CANADIAN JOURNAL of EMERGENCY NURSING

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THE OFFICIAL JOURNAL OF THE NATIONAL EMERGENCY NURSES ASSOCIATION

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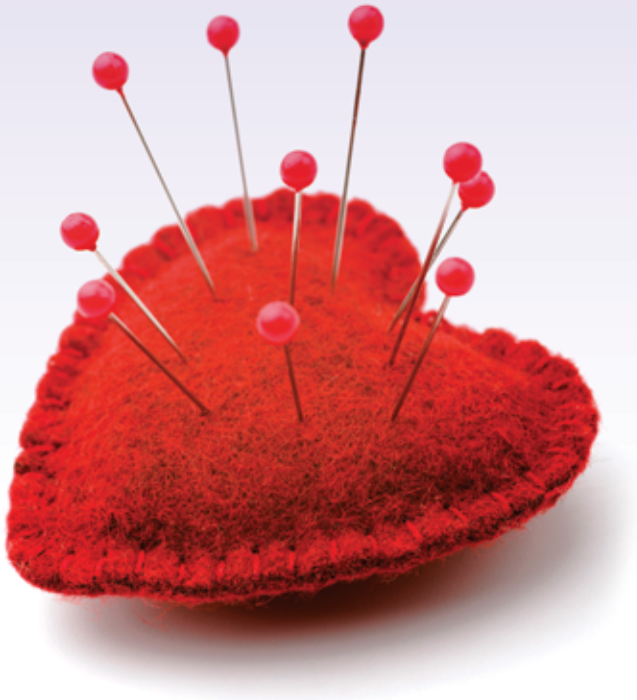

PAGE 28: THE USE OF ALGORITHMS IN CARDIAC ARREST MANAGEMENT

NENA

Guidelines for submission

Editorial Policy

1. **Canadian Journal of Emergency Nursing** welcomes the submission of clinical and research articles, case studies, and book reviews relating to the field of emergency nursing.

2. Statements or opinions expressed in the articles and communications are those of the authors and not necessarily those of the editor, publisher or NENA. The foregoing disclaim any responsibility or liability for such material and do not guarantee, warrant or endorse a product or service advertised in this publication, neither do they guarantee any claim made by the manufacturer of such product or service.

3. Authors are encouraged to have their articles read by others for style and content before submission.

Preparation of manuscripts

1. The original copy of manuscripts and supporting material should be submitted to the **Canadian Journal of Emergency Nursing** editor. The author should retain one complete copy.

2. Manuscripts must be typed, double-spaced (including references), layout on 8½″ × 11″ paper with standard margins. Manuscripts must be submitted in Word or Word Perfect and sent electronically to the communications officer at **communicationofficer@nena.ca**.

3. Author's name(s) and province of origin, a high-resolution photo and a brief biographical sketch must be included.

4. Clinical articles should be limited to six pages unless prior arrangements have been made.

5. Direct quotations, tables and illustrations that have appeared in copyrighted material must be accompanied by written permission for their use from the copyright owner, and original author and complete source information cited. Plagiarized material will be rejected without explanation.

6. Photographs of identifiable persons, whether patients or staff, must be accompanied by signed releases, such as the following: "I hereby give (author's name) authorization to use the photograph of (subject's name) in the **Canadian Journal of Emergency Nursing.**"

Please submit articles to:
Stephanie Carlson, CJEN Editor,
email: **communicationofficer@nena.ca**

Please include a brief biography and recent photo of the author.

Deadline dates:
January 31 and September 8

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President's message

Summer is over and life, as we know it, returns to our emergency departments. July saw the completion of my first year as president, and I cannot believe that my term is now more than half way done.

I think back to the people I have met and the networking that has been done and I am amazed by the work that NENA has accomplished over the last year. We have undergone a name change, a new website, and we changed our by-laws and Board structure in order to meet the requirements of Corporation Canada.

One of the highlights of this year was to meet the nursing leaders at the NENA Pan-America Conference held in Toronto in April, "Connected by Caring Across the Americas." I was privileged to meet several leaders from North, South and Central Americas and many leaders from across Canada.

By the time this journal goes to print, I will have been to Indianapolis where I will represent NENA and Canada on the International Emergency Nurses Council, where representatives from many countries meet to discuss emergency nursing and the similarities and differences in our practices. I am proud to be able to share the work that NENA has done and celebrate with them Emergency Nurses Day.

Emergency nurses do amazing work and are often taken for granted. On a daily basis we deliver exceptional care and we need to recognize this. NENA members give their time and talents to sit on the Board of Directors, Presidential Council, the National Advisory Council and NCAC. Their contributions to NENA and to emergency nursing are and will always be significant, as our nurses who are members of NENA and their provincial organizations. You are all true leaders.

Leaders have a **vision.** This single quality (vision) I believe, more than anything, separates leaders from followers. I believe that leaders have the ability to stand back and see the big picture. Leaders have developed the ability to fix their eyes on the horizon and see greater possibilities.

The most motivational vision you can have for yourself and others is to "Be the best!" NENA is composed of many emergency nurses who believe this and they do not adhere to the" status quo". This is prehistoric thinking. We are now in the age of excellence. Our patients have come to expect that they will receive nothing less than excellent quality care.

Another quality I have come to appreciate in the emergency nurses I have met is that they have integrity. This is, perhaps, in my opinion, the single most respected quality of leaders. Integrity means this: When, at the end of the day, you are asked, "Did you do your very best?" you can say, "Yes!" Then, if asked if you could have done it better, you can honestly say, "No, I did everything I possibly could. I did my best".

We ask this of emergency nurses every day**.** It requires incredible courage to follow through on your vision and on your commitments.

Celebrate yourselves and remember you have the opportunity to change the face of emergency nursing and to be great leaders.

