engage the Direct Care Nurse from Intensive Care Units or Medical-Surgical Units who are non-experts in post-operative kidney transplant clinical management, specifically related to laboratory studies. The learner will be able to: identify commonly ordered laboratory studies in the post-operative kidney transplant patient, integrate laboratory results into the plan of care for the patient, and prioritize laboratory values of critical importance to patient outcomes. The management for a kidney transplant recipient (KTR) is divided into two phases:

1.) Early Post-Operative Phase: In this phase acute rejection, graft function, and prevention of infection are crucial.
2.) Late Post-Operative Phase: In this later phase, the goal is to preserve good graft function and prevent long-term consequences of immunosuppression, which are infection, malignancy, and premature cardiovascular disease.

In both phases, laboratory studies are essential in guiding the medication regimen and clinical treatment plan. The nurse must be aware of the importance of these laboratory values in relationship to physiological manifestations and complication rates. The PICO question raised is: In the kidney transplant recipient (KTR), does frequent laboratory testing compared to limited/no laboratory testing impact complication rates (such as infection, malignancy, rejection, graft function, etc)?

Methods: A review of literature and correlation in one clinical case study will be used in this poster. In the case study, the laboratory studies will be described and correlated to the potential and actual complications seen in the case study: screenings for dyslipidemia, diabetes mellitus, cytomegalovirus (CMV), BK viral load (PCR urine or serum), human leukocyte antigens (HLA), donor specific antigen (DSA), hyperparathyroidism (PTH levels), anemia, Epstein Barr Virus (EBV), Varicella Zoster Virus (VZV), and polycythemia. The immunosuppression medications of: tacrolimus (Prograf), Cyclosporine (Neoral/Gengraf), Mycophenolate Mofetil (Cellcept), Mycophenolic Acid (Myfortic), Prednisone taper, and Rapamune (Sirolimus) will be correlated to laboratory studies necessary in clinical management for the KTR. Discussion of the ImmuKnow level will also be mentioned in the clinical case study.

Results: In the clinical case study of a KTR, it is evident that frequent laboratory testing leads to early invention and decreased complication rates. Correlating laboratory results to the clinical picture is a multi-disciplinary approach, which includes physicians, nurses, transplant coordinators, pharmacists, nutritionists, and social workers. Medication management is based on laboratory results and quick action is necessary to promote positive outcomes and therapeutic immunosuppression of the KTR.

Conclusion: It is critical the KTR continues with outpatient follow-up and frequent laboratory studies. Having a clear, organize system in place for laboratory testing, clinic follow-up, and access to transplant coordinators are the keys for the success, health, and well-being of the KTR. The Direct Care Nurse needs to understand and implement patient education and reinforce the importance of follow-up after discharge from the intensive care unit, medical-surgical unit, and hospital. Quick and early communication of laboratory results in the hospitalized KTR is an important role of the Direct Care Nurse.

References:


Changes in anti-HLA antibody titers more than 1 year after desensitization therapy with rituximab in living-donor kidney transplantation. (2010). Transplant Immunology, 23(4), 220-223. doi:10.1016/j.trim.2010.06.005
Abstract Title: Detecting Delirium in the ICU

Authors: C Druckenmiller, A Lesher

Introduction: Delirium is an acute confusional state defined by fluctuating mental status, inattention and either disorganized thinking or an altered level of consciousness. There are three forms of delirium: hypoactive (most common), hyperactive and mixed. Hypoactive delirium is undetected 75% of the time. The delirious patient is most often treated with benzodiazepines and opioids. Unfortunately, these medications have been found to potentiate the poor outcomes associated with delirium. Studies have shown under-detected and under-treated hypoactive delirium results in prolonged ventilation, increased nosocomial infections, increased discharge to long term care facilities, marked decline in cognitive and functional abilities after discharge and high 6-12 month mortality rates. A highly valid and reliable tool to detect delirium is the Confusion Assessment Method-ICU (CAM-ICU). Since the staff in the Medical Surgical Intensive Care Unit (MSICU) began using the tool to monitor delirium, many of the ventilated patients have been found to be positive for hypoactive delirium.

