NOVA SCOTIA

Cardiovascular HEALTH NOVA SCOTIA

The Bulletin

IMPROVING CARDIOVASCULAR HEALTH OF NOVA SCOTIANS

Volume 10 **Issue 1** **Spring 2015**

Welcome to the Cardiovascular Health Nova Scotia (CVHNS) e-mail bulletin, produced 3 times annually. The Bulletin has been created to share information about the program's activities, related cardiovascular health initiatives, and ideas from around the province.

New Randomized Control Trial Results for Stroke Rehabilitation

Two recent randomized control trials (RCTs) looked at rehabilitation in stroke patients—how early it should begin and at what intensity it should be. A Very Early Rehabilitation Trial (AVERT)[1] compared very early mobilization to usual care. The Interdisciplinary Comprehensive Arm Rehabilitation Evaluation (ICARE)[2] trial investigated upper extremity recovery after a structured training program as compared to two types of standard care. In RCTs, participants are randomly assigned to treatment groups with both the participants and researchers blind to who is in which group. While there are drawbacks to this type of research (e.g., can be time consuming and expensive to run; ethical considerations when withholding interventions for some), RCTs are considered the most rigorous method for determining cause-effect relationships[3].

AVERT was conducted in 56 acute stroke units in five countries. In this trial, standard care was compared to the intervention condition (very early mobilization). This condition consisted of:

- starting within 24 hours of the onset of the stroke
- focusing on out-of-bed activity—sitting, standing, walking
- at least three more out-of-bed sessions than usual care

Results showed that the participants in the intervention group had a decreased likelihood of achieving a favorable outcome (defined as a Modified Rankin Scale score of 0, 1, or 2) at three months as compared to usual care. Primary results of this trial were presented at the European Stroke Organization Conference in May, 2015, and published in *The Lancet*.

In the ICARE trial, participants were assigned to one of three groups:

- Intensive therapy through the Accelerated Skill Acquisition Program (ASAP), which included three one-hour sessions every week for a total of ten weeks
- Dose-equivalent treatment which included usual occupational therapy, but with the same number of sessions as the intensive therapy group
- Usual care, which included occupational therapy as prescribed by the treating physician (no specific number of sessions specified)

The intensive therapy group received more than twice as much physical therapy as compared to the usual care group. Arm and hand recovery was assessed after one year. The results showed that participants receiving more intensive physical therapy did not differ from participants that received dose-equivalent treatment or usual care at the one year period. However, those receiving the more intensive physical therapy showed better recovery at four months post-randomization. Also of note, the intensive therapy participants perceived their outcomes in overall strength, physical function, quality of life, and reintegration to normal life as better[4]. Primary results of this trial were presented at the International Stroke Conference in February 2015.

The results of these RCTs are valuable for expanding our knowledge on stroke rehabilitation and for increasing the level of evidence available for best practice recommendations. Currently, the Canadian Stroke Best Practice Recommendations use three levels of evidence for recommendations based on the number of RCTs available on the intervention (Level A: Multiple RCTs; Level B: At least one RCT; Level C: Writing group consensus, no RCTs/limited research evidence)[5]. These trials are hopefully the start of more RCTs in this area, as they will help researchers and practitioners further understand the most beneficial time to start interventions for early stroke rehabilitation and at what intensity.

References

[1]AVERT Trial Collaboration group. Efficacy and safety of very early mobilisation within 24 h of stroke onset (AVERT): A randomised controlled trial. *Lancet*. 2015. doi: S0140-6736(15)60690-0 [pii].

[2]Winstein CJ, Wolf SL, Dromerick AW, et al. Interdisciplinary comprehensive arm rehabilitation evaluation (ICARE): A randomized controlled trial protocol. *BMC Neurol*. 2013;13:5-2377-13-5. doi: 10.1186/1471-2377-13-5 [doi].

[3]Sibbald B, Roland M. Understanding controlled trials. why are randomised controlled trials important? *BMJ*. 1998;316 (7126):201.

[4]Hughes, S. Intensive PT in stroke: More not necessarily better. *Medscape*. www.medscape.com/viewarticle/840485. Published February 26, 2015. Accessed May 21, 2015.