Jan Calnan,
NENA President

Message de la présidente

L'été est derrière nous et la vie, telle que nous la connaissons, nous retrouve dans nos centres d'urgence. Le mois de juillet marque l'achèvement de ma première année en tant que président de NENA (l'Association nationale des infirmières d'urgence). J'ai de la peine à croire que mon mandat ait déjà passé son mi-parcours.

Je pense à tous les gens que j'ai pu rencontrer et le réseautage rendu possible en conséquence. Je suis franchement surprise par le travail accompli par NENA au cours de cette année. Nous avons fait un changement de nom, crée un nouveau site web, changé les règlements, changé la structure du Conseil d'administration afin de satisfaire aux exigences de Corporations Canada.

L'un des temps forts cette année a été la rencontre des nombreux leaders lors de la conférence panaméricaine tenue à Toronto en avril sous le thème « Unies par la compassion partout dans les Amériques ». J'ai eu le privilège de rencontrer plusieurs leaders de l'Amérique du Nord, de l'Amérique du Sud, de l'Amérique centrale, ainsi que de celles de partout au Canada.

Au moment où ce journal va chez l'imprimeur j'aurai été à Indianapolis pour représenter NENA et le Canada sur le Conseil des infirmières d'urgence internationale où des représentants de beaucoup de pays se sont réunis pour discuter des soins infirmiers d'urgence, des similarités et des différences dans nos pratiques. Je suis fière de pouvoir partager le travail accompli par NENA et de célébrer avec elles la Journée des infirmières d'urgence.

Les infirmières d'urgence font un travail extraordinaire, un travail qui est souvent tenu pour acquis. Jour après jour nous délivrons des soins exceptionnels et cela devrait être reconnu. Les membres de la NENA donnent de leur temps et de leurs talents siégeant au Conseil d'administration, au Conseil de la présidence, au Conseil consultatif national et au Comité national pour l'administration des cours. Leurs contributions à NENA et aux soins d'urgence sont, et seront toujours, importantes. En tant qu'infirmières, membres de NENA et des organisations provinciales, vous êtes toutes de vrais leaders.

Les leaders ont une vision. Cette qualité singulière, plus que toute autre chose, démarque les leaders de celles qui suivent. Un leader a la capacité de prendre du recul et de voir globalement la situation.

Il a développé la capacité de fixer les yeux sur l'horizon et de voir de plus grandes possibilités.

La vision motivationnelle le plus importante que vous pouvez avoir pour vous-même et pour les autres c'est de donner de votre mieux ! NENA se compose d'un grand nombre d'infirmières qui croient à cela et qui refusent le « statu quo, » mentalité vieillotte, qui se contraste avec l'ère de l'excellence. Nos patients s'attendent à ne recevoir rien de moins qu'une excellente qualité de soins.

Autre qualité que j'apprécie dans les infirmières d'urgence que j'ai rencontrées c'est l'intégrité. Cette qualité est sans doute la plus respectée de tous chez un leader. Intégrité signifie que lorsque à la fin de la journée si l'on vous demande, « Avez-vous avez fait de votre mieux ? » vous pouvez répondre « Oui ! » Ou, si l'on vous demande si vous auriez pu faire mieux, vous direz honnêtement « non, j'ai fait de mon mieux. »

Voilà donc ce que l'on demande des infirmières d'urgence chaque jour. Et voilà qui fait appel à un courage incroyable pour assurer l'accomplissement de leur vision et de leurs engagements.

Vous pouvez vous féliciter vous-mêmes, tout en vous rappelant que vous avez toutes la possibilité de changer la face des soins d'urgence et d'être des leaders de qualité.

Président de la NENA
Janet Calnan

Bouquets

- Congratulations to our NENA bursary winners for 2014: Christine Maxwell (Alberta), Debra Pitts (New Brunswick), Patricia Mercer-Deadman (Alberta), and Tanya Penney (Nova Scotia).
- In 2014, NENA awarded two Awards of Recognition **For Promotion of Excellence in Emergency Nurses and Support of NENA** to Glen Perchie, Executive Director, Emergency and EMS, Regina Qu'Appelle Health Region, Regina, Saskatchewan; and Brent Hobbs, Director of Transport Services, Interior Health, Southern British Columbia.
- Congratulations from the NENA Board to the NENA 2014 Conference Committee on a great national conference: Janice Spivey (Chair), Motsi Valentine, Lindsay Mossey, Kim Deline, Sharron Lyons, Angela Arnold, Brian Giles, and Janet Calnan. The tireless work and attention to detail made this a conference to remember. Thank you for all your work.
- Thank you to Sharron Lyons for four years of service to NENA as President-Elect, President, and Past President. On Sharron's watch NENA struggled through the implementation of changes required by Corporations Canada and the inauguration of the new website. Not one to rest on her laurels, Sharron is chairing the 2015 NENA Conference in Edmonton, April 30–May 3, 2015. Thank you, Sharron, for all your work.
- Thank you to Erin Musgrave (NB), April Mills (PEI), and Pat Mercer-Deadman (AB) for representing emergency nurses and your provinces, as provincial presidents. NENA welcomes Debra Pitts, Sharon Hay, and Shelley Pidruchney as new provincial directors.
- Special recognition is due to the following nurses for their trailblazing efforts in teaching the Trauma Nursing Core Course (TNCC) and the Emergency Nursing Pediatric Course (ENPC) in Canada: to Carole Rush, AB, for teaching ENPC for 20 years, and to Glenda Hicks, ON, and Joyce Farrer, ON, for teaching TNCC for 20 years.
- Bouquet to Janice Spivey, ENAO President, who was invited and spoke at three sessions at the Asociacion Mexicana de Enfermeria en Urgencias (AMEU)/Mexican Association of Emergency Nurses 10th International Congress on October 10–12 in Campeche, Mexico.
- A big thank you to the 2015 conference committee: Sharron Lyons (Chair), Shelly Pidruchney, Navkiran Tiwana, Jane Daigle, Pat Mercer-Deadman, and Margaret Dymond. They have been hard at work for months to give us a great conference next year.
- Three new honorary lifetime memberships were awarded by the NENA Board for service to NENA and to Canadian nurses. Receiving a NENA medallion were: Helen Grimm, Saskatchewan, Pat Walsh, Newfoundland, and Carla Policichio, Alberta. NENA is delighted to recognize your remarkable contributions to emergency nursing in Canada. Congratulations to each of you.
- I would like to thank Pat Mercer-Deadman, Past President for Alberta, in assisting me in my new role at President for NENA-AB. I have appreciated her time and guidance. Thanks, Pat.
  —Shelley Pidruchney
- I would like to thank Erin Musgrave for her work and dedication to emergency nursing in New Brunswick. Three years ago Erin assumed the role of NB Director. Since then her scope has broadened to be involved with the CTASNWG as the eastern representative. Her commitment to emergency nursing is evident through her ongoing volunteer work with CTAS. As she hands over the leadership, I wish Erin all the best. I know we will still continue to work together with the common interest of promoting education and, therefore, improving emergency nursing in NB.
  —Deb Pitts RNBN, ENC(C)
- On behalf of the PEIENA, I would like to take this opportunity to say a special thank you to April Mills, Past President of the PEIENA. She has worked very hard to keep the education level of all the emergency staff of PEI hospitals up to national standard. Keeping our small chapter going has had many challenges and, if not for her dedication, knowledge, pleasant approach and concern for the nursing profession, we would not have representation for our small province. She continues to play an active role in NENA and has been a very supportive mentor to all of us. Thanks, April, from your PEIENA.
  —Sharon Hay