Methods: The authors identified the need for an improved method to identify delirium in the MSICU. The results of a literature search produced information on CAM-ICU as well as research conducted by Dr. Wes Ely. The authors developed and implemented an educational program for the staff regarding the use of the CAM-ICU tool and the importance of early assessment for delirium. Education included how to use the assessment tool, where to document the findings and treatment strategies. The physicians were included in the educational process. A medication protocol for treatment of delirium is in the development stages.

Results: The active monitoring for delirium began in May 2012. Use of the CAM-ICU and detection of delirium has increased. Usage of benzodiazepines for treating delirium has decreased. The use of neuroleptics has increased. Neuroleptic agents such as Haldo and Seroquel have been shown to potentiate delirium less often than benzodiazepines and opioids. Progressive mobility is another intervention that has been implemented in the MSICU. This strategy, combined with early weaning and extubation, has also been shown to decrease delirium.

Conclusion: The American Association of Critical Care Nurses and the American Society of Critical Care Medicine advocate the active monitoring of ICU patients for delirium. Early detection and treatment of delirium combined with early mobility contribute to improved quality in patient care, improved patient outcomes, decreased length of stay, decreased cost and decreased utilization of resources.
Abstract Title: Collaboration Fosters Communication: A Multidisciplinary Evidence-based Practice Project to Ease Communication for Patients in a Trauma Intensive Care Unit

Authors: K Birzes, A Calvert, C Denunzio, K Eldredge, M McCay, A Suereth-Fickes

Introduction: Difficulty with communication ranks as one of the most distressing symptoms of the intubated, critically ill patient. Frustration, lack of control/self determination, physical discomfort and effects on overall patient recovery and length of stay can result. A trauma patient and family advisory council from a Magnet designated, Level I trauma center identified communication with intubated patients as a main concern during their hospitalization. An evidence-based practice project was initiated to determine best methods for communicating with intubated patients in a trauma intensive care unit.

Methods: During the spring of 2012, a multidisciplinary team evaluated articles using the Johns Hopkins Nursing Evidence-based Practice (JHNEBP) model and guidelines to answer the question “What is the best augmentative and alternative communication (AAC) method for communicating with intubated patients in the trauma intensive care unit (ICU)?” CINAHL, Medline, and PubMed databases were searched using the following keywords: augmentative/alternative communication, intubated patients, and intensive care unit. Approximately 35 article abstracts were reviewed and 22 met inclusion criteria for further evaluation. Fifteen articles were relevant and of good or excellent quality based on JHNEBP criteria. Evidence included a quasi-experimental study, three non-experimental studies, a qualitative study, four studies using both non-experimental and qualitative methods, two systematic reviews, a literature review, and an expert opinion article. Recommendations for practice were based on findings from this evidence.

Results: Recommendations for practice included development of individualized communication care plans for use by all disciplines, development of a communication board as a supplement to other methods of communication, collaboration with speech-language pathologists to develop effective communication methods, and education of nurses in proper use of AAC devices and methods to facilitate communication with intubated patients. Speech-language pathologists and nurses collaborated with the trauma patient and family advisory council to develop an appropriate communication tool. The council decided on picture boards based on ease of use for trauma patients with limited mobility and those who were receiving sedation and analgesia. Brief education was conducted for nurses prior to implementation. These boards are available in all rooms in the trauma unit for use by patients, families, and healthcare providers.