[5]Lindsay M, Gubitz G, Bayley M, Hill M, Phillips S, Smith E. Canadian stroke best practice recommendations overview and methodology. On behalf of the Canadian stroke best practices advisory committee and writing groups. Canadian Stroke Best Practices Recommendations web site. www.strokebestpractices.ca/wp-content/uploads/2014/08/CSBPR2014_Overview_Methodology_ENG.pdf. Updated January 2014. Accessed May 21, 2015.

Learning Opportunities

NB Heart Symposium, September 17-19, 2015. Saint John, NB. http://en.horizonnb.ca/

Canadian Stroke Congress, September 17-19, 2015 Toronto, ON. www.strokecongress.ca

3rd Annual Nursing Day in Cardiology, September 25, 2015. Grand Lake Road Fire Hall, Sydney, NS. Rose McDonald 902-567-6325, rose.mcdonald@nshealth.ca

Dysphagia Education Program, October 4-6, 2015. Toronto, ON. Carla DiGironimo, carla@caslpa.ca

Canadian Cardiovascular Congress, October 24-27, 2015. Toronto, ON. www.cardiocongress.org

Dalhousie Department of Medicine Education Schedule www.medicine.dal.ca/departments/department-sites/medicine/education/cpd.html

CVHNS News

Update on the 2015 *Come on Nova Scotia…. Check It*! Blood Pressure Challenge

Uptake for the 4th Annual ***Come on Nova Scotia...Check It!*** Blood Pressure Challenge was successful with nearly 50 organizations participating from across the province. Participants signed up from a variety of health care settings and community organizations including long-term care facilities, primary health care, church groups as well as businesses and workplaces such as insurance companies, pharmacies, and educational institutions to name a few. The challenge, held in May, encouraged participants to coordinate opportunities for people within their networks and communities to have their blood pressure screened as well as distribute educational materials to raise awareness of the importance of maintaining a healthy blood pressure. A toolkit stocked with provincial tools and handouts and a planning guide to jump start the planning processes was provided to all participants.

We are excited that a number of new participants took part this year and look forward to learning about the innovative ways participants have reached out to their communities! Report Back forms are being collected and we look forward to sharing the results with you in our Fall bulletin. Whether you are new or returning, we thank those who participated this year and wish you good luck for prizes to be won. Stay tuned for more! Visit: www.novascotia.ca/bloodpressure.

CVHNS Re-Engineering Project Update

The first phase of the new CVHNS Information Management system was successfully implemented in March, 2015. All cardiac health records abstractors are now successfully using the new system to enter data. We have started work on developing the stroke data registry in the same system. This work is in the early stages but we are planning to implement by the end of the year.

Understanding Stroke Rehabilitation in Nova Scotia

CVHNS is working on a number of projects to gain an understanding of stroke rehabilitation in Nova Scotia – in particular, the patient journey to rehabilitation. Stroke coordinators across the province are collecting data to audit patient access to rehabilitation services. They are collecting information about the type of rehabilitation services the patient is referred to, how long between time of referral to admission to those services, and what types of delays and barriers the patient experiences, if any. Data will be collected until the end of June, giving us three months of data to explore.

CVHNS is partnering with the Department of Health & Wellness (DHW) Business Intelligence Analytics and Privacy division to link our stroke dataset to the National Rehabilitation Reporting System data for two rehabilitation units in the province, and to the Discharge Abstract Database to help us find out more about the stroke patient's journey through the health system beyond the acute/early rehabilitation phase.

National Heart and Stroke Foundation Stroke Report: How we are doing in Nova Scotia

The Heart and Stroke Foundation (HSF) of Canada released a national stroke report on June 4, 2015. The report focuses on public awareness of stroke signs and symptoms and pre-hospital care. In Nova Scotia, there is room for improvement in public awareness of stroke signs and symptoms. DHW through CVHNS has provided funding to HSF in Nova Scotia to support their F.A.S.T. public

awareness campaign to help increase the public's ability to recognize a stroke. The report also makes a number of recommendations for government agencies/health system decision makers. CVHNS is proud to say that Nova Scotia has already made progress in all of the recommended areas. Of particular note, CVHNS has maintained a provincial stroke surveillance system for Nova Scotia since 2011 – one of the only provinces in the country to have such a surveillance system! The monitoring we do is helpful for understanding the successes as well as gaps in the stroke care system in our province. Other recommended areas in which we have made significant achievements include implementing stroke units, setting up hospital by-pass protocols through Emergency Health Services, and having a stroke service delivery plan which has been in place since 2008.

