



## Oral Abstracts of the 2016 Canadian Council of Cardiovascular Nurses Spring Conference

### Clarity, Intrigue and Innovation: Tips for a Successful CCCN Grant Application

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Advanced nursing practice requires competency in the area of conducting cardiovascular research. Knowledge, skills and abilities are not typically offered to nurses working on the front lines with actual cardiac patients. Writing and submitting an innovative and fundable research proposal requires that: the idea is important, you have the requisite knowledge and skills to conduct the project and the research idea will have far-reaching clinical impact.

The objectives of this interactive workshop are to:

1. Describe successful aspects to consider to create a great research or clinical project idea.
2. Discuss strategies to choose the best fit for funding.
3. Demonstrate with examples how to write a strong proposal that includes conceptual innovation, methodological rigor and is rich in substantive content.

Requirement: Participants attending are to bring their research idea to the workshop where they will begin to formulate the question and idea and develop concrete strategies to move the writing of their chosen project forward.

### Acute and Neuropathic Pain Characteristics Observed in Men and Women with Acute Coronary Syndromes

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Background: Cardiac pain arising from an acute coronary syndrome (ACS) has been described as a complex phenomenon. Lacking are cardiac pain assessments that describe acute ACS pain using a multi-factorial pain assessment tool during the first 8 hours of an emergent ACS-related pain episode. Aim: To examine the sensory-discriminative, motivational-affective and cognitive-evaluative dimensions of an emergent ACS-related pain episode. Methods: A descriptive, correlational, cross-sectional design was used to collect data on cardiac pain intensity scores (numeric rating scale-NRS; McGill Pain Questionnaire MPQ-SF) and state anxiety (Spielberger State-Anxiety Inventory-SAI) on 121 ACS patients. Results: The mean age was  $67.6 \pm 13$ , 50% were female, 40% had Non-ST-Elevation myocardial infarction and 60% had unstable angina. Patients' cardiac pain intensity scores (NRS) remained in the mild range from  $1.1 \pm 2.2$  to  $2.4 \pm 2.7$ . MPQ- 66% of the sample described their global pain as distressing (moderate pain) and 26% reported ACS pain was

excruciating (severe pain). ACS pain was described as a mixture of acute injury (nociceptive) and nerve damage (neuropathic) pain. State anxiety was persistent at a high level and ranged from  $44.0 \pm 7.2$  to  $46.2 \pm 6.6$ . Conclusions: ACS patients reported both nociceptive and neuropathic types of cardiac pain. It is unclear if individual pain perceptions are due to: i) the pathophysiology of clot formation, ii) co—morbidity, iii) occurrence of a first or repeated ACS episode, or iv) the equivocal relationship of angina pain and myocardial ischemia. Significance: Management of ACS-related pain requires an understanding of the interplay of ischemic, metabolic and neuropathophysiological mechanisms that contribute to individuals' cardiac pain experiences. Use of a multi-dimensional pain assessment tool is necessary to screen those at risk for development of persistent cardiac pain.

### **Infective Endocarditis - A Clinical Complication After a New Year's Resolution**

N. Clark, Alberta Health Services/Rockyview General Hospital, Calgary, AB

Although infective endocarditis is not as prevalent as acute coronary syndrome within the North American population, the potential for major adverse complications from this disease process remains very high. Infective endocarditis is often considered a preventable disease. The purpose of this presentation is to review and highlight risk factors that could predispose an individual to infective endocarditis as well as the medical and surgical management of this patient population. This presentation will be centered on a case study of a patient who made a New Year's resolution to improve his adherence to daily dental and mouth care after many months of neglect. Following this patient's journey with a potentially life-threatening disease process highlighted the opportunity for nurses to engage in health education as a primary prevention for some cardiac disease processes. Health education can be presented to patients and their families with any introduction to health care. Actively participating in assessing health behavior risk by respectfully identifying potential deficits in a patient's self-care and acknowledging resources for assistance could be one step toward promoting a healthier society. This presentation will conclude with a review of the Canadian Cardiovascular guidelines for the management of infective endocarditis as well as the nursing implications for patient education.

### **Standardizing the Practice for Temporary Epicardial Wire Removal**

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Temporary epicardial pacing wires (EPWs) are placed on the epicardium at the end of open heart surgery and are externalized through the skin to permit emergency and therapeutic pacing during the early, hospitalized period of recovery following open heart surgery.