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Xarelto® is the first oral, single-drug regimen for the treatment of VTE (DVT and PE) and prevention of recurrent DVT and PE†

Clinical use:
For the treatment of VTE, Xarelto® is **not** recommended as an alternative to unfractionated heparin in patients with acute pulmonary embolus who are haemodynamically unstable, or who may receive thrombolysis or pulmonary embolectomy, since the safety and efficacy of Xarelto® have not been established in these clinical situations.
Xarelto® is not recommended for use in children less than 18 years of age.

Contraindications:

- Clinically significant active bleeding, including gastrointestinal bleeding
- Lesions or conditions at increased risk of clinically significant bleeding, e.g., recent cerebral infarction (hemorrhagic or ischemic), active peptic ulcer disease with recent bleeding, patients with spontaneous or acquired impairment of hemostasis
- Concomitant **systemic** treatment with strong inhibitors of **both** CYP 3A4 and P-glycoprotein (P-gp), such as ketoconazole, itraconazole, posaconazole, or ritonavir
- Concomitant treatment with any other anticoagulant, including:
  - unfractionated heparin (UFH), except at doses used to maintain a patent central venous or arterial catheter,
  - low molecular weight heparins (LMWH), such as enoxaparin and dalteparin,
  - heparin derivatives, such as fondaparinux, and
  - oral anticoagulants, such as warfarin, dabigatran, apixaban, except under circumstances of switching therapy to or from Xarelto®.
- Hepatic disease (including Child-Pugh Class B and C) associated with coagulopathy, and having clinically relevant bleeding risk
- Pregnancy
- Nursing women
- Hypersensitivity to Xarelto® (rivaroxaban) or to any ingredient in the formulation

Most serious warnings and precautions:
Bleeding: Xarelto® (rivaroxaban), like other anticoagulants, should be used with caution in patients with an increased bleeding risk. Any unexplained fall in hemoglobin or blood pressure should lead to a search for a bleeding site. Patients at high risk of bleeding should not be prescribed Xarelto®. **Should severe bleeding occur, treatment with Xarelto® must be discontinued and the source of bleeding investigated promptly.** See Relevant warnings and precautions for concomitant use of drugs affecting hemostasis.

Peri-operative spinal/epidural anesthesia, lumbar puncture: The risk of developing an epidural or spinal hematoma that may result in long-term neurological injury or permanent paralysis is increased by the use of indwelling epidural catheters or the concomitant use of drugs affecting hemostasis. Accordingly, the use of Xarelto®, at doses greater than 10 mg, is not recommended in patients undergoing anesthesia with post-operative indwelling epidural catheters. The risk may also be increased by traumatic or repeated epidural or spinal puncture. If traumatic puncture occurs, the administration of Xarelto® should be delayed for 24 hours. Patients who have undergone epidural puncture and who are receiving Xarelto® should be frequently monitored for signs and symptoms of neurological impairment. The physician should consider the potential benefit versus the risk before neuraxial intervention in patients anticoagulated or to be anticoagulated for thromboprophylaxis and use Xarelto® only when the benefits clearly outweigh the possible risks. An epidural catheter should not be withdrawn earlier than 18 hours after the last administration of Xarelto®. Xarelto® should be administered not earlier than 6 hours after the removal of the catheter.

Renal impairment: Xarelto® is not recommended in patients with severe renal impairment. Xarelto® should be used with caution in patients with moderate renal impairment (CrCl 30-49 mL/min), especially in those concomitantly receiving other drugs which increase rivaroxaban plasma concentrations. Determine estimated creatinine clearance (eCrCl) in all patients before instituting Xarelto®.

Monitoring and laboratory tests: Although Xarelto® therapy will lead to an elevated INR, depending on the timing of the measurement, the INR is not a valid measure to assess the anticoagulant activity of Xarelto®. The INR is only calibrated and validated for vitamin K antagonists (VKA) and should not be used for any other anticoagulant, including Xarelto®.

