

Poster Presentations

NP001

CARDIAC RESYNCHRONIZATION (CRT): GETTING IN SYNCH WITH LIFE

**Kathy Bernard, Pam Branscombe, Heather Harper
Kingston, ON**

Twenty-two million people worldwide suffer from congestive heart failure. Forty percent of these patients also have arrhythmias that compromise their heart function. Cardiac resynchronization (CRT) is a relatively new therapy to relieve symptoms of this debilitating disease.

A search of the literature related to this therapy was conducted. The purpose was to provide the nursing staff at our tertiary care centre a learning model in the form of a poster presentation. This model will provide a description of the required inclusion criteria along with an explanation of the classifications of the New York Heart Association's Class III and IV symptomatology. The benefits and risks will be reviewed as well as visual representation of bi-ventricular lead placement along with a diagram, chest x-ray verification and a twelve lead EKG explaining changes post cardiac resynchronization therapy. Nursing practice implications are examined and the conclusion accentuates the important role nurses play in supporting the patient and their family undergoing this ever-expanding cardiac intervention which is proving to be life changing to its recipients.

NP002

EVIDENCE BASED GUIDELINES FOR TELEMETRY MONITORING: THE STATE OF THE ART

**Susan Michaud, Laurie Fowler, Rob Fuerte, Chantal Kangudie
Toronto, ON**

Cardiac monitoring via telemetry is a routine practice on cardiology and cardiac surgery patient care units. Sophisticated monitoring systems are used to alert nurses and physicians to variations in cardiac rhythms which may, in turn, indicate important changes in a patient's condition. Cardiac nurses require specialized knowledge to interpret and respond appropriately to changes in cardiac rhythms. An adverse outcome on a busy cardiac surgery unit in a major teaching hospital underlined the need for nursing leaders to reassess current nursing standards of care for the management of telemetry monitoring in the heart centre.

Nursing standards may be defined as statements that describe the desirable and achievable level of performance expected of nurses in their practice (CACCN, 2004). The development of standards provide nurses with guidelines for the evidence based management of patient care. A review of the literature and an environmental scan exposed a gap in evidence based literature and knowledge development around this important cardiac nursing practice.

A project team was put in place to develop evidence based guidelines for the nursing management of telemetry. Utilizing expert nursing knowledge and experience, literature sources, audits of similar environments as well as patient feedback, guidelines were developed and standardized across the heart centre. Plans are underway to adopt the management of telemetry as a corporate advanced nursing competency.

The poster presentation will include a review of the literature and summary of the environmental scan, an overview of project goals, evidence based guidelines for telemetry management and an evaluation of management following the implementation of guidelines.

NP003

PATIENT SAFETY IN TELEMETRY MONITORING: A HUMAN FACTORS APPROACH

**Susan Michaud, Laurie Fowler, Rob Fuerte, Chantal Kangudie
Toronto, ON**

Telemetry monitoring is a requirement for the clinical management of

many cardiology patients. An adverse outcome and several near misses involving patients who required telemetry monitoring on a busy cardiology floor in a major teaching hospital were the catalysts for the design of a unique patient safety initiative. Telemetry management for the cardiology unit included an RN staffing model with a dedicated monitor watcher.

Project goals included improving patient safety for telemetry patients by utilizing human factors theory in the design of a patient safety initiative; the development of a safety tool to enhance the management of telemetry RN accountabilities and system challenges associated with the consistent recognition of arrhythmias in telemetry patients.

A Telemetry Checklist was designed by nursing staff and evaluated by a Human Factors expert.

The checklist includes expectations for clinical practice guidelines, standard requirements for the documentation of patient diagnosis, rhythms, significant arrhythmic events, battery and ECG paper safety checks, requirements for the optimization of ECG signal quality and alarm history reviews. The Checklist was trialed over a six month period and suggestions for improvement from nursing staff were incorporated into the final design. Project outcomes indicate a reduction in adverse events, near misses and positive feedback from both nursing and physician groups.

This presentation will include a review of the literature, a summary of project goals, an overview of Human Factors theory and principles, the content and design of the Telemetry Checklist, evaluation data and future recommendations.

NP004

SAFE PREPARATION OF THE OUTPATIENT HAVING CARDIAC CATHETERIZATION & PERCUTANEOUS CORONARY INTERVENTION (PCI) IN A PRE-HEART INVESTIGATION UNIT (HIU) CLINIC SETTING WITH CARDIOLOGY NURSE CLINICIANS

**Norica Stein, Barb Harper, Anne Wilkinson
Hamilton, ON**

In Ontario, over 50,000 cardiac catheterizations and 15,000 PCI's are performed annually. Despite the contribution of these procedures, cardiovascular disease continues to be a major cause of death and disability. Each year, the need for these services increases due to an aging population and advances in technology and pharmacology to support expanded indications for these procedures.

Over 6,300 patients from Central South Region had procedures performed at Hamilton Health Sciences (HHS) in 2006/07. Approximately 50% of these patients are elective and urgent outpatients. Although deemed stable to wait as outpatients, many are at an advanced age and have other significant co-morbidities that may increase the risk of complications and adverse events with cardiac catheterization & PCI.

At HHS, in order to ensure optimal pre-procedure health and avoid subsequent cancellations upon arrival to the HIU, most outpatients are seen in the pre-HIU clinic. This clinic is coordinated by Cardiology Nurse Clinicians who see outpatients within 2 weeks of the scheduled procedure. The purpose of the clinic visit is to streamline the admission process and liaise with the HIU, screen for issues that may necessitate further optimization of medical therapy prior to the procedure, provide patient education and alleviate anxiety.

With the current emphasis on improving patient safety, the pre-HIU clinic is one strategy to improve patient safety for outpatients undertaking a cardiac catheterization or PCI. This poster will describe the multiple roles and clinical reasoning used by the nurse clinicians in the pre-HIU clinic that contribute to safer patient care.

NP005

STROKE REHABILITATIVE CARE: UNDERSTANDING NEUROSCIENCE NURSING AND INTERPROFESSIONAL PRACTICE ON AN ACUTE STROKE UNIT

**Cydnee C Seneviratne, Karen Then, Charles Mather
Calgary, AB**

Stroke rehabilitation requires commitment of all members of acute stroke units. Nurses not only care for their patients acute medical needs, they also

continue the stroke rehabilitation role of physiotherapists and occupational therapists after regular therapy hours. Health professionals view the nursing role in acute stroke rehabilitation as essential; yet this contribution remains undefined. Researchers have not explored the contribution of all professionals in rehabilitation, specifically nurses who are the primary caregivers of stroke patients. The purpose of this study was to explore and describe how nurses and other professionals incorporate and organize rehabilitation on an acute stroke unit. Using an ethnographic approach, investigators conducted participant observations on an acute stroke unit and interviewed nine key informants. Over ten months investigators observed staff including registered nurses, physiotherapists, and physicians. Data analysis involved ethnographic open coding of fieldnotes and interview transcripts to reveal cultural themes and relationships. The key findings central to understanding nurses perceptions regarding early stroke rehabilitation were that stroke unit nurses incorporate rehabilitative care into their stroke practice, stroke unit nurses do not champion the ways they adapt and evolve to enhance their rehabilitative practice, and issues related to space and time hinder interprofessional practice. Considering stroke is a leading cause of adult disability in Canada, exploring how nurses adapt to space, time, and interprofessional practice challenges on an acute stroke unit was essential. Findings from this study will be used to inform and educate professionals in order to improve acute and rehabilitative care on acute stroke units.