Clinical situations provided the opportunity to examine the practice of temporary epicardial pacing wire removal. A cross Canada survey of cardiac centres identified inconsistencies in removal criteria and post removal monitoring practices. Therefore the Central Zone of the Nova Scotia Health Authority developed a policy on removal of EPWs to help reduce the risk of infection and to minimize risk of potentially serious complications following removal.

This presentation will highlight the development and implementation of the policy, focusing on the key aspects of pre-removal criteria, removal technique and post removal monitoring. Incidence and interventions with cardiac tamponade, a life threatening potential complication post EPW removal, will also be discussed.

Developed in 2012, the EPW removal policy has increased healthcare team awareness around the importance of monitoring these patients post EPW removal. In turn this has led to a rapid response to adverse events following EPW removal.

## **The Implementation of a Unit Resource Nurse in the Cardiovascular Surgery Setting**

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In recent years there has been an increase in the number of new graduate nurses hired on the cardiovascular surgery unit at the Halifax Infirmary. This has led to limited available support, decline in morale, and a high percentage of inexperienced nurses in the overall staff mix. To assist in the transition to working independently and help maintain a high standard of care on the unit, the role of Unit Resource Nurse (URN) was implemented. The URN was selected through request for expression of interest from current Registered Nurses employed on the unit. Expectations of the role were developed through consultation with nurse manager, clinical nurse educator (CNE), and the URN. The URN role was customized to the needs of the unit. Scheduling was based on the schedules of the new staff members. Responsibilities of the URN include but are not limited to: arranging preceptors, mentoring new and IMCU staff, exposing new staff to clinical skills, auditing documentation, enforcing best practice and developing tools to aid in daily practice on the unit. While evaluation of the role is currently being completed, feedback has been greatly positive reporting high levels of support. The role has also supported the CNE, providing feedback on individual nursing needs, educational needs of the unit and decreases the demand for their presence on the unit. As the demand for new nurses continues to grow, the URN provides the needed support for all nurses in the health care team experiencing this ongoing phase of transition.

## **Critical Care Transition Program for Newly Graduated Nurses**

L. Pottinger, NSHA / Halifax Infirmary, Halifax, NS

Recruitment to critical care has been a struggle in recent years. Retirements and movement within the nursing profession paired with required specialty training have compounded this reality. There is no cache of nurses fully trained to step into the vacancies in this specialty area.

In the Spring of 2014 a decision was made to recruit newly graduated Registered Nurses as novice critical care nurses in a tertiary care facility. A pilot Critical Care Transition Program (CCTP) was designed with stakeholders from all levels “Directors, Health Services Managers, Clinical Nurse Educators, Preceptors and Staff Nurses. A year-long internship using didactic learning, preceptored clinical shifts blended with a formal Critical Care Nursing Program was developed.

Using clear expectations and regular evaluations we were able to build theoretical knowledge, support time management and organization, as well as develop critical thinking skills. Development and revision of the CCTP, expectations and evaluation tools will be shared. How stakeholder engagement has helped build a successful internship program and support novice nurses socially and clinically in a specialty area will be discussed. Overall program evaluation from all stakeholders for the 2014 CCTP results will be shared. Recruitment and retention data from 2014 CCTP and 2015 CCTP will be shared.

## **Quality of Life after TAVR: Now I need a new hip!**

TL. Cosman, Hamilton Health Sciences, Hamilton, ON

A. Smith, Hamilton Health Sciences, Hamilton, ON

Transcatheter aortic valve replacement (TAVR) was introduced in 2002 as a treatment option for patients with significant aortic stenosis who were non-surgical candidates for valve replacement. Since that time TAVR has become increasingly common with an estimated 9,000 new TAVR candidates yearly in North America. Patients undergoing TAVR are often elderly with numerous non-cardiac health issues that may significantly impact quality of life.

This presentation will describe the trajectory of two patients with significant osteoarthritis who presented for elective orthopaedic surgery following TAVR. Issues addressed prior to surgery and potential postoperative complications related to TAVR will be presented. The case studies will describe clinical issues that arose with these patients post-operatively and how they were managed. Lessons learned, including how to prepare the nursing staff and improve collaboration with the TAVR Nurse Practitioner will be presented.

