Through the mechanisms put in place by the Nursing Research Council, South Jersey Healthcare nurses have the opportunity to bring forth ideas for potential research activities and mentor staff during their research related activities. These projects are stimulated by the needs related to quality improvement, staff satisfaction, and changes in practice. Several SJH RNs are enrolled in graduate programs (MSN) and have developed research projects that are relevant to their nursing practice in various settings at SJH.

Research activities, validation studies, and other forms of research participation are outlined below.

**Transfusion Requirements and the Use of the Constavac™ Reinfusion Device in Elective Unilateral Total Knee Arthroplasty**

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**Abstract**

The orthopedic procedure of Total Knee Arthroplasty (TKA) is a common surgery historically associated with significant blood loss. Autologous reinfusions via devices, such as the Constavac™, gained recognition as an alternative to allogenic transfusions. Ideally, the use of the Constavac™ should decrease the need for allogenic transfusions. The bedside nurses of a medical surgical unit, caring for orthopedic patients, observed inconsistencies in transfusion requirements. A literature review was completed to determine best practice and the evidence was found to be equivocal. With this lack of definitive evidence, the investigators were compelled to initiate a study regarding the efficacy of the Constavac™. The purpose of this study is to describe the transfusion requirements of TKA patients using the Constavac™ postoperatively, and the impact of receiving autologous transfusions on the hemoglobin and hematocrit.

The Quality Health Outcomes Model by Mitchell, Ferketich, and Jennings served as the theoretical framework to direct the development of the study. The study will consist of a descriptive, retrospective chart review. Information will be collected from 75 TKA patient charts, from the same surgical group, in order to maintain consistency. Potential study participants will be screened for inclusion and exclusion criteria. A data collection tool was developed and reviewed for validity, by advanced practice nurses and physicians, as a guide for systematically collecting and organizing the data. Following the collection process, data will be compiled with statistical analysis and eventually disseminated. As this study progresses, the investigators anticipate gaining valuable knowledge regarding the transfusion requirements of TKA patients post autologous blood transfusion via the Constavac™.
Bariatric Surgery Lifestyle Alterations: Are Patients Coping?

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Abstract
Obesity has become a worldwide health issue and is associated with increased mortality and increased risk for coronary artery disease, hyperlipidemia, diabetes, gall bladder disease and cancer; this rise in obesity has increased the risk of co-morbidities, increased mortality and disabilities. With the rise in obesity over the past thirty years, weight loss surgeries have gained popularity among the general public. Along with the physical effects of obesity, many individuals suffer from a wide variety of psychosocial issues such as depression, poor self esteem, sexual dysfunction, compulsive eating and lower socioeconomic status secondary to discrimination faced in the employment and education arenas. In addition to surgical intervention, a lifetime commitment to behavior modification and lifestyle changes are realities to the bariatric patient. The intention is to study a population of postoperative bariatric patients ranging from three months to eighteen months after surgery. This mixed method triangulated study assesses postoperative physical activity, quality of life and the lived experiences of postoperative bariatric surgical patients.

The Neuman Systems Model is the theoretical framework for this study. A convenience sample was obtained from local surgeons’ offices and local bariatric support groups. Valid and reliable quality of life tools utilized included the Duke Activity Status Index and the PHQ-9, related to physical activity, feelings and emotions after surgery, major changes, obstacles and supportive services utilized. The study also incorporates a one on one interview that also considers coping mechanisms and how patients confront issues such as dietary and hydration issues, body image disturbances, vitamin supplementation and lifestyle changes. This small scale phenomenological study evaluates the lived experiences of bariatric patients after surgery.

Significant statements spoken by the participants were observed and evaluated to specifically express these recurrent themes: lifestyle alterations, self esteem, relationships with others and the effects of support. Significant remarks from participants included changing one’s life, increased confidence in oneself, improved relationships with family and friends and the significance of having the support of family, friends and medical professionals. Preliminary results also yield that postoperative bariatric patients are making modifications to daily life in order to meet the challenges faced in the weeks and months after surgery. While the study remains ongoing, it is hoped to verify if post bariatric surgical patients are coping with the lifestyle changes faced in the months after surgery.

Non Pharmacological Comfort Measures: Their Use and the Impact of Narcotics and Epidurals on Successful Infant Breastfeeding

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Abstract
The purpose of this study is to determine if the use of non-pharmacological comfort measures by the laboring mother decreases the need for narcotics and epidurals and thereby increase the LATCH scores and successful breastfeeding. Current evidence supports the use of comfort measures by laboring women. The literature reveals if women have access to comfort measures, work actively with contractions as labor progresses and have continuous emotional and physical support, they are less likely to need epidurals. Creating labor and birth environments that protect, promote and support normal birth requires the availability of movement aids such as birth balls, and access to tubs and showers. Evidence also supports breastfeeding, breast milk supplies all the nutrition needed by a growing infant as well as supplying immunities and antibodies from the mother. There is also research that proves that mothers who receive narcotics and epidurals in labor have less success with infants latching to the breast to feed. Little research was found linking the use of comfort measures to more successful breastfeeding.