Conclusions: Communication boards are an effective method to facilitate communication between intubated patients and their families and healthcare professionals. Further research should be conducted to link use of communication boards to outcome variables such as pain management, duration of mechanical ventilation, and patient, family, and nurse satisfaction.
Abstract Title: Clinical Correlates to One Year Mortality Following Tracheostomy of Adult Intensive Care Patients

Authors: SM Grap, C Huntley, K High, SA Blosser, MM Wojnar, EW Schaefer, D Goldenberg

Introduction: Tracheostomy is a common procedure performed on adult patients in the Intensive Care Unit (ICU) setting and occurs in approximately 10% - 12% of those patients requiring mechanical ventilation for >24 hours. However, tracheostomy is not without associated mortality. A 20% mortality of tracheostomy patients was found at 28 days following the initiation of mechanical ventilation. Another study found a mortality of 36% in patients one year following tracheostomy. We investigated clinical factors associated with one year mortality in adult ICU patients following tracheostomy. Our primary outcome was mortality at one year following tracheostomy. We sought to identify individual patient characteristics as clinical factors of mortality in adult ICU patients after tracheostomy.

Methods: A retrospective chart review of adult ICU patients having undergone a tracheostomy was conducted. Potential subjects included adult patients ≥18 years of age admitted to the Penn State Hershey Medical Center Intensive Care Units from 2004 to 2009 and having a first time tracheostomy procedure during the ICU stay. A total of 247 patient charts were reviewed and included in the collection of patient characteristic variables. Both categorical and continuous patient characteristics were collected. The primary intent was to determine if there is an association between the collected patient variables and death at one year following tracheostomy placement. A total of 54 patients were excluded from the analysis due to missing follow up status and unknown disposition at one year following tracheostomy. The final statistical analysis included 193 patients and a total of 42 variables were tested for significance to one year mortality following tracheostomy.

Results: The significance of individual characteristics to one year mortality following tracheostomy was determined using statistical analysis. Mortality at one year following tracheostomy was 21.2% (n=41). A total of 14 significant variables were found and include hyperglycemia (p<0.0001), intravenous vasopressor medication infusions during tracheostomy (p<0.0001), acute renal failure (p=0.0001), inability to ambulate (p=0.0001), intravenous vasopressor medication infusions during ICU stay (p=0.0002), mechanical ventilation >14 days (p=0.0002), tracheostomy performed as an independent surgical procedure (p=0.0019), increased age (p=0.0021), peak white blood cell count >20 K/μL (p=0.0157), total parenteral nutrition (p=0.0182), sedation >4 days following tracheostomy (p=0.0208), nadir hemoglobin level ≤8 g/dL (p=0.0217), positive cultures (p=0.0230), and admitting hemoglobin ≤12 g/dL (p=0.0312).

Conclusions: Several clinical factors associated with one year mortality following tracheostomy in adult ICU patients were identified. These factors may independently represent increased disease severity in an already critically ill patient population. This may contribute to increased mortality in these patients following tracheostomy. Perhaps the individual factors we have found to be associated with one year mortality following tracheostomy are markers for systemic organ dysfunction and disease severity, thus leading to patient mortality. Although we have identified multiple clinical factors with significant association to one year mortality following tracheostomy, the retrospective design makes it difficult to distinguish if the associations are a direct cause or markers for mortality. Further studies will be necessary to clarify this issue. Perhaps the understanding of the clinical factors identified in this study may ultimately decrease mortality of adult ICU patients following tracheostomy.

Abstract Title: Initiating Early Enteral Nutrition in the Adult Critically Ill Medical Patient on a Ventilator

Authors: D. Kalpowsky, T. Helwig, E. Fisher, L. Ganoung

Introduction: Early energy deficit is strongly correlated with infectious complications and organ failure in patients on a ventilator. Adequate nutrition is a vital component in the recovery of any critical illness; however, often initiation of enteral nutrition is delayed.

Methods: A literature search found 73 articles using CINAHL and PubMed. Forty-two articles were reviewed for content, strength, and quality of evidence using the Johns Hopkins Nursing Evidence-Based Practice guidelines. Twenty-one articles were found to be relevant and of sufficient quality to make recommendations.