Development of a Heart Failure Clinical Pathway

In May 2014, a Steering Committee was developed by 6.2 Cardiology Unit of the QEII Halifax Infirmary site, to address the variation in practices related to the heart failure population. Members included physicians, clinicians and administration. A key mandate for this committee was to identify barriers that contributed to longer lengths of stay and to develop strategies to improve length of stay while delivering quality care. To support this project, an interdisciplinary working group was assembled to develop a standardized plan of care. This group met over a four month period and developed a clinical pathway for the typical heart failure patient. Members of this working group researched best practices as they related to the care for this population across Canada and the United States. To complement the care pathway, Pre Printed Physician Orders (PPOs) were developed to support the patient admission from the Emergency Department to the nursing unit. PPOs assist in the standardization of treatments, medications and related interventions to align and complement the care as outlined in the clinical pathway. Education sessions for physicians, clinical associates, residents, nurse practitioners, nursing and other allied staff were completed.

As part of the pathway development, a specific focus was placed on improving the content and availability of patient educational resources. Library Services were consulted and a patient education video has been made available to view on the patient's bedside TV. In addition, a pathway guide will be provided to the patient to outline the expectations and goals of care for each day of their hospitalization.

The planned start date of the Heart Failure pathway is June 1, 2015. As a pilot, we have developed a role for a registered nurse (RN) to assist in care planning and discharge for this population. The RN will work directly with the patient and the healthcare team and will help to navigate the patient and family through the continuum to ensure expected outcomes and milestones are achieved. Specific outcomes have been identified as part of each clinical pathway phase. Data will be collected and analyzed to assist clinical teams to better understand reasons why variances are occurring and more importantly, how we can better meet patient care needs to obtain optimal outcomes. For further information, please contact Alison Leger, Alison.leger@nshealth.ca or Anthony Wiseman, Anthony.wiseman@nshealth.ca.

Helpful Resources

2015 CHEP Guidelines

Daskalopoulou SS, Rabi DM, Zarnke KB, et al. The 2015 canadian hypertension education program recommendations for blood pressure measurement, diagnosis, assessment of risk, prevention, and treatment of hypertension. *Can J Cardiol*. 2015;31 (5):549-568. doi: 10.1016/j.cjca.2015.02.016 [doi].

CCS Heart Failure Management Focused Update
Moe GW, Ezekowitz JA, O'Meara E, et al. The 2014 canadian cardiovascular society heart failure management guidelines focus update: Anemia, biomarkers, and recent therapeutic trial implications. *Can J Cardiol*. 2015;31(5):549-568. doi: 10.1016/j.cjca.2015.02.016 [doi].

Focused Update: CCS Atrial Fibrillation 2014
Verma A, Cairns JA, Mitchell LB, et al. 2014 focused update of the canadian cardiovascular society guidelines for the management of atrial fibrillation. *Can J Cardiol*. 2015;31(5):549-568. doi: 10.1016/j.cjca.2015.02.016 [doi].

Free Course on Tobacco and Public Health
Tobacco and Public Health, from Theory to Practice is a free online course offered by the Ontario Tobacco Research Unit to health professionals who want to be more effective in their tobacco control work. Ontario Tobacco Research Unit staff. Tobacco and public health, from theory to practice. *Ontario Tobacco Research Unit*. www.tobaccocourse.otru.org. Accessed January 22, 2015.

New Algorithm for Diagnosis of Hypertension
Cloutier L, Daskalopoulou SS, Padwal RS, et al. A new algorithm for the diagnosis of hypertension in canada. *Can J Cardiol*. 2015;31(5):549-568. doi: 10.1016/j.cjca.2015.02.016 [doi].

Reaction to CCS Atrial Fibrillation Algorithm
Lip GY, Nielsen PB, Skjoth F, Rasmussen LH, Larsen TB. Atrial fibrillation patients categorized as "not for anticoagulation" according to the 2014 canadian cardiovascular society algorithm are not "low risk". *Can J Cardiol*. 2015;31(5):549-568. doi: 10.1016/j.cjca.2015.02.016 [doi].