Other relevant warnings and precautions:

- Fall in hemoglobin or blood pressure
- Concomitant use of drugs affecting hemostasis such as non-steroidal anti-inflammatory drugs (NSAIDs), acetylsalicylic acid (ASA), and platelet aggregation inhibitors
- Atrial fibrillation and having a condition that warrants single or dual antiplatelet therapy
- Use of antiplatelet agents, prasugrel and ticagrelor
- Use of thrombolytics during acute myocardial infarction (AMI) or acute stroke due to expected increased risk of major bleeding
- Patients with prosthetic heart valves or those with hemodynamically significant rheumatic heart disease, especially mitral stenosis
- Interaction with moderate CYP 3A4 inhibitors
- Interaction with strong CYP 3A4 inducers, such as rifampicin, and the anticonvulsants, phenytoin, carbamazepine, phenobarbital
- Patients with hepatic impairment
- Patients who undergo surgery or invasive procedures including pre-operative phase (associated with risk of bleeding) and peri-operative phase when neuraxial (epidural/spinal) anesthesia or spinal puncture is performed (associated with risk of epidural or spinal hematoma that may result in long-term neurological injury or permanent paralysis) and post-procedural period (to avoid unnecessary increased risk of thrombosis)
- Patients with lactose sensitivity

For more information:
Please consult the Xarelto® Product Monograph at http://www.bayer.ca/files/XARELTO-PM-ENG-28AUG2013-164839.pdf?# for important information relating to adverse reactions, drug interactions, and dosing information which have not been discussed in this piece.

The product monograph is also available by calling 1-800-265-7382.

References:
1. Xarelto® (rivaroxaban tablet) Product Monograph, August 28, 2013.
2. Data on File, Bayer Inc.

*The EINSTEIN-DVT and EINSTEIN-PE trials were randomized, open label trials evaluating the efficacy and safety profile of oral Xarelto® vs. subcutaneous enoxaparin and VKA treatment of VTE and prevention of recurrent DVT and PE. Xarelto® regimen: 15 mg twice daily for 3 weeks, followed by 20 mg once daily. Enoxaparin + VKA regimen: enoxaparin 1 mg per kg of body weight for at least 5 days and discontinued when the international normalized ratio was ≥2.0 for 2 consecutive days, and VKA started within 48 hours of randomization. Treatment continued for 3, 6, or 12 months as determined by the treating physician. Results of analysis of the intent-to-treat population. The studies were designed as event-driven, noninferiority studies.
†Comparative clinical significance is unknown.

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President elect's message

Greetings to my many colleagues in emergency nursing across our country.

My name is Sherry Uribe and I am honoured to have been acclaimed to the position of President-Elect for NENA. My term began on July 1 this year and I serve in this role until the end of June 2015, at which time I will assume the role of president for two years.

My name may be familiar to some of you, as I recently was privileged to serve as NENA Treasurer. Being a nurse, I must say that learning the accounting system for NENA was an interesting challenge.

I have been a nurse for 40 years, graduating from Foothills Hospital in Calgary in 1974. I retired from full-time work last September, but continue on as casual staff. My husband and I recently relocated from the Okanagan Valley to Sechelt on the Sunshine Coast. We are in the process of having our house built and hope to move in this November.

NENA has gone through significant change in the past year, transitioning to the requirements defined in the new Canada Corporations Act. Your governing Board of Directors, President Janet Calnan, Secretary Dawn Paterson, Treasurer Jane Daigle, Director of Training Margaret Dymond and myself, continue to work to modernize and reorganize our roles in the new structure. Information will be shared with you as we learn and build for NENA.

You, our members, are most important, as we go forward and I want to thank you for your continued support through your membership and participation.

I look forward to meeting and working with you over these next four years. Please do not hesitate to contact me with any concerns, questions or suggestions. My email is presidentelect@nena.ca

As I close, please make a note in your calendar and plan to attend NENA Conference 2015, **"Prepare for the Unexpected—Working in an Emergency Department"** April 30–May 3, 2015, to be held in Edmonton, Alberta. It will be worth your while, I assure you.

Thank you,
Sherry Uribe, MBA, BSc, RN, ENC(C)

Communication Officer's report

This has been the most challenging of all my terms with NENA. The transition to the new website has been very time-consuming and has required a considerable effort to adapt, particularly in the first few weeks. By the end of July, work on the website had become predictable and most of the board and committee had completed the training to equip them for their routine tasks of posting to the website, sending newsletters to members, checking memberships, and responding to member questions.

A good deal of my time has been spent in providing membership assistance to members. Problems have largely been associated with login and password changes, membership renewals, and the messages that members receive from the old website. When possible, I have responded within the hour to members who are struggling to renew membership.

With respect to those members who are troubled by those pesky membership reminders after making a payment, this link has been provided as an explanation: **http://nena.ca/legacy-membership-redirection/**. The message is included below for those who may not have seen it:

You've reached this page because you've clicked on a legacy link in an email you received that suggested your NENA membership is expiring.

If you have renewed your National Emergency Nurses Association membership on the new website, your payment has been recorded and you are a member in good standing of NENA. You may go to your membership profile and verify your membership status by signing into the website, clicking on MEMBERS in the Navigation menu, and then going to the tab which says, UPDATE MEMBER INFO. This page will show your provincial affiliate, your fees, your last payment day and your next renewal date.

Nurses who had membership in the National Emergency Nurses' Affiliation are receiving reminders from the old National Emergency Nurses' Affiliation website. All efforts by the previous webmaster and the current web administrators have been unable to find the background program that is still generating these erroneous messages. When you pay on the current website, that transaction is not communicated to this historical program, therefore it is doing its job and reminding you that your membership is expiring.

