

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.

Exciting Research Results for the Treatment of Stroke: The Efficacy of Endovascular Intervention

An exciting development in stroke treatment has emerged from new research. Four large multi-centre research trials investigating the use of endovascular treatment of stroke were stopped early due to the efficacy of the intervention. The trials are:

- Multicenter Randomized Clinical Trial of Endovascular Treatment for Acute Ischemic Stroke in the Netherlands (MR CLEAN)
- Endovascular Treatment for Small Core and Anterior Circulation Proximal Occlusion with Emphasis on Minimizing CT to Recanalization Times (ESCAPE)
- Extending the Time for Thrombolysis in Emergency Neurological Deficits–Intra-arterial (EXTEND-IA)
- Solitaire™ FR as Primary Treatment for Acute Ischemic Stroke (SWIFT PRIME)

In Nova Scotia, the QEII Health Sciences Centre was a participating site in the ESCAPE trial.

The intervention investigated in these trials involves rapid endovascular treatment for patients with a stroke due to major cerebral vessel occlusion (determined through imaging with Computed Tomography Angiography [CTA] or Magnetic Resonance Angiography [MRA]). A catheter is inserted into the patient's groin area and directed up to the brain, and then a retrievable stent is used to remove the clot. The control groups in all trials received standard/usual stroke care. Patients in both the intervention and control groups were considered for thrombolysis and received it if appropriate (i.e., assignment to either group did not preclude eligibility for thrombolysis).

All of the trials showed that this intervention leads to less disability in stroke patients and greatly improved the chances of good functional outcomes (e.g., a significant increase in daily functioning by three months post-stroke). In addition, the results of the ESCAPE trial showed a significant reduction in the 90-day mortality rate in the intervention group as compared to the control group. The results of these trials suggest that endovascular treatment could be of benefit to a wide range of stroke patients with major cerebral vessel occlusion:

- those of all ages

- both men and women
- moderate and severe strokes
- those who received intravenous alteplase and those who did not
- those with occlusion in the internal carotid artery and those without

Early results from MR CLEAN were unveiled in October 2014 at the World Stroke Congress, and were published in the *New England Journal of Medicine*. ESCAPE, EXTEND-IA, and SWIFT PRIME findings were presented for the first time at this year's International Stroke Conference. ESCAPE and EXTEND-IA findings were also published in the *New England Journal of Medicine*. The results of these four trials provide a clearer picture of the benefits of endovascular treatment than has been available before.

There are many considerations to be made when determining how to ensure this intervention is a possibility for stroke patients with major cerebral vessel occlusion. Similar to the use of thrombolytics, time to intervention is important with endovascular treatment. However, the maximum time window for eligibility for this treatment has not yet been defined. The inclusion criteria based on time from symptom onset was up to six hours in MR CLEAN, EXTEND-IA, and SWIFT PRIME, but up to 12 hours in ESCAPE (although only 15% of participants were randomized into the trial 6 or more hours after symptom onset). The results of these trials are exciting for the world of stroke treatment and will need to be considered in the context of healthcare in Nova Scotia.

References:

1. Berkhemer OA, Fransen PS, Beumer D, et al. A randomized trial of intraarterial treatment for acute ischemic stroke. *N Engl J Med* 2015; 372:11-20
2. Campbell, BCV, Mitchell, PJ, Klenig, TJ, et al. Endovascular Therapy for Ischemic Stroke with Perfusion-Imaging Selection, *N Engl J Med*. 2015. Published online: February 11, 2015. doi: 10.1056/NEJMoa1414792
3. Goyal, M, Demchuck, AM, Menon, BK, et al. Randomized Assessment of Rapid Endovascular Treatment of Ischemic Stroke. *N Engl J Med*. 2015. Published online: February 11, 2015. doi: 10.1056/NEJMoa1414905

Learning Opportunities

Critical Care Conference (open to staff of SWH, SSH, and AVH), April 9, 2015. Yarmouth, NS. Kelly Goudey, kgoudey@swndha.nshealth.ca or Gilles Robichaud, grobichaud@swndha.nshealth.ca

Vascular Day in Truro. Truro, NS. May 2, 2015. Tracy Selway, tracy.selway@cehha.nshealth.ca or Meaghan O'Handley, Meaghan.o'handley@cehha.nshealth.ca