Results: An interdisciplinary team was established to develop an evidence-based algorithm for the initiation and maintenance of enteral feeding in the appropriate critically ill patient on a ventilator. Initially, Medical Surgical ICU staff and physicians will receive education concerning use of the algorithm and importance of early enteral nutrition.

Conclusions: The algorithm will be piloted in the medical surgical ICU in the coming months. Outcome measures will include: use of algorithm, timing of initiation of enteral feedings from intubation, and length of stay in the ICU.
Abstract Title: We are up to the Challenge: Eradicating Mediastinitis in the Post-op Open Heart Patient

Authors: D. Hippensteel, J. Miller

Introduction: The rate of mediastinitis following CABG surgery is 0.12% to 5% with a mortality as high as 40%. Hospitals receive incentives to improve quality outcomes, but at the same time the Centers for Medicare and Medicaid Services as well insurance companies are reducing or refusing to pay for the extra cost of certain hospital acquired infections (HAI) termed “never events.” Mediastinitis is a never event. Initiatives taken in one surgical ICU to prevent mediastinitis resulted in zero cases for over one year. The steps taken and the evidence found in the literature to support those initiatives will be presented. Barriers and solutions during this effort will be discussed.

Methods: The practice council and nursing leadership proposed that the Surgical Care Improvement Project (SCIP) infection prevention guidelines be enforced on the unit and empowered nurses to investigate and utilize other evidence based interventions. Nurses take responsibility for assuring that the patient has a preoperative clip and bath or shower, that appropriate antibiotics are sent with the patient to the pre-op holding area, and that for 48 hours post-op blood sugar is tightly controlled (<200 @6am. post-op day one) with use of an insulin drip when required. Mediastinitis rates were low but not zero so new steps were taken. Powder (cornstarch) has been shown to potentiate infection so it was removed from the stock room. Disposable ECG leads and BP cuffs were put on patients after their prep or sent to the OR. Chlorhexidine bath cloths were introduced to the unit and the expectation was that all patients would be bathed with these before surgery and within 6 hours post-op.

Barriers and Solutions: The first barrier was the insulin drip as it was difficult to manage after the patient began to eat. Leadership and the intensivist team worked with staff nurses daily to manage blood sugars using the required protocol. A larger barrier was that nurses like soap and water. Basins have been shown to be havens for bacteria so a literature review was done on chlorhexidine bath cloths. The literature concluded: Bathing patients with the cloths decreased microbial loads on patients and in rooms; it decreased bacteria at the nurses’ station and on equipment. Council members were encouraged to be champions for the new bath process and education was posted on the unit.

Results: Zero mediastinitis rate for over one year, nurses working together as a team to improve patient outcomes, Chlorhexidine bath cloths are being used in units throughout the hospital. The councils feel empowered to continue looking for ways to eliminate HAI of all types.

Conclusions: While we cannot say which of our interventions is solely responsible for a zero mediastinitis rate, we can say that the combination of no powder, disposable ECG leads, BP cuffs, and Chlorhexidine baths have benefited the open heart patients and possibly the rest of our patients. This needs to be duplicated as a clinical trial with appropriate data collection.
Abstract Title: Leading Change: One department’s experience in creating a new workflow paradigm

Authors: William Hissner, RRT, AE-C; Joseph Camacci, RRT-NPS

Introduction: To align the mission and values of our Respiratory Therapy department with organizational goals around patient and family satisfaction, patient safety, and length of stay (LOS) at the Penn State Hershey Medical Center (PSHMC), our department spearheaded a hospital-wide change initiative. The initiative involved Respiratory Therapists (RT) scheduled on site each shift in the emergency department (ED), instead of traditionally being paged in as needed; concurrently RTs would relinquish all hemodynamic-monitoring duties house-wide to bedside Registered Nurses (RN).