These annoying messages will occur briefly, but are inherently self-limiting. Thank you for your patience as NENA continues to seek the source of this problem.

Please ignore these messages and accept my apology on behalf of NENA for these inconvenient emails.

We have had a number of requests for position statements on the website. A committee has been developed to rush the final posting of these statements on the website.

A big thank you to those who worked hard to get your articles and reports in early for this fall journal. I appreciate all of the support and help that has been given by many of the thoughtful NENA members.

Stephanie Carlson

News from the provinces

BC report

Flu has come early to BC and we are actively preparing for increased volumes.

The mandatory flu vaccine program continues and many sites have implemented 'PEER' immunizers within departments. Our pharmacy colleagues have actively stepped up to help with the immunization program.

We are tracking an enterovirus D-68, as it sends children in the U.S. to hospital with more significant symptoms. Many sites within the province have also started to role out education around the Ebola-like virus.

We were happy to collaborate with Washington and Oregon States to offer a 1.5-day education session, "Nursing Without Borders", on September 19–20 in Vancouver, Washington. We had Lori Baker, Jennifer Hunter, Monique McLaughlin and Landon James presenting on behalf of BC Emergency Nurses.

Many emergency departments contributed to the promotion of World Sepsis Day on September 13, with information boards, promotional lanyards and great photo shots of improvements in action. Three hundred individuals sent out 1,100 tweets as part of a sepsis "tweetchat" on the day. More information can be found at: http://bcpsqc.ca/clinical-improvement/sepsis/bc-sepsis-network-world-sepsis-day/

TNCC(first ever 7th edition)/ENPC/CAMAN/ACLS/PALs and CTAS (including Instructor Courses) continue full steam in many areas of the province.

We are in early discussions with BCIT faculty to help support an education day for BC emergency nurses just prior to the WEDOC 2015 conference, which will be held in Vancouver on April 16–17. Our Alberta colleagues did such an amazing job we felt compelled to spring into action.

Bouquets of flowers to our ED nurses who continue to provide excellent care in challenging times.

Sherry Stackhouse
ENABC President

Alberta report

Hi. As of July 1, 2014, I have the position as the new Alberta president for NENA–AB. I work at the Royal Alexandra Hospital in emergency in Edmonton. I have been known to be called the conference queen, as I have attended many conferences over North America including Hawaii and, this fall, I can add international, as I am going to Ireland to the first International Emergency Nursing Trauma Conference in Dublin. Learning is something that I have a passion for, to keep myself educated and updated about new practices. I have been nursing for 16 years, and have been a part of NENA for more than 10 years. I want to thank Pat Mercer-Deadman for her guidance in this new role.

We have changed our name from ENIG to NENA–AB. We feel this will partner our relationship with our national organization, NENA, better.

Our membership continues to grow every month. As of September 2014, we are proud to say we have 289 members. To help increase our membership, we are putting the word out about our group by an email newsletter to our members and by sending a hard copy of this newsletter to every emergency department and health care centre in Alberta. Since the launch of the new NENA website this past spring, it is even easier to join and renew membership.

We are busy planning a fall education day in Red Deer along with our AGM in October. We have been updating our bylaws to be voted on at the AGM. An example of one of these changes is an increased amount we will be able to offer members for bursaries. We have also added incentives for our membership to become members of the executive of NENA–AB.

This spring, the NENA Conference will be held in Edmonton from April 30–May 3, 2015, at the Hilton Doubletree Hotel. We are in full swing making plans for this conference. I encourage you to submit an abstract or a poster presentation for this conference. This is an excellent opportunity to share your knowledge at a national level.

We are advocates for our patients, their family members and for ourselves. Emergency continues to be a place of growth and challenges each day, every shift.

I look forward to working with our national BOD and with my provincial executive over the next two years.

Shelley Pidruchney
NENA–AB President

Manitoba report

As the leaves are beginning to change in our province, emergency nurses in Manitoba begin to shift into fall, carrying on their dedicated work caring for patients across the province.

Winnipeg was honoured to host the Canadian Nurses Association Biennial Conference this past June, with many of the greatest nursing minds in attendance from across Canada. Keynote speakers included Gina Browne, Dr. David Butler-Jones, comedian Rick Mercer and journalist Evan Soloman. 'Unleash the power of registered nurses' was part of the new President Karima Velji's message.

Within the Winnipeg Regional Health Authority, there are ongoing efforts to improve emergency department flow. System targets published by the WRHA for 2015 goals for patients to receive the right care, in the right place, at the right time established by the Board of Directors has been a driving force for the ongoing work to improve patient flow. We are challenged to meet the goals set by the WRHA:

- Treat and discharge 90 per cent of non-admitted emergency room patients within four hours
- Find a bed for 90 per cent of the emergency room patients who have been admitted to hospital within eight hours
- No patient, admitted to hospital or not, is to sit in an emergency department longer than 24 hours

- All ambulances are able to unload patients at hospitals within 60 minutes
- Ensure the number of non-emergency patients attending hospital emergency rooms does not exceed 20 per cent.

Many Winnipeg emergency departments have new initiatives in place in an attempt to meet these goals including the creation of a Rapid Assessment Zone, the integration of a Flow Nurse, and Minor Treatment Areas staffed by Nurse Practitioners to name a few. Nurse Practitioners in emergency departments across Manitoba continue to be a growing and integral part of improving patient flow in urban and rural EDs.

The Sinclair Inquest has now wrapped up and Manitoba emergency nurses wait for the recommendations that will surely impact emergency nursing care, not only in the Winnipeg Regional Health Authority (WRHA), but also throughout the province. These recommendations will likely bring significant changes and, of course, much media coverage once again.

Rural Manitoba EDs often face a variety of challenges not unlike all of the provinces across Canada—lack of physician and nursing coverage forcing sporadic closure of EDs, overcrowding, lack of resources, lack of access to education and, in more remote areas, timely access to care.