The growing number of patients undergoing TAVR will result in an increasing number of these patients presenting for non-cardiac surgery. As these patients re-enter the health care system it is important that all health care professionals have an understanding of TAVR and impact on clinical care. The significance of TAVR for orthopaedic surgery and the need for education for all staff caring for these patients was noted following these cases. The importance of building collaboration between nursing specialties is important in this patient population to ensure seamless quality patient care.

## **Cardiomyopathy: A rare cause of an old foe**

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N. Clark, Alberta Health Services, Calgary, AB

Cardiomyopathies are conditions that lead to impairment of the heart muscle. The etiologies of cardiomyopathies are varied, with ischemic heart disease being the primary cause. However, the purpose of this presentation is to review a case study of a middle aged female who presented to hospital with worsening shortness of breath; initially being treated as a newly diagnosed cardiomyopathy. Preliminary laboratory findings are in keeping with an undiagnosed hyperthyroidism, Grave's Disease. In a hyperthyroid state, TSH levels will be low and free T3 or T4 will be high. Patients usually present with a multitude of symptoms that may include: palpitations, hair loss, heat intolerance and muscle aches/weakness. If left untreated, the body may become thyroid toxic. Although hyperthyroidism is a relatively common endocrine dysfunction, this patient's clinical scenario has manifested into significant cardiac complications. The nursing implications of caring for a patient with hyperthyroid induced cardiomyopathy are significant, as this type of cardiomyopathy is rare and yet can result in a major adverse event. Thyroid hormones have a profound effect on cardiovascular hemodynamics, therefore a better understanding into the implications of abnormalities of hormone levels will contribute to clinical practice.

## **Incidence of Vascular Complications Among Patients Undergoing Cardiac Catheterization Procedure**

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Although Cardiac catheterization procedure has reduced morbidity and mortality for cardiovascular disease, this invasive procedure is not free of complications. The purpose of the study was to identify the incidence and potential factors that place patients at greater risk of developing vascular complications among patients undergoing cardiac catheterization procedure.

A convenient sample of 100 patients who underwent cardiac catheterization via femoral artery access were recruited from critical care department affiliated to Cairo university hospitals. A descriptive cross-sectional design was utilized utilizing three tools as follows; demographic data , medical history and Vascular Complication observational checklist. Analysis of data related to incidence of minor vascular complications revealed that 10 % of the studied subjects had femoral oozing before sheath removal, while 20 % developed femoral oozing and 12 % had femoral Ecchymosis after sheath removal. Regarding incidence of major vascular complications; 22%of the studied subjects had femoral hematoma after sheath removal. The factors that place patients at greater risk of developing vascular complications were ;old age, female gender , underweight, illiteracy, non ST elevation myocardial infarction. It is concluded that, most common peri-cardiac catheterization vascular complications are; hematoma, oozing, and Ecchymosis. The nurse practitioner should be aware of these vascular complications and avoiding them to improve patients' outcomes . Moreover , it is recommended to provide educational program for patients undergoing Cardiac cauterization for raising awareness about vascular complications induced by cardiac catheterization .

Key words: incidence , Cardiac catheterization, Vascular complication, Risk factors,

### **Cardiopulmonary Resuscitation Related Musculoskeletal Pain Management in Ventilated Patients**

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Post arrest patients who received cardiopulmonary resuscitation (CPR) and remain mechanically ventilated after return of spontaneous circulation (ROSC), who may or may not also be treated with therapeutic hypothermia experience musculoskeletal chest pain related to the resuscitation process.

Currently the New Brunswick Heart Centre (NBHC) does not have a pain management protocol for this patient population. We would like to explore the current literature to understand the importance of pain management in decreasing length of stay and improving quality of life in this patient population. The goal of this literature search and presentation is to develop and implement a pain management protocol for the above patient population.

Pain management is currently provided on an as needed (prn) basis according to physical assessment findings, tradition, nursing experience and professional judgment within the boundaries of a standing order. Pain management becomes very difficult when patients are not able to communicate verbally and may also be sedated and chemically paralyzed.

We will investigate the current findings in literature for the best analgesic and appropriate scheduling according to patient specific needs such as vital signs, concurrent therapies and nonverbal indicators of pain. Our presentation will include the findings from our literature review, as well as a protocol template for pain management in post CPR ventilated patients, according to best practice, to be used at the NBHC.