A retrospective chart review will be the methodology used for this study. Determined by power analysis, 150 charts of Elmer Maternity Care patients and their newborns will be reviewed; 75 using complimentary therapies and 75 who did not utilize complimentary therapies. Patients will be screened for inclusion and exclusion criteria. A data collection tool designed for this study will be utilized. Quality of newborn feeding will be measured with a hospital approved LATCH scoring tool. Data will be compiled and statistically analyzed. Projected benefits of this study include increased satisfaction with their birth experience, changes in current childbirth laboring practices, successful infant breastfeeding at time of hospital discharge and most of all, giving patients the best possible birth story they can retell.

Expanding the Least Restrictive Continuum in Mental Health Practice

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Abstract

The immediate safety of patients and the short and long term effects of violence, drive the initiatives of our governing bodies concerning restraint reduction. Research recognizes that violence creates significant risk of injury, but does not validate that the use of restraints correlates with greater safety (Ryan, Hart, Messick, Aaron, & Burnette, 2004; Bower, McCullough, & Timmons, 2003). This research introduces a quantitative analysis of an, evidence based, safety initiative, designed to improve the management of violence within the psychiatric inpatient setting. By combining the empathy of Watson’s (2006) Theory of Human Caring along the assessment framework of the Neuman’s systems model, with the perpetual components of Total Quality Management (TQM); this nursing research produced a training initiative of continual evidence with continual responses designed to improve safety (Neuman, & Fawcett, 2002) (Westbrook, 1993).

During 2006 all nurses and their support staff within the South Jersey Healthcare’s Department of Mental Health were trained in the concepts of the Non Violent Crisis Intervention Program (NVCIP) of the Crisis Prevention Institute (CPI). In January 2008 departmental psychiatric code teams were established and code team members were provided with hand held two way radios. The Moore Safety Code Team Performance Tool (TOOL) was developed to
provide code team performance measures that guide trainings and resource allocations. The TOOL quantifies mandated benchmarking along the least restrictive continuum and provides analysis vital for ongoing constructive debriefings and trainings. The TOOL reported a 70 percent reduction of restrictive interventions immediately following the CPI training and the psychiatric code team formations. The department restraint per patient day ratios fell over 60 percent during the same fifteen month period. This is a quantitative psychiatric nursing research initiative that confirms a pathway to restraint and injury reduction. Remaining empathetic and competent in a hostile environment is an expected nursing skill that improves with knowledge applied training and experience.

A Comparison of Peripherally Inserted IV Outcomes in The Pediatric Population of A Community Hospital Utilizing Tape IV Securement, the Statlock® IV Securement Device, and Sorbaview® Shield IV Securement Device

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Abstract

Inadequate catheter securement is an under-recognized patient (Shears, 2006) and employee safety issue (OSHA, 2004). It carries significant financial implications, not the least important of which is the Centers for Medicare and Medicaid (CMS) imposed outcome-based reimbursement strategy targeting preventable hospital-acquired conditions (DHHS, CMS, 2008). Peripherally inserted intravenous catheter (IV) securement is now believed to be a significant factor in maintaining IV site integrity and preventing IV catheter associated complications. The Infusion Nurses Society has included a new practice standard focused on securement which states that “a manufactured catheter stabilization device is recommended whenever feasible” (Infusion Nurses Society, 2006). In keeping with the organizational goal of establishing and maintaining an outcome-focused culture of quality, the purpose of this study is to compare three IV stabilization technologies based upon previous study methodologies that have demonstrated improved outcomes relative to complications, dwell times, and IV restarts when using engineered IV securement devices compared to traditional nonsterile tape securement.

Previous studies have included inpatients at community and tertiary acute care hospitals and skilled nursing facilities. This study focuses specifically on the pediatric population, ages two days to seventeen years, admitted to the South Jersey Healthcare (SJH) Regional Medical Center’s (RMC) Pediatric Unit. This study compares the effectiveness of three existing methods of peripheral IV catheter securement when used with children namely: unsterile bandage tape; Statlock®; and SorbaView®Shield. Inferences related to the effectiveness of each securement method relative to such characteristics as age, BMI, sex, age, weight, admitting diagnosis, size of IV catheter, and type of IV fluid were extracted from a comparative analysis involving the occurrence of the following events during the course of peripheral IV therapy: complications including phlebitis, infiltration, extravasation, leak at or around insertion site, and dislodgement; dwell time; and restarts. A secondary goal of the study is to qualify the level of satisfaction experienced by each of the nurses participating in the study relative to each securement method.
Impact of a Therapy Dog on Congestive Heart Failure Patients’ Ambulation Outcomes & Satisfaction