The impact of amalgamating regional health authorities (RHA) from 11 down to five more than 18 months ago is still being felt across the province. Changes in directors, managers and staff from one RHA to another have necessitated adjustment for all. There have been changes in many policies including those surrounding education. What was previously mandatory or funded is no longer, based on amalgamated rules.

TNCC 7th Edition is now being taught in many areas of the province, with the majority of the previous TNCC instructors having successfully completed the 7th Edition update. Congratulations to all who updated and thank you for all your hard work and dedication in ensuring TNCC is disseminated across Manitoba. You are champions of emergency nursing!

Despite a small number of ENPC instructors, four courses were run across the province last year. CTAS is ongoing in all areas of Manitoba. The Advanced Emergency Nursing Course continues to be offered once a year to all ER nurses in the province at a Triage level of experience. The WRHA Regional Emergency Program emergency orientation is also accessible to all provincial RHAs to educate new staff.

Happy Emergency Nurses Week to all Manitoba Emergency Nurses October 7 to 11!

Respectfully submitted,
Marie Grandmont, RN, BN, ENC(C)
MB Provincial Director

Ontario report

On behalf of the Emergency Nurses Association of Ontario (ENAO), it was an honour for our association to host NENA Inc., and Canada's emergency nurses at the NENA 2014 Pan American Conference in Toronto, Ontario, this past spring. I am proud to announce that a significant profit was realized.

Most of the ENAO BOD members were also members of the NENA conference committee. Thus, the largest portion of ENAO's time, work and energy was directed towards the conference over the past four years.

TNCC and ENPC courses continue to be offered throughout Ontario regularly. Frequently, ENAO receives calls from members who are seeking to take an instructor course. We are always happy to facilitate this process, as it allows for more convenient educational opportunities in every corner of our province, thus better meeting the needs of our members.

As with the rest of this world, many ENAO members are also "on the move". Some are transferring to other specialties or types of nursing, while others are moving to other geographic locations across Canada and around the world. As a result, many Ontario hospitals are finding themselves in the position of losing experienced triage nurses and CTAS Instructors.

The Ontario Hospital Association (OHA) frequently offers training courses for CTAS Instructors. This facilitates the training of new triage nurses in under-serviced provincial areas.

While ENAO endorses and supports these valuable courses for every Ontario emergency nurse, we are aware of the costs of ongoing professional education. Today's reality is that most of our hospitals have little or no funds to support their nurses' educational needs, and most applications for funding assistance receive replies of denial. However, there are funding dollars available from various sources, and the ENAO BOD constantly encourages our provincial ED nurses to put pen to paper and apply.

ENAO continues our long-standing practice of offering complimentary advertising on our website (**www.enao.me**) for educational opportunities for emergency nurses. Our talented webmaster creates direct links for conference/event registrations and various health care surveys for participation. We are proud to serve as a resource where our members can go to meet their learning needs.

Continuing Education Contact Hours (CECH) may be granted by ENAO to organizations whose application and event meets ENAO's strict criteria. In 2014, ENAO has awarded CECH hours to the following educational events:

- NENA Conference 2014 "CONNECTED BY CARING ACROSS THE AMERICAS", Toronto—20.7 hours
- 2014 Annual Eastern Ontario Regional Trauma Conference, Ottawa—6.5 hours
- Queen's University School of Nursing 2014 Conference "Code of Survival, ER Nursing"—7.5 hours.

Ontario's provincial premier has been re-elected, this time with a majority government. ENAO is cautiously waiting to hear about any health care plans that will have a potential impact on emergency nurses and the countless emergency patients for whom we care.

Respectfully submitted,
Janice L. Spivey, RN, ENC(C), CEN
ENAO President

Prince Edward Island

A friendly hello to fellow nurses across Canada. It has been a beautiful fall, but it is quickly turning chilly here on the East coast.

We have been working hard to increase membership for PEIENA. At the spring board meetings our membership was only eight solid members but, since then, has increased to 20. We will continue to promote and offer incentives to join this very important group. The biggest challenge for us has been to educate the staff on what NENA actually is and why it is important. Some of the ways we have promoted PEIENA are to offer free seats to NENA members for the provincial workshops. We also give our NENA members priority seating at all workshops and to TNCC and CTAS.

PEIENA sponsored a forensic workshop in September 2014. We paid for the venue and the breaks. We were pleased to promote our group to more than 60 participants. TNCC was also offered in September. The course was full and another is planned for the spring. CTAS continues to be taught monthly with additional courses planned depending on the need. Our group has been trying to bring ENPC to PEI. We have the funding but are seeking appropriate candidates and teaching at present.

In July we had a fundraiser to help with the costs of education. Although it was not a huge financial success, we feel it was successful in spreading information about PEIENA. There are some plans to have another type of fundraiser in the near future.

Education is something we continue to support. We encourage all nurses to attain their nurse certification and continue to promote and develop the role of the emergency nurse in PEI.

Overcrowding, an increase in mentally ill and addiction patients, staffing, long wait times, and time off for education seem to be some of the major issues in our province and across Canada. Ongoing collaboration with Health PEI, Department Managers, Prince Edward Island Nurses Union (PEINU), Prince Edward Island Nurses Association (PEINA), staff nurses and physicians continue to offer short- and long-term strategies to help improve these issues. As we roll out model of care in the emergency department 2014–2015, we will depend on this collaboration to make it as successful as possible.

Special thanks to the organization committee of Ontario for hosting the fantastic Pan American Conference in April. It was very well attended and enjoyed.

PEINA wishes everyone a terrific fall and winter. We look forward to the many challenges and education opportunities coming in the New Year.