NP006

BURNING BRIDGES: CATHETER ABLATION OF SUPRAVENTRICULAR ARRHYTHMIAS

**Kathy Bally, Kathy Bernard, Penny Martin, Beth Young
Kingston, ON**

Supraventricular arrhythmias include a wide spectrum of disorders which can cause significant symptoms affecting quality of life. Included in this spectrum are atrioventricular reentry tachycardia (AVRT), atrioventricular nodal reentry tachycardia (AVNRT), atrial tachycardia, atrial flutter and atrial fibrillation. Each arrhythmia has a unique electrical pathway which can be localized by electrophysiologic studies (EPS). Catheter ablation uses an electrode catheter to destroy small areas of myocardial tissue or the conduction system, thereby interrupting one or more of these critical pathways that either initiate or maintain the arrhythmia.

Although most nurses caring for patients undergoing ablation are familiar with the vital signs and access site care that is routine for patients undergoing invasive cardiac procedures, knowledge of the arrhythmia specific ablation procedures and the resultant monitoring implications is not as common. Depending on the site of the ablation, assessment should focus on anticipated complications which can include AV block, clot formation and cardiac tamponade.

This poster will illustrate the pathways of AVRT, AVNRT, atrial tachycardia, atrial flutter and atrial fibrillation, identify the site of each ablation, and focus on the associated nursing considerations. The intent is to use the poster as an easily accessible reference tool to enhance knowledge, promote focused nursing assessments and support nurses in the education of those patients undergoing catheter ablation for supraventricular arrhythmias.

NP007

RN/RPN TAXONOMY REVIEW "I CAN DO IT TOO!"

**Laurel Isaac, Tammy Labreche
Hamilton, ON**

In Ontario 30,000 nurses will be eligible to retire by 2008 and up to 40,000 by 2011. In addition to this recruitment challenge, the educational requirements for nursing have recently changed in Ontario. In 2005 requirements for RN registration changed to a Baccalaureate degree and the RPN program became a two-year community college diploma.

The Hamilton Health Sciences (HHS) Heart Investigation Unit recognized the need to critically evaluate the opportunity to integrate the new RPN role into their staffing model, as an important first step in responding to futuristic workforce challenges. In order to evaluate the potential opportunity to integrate the RPN role, the College of Nurses (CNO) framework

and the taxonomy of skills were used to develop the scope of practice for both the RPN's and RN's within the HIU. The CNO three-factor framework was considered, evaluating the scope of practice of the nurse, the environment and the needs of our clients. A recommendation from this exercise was to develop and integrate the scope of practice for both the new diploma RPN and the experienced certificate RPN's within the HIU. The RPNs will be trained in vascular access therapy; basic ECG interpretation and monitoring radial arterial bands post cardiac catheterizations. This poster will focus on the education plan, it's implementation and evaluate it's success as we increase the knowledge and skills that will enable the RPN's to practice to their full scope.

NP008

THERAPEUTIC HYPOTHERMIA POST CARDIAC ARREST: OUR INSTITUTION'S RESULTS

**Marleen Spencer, Robert Stevenson
Halifax, NS**

Deliberate induction of moderate hypothermia (lowering core body temperature to 32-34 degrees Centigrade) had been used since the 1950's to protect the brain from injury because of ischemia related to anesthesia and cardiac surgery with varying results.

In 2002, two randomized studies, published in the New England Journal of Medicine, identified that cooling patients after cardiac arrest increased their chances of leaving hospital with mild to no neurological deficits. The results of these trials led the American Heart Association (AHA) and the International Liaison Committee on Resuscitation (ILCOR) to develop recommendations and guidelines for induction of hypothermia in select patients post cardiac arrest.

In 2007 our tertiary care institution established a working group of nurses and physicians to develop a protocol, physician standing orders and plan of care for the induction of therapeutic hypothermia for out of hospital cardiac arrest patients. This work has resulted in an efficient and expedient implementation plan that has been utilized by our Coronary Care Unit (CCU).

This poster presentation will highlight results of the retrospective analysis of our first twenty patients receiving therapeutic hypothermia following an out of hospital cardiac arrest. The clinical outcomes of mortality, morbidity and neurological status on discharge will be presented. Nursing challenges for this select population will be identified.

NP009

HOME IV INTROPES IN END-STAGE HEART FAILURE PATIENTS

**Arvinder Buttar, Annemarie Kaan, Holly Andrews, Doson Chua
Vancouver, BC**

Patients with end-stage heart failure awaiting transplantation are often dependent on inotropic support. Often, these patients spend long periods in hospital, as they are unable to be weaned from support. The purpose of this paper is to review the literature and describe recent reintroduction of an outpatient continuous IV inotrope program at the St. Paul's Hospital Heart Centre.

Outpatient inotropic support was widely used in the mid 1990's, however fell somewhat out of favor due to reports of sudden cardiac death at home. Since the indications for the use of implantable cardioverter/defibrillators has expanded, the reintroduction of the outpatient continuous IV inotrope program has been able to support this patient population at home.

Six patients at our centre were discharged home with inotropic support between March 2005 and December 2007. All patients were transplant listed with NYHA functional class IV symptoms. No deaths occurred in the group. Four patients survived an average of 3 and a half weeks (2 days to 2 months-1 week) on home IV inotropes until transplanted. One patient was successfully weaned off inotropes subsequently not requiring transplant, while the remaining patient was readmitted to hospital with exacerbation of heart failure symptoms after seven weeks at home. There was one IV line complication (sepsis), no IV line blockages as well as one emergency visit due to an IV access complication.

Outpatient continuous IV inotropic therapy may be a feasible way to allow end-stage heart failure patients waiting for heart transplant to wait at home for surgery.

NP010

THE IMPACT OF RN-INITIATED NICOTINE REPLACEMENT THERAPY IN CARDIAC INPATIENTS

Amy Graham, Martha Mackay
Vancouver, BC

Smoking is a major, yet modifiable risk factor for heart disease. Each year more than 47000 Canadians die due to tobacco-related diseases and this includes coronary artery disease. Smoking cessation has been shown to reduce mortality from heart disease more than other measures including statins, aspirin, beta-blockers and ACE inhibitors.

Our cardiac centre has recently implemented a recognized smoking cessation program designed specifically for inpatients. One component of the program is the use of nicotine replacement therapy (NRT) during hospitalization. Research has shown that NRT increases smoking cessation rates 1.5 to 2.0 fold. In addition, the literature suggests that the effectiveness of NRT is independent of the duration of therapy.

Concurrent with implementing the smoking cessation program, our institution is approaching the transition to smoke-free premises. To support this change, all staff nurses will be able to prescribe NRT for their patients. We believe utilizing RN's to initiate NRT for hospitalized patients will contribute to increased smoking cessation rates by increasing rates of appropriately initiated NRT.

This presentation will provide an overview of the literature on the effectiveness of NRT for smoking cessation; outline the safe use of NRT in cardiac populations, and present observational data comparing the utilization of NRT products before and after the implementation of nurse-initiated prescription.

While we recognize not all institutions have an established smoking cessation program, we expect this presentation will be of broad interest by demonstrating the potential positive impact of staff nurses on a specific component of smoking cessation intervention.

NP011

EVALUATION AND REDESIGN OF A CARDIAC ORIENTATION PROGRAM

Anne McVety, Cheryl Kee, JoAnn Richardson
London, ON

The provision of a comprehensive orientation program should prepare nurses for staff nurse roles. The components of a successful orientation should be structured to: welcome new employees, positively reinforce their decision to join the organization, control the pace of learning, and satisfy professional learning needs.

Restructuring of the cardiac care program at this academic tertiary care center resulted in the physical relocation of the cardiology and cardiac surgery programs. There was a major turnover of nursing staff, nursing coordinators and educators. Senior management recognized that an effective orientation program is associated with improved job satisfaction and increased staff retention and suggested a review of the existing orientation program.