Ten Contemporary ST-elevation ACS Recommendations
Amsterdam EA, Wenger NK. The 2014 american college of cardiology ACC/American heart association guideline for the management of patients with non-ST-elevation acute coronary syndromes: Ten contemporary recommendations to aid clinicians in optimizing patient outcomes. *Can J Cardiol*. 2015;31(5):549-568. doi: 10.1016/j.cjca.2015.02.016 [doi].

Want to feel more connected to your profession? Become a member of the **Canadian Council of Cardiovascular Nurses (CCCN)**!

The CCCN is an organization dedicated to advancing cardiovascular nursing through leadership, advocacy, research, knowledge translation, and the creation of strategic alliances. Become part of the voice for Cardiovascular nursing in Canada, by promoting the health and well-being of all Canadians! For membership information, email: Jackie Frew at jackie.frew@nshealth.ca or visit www.cccn.ca.

Innovative Ideas

Coronary Care Unit in Cape Breton
The Coronary Care Unit (CCU) staff nurses at Cape Breton Regional Hospital are now servicing both the CCU and the heart function clinic. CCU staff nurses rotate through the heart function clinic in six month stints to ensure that the nurse working along with the nurse practitioner has the needed cardiac experience to service this population. This change in staffing has allowed for more clinics to be offered and is helping reduce the waiting list in the heart function clinic. For more information contact Rose McDonald, rose.mcdonald@nshealth.ca.

Improving Door to ECG Times at the Halifax Infirmary

The QEII Health Sciences Centre has an Acute Coronary Syndrome Guideline Implementation committee that meets bimonthly and reviews primary PCI data to ensure that care is provided within timeframes suggested by current guidelines. The committee investigates all cases that do not meet recommended timeframes (door to balloon <90 minutes). Door to Electrocardiogram (ECG) time is tracked as part of the process and was found to be greater than recommended ≤10 minutes. The managers of the Emergency Department (ED) and ECG Department met with staff and developed a few strategies to improve door to ECG times. Patients awaiting ECG in triage area are now provided with a yellow or red (priority) card so that ECG technologists will know immediately upon arrival the patients who have been prioritized. To reduce wait times, the technologist is now paged at the same time the ECG is ordered. The patient is seated on a bench in the triage area and the ECG requisition (with priority code) is printed and available for the technologist upon their arrival. STEMI ECG times will continue to be monitored by the committee and monthly stats will be shared with the staff of the Emergency and ECG Departments. For more information, contact Michelle Morrison, michelle.morrison@nshealth.ca.

One-Leg Balancing Test for Small-Vessel Disease and Cognitive Decline

Dr. Tabara and his colleagues tested postural instability in healthy middle-aged to elderly participants in Japan using a simple one-leg balancing test[1]. They found that the inability to balance on one leg for more than 20 seconds was associated with an increased risk for small blood vessel damage in the brain. Even after adjusting for covariates (ie., age, sex, hypertension), the association between shorter one leg standing times and lacunar infarction and microbleeds was significant. An inability to balance on one leg was also associated with cognitive decline[2]. Dr. Tabara suggests that the "one-leg standing test is an easy way to determine if there are early signs of being at risk for a stroke and cognitive impairment and whether these patients need additional evaluation."[3]

References

[1] Tabara, Y., et al. Association of postural instability with asymptomatic cerebrovascular damage and cognitive decline, *Stroke*. 2015;46:16-22. doi: 10.1161/STROKEAHA.114.006704.

[2] Poor Balance Tied to Small-Vessel Disease, Cognitive Decline. Medscape Medical News website. www.medscape.com/viewarticle/836870 .

[3] Ability to balance on one leg may reflect brain health and stroke risk. American Heart Association website. www.blog.heart.org/ability-balance-one-leg-may-reflect-brain-health-stroke-risk/.

Looking for Best Practices in Heart Failure Diagnosis and Management?

The Canadian Cardiovascular Society has a new Heart Failure Recommendations Compendium that will help you search, filter and utilize the entire library of CCS recommendations needed to effectively diagnose and manage heart failure. To access this tool, visit www.ccs.ca.

CONTACT US

Room 539, Bethune Building
1276 South Park Street
Halifax, NS B3H 2Y9
T: 902.473.7834 F: 902.425.1752
cvhns@nshealth.ca
http://novascotia.ca/DHW/cvhns/