Respectfully submitted,
Sharon Hay, RN, BN, ENC(C)
PEINA Provincial Director

New Brunswick report

Implementation of Tele-stroke Program

Emergency departments across the province have been working collaboratively with the Heart and Stroke Foundation, Ambulance New Brunswick, emergency physicians and nurses, neurological clinical nurse specialists, neurologists, and radiologists to implement a program that will ensure every person in NB, with the aid of technology, will have access to the best possible stroke care. Advanced technology will be used to provide rapid assessment and subsequent treatment, if warranted, to stroke patients in New Brunswick. Rapid access to a neurologist is key to reducing the effects of a stroke.

Provincially in French and English, a patient who is assessed by EMS with stroke-like symptoms within the critical timeframe will be transferred to a hospital with CT technology, bypassing other facilities. A neurologist will be consulted and with the aid of tele-communication technology they will be able to visually assess the patient and view the CT results. This will enable rapid administration of a thrombolytic, if indicated.

This program will save lives and reduce disability associated with stroke. Emergency nurses across New Brunswick are proud to be vital partners in this collaborative project. This will be the first program of its kind in Atlantic Canada.

Submitted by Debbie Pitts

Sexual Assault Nurse Examiner Program (SANE)

This program provides 24/7 specialized care for both female and male patients who have been sexually assaulted in New Brunswick. A specially trained emergency nurse may provide a medical and/or a forensic examination with the patient's consent. Currently there are programs in Saint John, Moncton, and a revitalized program in the Fredericton/Oromocto area. A coordinator is responsible for patient follow-up, scheduling, equipment, and education for staff. Presentations and education are provided to the community to ensure that everyone is aware of the program and what is available to patients.

Congratulations to Fredericton/Oromocto emergency nurses! Thank you to all emergency nurses in New Brunswick for providing this specialized service to our communities.

Submitted by Hiadee Goldie

Trauma update

The mandate of the NB Trauma Program is to provide excellence in trauma care, injury prevention, education and research. NB Trauma works very closely with physicians and nurses in the emergency departments across NB. There are trauma nurses in all the regional hospitals in the province as well as a trauma coordinator in Saint John and Moncton. Some initiatives that assist emergency nurses in the care of the trauma patient include:

- Provincial coordination of TNCC, which led to more courses across NB. This improved access and decreased the cost of attending a course
- Implementation and distribution of trauma nursing notes to all emergency departments. These comprehensive notes based on pre-hospital care, primary and secondary assessment are designed for use when caring for multiple injured trauma patients.
- Monthly multidisciplinary trauma education rounds offered and available to all by Webex/teleconference. These sessions are taped and made available on DVD

- Development and assistance with the roll-out of a provincial massive transfusion policy (MTP) for trauma patients, including the development of a MTP checklist for use during activation
- Launch of a new NB Trauma Registry that is used by trauma nurses after reviewing patient records to enter data on injured patients who are seen in the ED. The registry provides a wealth of information about demographics, mechanism of injury, pre-hospital care, injuries sustained, treatment/interventions required. Included in the registry is a section to track quality assurance. This information can be used to determine the need for trauma education, policy development, injury prevention initiatives, and research.

NB Trauma encourages emergency nurses to be involved in injury prevention. Information sheets are provided on a variety of injury prevention topics for all ages including concussion management. We encourage ED nurses to become a volunteer facilitator with P.A.R.T.Y. program offered by NB Trauma in area high schools to help reduce injuries to youth. Check out the P.A.R.T.Y. website at **www.partynb.com**

Local trauma nurses are available to discuss ways they can support them in caring for trauma patients. For more information, check out the NB Trauma website at **www.nbtrauma.ca**

Submitted by
Ann Hogan

Nova Scotia report

Warm greetings from Nova Scotia. Congratulations to NENA on the launch of its fantastic new website. If you haven't had the opportunity to check it our yet, please do!

Emergency departments in Nova Scotia are busy, as they prepare for the December 2014 deadline to meet the Emergency Department Standards developed by the Provincial Health and Wellness Department, as part of its "Better Care Sooner" initiative. Nova Scotia will be the first province to implement Emergency Department Standards in Canada. This initiative has provided some challenges and some great collaboration between emergency departments in the province.

The QE11 Emergency Nurses Education Committee is once again holding its annual education day on October 10 at the Royal Bank Theatre, Halifax Infirmary Site. This year the theme is "Expanding Our Horizons; Looking Beyond the Obvious". This education day is always fun and informative!

It is with great sadness that we learned of the death of Debbie Cotton in August. She was an Instructor for the GASHA Health District in Nova Scotia for many years, as well as one of the province's core instructors for ENPC, TNCC, PALS, ACLS, and was one of the five nurses who developed the CAMAN course. She also served for several years on the board of NENA. Debbie was loved by all who had the good fortune to know her and will be greatly missed.

Respectfully submitted,
Michelle Tipert, RN, ENC(C)
NS Provincial Director

Newfoundland and Labrador report

It is with much reservation that I inform the members of NENA Canada that the Province of NL is currently in need of a new director. As the director for the past 2.5 years, I will be resigning from my post. I do this due to the fact that I will not be actively working in NL. I have enjoyed and will always be a NENA member, and hope to have involvement in some other capacity in the future. I have been actively seeking another candidate to take on this position and encourage anyone who receives the *CJEN* with interest to contact me for discussion on this great opportunity to expand on your emergency involvement nationally.

In speaking to my colleagues in NL, there seem to be no big managerial changes that have improved the implementation of the emergency discipline with regards to its delivery, but small attempts have seen slight improvement at times. The issues seem to remain universal in NL, as with the remainder of the country. Overcrowding has not seen any big improvements, and wait times and patient hostility towards staff continue, as management struggles to find solutions to these national phenomena. Staff reports shortages in relief, and mandatory work of staff has been expected.