European Stroke Conference May 13-15, 2013. Vienna, Austria. www.eurostroke.eu

Atlantic Health Quality and Patient Safety

Learning Exchange. May 26-27, 2015. Dartmouth, NS. Gina Peck, 902-481-5034, gpeck@cpsi-icps.ca. www.saferhealthcarenow.ca/EN/events/workshops/AtlanticLearningExchange2015/Documents/Register%20Now%20ALE%20Flyer.pdf

CCCN Annual Spring Conference May 29, 2015, Ottawa, ON. www.cccn.ca

Atlantic Canada Cardiovascular Conference, May 29-30. Halifax, NS. http://ac-society.org/wp/en/home_acs_en/

Clinical Day in Cardiology, Cape Breton June 5, 2015 Sydney, N.S. 902-567-8007

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

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

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

New Hypertension Canada online course, A comprehensive approach to the diagnosis and management of hypertension.
www.hypertension.ca/en/professional/pep-online

CVHNS News

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

It's back...get ready for the **2015 *Come on Nova Scotia....Check It! Blood Pressure Challenge***. For the 4th year in a row, CVHNS, Diabetes Care Program of Nova Scotia (DCPNS) and the Nova Scotia Renal Program (NSRP) are teaming up to promote and support this province wide challenge. Held in the month of May to coincide with [World Hypertension Day](#) (May 17th), the challenge encourages Nova Scotians to have their blood pressures checked and learn more about the risks, as well as ways to prevent and to manage high blood pressure. To date over 9,000 blood pressures have been screened and numerous education/awareness events provided as part of the challenge. This year, the challenge is also taking a special focus on African Nova Scotian communities. Research demonstrates that hypertension is more common, develops earlier in life and is often more severe for people of African descent.

You can support the challenge by working within your organization and local community partners to

provide opportunities in a variety of settings for Nova Scotians to learn about, and have their blood pressure checked. Whether you are new to the challenge or a seasoned participant, we have a toolkit which provides a planning guide and tools such as educational brochures, wallet cards to track blood pressure over time, decision-support tools for health care providers and much more! There will also be prizes to be won so stay tuned! For more information, see www.novascotia/bloodpressure.

Primary Health Care Collaborative Team Days

In Fall 2014, CVHNS, DCPNS and NSRP collaborated with the Primary Health Care (PHC) section of the Department of Health and Wellness, Dalhousie University Department of Continuing Medical Education and the Registered Nurses Professional Development Centre to design and deliver professional development sessions for PHC Collaborative Team Day events across Nova Scotia. The three-hour, CME accredited program provided an update on hypertension targets, a review of pharmacological treatment and nutrition management/counseling across multiple morbidities and introduced basic quality improvement techniques to use at the practice level. A total of 90 participants including family physicians, nurse practitioners, family practice nurses, licensed practical nurses, dietitians, social workers, occupational therapists, administrative support and others attended. Evaluation results were very positive and the experience provided an opportunity for provincial programs to learn more about needs and supports required by primary care teams related to hypertension management.

Stroke Patient Follow Up Project—Update

CVHNS coordinated an initiative to follow up with stroke patients after being discharged to the community. The goal of the project was to find out

more about the factors that influence a patient's successful transition home. DHAs led their own recruitment and data collection. A pre-discharge data collection form was completed as well as a follow-up telephone survey; all DHAs used the same standardized questions. Designated, trained interviewers in each DHA called consenting stroke patients 3 months after they were discharged to the community. Data was collected between February and November, 2014 and analyzed in December, 2014. CVHNS will present a summary of the results to individual districts in the coming months. The results of this study can be used to better understand transition and community re-integration for stroke.

FAST—Stroke Public Awareness Campaign

On December 3, 2014, the Heart and Stroke Foundation of Canada released their new national public awareness campaign for stroke signs. "FAST" is an easy way to remember the major signs of stroke. The acronym stands for:

FACE is it drooping?
A RMS can you raise both?
SPEECH is it slurred or jumbled?
TIME to call 9-1-1 right away.