Background: Since the early 1980’s, RTs at PSHMC have assisted physicians in completing all invasive hemodynamic-monitoring tasks. Also, when RT assistance was needed in our ED, which is designated a Level 1 trauma center, the RN or physician would access us by page as needed—that is, RT staffing was not readily available to provide immediate patient care.

Methods: First, our RT department offered to assist the ED by dedicating an RT each shift to this area. Next, in order to find the extra time necessary to make on-site RT staffing in our ED a reality, we approached our Interdisciplinary Adult Intensive Care Unit Committee with the proposal of supporting hemodynamic monitoring throughout 2010, but commencing 2011 all hemodynamic-monitoring tasks house-wide would be performed by the bedside RN.

PSHMC nursing employs a shared-governance model in our four adult-ICUs, with each ICU having both an education and clinical-practice council. It was through these councils which hemodynamic training for RNs was initiated. After one year of house-wide training, each adult-ICU went live with bedside RNs performing all hemodynamic tasks. We then rolled out our ED initiative which involved having an RT imbedded in this patient care area each shift.

Results: The result of having the RT department relinquish hemodynamic monitoring duties house wide to bedside-RNs, enabled RTs to be in the ED each shift. This resulted in improved patient/family and ED staff satisfaction, and helped alleviate patient-safety concerns surrounding responses to real-time ventilator alarms.

Conclusions: Our Shared-Governance model at PSHMC proved very effective in enabling us to change the culture at our organization, aligning nursing and respiratory duties in such a way as to achieve organizational goals concerning patient/family and staff satisfaction, as well as patient safety in our ED.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>N/A</th>
<th>Rating Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within this last year, as a result of on-site RT staffing, patients requiring RT interventions received better patient care resulting in improved patient/family satisfaction.</td>
<td>93.20%</td>
<td>6.80%</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>(41)</td>
<td>(3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within this last year, patients requiring RT interventions (such as vents, bipaps, continuous nebs, etc.) have moved faster through our emergency department.</td>
<td>77.30%</td>
<td>15.90%</td>
<td>6.8% (3)</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>(34)</td>
<td>(7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT on-site staffing has helped make my job easier for patients requiring RT interventions.</td>
<td>95.30%</td>
<td>4.70%</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>(41)</td>
<td>(2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Abstract Title: Orienting Critical Care Interns to a Highly Diverse Surgical Intensive Care Unit: How is it Done Well, What Needs to be changed and How do we Retain the CCI’s Once Off Orientation?

Authors: B Jenkins

Introduction: Our Surgical ICU (SICU) has a vacancy rate of 12.4%. We continue to hire new Graduate Nurses (GNs) into our Critical Care Internship (CCI). Currently the orientation for new GNs (Graduate Nurse) is 20 weeks. More than half of our staff has been employed in the SICU for less than three years. Our retention rate for GNs is currently 98%.

Objectives: To continually improve the orientation and retention process for new GNs in the ICU. To keep the Preceptors educated on the best methods of teaching and mentoring new GNs in the ICU. To retain both preceptors in their role as teachers and mentors and retain CCIs post graduation from the CCI program as competent critical care staff nurses.

Methods: Currently our new GNs receive a 20 week orientation. This orientation consists of both classroom and clinical time on the unit with an experienced RN. The RNs that are orienting CCIs to the ICU have the choice to be preceptors. We have implemented preceptor appreciation and update days in hopes of equipping and encouraging preceptors. Other units across the country also have Preceptor Appreciation days and have additionally added unit specific preceptor awards for “Preceptors of the Year” where they receive things such as a one year membership to the AACN. (Proulx & Bourcier, 2008). The GNs in SICU’s CCI program currently have two weeks of orientation outside of the clinical setting and then they enter the clinical setting with a preceptor. They are expected to start taking care of patients (a two patient assignment) quite quickly (within the first week). They continue to have high acuity, stable pairs, and triple patient assignments with their preceptors over the remaining weeks of orientation with classroom education scattered in throughout clinical days. GNs have two scheduled evaluations throughout their orientation with their preceptor, manager and educator. In these evaluations the CCI and preceptor evaluate how they are performing and create goals for the remainder of orientation. Upon completion of their internship CCIs are expected to take two patient assignments independent of their preceptors.