An evaluation survey of the orientation program was undertaken by staff nurses and the feedback provided the focus for this review. A core group comprised of an educator, advanced practice nurse, coordinators, professional practice specialist, and staff nurses reviewed the educational material for content and appropriateness. Strategies for knowledge acquisition and competency development were assessed and included a newly formatted and updated orientation manual, computer website, checklists, and pocket references. Teaching strategies expanded to include expert guest lecturers, interactive power point presentations, video demonstrations, and self-directed learning activities.

An evaluation survey will be completed by new orientees to provide information regarding the revised program. This presentation will discuss the challenges encountered and lessons learned through the process of orientation program redesign.

NP012

INTEGRATION OF PERIPHERAL VASCULAR PROCEDURES INTO A CARDIAC CATH LAB

Anne Forsey, Susan Bates, Vevien Braga, Andrew Dueck
Toronto, ON

Cardiac Cath Labs have traditionally performed procedures directly related to the disease processes of the cardiac system including coronary angiogram/angioplasty, Electro Physiology studies/ablations and implantation of cardiac devices. While some Interventional Cardiologists perform renal angiogram /angioplasty during a coronary case, interventions on other systems such as cerebral and peripheral vascular systems have been considered within the scope of Interventional Radiology. Moreover a surgeon's presence during Cath Lab procedures has historically focused on urgent/emergent surgical assessment during an adverse event for the patient. Sunnybrook Health Sciences Centres, Schulich Heart Program has lead the country in forging into new territory for Cath Labs by welcoming a Vascular Surgeon into the team and performing peripheral vascular angiogram and angioplasty in the Cath Lab. The Cath Lab team has successfully integrated this patient population into the department in all aspects.

Project goals included improving this patient population's access to procedures, education and training of the clinical team, triage of vascular patients, education packages for patients, and creation of standard order sets. A project team was put in place to ensure the successful outcome for the project. The team focused on the similarities and differences in the patient population, outcome goals of the intervention, product selection, radiation safety, and cath lab equipment lay out during the case.

The presentation will include a review of the literature, a summary of project goals, the processes used to integrate a surgeon into the Cath Lab team, education required for the clinical team, and future recommendations.

NP013

SMART PUMPS: THE WINDOW TO NURSING BEST PRACTICE IN MEDICATION ERROR REDUCTION

Bonnie Bowes, Elaine Vandenberg, Nancy Tee, Michelle Nelson, Angela Cuddy
Ottawa, ON

Using SMART pump technology in medication infusions is an accepted technological advance aimed at reducing healthcare associated errors. SMART pumps use dose error reduction software in conjunction with hospital specific protocols to determine upper and lower dosing limits for medications. Clinicians who wish to infuse doses outside of these limits are prompted through pump alarms to recheck and verify their selections.

SMART pumps produce data which, when interpreted in collaboration with clinician users, provides valuable insight into safe practices, compliance with dose reduction software, resource utilization of infusion devices, and intercepted medication errors. An evaluation of the value one system brings to nursing practice at this tertiary care cardiovascular hospital was undertaken through focus groups with clinician users.

Data from 73.43 hours of infusion activity from unique clinical areas at UOHI was downloaded and analyzed, representing a three-day period of pump usage. Reports were presented highlighting:

- Unit specific medication error intercepts and associated time of day
- Unit specific data of infusion starts using dose error reduction software in light of practice protocols
- Management of high risk medication infusions in light of practice protocols –Infusion device battery management

Interpretation of these reports assisted nurses in identifying issues impacting best practice and suggesting targeted approaches to practice changes, protocol redesign and further education.

Nurses expressed great satisfaction with dose error reduction software. It is an effective adjunct to nursing practice and provides rigorous data to support evidence based practice changes.

NP014

THE MYOCARDIAL CONSTRAINT DEVICE...PUTTING THE SQUEEZE ON HEART FAILURE

Christopher Coltman, Kristin Ferguson, Annie Tremblay, Heather Agren, Edward Calder
Calgary, AB

Heart Failure (HF) is a chronic, potentially irreversible, hemodynamic and neurohormonal disorder affecting hundreds of thousands of Canadians every year, often with debilitating and devastating consequences. Regardless of the cause, HF eventually leads to a neurohormonal derangement which promotes left ventricular remodeling. This remodeling is distinguished by left ventricular fibrosis, dilation, hypertrophy, and a more circular and less functional left ventricle.

The Paracor HeartNet myocardial constraint device, a net-like structure which is wrapped around the failing heart, is the focus of an international study to determine its effect on the progression of HF by allowing reverse remodeling.

In the first of its kind in Canada, the cardiovascular team at the Libin Institute in Calgary, Alberta has successfully completed the implantation via a minithoracotomy of the Paracor HeartNet. The patient, a 48 year old female diagnosed with dilated cardiomyopathy and an ejection fraction of 20%, was experiencing New York Heart Association Class III HF symptoms.

Through this case study, we will strive to enlighten nurses about this novel form of HF treatment by describing the device, its goals, the implantation process and the nursing implications related to our patient's stay in the Cardiovascular Intensive Care Unit.

NP015

POTENTIAL PREDICTORS OF SEIZURE-LIKE PHENOMENA IN CARDIAC SURGERY PATIENTS

Monica Parry, Marie-Jo Cleghorn, Laura Buck, Stephanie Strachan
Kingston, ON

Propofol is a sedative-hypnotic that is widely used for anaesthesia and sedation in patients undergoing cardiac surgery. Despite its favourable characteristics, early clinical reports suggest a drug-induced excitation of the CNS, including seizure-like phenomena [SLP] in susceptible patients. SLP have been classified according to their occurrence during anaesthesia/sedation (induction, maintenance, emergent or delayed) and according to their clinical presentation (generalized tonic-clonic seizures [GTCS], focal motor seizures, those described as increased tone with twitching/rhythmic movements, opisthotonos and involuntary movements. The purpose of this retrospective descriptive study is to identify predictors of SLP in patients undergoing cardiac surgery. Chart reviews will be undertaken for all cardiac surgery patients identified as having SLP from January 2000 to February 2008. Data abstraction will be done by all authors, who will meet to read all relevant reports and assess the adequacy of extracted data. Preoperative (age, sex, weight, height, BMI and comorbid factors), intraoperative (number of bypass grafts, number of arterial grafts, valve type, aortic cross clamping time and CPB duration), and early postoperative variables (hemodynamic indices, duration of tracheal intubation, inotropic/vasoconstrictive support and details of adverse events in the ICU) will be included. Statistical analyses will be undertaken using SPSS® (version 15). Patient characteristics, clinical presentation and classification of SLP and potential predictive factors with implications for nursing practice will be discussed. Early identification of patients at risk and prompt management may help to reduce health care costs and improve outcomes for patients with SLP post cardiac surgery.

NP016

NURSES ROLE IN DEVELOPING A PATIENT SATISFACTION SURVEY FOR PATIENTS WHO HAVE UNDERGONE ELECTIVE CARDIAC CATHETERIZATION AND/OR ANGIOPLASTY

Beverly Barbato, Mat Mercuri, Leslie Gauthier
Hamilton, ON

Quality of care in cardiac related interventions most frequently focuses on Major Adverse Cardiac Events (MACE) including death, myocardial infarction, stroke, cardiac revascularization and hospitalization. A less examined facet is patient and family satisfaction with overall care provided. This presentation will review the development of a patient satisfaction survey for patients undergoing elective cardiac catheterization and/or percutaneous coronary intervention (PCI). The role of the nurse in the development, implementation and evaluation of this project will be highlighted.

A literature review was performed to determine themes and concerns of patients undergoing invasive testing. A multidisciplinary team, including the patient education specialist, was utilized for feedback and refinement of the initial draft survey. In addition, a focus group of patients provided feedback on readability, understanding and content.