## **Poster Abstracts of the 2016 Canadian Council of Cardiovascular Nurses Spring Conference**

### **Code Status: Implications for Patient Care**

R. Jill Greeley Eastern Health St. John's NL

The purpose of the proposed poster presentation is to provide nurses with the important terms that they will encounter when dealing with code status, and to provide information on the ethical and legal implications of code status. By providing this information in poster form, nurses knowledge regarding code status can be refreshed, while expanding the knowledge base for some nurses. This can lead to nurses being able to better educate and support their clients in making the appropriate decision for themselves.

Nursing care is entering a new era. Patients are more informed about their health than ever before. As patients are empowered to make informed health decisions, they are often opting for limited code statuses. This makes navigating code status more complicated. Nurses play an important role in educating their patients about code status and issues around it. Often nurses find themselves having trouble understanding all the ethical and legal implications of a patient's code status. This makes it extremely difficult to educate patients when they do not have a good understanding themselves.

Most nursing schools include core curriculum on death and dying, but information is often limited; 62% of nurses report that the content on end of life care in their basic nursing education was inadequate (Hebert, Moore & Rooney, 2011). Nurses deserve to be properly educated about code status. The proposed poster presentation is one way to increase nurses' knowledge in this area.

**Keywords.** Chest Compressions, Code Status, Comfort Measures, Do Not Resuscitate, Full Code, Intubation, Limited Code, Partial Code

**Reference:**

Hebert, K., Moore, H. & Rooney, J. (2011) The nurse advocate in end-of-life care. *The Ochsner Journal*, 11, 325-329.

### **Demographic Predictors of Attendance to Cardiac Rehabilitation in the Heart Failure Population**

K. Cunningham University Health Network Toronto ON

Heart failure (HF) has been classified as the leading cause of hospitalization, with the highest 30-day readmission rates for patients over the age of 65 compared to other medical conditions in Canada. Cardiac rehabilitation (CR) provides an ideal setting for outpatient management of HF and has been effective in improving functional capacity and quality of life while significantly reducing readmission rates. However, only 30% of eligible patients attend CR and there remain long wait periods between referral and intake into CR. A non-experimental, comparative descriptive pilot study will be used to explore differences characteristics and the number and type of complications reported in patients with HF who attend CR compared to those who do not attend, as minimal Canadian data is available in the literature to date. The study will be conducted on an inpatient, cardiology unit at an urban teaching hospital with a projected sample size of 30. Data will be collected using a demographic survey and telephone calls post-discharge. Data analysis will include descriptive statistics, two-way Chi-square and Mann Whitney U tests. Results may provide implications for health care providers to tailor referral processes and CR programs to further explore the needs of patients who choose not attend in order for effective strategies to be put in place to increase uptake of CR. Complications experienced during wait times for intake to CR to address a need for increased coordination of and timely access to outpatient care in a CR program in an effort to reduce readmission rates.

### **Outpatient Congestive Heart Failure Surveillance Program**

J. Sieben, L. Reed, Peter Lougheed Hospital, Calgary, AB

The Calgary Peter Lougheed Cardiac Function clinic is a nurse clinician led outpatient service for patients with congestive heart failure. We see upwards of 175 patients and have implemented a report card surveillance program. This is used in our clinic for both quality of care improvement and to reinforce patient led symptom management.

The report card is an easy to read 17 part questionnaire assessing heart failure symptoms. We send this to patients via mail every 3-4 months and use it to streamline clinic visits by having them fill it out before seeing the nurse or doctor. The questionnaire indicates by color the status of symptoms, in a red (meaning has new or worsening symptoms), yellow (unchanged from patient norms), and Green (better or no symptoms).

We would like to highlight how this report card surveillance program helps the patient easily identify those symptoms that require more immediate attention and also helps in the long term management of heart failure. Our goal is to link the program with a decreased exacerbation of this difficult to manage patient population. In essence, the heart failure report card program works to streamline patient services and is used as a powerful patient teaching tool. In the future, we would like to develop this program online or to a smart phone app. Our team would like to showcase how the implementation of a surveillance program in the outpatient population will increase patient accountability and ultimately increase primary disease prevention.