Many countries have adopted "FAST" for their stroke signs public awareness campaign and are seeing positive outcomes. The Heart and Stroke Foundation decided to adopt the "FAST" messaging after a review of international best practices for signs of stroke campaigns, and with the help of experts from multiple disciplines.

CVHNS and the Heart and Stroke Foundation of Nova Scotia are collaborating to make this a successful public awareness campaign in the province. Keep an eye out for the campaign on TV,

online, and in your community. Please share the "FAST" message!

ACT **F A S T** BECAUSE THE QUICKER YOU ACT,
THE MORE OF THE PERSON YOU SAVE.

CVHNS Re-Engineering Project Update

We started User Acceptance Testing on February 11. The plan is to have each abstractor who is testing enter at least three different types of abstracts. They will provide us with feedback as to any problems and we will also verify that the data entered matches the expected results. Any problems that are identified will be corrected and retested. Following this we will move forward with implementing the new system.

NEW email

As we move to one district health authority, our email will change to cvhns@nshealth.ca. All emails will be forwarded during the transition.

DHA News

Ottawa Model for Smoking Cessation

After much planning and preparation, Annapolis Valley Health (AVH) has gone live with the Ottawa Model for Smoking Cessation (OMSC) on three inpatient units! The model was implemented on the medical, surgical and intensive care units at the Valley Regional Hospital (VRH) on December 1st, 2014. Before going live, Dr. Andrew Pipe visited AVH to deliver a grand rounds presentation on the OMSC. The event was well attended, and generated a lot of support and enthusiasm for the model.

AVH has its sights set on expanding the OMSC into other areas of the district, one of these being the pre-admission clinic. A three-month pilot is planned that involves distribution of nicotine replacement therapy to patients to use for 72 hours prior to their surgery. Evaluating this pilot will involve looking at patients' smoking rates at the time of admission, discharge,

and 3 and 6 months post to determine its efficacy. The district is also preparing an education packet district is also preparing an education packet specific to the benefits of tobacco cessation and surgery.

Another area being considered for OMSC implementation is the VRH Emergency Department (ED) - prevalence screening of tobacco use in patients presenting to the ED has been done and a process to use the model in the ED is currently being developed. In addition, AVH's District Cardiovascular Health Coordinator, Occupational Health Nurse, Outpatient Nicotine Specialist, Public Health, and Mental Health are developing a plan to support staff members who want to quit smoking. For more information on AVH's implementation of OMSC, please contact Tina Vardy, tvardy@avdha.nshealth.ca.

Helpful Resources

Canadian Cardiovascular Position Statement on Familial Hypercholesterolemia Primary Panel; Genest J, Hegele RA, et al. Canadian cardiovascular society position statement on familial hypercholesterolemia. *Can J Cardiol.* 2014;30(12):1471-1481. doi: 10.1016/j.cjca.2014.09.028.

Effect of Treatment Delay (tPA) in Acute Ischemic Stroke

Emberson J, Lees KR, Lyden P, et al. Effect of treatment delay, age, and stroke severity on the effects of intravenous thrombolysis with alteplase for acute ischaemic stroke: A meta-analysis of individual patient data from randomised trials. *Lancet.* 2014;384(9958):1929-1935. doi: 10.1016/S0140-6736(14)60584-5.

Global Stroke Bill of Rights

The Global Stroke Bill of Rights was launched at the 9th World Stroke Congress in October 2014. The

document identifies the aspects of care that are important for all stroke survivors and caregivers from across the world. World Stroke Organization. Global stroke bill of rights. *World Stroke Campaign.* http://www.worldstrokecampaign.org/images/global_stroke_bill_of_rights/English_GlobalBORights_web.pdf. Accessed January 21, 2015.

MED Heart Failure App

The Med-HF App supports healthcare professionals in the initiation, titration, assessment and monitoring of 4 drug classes commonly used to treat heart failure: ACEIs/ARBs, Beta-Blockers, Diuretics, Aldosterone Antagonists. This App interactively walks healthcare professionals through evidence-based algorithms, specific to these 4 drugs. Alberta Health Services. Med HF app [Mobile application software]. Version 1.0. Apple App Store. <https://itunes.apple.com/ca/app/med-hf/id559909558?mt=8>. Published October 26, 2012. Accessed January 21, 2015.