Surveys were mailed to 819 patients who had undergone elective procedures. Patients and/or family members were encouraged to complete the surveys. The survey had a response rate of 49% (399 completed surveys). Survey data was analyzed to identify patient concerns in care. Overall, results were positive.

Nurses play a vital role in advocating change in care delivery on behalf of their patients. Through the development and implementation of a patient satisfaction survey, nurses can evaluate the patients' experiences, identify opportunities for improvement, and work toward improving patient and family satisfaction with care.

NP017

A "BASKET OF CARE" FOR HEART FAILURE PATIENTS MANAGING AT HOME: EVALUATING A COMMUNITY BASED NURSING INTERVENTION FROM A PATIENT'S PERSPECTIVE

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Patients with heart failure (HF) in the community represent a large and growing patient population whose complex care requires implementation of innovative care modalities. The Centre Hospitalier - Centre de Santé et de Services Sociaux - Corridor of Service for Heart Failure Patients (CH-CSSS-CSHFP) represents a novel approach to address the challenges of delivering comprehensive care to HF patients in the community. This study aimed to answer the question: What is the patient's perception of care received in the CH-CSSS-CSHFP? A descriptive qualitative design and semi-structured interviews (n=5) guided the inquiry. Themes that arose from analysis included: "Staying Home": A Shared Goal of the Patient and Service, "Checking On": Health-Related Monitoring, and "Being Connected": Ties to the Healthcare System. Results of this study provide insight into the patients' unique perspective on how this service has impacted their HF management and may assist HCPs in designing more effective community based services.

NP018

BREAKING DOWN BORDERS: THE VALUE OF THE CARDIAC CLINICAL NURSE SPECIALIST

Lorraine Avery, Karen Schnell-Hoehn
Winnipeg, MB

The clinical nurse specialist (CNS) within cardiac sciences is imperative to develop, implement, and evaluate nursing evidence-based practice. The CNS provides strong leadership locally and regionally in advancing and advocating for the CNS role, and is often misunderstood and under utilized. The purpose of this presentation is to describe processes and initiatives

taken locally and regionally to facilitate the understanding and integration for the CNS role. The intent is that other cardiac programs will adopt similar strategies to incorporate a CNS within their teams.

Locally, strategies are in place to increase visibility and understanding of the CNS role including: 1) the development of a pamphlet outlining key domains of CNS practice, 2) clinical consultation, 3) research collaboration and partnerships, and 4) engagement in nursing practice committees. Regionally, the CNS within cardiac sciences founded and co-chairs a provincial CNS interest group where members bring forward practice issues and network with one another. Members link with the CNS Council of Canada and provide leadership to support CNS practice. The co-chairs are actively engaging in work mandated by an advanced practice steering committee. The steering committee developed a working document including a needs assessment, characteristics of the CNS role, and generic job description. The CNS in cardiac sciences is engaged in activities to promote quality patient-centered care and advocate for the continued active involvement of the CNS within nursing practice. A regional strategic plan ensures role clarity and evaluation and ensuring the appropriate nursing professionals within programs.

NP019

THE ROADMAP PROJECT

Wendy Earle¹, Joan Tranmer¹, Sara Culhane¹, Rick Birtwhistle¹, John McCans¹, Denis O'Donnell¹, Miu Lam¹, Patti Staples¹, Elizabeth Hill¹, Krista Smith¹, Marshall Godwin²
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Despite recent efforts to enhance the care of patients with Heart Failure (HF) and Chronic Obstructive Pulmonary Disease (COPD), variations and gaps exist along the continuum of care. The goals of the RoadMAP project were to: 1) test a model of care for HF and COPD that was primary care based, and 2) provide a platform for interaction regarding chronic disease management from both the provider and patient's perspective.

The project consisted of two phases. In the initial phase we conducted a comparative evaluation study to determine the effectiveness of integrating the clinical nurse specialist (CNS) role within primary care practices (intervention patient n=135, comparator group n=84). The intervention placed a CNS into primary care practices for the purpose of developing Management Action Plans (MAP). Measures related to adherence to existing guidelines, quality of life, resource utilization, self-management, and number of emergency room visits and hospitalizations were determined at 6 months. In the second phase we conducted focus groups with patient participants and key stakeholders from the primary and specialty settings. Focus groups identified opportunities and barriers to chronic disease management of HF and COPD.

Data analysis is in progress. We will present the evaluation data as well as feedback obtained from the focus groups.

We anticipate that the findings of this project will increase our understanding about the effectiveness of nurse-facilitated strategies for persons with chronic illnesses, such as HF and COPD, in the primary care setting.

NP020

MULTIMODALITY ASSESSMENT OF FUNCTIONAL CAPACITY IN HEART FAILURE PATIENTS: THE INTEGRATED ROLE OF THE HEART FAILURE AND DEVICE CLINICS

Estrellita Estrella-Holder, Shelley Zieroth, Kerry Liebrecht, Elizabeth Halford, Shari Barker
Winnipeg, MB

Heart failure (HF) symptoms are typically graded in reference to a patient's subjective reporting of the degree of physical activity that results in dyspnea or fatigue. An ideal tool to evaluate the severity of heart failure symptoms should be objective and easy to use. Assessment tools are important to clinical management as they are used to select optimal medical therapy and as a guide to symptom management. The New York Heart Association (NYHA) functional classification fulfills only some of these criteria. The NYHA classification is based on a patient's self assessment and is therefore subjectively influenced. The peak oxygen uptake, a more objective tool, requires sophisticated equipment and trained personnel. A six minute walk

test is a more convenient tool to assess functional capacity in heart failure patients. Health care providers can easily be trained in conducting the six minute walk test. More recently, modern pacemaker devices are capable of storing HF diagnostic parameters which may include heart rate variability and patient activity records. These data are easily obtained during pacemaker interrogation. In some cases where it is difficult to ascertain the patient's true physical abilities, a combined approach using NYHA classification, six minute walk test and HF diagnostics from pacemakers may be more effective and accurate in evaluating a patient's functional capacity. This presentation will describe one center's experience in using these three tools in the assessment of functional capacity. Collaboration between the pacemaker/device and heart failure clinics in evaluating the severity of a patient's symptoms, could potentially improve heart failure management and patient outcomes.

NP021

PLEASE TURN OFF YOUR CELL PHONE

Stefanie Lutz
Vancouver, BC

The cell phone has become a necessity in our culture, providing a dependable connection with loved ones. In a time of crisis, the need for loved ones to be accessible is even more important. Hospitalization is a stressful event and is potentially isolating without access to mobile communication. As a large urban teaching hospital, we have patients from around the province. These patients must frequently make long distance phone calls and prefer to use their cell phones.

It is difficult for nurses to enforce the restriction of patient and family cell phone use while other health care professionals are using many types of mobile devices. These devices include cell phones, blackberries, cordless telephones, and two-way radios (by security) used within full view of patients and their families who have been instructed not to use their own devices.

The results of a literature review of cell phone electromagnetic interference with medical equipment performance will be presented so that cardiac care units may make informed decisions around their policies on hand held communication devices. If the results show that the effect of cell phones on the performance of medical equipment such as telemetry, ventilators, and intra-aortic balloon pumps will be negligible, the results will be used to change the current policy of banning cell phone use completely for patients and their families.

NP022

THE IMPACT A PROFESSIONAL PRACTICE COUNCIL CAN HAVE ON A NURSING UNIT!

Lynn Marshall, Carol Meade-Corkum, Sandra Matheson
Halifax, NS

With the challenges of our current health care system, how can we ensure that our focus remains on patient safety, providing excellent patient care while creating and maintaining a healthy work environment for staff?