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Abstract

CHF is a leading cause of inpatient admissions, especially in the elderly. Because CHF is a disease process uniquely responsive to self management, inpatients at SJ Healthcare are visited on a daily basis by specially trained Restorative Aides (RA). The RAs function as a part of the CHF “WOW” program (Weigh, Output, Walk) and encourage patients to weigh themselves, measure their output, and partake in physical activity in hopes that these behaviors will be continued after the acute care admission. Despite the great benefits seen with the implementation of this program, patients often refuse to walk. The benefits of early ambulation for CHF patients have been well documented. Early and frequent ambulation is a promising intervention that has been repeatedly shown to positively impact patient’s functional status as well and length of stay. A review of the literature revealed a study which involved 200 British CHF patients. The patients in the experimental group received an exercise prescription along with other common measures as part of their follow up care. At the conclusion of the study, patients in that experimental group reported only 11 hospital admissions in contrast to the 33 hospital admissions reported by the control group. Furthermore, patients in the experimental group spent only a total of 41 days in the hospital while the control group patients were hospitalized for a total of 187 days (Austin, Williams, Ross, Moseley, & Hutchison, 2005). Other documented benefits of early and continued ambulation include an improvement in New York Heart Association functional class and distance ambulated during a six minute walk trial (Jolly, et al 2007) and improvements in exercise tolerance (Brodie & Inoue, 2004).

Evidence in support of AAT programs has been largely anecdotal including stories of decreased pain and anxiety as well as improvement in mood and stress levels. One concrete research study completed at the UCLA Medical Center and presented the physiological benefits of AAT specific to critically ill hospitalized CHF patients. Benefits seen in this study included a decrease in heart rate, respiratory rate, blood pressure, intra-cardiac pressures, and also in stress hormone production; Cardiac Output was also shown to be positively impacted. The nursing research study presented here sought to combine the benefits of animal assisted therapy with the known benefits ambulation for our hospitalized CHF patients.

A sample size of 69 patients was chosen to achieve a power of 0.8. Patients who were cognoscente to sign consent and who denied an allergy to and a fear of dogs were chosen for this study. IRB approval was obtained prior to the start of the study and informed consent was obtained from participants. Study methodology is as follows: The patient is greeted by RA and information on CHF topics will be presented as normal. Patient is then asked if they are ready to ambulate (“Are you ready to walk?”). If patient refuses the RA leaves the room then returns while the Primary Investigator (PI) and the Therapy Dog (TD) wait in the doorway. The patient
will be asked if they like dogs and if they have any known allergies to dogs. If the patient denies a fear of dogs and denies allergies the RA then asks the patient if they would like to reconsider their refusal to ambulate and offer to have the therapy dog accompany the patient. If the patient is agreeable to ambulation with the therapy dog, the patient will then ambulate as usual with the RA accompanied by the PI and the TD. Patients who do not refuse to ambulate are also offered the chance to participate by walking being asked if they have an allergy or fear of dogs. If the answer to both questions is “no” they are then asked if they would like to walk with the TD. The number of steps ambulated is calculated on a pedometer worn by the Restorative Aide. After the patient has returned to their room they are given a chance to visit with the Therapy Dog. At the end of the interaction a brief description of this study is presented by the PI and the patient is asked for their consent to have their data anonymously included in the study. After obtaining their consent and before exiting the room the Restorative Aide will review a short patient satisfaction tool with the patient regarding their experience having been visited by and having ambulated with the therapy dog. Data is coded to protect patient privacy.

Data collected in this study was analyzed and compared to approximately nine months of historical data already being routinely collected by the Restorative Aides. The historical rate of patients who refused to walk was calculated at 28.12%. With the addition of a therapy dog the refusal rate dropped 74% to a rate of 7.20%. Data analysis on distance ambulated was calculated using a randomly selected sample of historical control patients that represented the same breakdown as the study patients (for example, 13 patients on the second day of their stay, 17 patients on the third, etc). The overall average number of steps ambulated in the entire historical sample was calculated to be 126. After the addition of the therapy dog an 86% increase to 234 steps was seen. Data was further broken down to compare patients on each day of their stay. Patients in four of the six groups (days 2, 3, 5 & 6) ambulated more than twice as far as the patients in the historical sample. Patients who participated in this study also overwhelmingly reported having enjoyed the opportunity to walk with a therapy dog, and, indicated that they would like to have the opportunity to do so again. More than 90% of patients also stated that the therapy dog significantly impacted their decision to go for a walk.