National Institute for Health Care and Excellence (NICE) Acute Heart Failure Guidelines

National Clinical Guideline Centre Guideline Development Group. Acute heart failure: diagnosing and managing acute heart failure in adults. NICE Clinical Guideline 187. *National Institute for Health and Care Excellence (NICE).* <https://www.nice.org.uk/guidance/cg187>. Published October 2014. Accessed January 28, 2015.

The Route Map and European Atlas on the prevention of AF-related stroke

This European report outlines the burden of atrial fibrillation-related strokes and key issues and challenges in implementing best practice. It also highlights successful initiatives that have made a difference to patients in Europe. European Atlas on the Prevention of AF-Related Stroke. *Arrhythmia Alliance: The Heart Rhythm Charity.* <http://>

heartrhythmcharity.org.uk/www/765/0/AF_Route_Map/. Published November 27, 2014. Accessed January 28, 2015.

UPDATED Canadian Stroke Best Practices Secondary Prevention of Stroke module

The revised Secondary Prevention of Stroke module is the first release in the fifth edition of the Heart and Stroke Foundation Canadian Stroke Best Practice Recommendations. Coutts SB, Wein TH, Lindsay MP, et al. Canadian stroke best practice recommendations: Secondary prevention of stroke guidelines, update 2014. *Int J Stroke*. 2014. doi: [10.1111/ijss.12439](https://doi.org/10.1111/ijss.12439). All supporting materials and the methodology for this module can be found on the Stroke Best Practices website <http://www.strokebestpractices.ca/>.

Innovative Ideas

Thrombolytic Report

Thrombolytic therapy in ST elevation myocardial infarction and stroke is the focus of a monthly reporting tool recently implemented in South West Health (SWH).

The SWH Thrombolytic Report is designed to provide a snapshot of some of the key elements of care and treatment delivered in the three district emergency departments including mode of arrival, triage score, door-to-lytic times, door-to-ECG times (STEMI), door-to-CT times, bedside swallow assessments (stroke) and utilization of flow sheets.

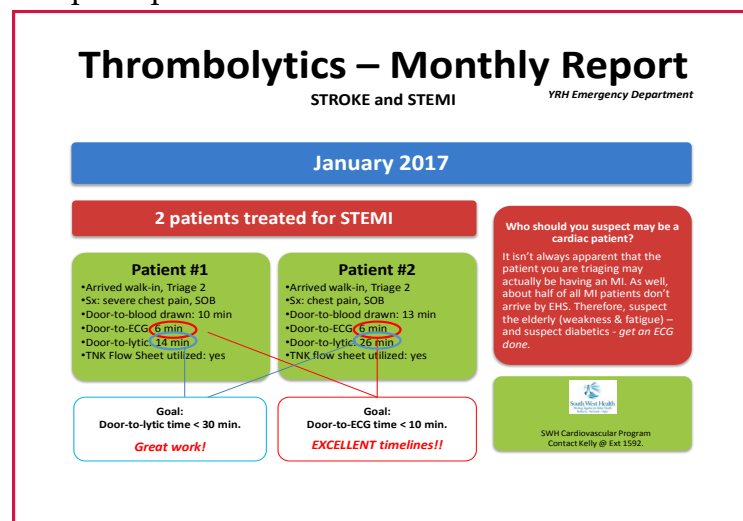
Data collection occurs in a timely manner to allow for fact-finding and follow-up with staff, if required. Cases are reviewed quarterly by the Cardiovascular Quality Improvement working group that includes emergency department and internal medicine representation.

In most cases where there are identified delays in

treatment and/or care the contributing circumstances can be derived from chart documentation. If further clarification is required the ED Nurse Manager follows-up with staff.

Auditing has helped to identify staff learning needs (ie., performing bedside swallow screens), and address process issues, (ie., stopping triage to perform an ECG when a cardiac condition is suspected.) Auditing also helps to identify how we align with best practice guidelines. There have been numerous improvements over the last few years—an increase in the administration of stroke lytics, increased bedside swallow assessments, improved door-to-ECG and door-to-lytic times, and improved documentation. The SWH Thrombolytic Report is an opportunity to share the excellent work taking place in SWH. For more information, contact kgoudey@swndha.nshealth.ca.

Sample report:



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