To address these questions within our workplace, we identified the need to first focus on our staff. Interactive team building workshops were held to validate team values and culture in creating a stable team foundation. Following this a professional practice working group was established to respond to practice concerns and provide the opportunity for collaborative decision making. Membership on our unit based Professional Practice Council included multigenerational (novice to expert) staff representation, CNS, Clinical Nurse Educator and Health Services Manager.

This presentation will focus on our journey in establishing a professional practice council and the benefits and challenges in engaging staff in discussions surrounding the topics of patient safety, quality patient care and a healthy work environment. Successes and learning opportunities will be shared.

Overall our unit based professional practice council is effective and has become our vehicle to address the difficult issues within our nursing unit, such as manpower, workload and building staff capacity as we attempt to be responsive to the current challenges of our health care system.

NP023
AN INTERDISCIPLINARY SMOKING CESSATION PROGRAM FOR HOSPITALIZED PATIENTS

Ramola Bhojwani, Jill Shorrocks, Darlene O'Donnell, Jana Jeffrey
Toronto, ON

In 2007-08, the Heart and Vascular Program (H&V) at St. Michael's Hospital linked with the Ottawa Heart Institute to expand their successful smoking cessation program for hospitalized patients. This program is in alignment with quality initiative recommendations for care post myocardial infarction (MI) by Safer Health Care Now. The H&V program adapted its intervention and post discharge follow up to an interprofessional team care approach model. The interprofessional team task force from medicine, pharmacy, and nursing modified and implemented a smoking cessation model. The task force utilized Plan-Do-Study-Act (PDSA) methodology for the roll out of the program. The program of care piloted in the Coronary Intensive Care Unit incorporated a brief counselling model by the CCU nurse, reinforcement and continuity by messaging from the physician and interprofessional team members, and outpatient counselling by a nurse counsellor. This model of care was then rolled out in a collaborative manner to the cardiology, vascular, and cardiovascular areas of the hospital over a 3 month time frame. This model involved the training of unit specific pharmacists and nurse champions who educated and implemented the model in their area of expertise. Interprofessional collaboration serves as a framework model for successful knowledge translation for hospitalized cardiac/vascular patients in a tertiary clinical setting.

NP024

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NP025
TRAVERSING AN ETHICAL MINEFIELD IN A PATIENT WITH A VENTRICULAR ASSIST DEVICE

Nicole Gauthier, Annemarie Kaan, Carrie Bancroft
Vancouver, BC

Ventricular Assist Devices (VADs) are an invaluable tool in our quest to support patients through periods of acute decompensated heart failure. Many patients come with unique social and psychological issues that need addressing in order for them to be successful in living with a VAD. St.

Paul's Hospital has implanted 34 VADs since 2002 and as a team we have challenged existing guidelines and assumptions in order to ensure that these complex patients achieve the best possible outcome. Recently, the team was challenged by a young female patient. This woman was transferred in cardiogenic shock from a remote religious community in Northern British Columbia (BC). She was diagnosed with giant cell myocarditis and within 48 hours emergently required VAD support. Complicating matters were the facts that she was a mother of 7 children under 15 and that her husband was mentally ill. We questioned his ability to care for either the children or the patient. We relied heavily on the staff ethicist and the Ethics Support Network to ensure that we followed her wishes not the wishes of some of her family or the elders of the religious community she belonged to. Following biventricular VAD implantation she suffered a massive cranial haemorrhage and died. Using a case study format, we will explore the ethical challenges related to the care and decision making for this complex case. We will also share some of the insights that we have gained looking back on this unusual situation.

NP026
BRIDGING GAPS IN NURSING KNOWLEDGE THROUGH ACCESS MANAGEMENT

Janine Doucet
St John, NB

The New Brunswick Heart Center (NBHC) is the single provider of tertiary cardiac services in the province. Access management, with dedicated Nursing personnel, was established to ensure that the right person accesses the right service within recommended guidelines. Through developing a process for achieving this goal, gaps in nursing knowledge were identified and opportunities for knowledge transfer were created.

Although the decision to refer an inpatient for tertiary cardiac care is physician dependant, the information which enables the NBHC access management nurses (AMN) to determine the urgency in which a patient should access services, along with transfer eligibility, is provided by nursing personnel in referring sites. The AMN personnel identified several generic and site-specific trends pertaining to issues with referral information received, or not received, from nursing personnel in referring sites. Through interactive dialogue, it was identified that many nurses in referring sites were not exposed to opportunities to acquire knowledge pertaining to information requirements for risk stratification and transfer eligibility of patients referred for tertiary cardiac care.

A plan to bridge the identified gaps in nursing knowledge was developed and implemented which involves addressing each case individually with the attending nurse in the referring site. The telephone interaction occurs on a proactive, patient-focused platform and the justification from a tertiary cardiac care facility receiving the patient is emphasized. Through this knowledge transfer initiative, empowered nursing personnel in referring sites contribute to a more seamless patient prioritization and transfer process.

NP027
FEMORAL ARTERIAL SHEATH REMOVAL TRAINING: KNOWLEDGE TRANSFER IN CLINICAL PRACTICE

Sally Binks, Mary Lou Brunskill, Ruth Foggett, Nelson Gamboa, Naomi Grossman, Lynda Kato, Marjorie Lisle, Dana Jackson, Nandi Mangal
Toronto, ON

A core group of coronary care unit (CCU) nurses at Trillium Health Centre in Mississauga, Ontario were trained in the removal of femoral arterial sheaths post percutaneous coronary intervention and diagnostic cardiac catheterization. The training entailed completion of an independent learning package authored by the clinical leader of the Cardiac Short Stay Unit (CSSU), removal of twenty sheaths under the supervision of certified CSSU staff, and removal of an additional five sheaths with consistent demonstration of critical competencies under the supervision of the CSSU clinical leader. This rigorous training enabled the CCU RNs to safely remove arterial sheaths, to manage complications of sheath removal, and to function as consultants to their colleagues in the

assessment of complications of sheath removal. This poster will demonstrate transfer of nursing expertise between colleagues in the care of this specialized patient population.

NP028

INTRODUCING NEW NURSES TO CRITICAL CARE: EVALUATION OF A CRITICAL CARE ORIENTATION PROGRAMME

Elaine Vandenberg, Nancy Tee, Bonnie Bowes
Ottawa, ON

Faced with the reality of a national nursing shortage, grave concerns have evolved regarding recruitment and retention of critical care nurses. Factors impacting this shortage include loss of experienced critical care nurses through retirement and expansion of critical care beds. In response to this issue, a well-structured critical care program was developed to train nurses with no critical care experience and often limited nursing experience.

A 20 week program was developed collaboratively between four critical care units and the local community college and based on The Ontario Critical Care Nursing Standards.

The programme utilizes rigorous didactic sessions, problem based learning and simulation exercises to promote critical thinking in complex critical care situations. An eight-week preceptorship component enhances nurses' confidence and ability to integrate into the unit culture.

In order to evaluate the effectiveness of this programme, a survey was developed to evaluate nurses' perception of their knowledge and skill, critical thinking ability and integration into the unit with ongoing support. The survey was developed using the online program Survey Monkey and consisted of 9 questions using the Likert scale and 1 open ended question. This poster will present the Critical Care Core Competencies; describe the Core Curriculum and review teaching strategies. The results of the survey will be discussed and areas for improvement identified. This information will be of benefit to nurses who are interested in the development and integration of new nurses into the critical care setting.