Results: Although we do our best to recognize our preceptors and encourage them on their performances, there is a consistent reply of the need for more support/recognition. Being a preceptor is a lot of responsibility. CCIs have stated that they like being with both “net generation nurses” and “seasoned nurses” as they learn to balance technology and critical thinking in patient care. They also call for an attention to further support post orientation while they are still learning to be intensive care nurses.

Conclusions: We will continue our preceptor appreciation days and recognizing preceptors for the hard work they put into orienting new staff. Unit specific awards will be a great addition. Changes are being made in the orientation process to ease CCIs into taking two patients at a time and seeing the “big picture” of a critical patient. We are also implementing a mentorship program for CCIs post graduation when they start on the unit themselves. We hope to increase our number of preceptors and retain CCI’s after they graduate from our program.

Reference Page

Abstract Title: Implementation of Quiet Time in a Critical Care Unit: Perceptions of Nursing Staff

Author: T Maclay, C Kylor

Introduction: The hospital environment is noisy and interrupts patient’s ability to rest. Florence Nightingale identified noise as having a negative effect on a patient’s recovery as evidenced from her writings, “unnecessary noise, or noise that creates an expectation in the mind, is that which hurts a patient” (Nightingale, 1859, p. 25). The association between noise and sleep is important to nursing as the lack of adequate amounts of sleep has corresponded with poor patient outcomes (Olson, Laskowitz, Moore, & McConnell, 2001).

Methods: Based on research in the literature our Critical Care unit, which is part of a 250 bed community hospital implemented “quiet time” for all of our patients. This involved designating a quiet time from 2 to 4 pm to correlate with the natural low of the body’s circadian rhythm. The intervention involved explaining the purpose of quiet time and encouraged visitors to leave during this time. Also, at the start of the hour, staff would round on each patient to attend to needs such as positioning, pain medication or toileting. Implementation involved developing a handout for families/ significant other, signs to put on the doorway to the critical care unit, bulletin boards with information pertaining to quiet hour for visitors and for staff, and development of a check list to be used at the start of quiet time (reminders for staff). After implementation of quiet time we decided to measure staff satisfaction related to quiet time. Ruggiero and Dziedzic (2004) reported after quiet time was implemented, employees in the ICU had the highest satisfaction rates over any other unit. Efficiency was impacted as evident by reduction of incidental overtime and missing medications were reduced as much as 50%. Lower et al (2003) also documented the benefits to staff as a result of implanting a quiet time.

Results: A survey was given to staff members to evaluate their perceptions related to quiet time. A sampling of the survey results indicates: 84% of staff find quiet time to be useful and an initiative worth continuing, 77% believe that it is useful for their patients, 84% of staff perceive that they are able to complete all work assignments within their allotted shift, compared to 53% prior to implementation of quiet time, 61% of the staff feel that the unit is quiet during quiet time, compared to the 76% who feel the unit is generally loud.

Conclusions: Implementation of a quiet time in our unit has been a positive experience for staff. Staff finds it to be useful to the patients, as well as beneficial to the staff.
Abstract Title: Blood Product Ratios in Trauma Patients Requiring Massive Transfusion

Authors: Kelly Martin MSN, RN CCRN

Introduction: Patients with severe, traumatic injuries presenting to the hospital often have severe coagulopathy and require massive blood transfusions to prevent the complications of hemorrhagic shock, and even death. In massive transfusion, blood product components such as fresh frozen plasma and platelets have traditionally been administered on the basis of specific laboratory results including prothrombin time, partial thromboplastin time, international normalized ratio, and platelet levels. However, new research suggests there may be some benefit to establishing set ratios for product administration in the face of significant blood loss to decrease mortality.