Impact of Tai Chi on CHF Patients Post Discharge Activity Level

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Abstract

Exercise has proven to be of profound importance in the treatment of HF. Studies have shown an exercise program reduced left ventricular volumes, improved ejection fraction, increased walking distance, and improved oxygen consumption (Boudreau & Genovese, 2007). The CDC (2007) New Jersey prevalence data indicates 51.9% of adults do not participate in moderate physical activity for the recommended 30 minutes on 5 or more days per week or 20 minutes of vigorous activity 3 days per week. State Health Facts (2007) reports the total US data for adults who did meet the physical activity recommendations to be at 49%. Many patients fail to start an exercise program due to fear and anxiety. As evidence accumulates regarding the benefits of exercise, the nurse must incorporate this into the plan of care.
The nurse is ideally suited to providing care plans supporting a monitored approach to physical activity and managing co-morbidities. Tai Chi is one example of an exercise program that can be easily implemented in the home. This is a low intensity exercise that promotes relaxation. One study of 10 patients was performed to test the effect of Tai Chi on HF patients. The Medical Outcomes SF-36 survey, Minnesota Living with Heart Failure Questionnaire, and the 6-minute walk test were all tools used for the study. "Improvement was seen in all outcome measures…” (Boudreau & Genovese, 2007, p. 90). Other studies reported by the National Institute of Health have demonstrated positive effects of Tai Chi with HF patients (National Center for Complementary and Alternative Medicine [NCCAM], 2005).

In general, studies of tai chi have been small, or they have had design limitations that may limit their conclusions. The cumulative evidence suggests that additional research is warranted and needed before tai chi can be widely recommended as an effective therapy.

Tai chi instructors do not have to be licensed, and the practice is not regulated by the Federal Government or individual states. In traditional tai chi instruction, a student learns from a master teacher. To become an instructor, an experienced student of tai chi must obtain a master teacher's approval. Currently, training programs vary. Some training programs award certificates; some offer weekend workshops. There is no standard training for instructors (NCCAM, 2009).

The goal of this study is to combine the best of both of these interventions. By incorporating Ta Chi into our existing HF Discharge Education Program it is our hope that HF patients will demonstrate an increased willingness to exercise or increase physical activity at home. The purpose of the survey is to answer questions about the target population by sampling a select number of individuals. The questions selected will garner pertinent information regarding patient status as they return to the community. The survey enables the nurse to assess the patient’s cardiac output as it improves. For example, the patient’s weight is crucial in determining excess fluid gained by the patient, and with a scale the patient can record in a journal if they have gained weight.

Midnight Removal of Foley Catheter versus Early Morning Removal: Improved Outcomes after Orthopedic Surgery

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Abstract
Short term use of an indwelling catheter is a safe and effective strategy in maintaining bladder health. At any give time, approximately 25% of hospital patients have urinary catheters and a substantial portion have them longer than they really need them. However, there is no evidence to support the set time for the removal of a Foley catheter. The time frame for removal of a Foley catheter is dependent on clinical judgment and findings. Approximately 40% of nosocomial infections are caused by UTI’s directly associated with an indwelling catheter, as bacteria on a catheter increase by 5% to 8% daily. While the importance of short term management is recognized, there is no consensus among clinicians about the optimal time of day for catheter removal.

Urinary catheterization is used on many occasions; however, the timing of removal may play an important role in return to normal bladder function. The objective of this study is to determine the effect of the timing of removal of catheters on duration to and the volume of the first void, length of hospitalization, number of patients developing urinary retention and requiring recatheterization, patient satisfaction, and the percentage of catheters removed at the scheduled time of removal. Studies indicate no disadvantage in removing catheters at midnight rather than the traditional practice of 6:00 a.m. Nursing staff will be familiarized with the study through staff meetings, work e-mails, the posting of notices on bulletin boards with copies of the forms to be filled out during the study. The assistance of nurse managers, assistant nurse managers and advance practice nurses for the Surgical Care Center will be utilized for this process. The Unit Secretary for Surgical Acute will attach a form, to be called “Research Questionnaire” to each patients’ bedside chart if they are to be included in the study. At discharge the Unit Secretary will place these forms in the Advance Care Practice Nurses’ mailbox. The nursing staff will fill out the forms with the following information: actual time of catheter removal, volume of first void, time of first void, and the interval between catheter removal and discharge from hospital. In addition to these factors, the operative procedure undertaken, the administration of night sedation (includes pain medication), complaints of sleep disturbance, whether there was an acceptable pattern of voiding achieved within 24 hours post removal of catheter, and if there was any need to recatheterize the patient should be documented. The demographic information will include age and gender only.