NP029

TELEPHONE NURSING PRACTICE IN A HEART FAILURE CLINIC

Patti Staples, Wendy Earle
Kingston, ON

Telephone nursing practice is an integral component of the nurse's role in providing care for patients in ambulatory heart failure clinics. This study examined nursing practice with respect to the nature of telephone interventions and the scope of practice required to respond to typical patients' issues in one tertiary care heart failure clinic. Data were collected over a one-year period to quantify the workload associated with providing telephone nursing practice in this patient population. An in-depth analysis of a one-month sampling of telephone interventions was completed to examine the nature of telephone nursing practice in this single heart failure clinic. During the calendar year of 2007, there were 1,356 patient visits to this single clinic. In the same period of time there were 1,914 telephone visits. One full-time advanced practice nurse, one clinical nurse specialist (working 0.7 of a full-time equivalent), and one registered nurse (vacation replacement) provided the telephone interventions. All 3 nurses had medical directives that allow for diuretic titration and ordering electrolytes and creatinine. The advanced practice nurse was able to change all common medications used in heart failure management and order routine diagnostic tests for heart failure. The calls were classified according to who initiated the calls (nurses or patients/families, etc.) and the outcome (education, earlier clinic assessment, change medication, order diagnostic test). Forty-seven percent of the time interventions were required that fell outside of the usual scope of nursing practice. The results of this study has implications for staffing decisions in heart failure clinics.

NP030

THE EFFECT OF "PATIENT CENTERED CARE" TEACHING VERSUS "CONVENTIONAL TEACHING" ON ANXIETY AND SATISFACTION

Sandra Li-James, Zelia Souter, Eleanor Adarna, Carol Dunham, Pauline Graves, Helen Kelly, Rahman Khorshidi, Melanie Vicente
Toronto, ON

Patients undergoing elective Percutaneous coronary intervention (PCI) have a short length of stay, which limits opportunities for nurses to capture the "teachable moments" with patients pre and post procedure. From our experience, many patients phone the short stay unit post-discharge with questions about medications, management of chest discomfort, and activity level; aspects of discharge teaching previously covered in pre-admission and pre-discharge teaching.

The purpose of this quasi-experimental research was to compare Patient-Centred Care (PCC) teaching versus conventional teaching on patient anxiety and satisfaction for patients undergoing elective PCI. Using purposive sampling, we recruited 40 elective PCI patients from the pre-admission clinic; 20 received PCC teaching and 20 received conventional teaching. Orem's self-care deficit theory and PCC philosophy guided this study.

Anxiety scores (State-Trait Anxiety Inventory for Adults) were measured pre-admission and pre-discharge, and patient satisfaction (Ware et al.) measured pre-discharge. A semi-structured follow-up telephone interview was conducted within two weeks of patient discharge.

No significant difference in anxiety and patient satisfaction between the conventional and experimental (PCC teaching) groups was found. Qualitative data analysis of phone interviews indicated that patients experience unmet information needs related to self care in the first two weeks after discharge, which for most patients was prior to their planned medical follow up. The implications from this study will impact what or how we provide education pre-discharge and the follow up that is required the first two weeks post-discharge.

NP031

EXERCISE CONDITIONING IN WOMEN WITH HYPERTENSION: EFFECTS ON BLOOD PRESSURE, HEART RATE AND BAROREFLEX SENSITIVITY

Catherine Baines, C Ann Brown
Kingston, ON

Heart disease and stroke are the leading causes of death and disability in Canada. Hypertension is a precursor to these diseases and has been identified as one of the leading risk factors for death in developed countries. One out of every five Canadians has high blood pressure (BP). After 45 years of age, one in three is affected by the disease with a higher proportion of women suffering from hypertension than men. Exercise is recommended to reduce BP. The purpose of this study is to determine the effects of a twelve-week low-intensity exercise conditioning program on BP, heart rate (HR), and baroreflex sensitivity in women with hypertension. Eligible participants (n=40) were counterbalanced to either the exercise group or the control group. Using a pretest-posttest design, participants were tested at the beginning and the end of the 12-week the study period, in which BP, HR, spontaneous baroreflex sensitivity were measured in the supine resting position, the free-standing position and during low intensity steady-state exercise. The exercise group participated in a twelve-week, low-intensity walking program, 5 days/week, and recorded the walking sessions in an exercise log, while the control comparison group continued with usual activity and recorded activities in an activity log. Repeated measures analysis of variance (ANOVA) was conducted and results were significant at $p \leq 0.05$. Data analyses are currently in progress. Results will be presented. This study evaluates a lifestyle modification to be used with hypertensive women in order to decrease systolic BP, diastolic BP and HR.

**NP032
MEDICATION RECONCILIATION IN A HEART FAILURE CLINIC**

**Patti Staples, Margaret Atkinson, Cheryl Knott, Mary Wilson, Wendy Earle
Kingston, ON**

Medical management of chronic heart failure in an outpatient setting is complicated. It is challenging if patients do not accurately communicate their current medication regimens. A medication reconciliation project was undertaken in a heart failure clinic with the goal of improving the accuracy of patient medication lists, thereby increasing patient safety and allowing for timely optimization of heart failure medications. Medication reconciliation involves creating the best possible medication history, documenting any changes in medication orders, and providing a patient with an updated copy of the list when any changes are made. The process included mailing a letter to patients asking them to bring all their medications to their appointment. Nursing staff in clinic created medication lists on self-duplicating paper. Changes to the current medication regime were documented with the copy given to the patients. Patients were instructed to check the lists for errors. There were 394 separate patient clinic visits during the 4-month trial period. Despite mailing letters to patients, 75% of patients did not bring their medications to their appointment. Thirty percent did not check their copy of the medication list for possible errors. One hundred and thirty-one separate errors were found on 57 patients' medication lists. The most common type of error was a medication was missing from the list. Other errors included wrong doses and dosing schedules and medications included which the patients were no longer taking. Medication reconciliation in a busy ambulatory care setting provides unique challenges and lessons learned from this study will be shared.

**NP033
IMPLANTABLE CARDIOVERTER DEFIBRILLATOR ADVISORY: HOW ARE THE PATIENTS DOING?**

**Barbara Amyotte, Martin Green, Michael Gollob, Robert Lemery, David Birnie
Ottawa, ON**

In February 2005 Medtronic announced a worldwide Alert on the Marquis family of implantable cardioverter defibrillators. These devices could experience rapid battery depletion. In the ensuing days Device Clinics worldwide had to initiate an urgent response to this Alert and notify patients of the potential risk of device failure. Each facility devised a plan that best suited their patients' needs. At our Institute affected patients and families received a lecture and had the opportunity to ask questions. Individual patients then had their devices interrogated and met with a specialist to determine the most appropriate plan of action. Patients were categorized into two groups: those that required or requested immediate change-out of their device due to specific history; or intensified monitoring at the Device Clinic, as well as regular home self-monitoring with a magnet. In September 2007 we conducted a retrospective study with the use of a follow-up questionnaire to evaluate the following: patient satisfaction with the educational process; patient recall of the information given; and patient compliance with regular home self-monitoring. One hundred and eleven questionnaires were mailed with a 77% response rate. This presentation will discuss questionnaire results and provide useful suggestions for future educational planning. It is inevitable that future advisories will occur. It's important to put appropriate educational and operational strategies in place in order to reduce the negative impact of advisories on affected patients.

**NP034
IMPLEMENTATION OF REGISTERED NURSES ASSOCIATION OF ONTARIO (RNAO) BEST PRACTICES OF ASSESSMENT AND DEVICE SELECTION FOR VASCULAR ACCESS HAS THE POTENTIAL TO DECREASE DELAY IN CARDIOVASCULAR SURGERY**

**Maureen Leysler
Kitchener, ON**

In the six months period June 2007- December 2007 there has been an increase number of reported infected peripheral vascular access on the Cardiology unit. This has resulted in cancellation and rebooking of Cardiac surgeries causing an increase in length of stay (LOS).

Investigation into these incidences identified that there were gaps in clinical practice which had a direct effect on cardiac patient safety. Data on venous access incidences were collected through chart audits. An average LOS was reported for cardiac patients with vascular access infections and compared to the national average.