Methods: To examine and synthesize the current research regarding blood product administration ratios in adult trauma patients requiring massive transfusions, a literature review on the subject of massive transfusion ratios in hemorrhagic shock related to traumatic injury was conducted using the databases of PubMed Plus and MEDLINE. Search terms included: trauma, blood transfusion, massive transfusion, mortality, and blood transfusion ratios. Search limits included: adults >18 years of age, English language, human subjects, clinical trials, and years 2007-2012.

Results: All studies analyzed in this review found that increased ratios of blood components, including plasma and platelets to packed red blood cells in massive transfusion, resulted in decreased patient mortality at a significance level of at least p<0.05. As the ratio of plasma to red blood cells increased, mortality significantly decreased.

Conclusions: The findings of these studies reinforce the need to transfuse high ratios of plasma and platelets to red blood cells in the setting of massive transfusion for the adult trauma patient. With consideration of these findings, standardization and implementation of massive transfusion protocols can ensure prompt delivery and careful resource utilization of precious blood resources.
Title: Clinical and economic implications of substituting dexmedetomidine for propofol in patients during a recent national drug shortage: examination of hospital patients undergoing uncomplicated coronary artery bypass graft (CABG) surgery

Authors: J Li, C McDaniel, B Thoma, C Wordell, L Pizzi, N Cavarocchi

Introduction: Propofol, when compared to other standard sedation regimens, has been shown to reduce total healthcare costs in coronary artery bypass graft (CABG) surgery patients receiving short-term sedation by decreasing the time to extubation. However, the convergence of several events, such as drug recalls and the interruption of propofol production lines, precipitated a national shortage of propofol, necessitating the use of alternative agents. The purpose of this study was to evaluate the clinical and economic implications of substituting dexmedetomidine for propofol in patients undergoing isolated, elective CABG surgery from the perspective of a large, metropolitan academic medical center.

Methods: This retrospective cohort study was approved by the institutional review board with a waiver for informed consent. The Society of Thoracic Surgeons database was queried for all patients that underwent CABG surgery between January 2008 and December 2011. Patients were considered for inclusion if they underwent isolated, elective CABG surgery and were sedated with propofol (January 2008 to March 2010) or dexmedetomidine (October 2010 to December 2011). Eighty-four patients were included in this investigation with 42 patients in each arm. The two cohorts were matched 1:1 based on age, gender, bypass time, and number of grafts. The primary outcome of this study was time to extubation. Secondary outcomes were length of stay (LOS) in the intensive care unit (ICU) and hospital, the need for adjunctive opioid therapy, and the associated cost savings.

Results: The mean time to extubation was lower in the dexmedetomidine cohort than the propofol arm but showed no statistical significance (11.8 hours versus 22.6 hours, p=0.085). Similarly, the difference in ICU length of stay was not significant between the dexmedetomidine and propofol groups (2.3 days versus 3.3 days, p=0.062). Length of overall hospital stay was 7.0 days in dexmedetomidine-treated patients and 8.5 days in the propofol-treated patients (p=0.012). Additionally, opioid requirements did not differ significantly between the two treatment groups. The average cost of drug therapy was greater in the dexmedetomidine arm but was recuperated by savings in the cost of room and board associated with the reduced hospital LOS. A simple pharmacoeconomic analysis revealed a net expected annual cost savings of more than $100,000 in the dexmedetomidine-treated group. However, there was no significant difference in the total observed hospital costs (p=0.630).

Conclusion: The use of dexmedetomidine in elective CABG surgery patients did not significantly reduce time to extubation or length of ICU stay when compared with propofol. However, dexmedetomidine therapy was associated with a decreased length of overall hospital stay, which potentially translates to significant cost savings both directly by decreasing cost of room and board and indirectly by increasing patient turnover. Further pharmacoeconomic studies are warranted to validate these results and to determine the cost-benefit of substituting dexmedetomidine in other cardiothoracic or critically ill populations.