The results of the study showed that 3/8 (37.5 %) patients' vascular access that was infected was initiated in the Emergency department and 5/8 (62.5%) patients was initiated in communities hospitals. In all accounts, none of the sites were dated on the vascular site and duration of the initial vascular access site exceeded the RNAO's best practices guidelines.

This prompted our organization to update our current vascular assess policy, increase nursing education on the proposed changes and increase documentation on integument every shift.

Results that indicate a reduction in peripheral venous access infection will be helpful to clinicians, administrators and policy makers', suggesting that following the implementation of best practices will have a direct effect on reducing patient's LOS and improve cardiac patient safety.

**NP035
ENDOSCOPIC RADIAL ARTERY HARVESTING**

**Cynthia Holm, Elizabeth MacDonald
Ottawa, ON**

Traditionally the radial artery has been harvested via a long incision in the forearm.

The University of Ottawa Heart Institute has undertaken a trail of 20 endoscopic radial artery harvestings.

The purpose of this poster presentation is to describe the processes undertaken in implementing a new program.

This will include the interdisciplinary planning process; the operating room procedure; and the post procedure outcomes. We will describe the equipment required and present a review of the patient outcomes from first 20 cases.

**NP036
INFORMED CONSENT – IS YOUR PATIENT FULLY INFORMED?**

**Rachael Ramsamujh
Brampton, ON**

Informed consent, for medical treatment or research participation, is an ethical and legal concept that is an expression of respect for the patients as a person. It respects a person's moral right to self-determination and freedom of choice, and should be considered a process rather than a signature on a form.

Following the post- World War II Nuremberg Trials, which identified abhorrent medical experiments performed by Nazi Physicians on prisoners of war, the concept of voluntary informed consent was firmly established. The Nuremberg Code (1949) and the Declaration of Helsinki (1964) have become the most widely accepted, worldwide guides for medical research involving human subjects.

This presentation will review the historical development of informed consent and explore what it means to nursing practice and our patients in Canada today. A case study will be used to highlight issues that can arise from inadequate informed consent.

NP037**ROLE OF PRE-CARDIAC CATHETERIZATION CLINIC IN SCREENING ABNORMAL BLOOD WORK**

**Beverly Barbato, Mat Mercuri, Leslie Gauthier
Hamilton, ON**

The Heart Investigation Unit (HIU) provides invasive cardiac procedures for South Central Ontario. Patients with abnormal blood work are at increased risk of developing a complication post cardiac catheterization. Procedures may be delayed or postponed until blood values, such as creatinine (Cr) and hemoglobin (Hgb), are at safe levels. We sought to determine if our pre-cath clinic was helpful in managing abnormal blood work. Patients referred for cardiac catheterization between October 2006 and February 2007 were screened for abnormal blood work in a pre-procedure clinic. A retrospective chart review was done noting: specific blood abnormality, management strategy, date of planned procedure, and date of completed procedure.

758 cases were screened in the pre-procedure clinic. 95 patients presented with abnormal blood work, of these 91 (95%) cases were completed as scheduled; with an additional 2 (2%) cases cancelled or rescheduled by the nurse clinicians prior to the scheduled procedure. The most common abnormality observed was elevated Cr (81% of all cases). The strategy for management of these patients was early arrival to the HIU for early hydration.

The pre-procedure clinic was effective in identifying a number of patients at risk of requiring a cancelled or delayed procedure. Management strategies put in place as a result of this identification ensured a majority of cases proceeded as scheduled. Pre-procedure clinics may also be used for education and post-procedure discharge planning.

NP038**A BRIDGE TO CARDIAC REHAB: EDUCATION OF CARDIAC PATIENTS SHORTLY AFTER DISCHARGE**

**Sarah Telfer, Ruth Foggett, Shirley Hart, Judy Underwood-Wiens
Toronto, ON**

This presentation will describe a program designed to meet the learning needs of the cardiac patient after discharge. The Picker Institute identifies transition to home as one of the top nine concerns of patients that contribute to an ideal patient experience. At this large community hospital, many efforts have been made to ready the patient for discharge after a cardiac event. Patients' medications are reconciled at discharge and patients receive detailed information regarding follow-up appointments. Patients receive a package of written information and have the opportunity to attend nutrition classes, discharge preparation classes and watch educational videos. Despite all these efforts, patients often go home with a lot of questions still on their mind. With shortened lengths of stay for all patients, it was getting more and more difficult to prepare the patient for discharge. This presentation will describe the creation of an out-patient cardiac education class scheduled for 2-4 weeks after bypass surgery, angioplasty or other admission for a heart related problem. Patients with heart failure are not referred to this program. There is scientific evidence to suggest that patient education can lead to increased patient satisfaction, decreased readmissions and lower patient mortality. This evidence based approach to patient centered care has proven to be very successful and will be of interest to all centres with cardiac patients. The team will share the planning of the endeavor as well as the success of the program and evaluation measures.

NP039**PROMOTING BETTER OUTCOMES IN CARDIAC SURGERY PATIENTS THROUGH AVOIDANCE OF BLOOD TRANSFUSION – THE ONTraC PROGRAM**

**Marianne de Bretan-Berg, Cielo Bingley
Toronto, ON**

In 2002, the Ministry of Health provided funding for the Ontario Nurse Transfusion Coordinators Program (ONTraC), which placed coordinators in hospitals throughout Ontario. The prime objective of the program is to

promote appropriate use of - and alternatives to - blood products, thereby reducing the incidence of transfusion in perioperative patients.

Cardiac surgery accounts for the majority of blood usage in Canada (Ferraris, 2007). And, in light of both increasing demand and a dwindling supply, it is imperative that the use of blood and blood products be reduced. As well, there is increasing evidence that rates of morbidity and mortality are higher in those patients who receive blood transfusions (Goodnough, L. et al, 1999).

The use of an evidence-based algorithm enabled ONTraC coordinators to develop site-specific blood conservation programs that resulted in the significant reduction of red blood cell transfusion rates (Freedman, 2007). The algorithm also allowed the coordinators to apply patient-specific interventions to optimize their preoperative hemoglobin as well as assisting in the procurement of funding for erythropoiesis stimulating agents.

The implementation of a blood conservation program aids in the application of best practices in blood transfusion leading to better outcomes for patients. The multidisciplinary collaborative approach taken by the ONTraC coordinators and clinical staff has enabled patients to benefit from strategies that promote blood conservation and reduce risks associated with blood transfusion.

NP040**IMPLEMENTATION OF PROCEDURAL PAUSE IN THE HEART INVESTIGATION UNIT: A PATIENT SAFETY STRATEGY**

**Leslie Gauthier, Marion Quirk
Hamilton, ON**

In 2008, the Canadian Council of Healthcare Accreditation has identified verification processes, as required organizational practices for hospital accreditation. Verification processes are specifically indicated for high risk care or activities including invasive procedures requiring the use of two patient identifiers prior to the provision of any service or procedure. This recommendation is the acknowledgment of the importance of teamwork and communication for safe patient care and is based upon the evidence that the majority of sentinel events involve communication failure (JCAHO, 2007). Communication errors have been identified as the leading cause of adverse events and associated with twice as many deaths as was clinical inadequacy (Sotet et al, 2005).

The Heart Investigation Unit at the Hamilton Health Sciences performs over nine thousand invasive cardiac procedures annually. Nurses and physicians in the Heart Investigation Unit at the Hamilton Health Sciences have implemented a "procedural pause". This "pause" is a formal process, at the onset of the patient's procedure, where vital patient information is validated prior to the puncture of the patient's vessel. This presentation will review the key elements to the procedural pause implemented, the educational strategies implemented and the outcomes of this implementation in a tertiary cardiac care setting.

NP041**IMPROVING ACCESS TO CRITICAL CARE: A SURGE MANAGEMENT PROJECT**

**Nancy Tee, Jennifer Hunt, Elaine Vandenberg, Bonnie Bowes
Ottawa, ON**

Critical Care Units frequently report very high occupancy rates. This can make it very difficult to respond to unusual increases in demand for critical care services. Surge management is one of Ontario's Ministry of Health Critical Care strategies designed to improve accessibility to Critical Care Services by establishment of a principled approach to surge management without compromise to patient safety. One Local Health Integration Network (LHIN) in Ontario was selected to conduct a demonstration project of surge principles and techniques.

The purpose of this presentation is to describe the work done at one tertiary care cardiovascular centre to develop a Surge Management Plan. The 5 key principles: Management, Human Resources, Equipment and Technology, Physical Plant and Processes to Address Surges will be described. The tools developed to manage surges including: algorithms, communications strategies and checklists will be presented.

This presentation will be of interest to all cardiovascular nurses concerned with access of care issues. The principles of surge planning are applicable and transferable to any stream of cardiovascular patient care to improve system processes, system efficiencies and access to care.

NP042
NURSING INITIATIVES IN MANAGING PATIENT ACCESS TO TERTIARY CARDIAC CARE

Janine Doucet
St John, NB

At the beginning of the new millennium, the New Brunswick Heart Centre (NBHC), which is the single provider of tertiary cardiac care in the province, realized that representative information regarding patient access to services was lacking. In response to this identified need, in the fall of 2004, an access management (AM) component was added to the NBHC program structure. Comprised mainly of cardiology nurse champions, AM was tasked with developing and implementing processes to ensure equity, objectivity and transparency in the triaging of all patients referred for interventional cardiology services. Developing a mechanism for accurately reporting wait time information was another responsibility of AM personnel.

Knowledge associated with each concept of the nursing metaparadigm was required to build a system centered on patient needs while also being responsive to the needs of all other stakeholders. Recommended wait time benchmarks for access to cardiology services, including interventional cardiology, published by the Canadian Cardiovascular Society were used by AM personnel to measure success in providing appropriate patient access to our NBHC services.

Currently, through various reporting mechanisms, reliable and representative information about our triaging processes, and wait times are available to stakeholders from internal and external environments. This information is used to support administrative decisions so that patients referred to our tertiary cardiology program can continue to access services within recommended timeframes thereby minimizing the probability that an adverse event will be suffered while waiting on the queue.

NP043
A DEDICATED NURSING ROLE IN PRIMARY ANGIOPLASTY: A CONTINUOUS QUALITY IMPROVEMENT CASE STUDY

Sally Binks, Shirley-Anne Brett, Naomi Grossman, Lynda Kato, Maureen Chan, Donna Richardson, Sandyha Binumon, Ruth Foggett, Sheila Wallace
Toronto, ON

A dedicated primary angioplasty resource nurse role was developed in 2007 at Trillium Health Centre, a regional cardiac referral centre in Mississauga, Ontario. Coronary care unit (CCU) staff nurses functioning in the role participate in the care of the patient with ST segment elevation myocardial infarction from presentation in ER, during primary angioplasty in the cardiac catheterization lab, and upon admission to CCU post-procedure. One objective of the role was to increase efficiency in the delivery of care, thus reducing delays in door-to-balloon times. Two problems; however, were identified in connection with this role: 1) Because all coronary care unit nurses were trained for the role, they were not performing it frequently enough to maintain a high degree of efficiency; 2) the content of the original training had not been consistent. Cardiac health system nurse managers, clinical leaders, and clinical educators collaborated to develop a plan to address these problems. A core group of CCU nurses distributed across shift lines were recruited as the new primary angioplasty resource team, and were re-trained under the sole supervision of the cath lab clinical leader using a consistent teaching plan. This case study will illustrate an iterative process of continuous quality improvement wherein statistical records and feedback from stakeholders were used to refine a specialized nursing role to improve patient outcomes.

NP044
IMPROVING REFERRAL RATES TO CARDIAC REHABILITATION: THE DEVELOPMENT OF POLICY TO PROMOTE PARTICIPATION

Marla McDonald¹, Alexander Clark²
Antigonish, NS¹, Edmonton, AB²

Cardiac rehabilitation can improve life expectancy and quality, but internationally around one third of eligible patients with Coronary Heart Disease (CHD) are not referred. Improving referral rates to is an important health priority in North America. Developing influential health policy is an important means to address this trend. This presentation will outline the policy making process around referral to cardiac rehabilitation in Capital District Health Authority, Halifax, Nova Scotia. Prior to this work, there was no existing policy regarding the referral to cardiac rehabilitation. The approach to policy development used in this study was the Policy Life Cycle (Parsons 1995); this approach involves systematic definition of a problem and research-based selection of options before intervention, evaluation and refinement takes place. A preliminary review of the literature and scan of the local practice context indicated that participation was heavily influenced by patients' expressed interest and health care professionals' knowledge about cardiac rehabilitation. However, support for participation was weak because of local restructuring that led to considerable staff uncertainty regarding roles and the nature of the patients likely to benefit from cardiac rehabilitation. This not only led to low referrals but also a lack of capacity to recognize the need for any specific policy to increase participation. Addressing these trends using existing research, the policy designed therefore addressed: 1) Supporting referral via: increased physician referral rates 2) Developing non-physician referral mechanisms 3) Identifying patient beliefs that act as barriers to participation 4) Clarifying health professionals' roles and addressing barriers and misconceptions.

NP045
GLYCEMIC CONTROL AND INSULIN INFUSION: A FINE BALANCE

Nancy Tee, Michele Nelson, Julie Sabourin, Judith White
Ottawa, ON

It has been well established in the literature that patients with diabetes mellitus have greater short term and long-term mortality after Acute Myocardial Infarction (AMI) than non-diabetic patients. Even in patients with no previous diagnosis of diabetes, hyperglycemia on admission for AMI is associated with higher mortality. Insulin therapy in patients with diabetes presenting with AMI has been shown to be beneficial.

To address this recommendation, a hospital specific insulin infusion protocol was developed and implemented in one tertiary cardiovascular centre. In order to evaluate the protocol, a retrospective chart review of 50 diabetic patients who were treated with this protocol was undertaken. Data elements included: type of diabetes, admission blood glucose level, time to therapeutic range, duration of treatment and frequency of testing.

This presentation will review the current literature, describe the best practice guidelines and report the results of this study. Strengths and weaknesses of the protocol will be identified and strategies for improvement will be discussed. This information will be of interest to all cardiovascular nurses who are facing the ups and downs of glycemic control in the diabetic patient.

NP046
A CATASTROPHIC RESPONSE TO PROTAMINE

Linda Harper, Janice Eastaugh
Ottawa, ON

Protamines are proteins first isolated from the sperm of salmon in 1868. They are also found in the sperm of other fish, and in the sperm of birds and mammals. Two clinical uses for these proteins were discovered in the 1930's. Hagedorn et al found that protamine prolonged the absorption of subcutaneous insulin, thus reducing the frequency of insulin injections and Chagraff and Olson discovered that protamine effectively reversed the anticoagulation effects of heparin (Cormack and Levy). These discoveries

led to the development of the medication Protamine Sulfate. Salmon milt (sperm) is one of the main sources in the production of this drug.

Protamine is considered a relatively safe drug. However, Kimmel et al found that among patients undergoing surgery requiring cardio pulmonary bypass, those with adverse events related to protamine administration for heparin reversal, had a significantly increased risk of in-hospital death.

This presentation will begin with a review of the literature on adverse responses to protamine, a summary of the symptoms, and an identification of which patients could be at risk. This will be followed by a case study of a patient who, after undergoing an uneventful CABG, developed a catastrophic anaphylactic reaction following the administration of protamine.