Emergency room nurses are very strong in their passion for their chosen discipline. They take great pride in delivering the best possible care they can and seem to rally amongst themselves to keep their individual emergency departments united, as they depend on each other for support to keep going. This is why NENA has been such a great avenue for the growth of the emergency nurse.

NL nurses, in general, under the Clarity Project initiated by the Newfoundland and Labrador Nurses' Union, have attempted to bring more identity to the role of the RN and decided to voluntarily implement a uniform of white top and black bottom that has met with great support. Reports show approximately 40-plus percent and growing have embraced this and the union hopes it will be 100% by year's end.

The Team Broken Earth relief project to Haiti continues to be a great success and held a pediatric conference as its primary fundraiser on October 3–5, 2014, in St. John's, NL, that was reported to be very successful.

TNCC and ENPC courses continue to be instructed twice yearly and remain the benchmark along with PALS and ACLS when delivering best practice emergency nursing. Our membership has remained constant and I hope that with new insight and energy the numbers will continue to climb.

On a personal note, I would like to thank the members of NENA NL and the executive of NENA Canada for their unwavering support and guidance over the past 2.5 years in my position as NL Director. I look forward to serving the national body again at some point.

Thank you,
Todd Warren, RN

National Course Administration Committee (NCAC) TNCC/ENPC/CATN/CTAS Updates: September 2014

By Margaret Dymond

Reminder: NCAC email courses@nena.ca

Director of Training, NENA BOD

This is a new position on the NENA Board of Directors. The role description includes:

- Executing training programs within corporate strategic goals
- Monitoring courses including tracking information, costs, effectiveness, and feedback
- Analyzing and evaluating courses for strengths and areas of improvement to promote delivery of courses
- Providing reports on courses to the NENA BOD
- Participating in contract negotiations with external partners
- Assisting with the reconciliation of course funds
- Providing coaching and leadership for the National Course Administration Committee (NCAC)
- Acting as a liaison for NCAC to the NENA BOD

Current activities in this role include supporting the rollout of the seventh edition TNCC across Canada. Negotiations with ENA are ongoing including updating the TNCC/ENPC contract and French translation of course materials.

Chair NCAC – Ann Hogan

NCAC Eastern Representative needed

A vacancy exists on NCAC for an eastern rep. NCAC is actively recruiting. The deadline for submission of applications is December 15, 2014. The announcement of the successful candidate will be in the winter 2015. Positions are three-year terms with a possibility of one renewal term.

The criteria and process for applying are in the NCAC manual. A copy can be sent to you by emailing **courses@nena.ca** or on the NENA website.

Criteria highlights:

- Must be a current Instructor Trainer in TNCC or ENPC
- Must be from Eastern Canada (PE, NB, NS, or NL)
- Must be a NENA member
- Must be available to attend in-person meetings at minimum once per year
- Must be committed to course dissemination
- A commitment of one to two hours per week to work on committee work

Qualified and interested individuals are to send the following documents to the NCAC chair Ann Hogan via email (ann.hogan@horizonnb.ca):

- Evidence of instructor trainer status in TNCC or ENPC
- Letter of support or endorsement from your provincial emergency nursing body
- Cover letter indicating your interest and rationale becoming an NCAC member
- Your current CV

NENA website

Course directors can search "NCAC" and locate the current edition of the TNCC/ENPC course manual and newsletter. CTAS information is located on the CAEP website under the" Resources" tab.

CTAS

Current CTAS instructors receive a username and password to access course teaching materials which are located on the CAEP website. Please be certain that you are always using the most current version of CTAS course forms by downloading them from the website prior to each course.

The next CTAS revision is scheduled to be released in early 2016. Your feedback, suggestions for revisions or contributions of case studies are welcomed at **ctas@nena.ca**

TNCC 7th Edition

With the addition of online learning modules for TNCC it is strongly suggested that the students receive their manual and instructors at least four weeks prior to the courses. This will allow time for completion for the pre-course material.

Instructor update news

The deadline has been extended to December 31, 2014, for TNCC instructors to complete the 7th edition update.

TNCC update reminders for those still needing to update:

- Canadian instructors should approach their respective employers for funding the 7th edition provider manuals and instructor supplements
- If you are a current 4th edition ENPC instructor, this TNCC instructor update process is similar to the 4th edition ENPC rollout in 2012
- Instructors should spend time reading the TNCC 7th edition manual before going online to do the modules and exam. The online modules will highlight the changes to the course. You are required to complete all online modules
- The exam is timed: you will have 75 minutes to complete the exam. You will receive immediate feedback on any questions answered incorrectly. Pass mark is 80%. If you do not achieve the 80% pass mark on the first attempt, you will have one more opportunity

Information for course directors:

- Once TNCC course directors are updated, they will get access to the course forms, slides, and exams online on the ENA website
- Course directors should check the ENA.org website for recent updates to the 7th edition TNCC exam
- ENA does not permit the posting of the TNCC 7th edition pre-course exam online. An option would be to send a paper copy with the manual and pre-course letter
- All TNCC courses are now to be offered in the 7th edition format

Course directors for ENPC/TNCC

- A current form used for submitting fees to NENA is available by emailing a request to **courses@nena.ca** This information cannot be published on the NENA website due to contract obligations to ENA
- New course directors: A course director mentoring form is available with the course forms on the ENA website under the course director only portion of the site. It is to be completed and sent to ENA when current course directors mentor new course directors

Course paperwork:

- Please follow the **post-course checklist** for required paperwork to be sent to ENA. The final course roster needs to reflect the order the instructors are

listed on the course evaluations to properly reflect the instructor evaluations
- The **exam scantron** forms were updated two years ago. Only forms numbered 103516-11 should be used. All previous versions of the scantrons should be discarded
- **NENA Fees:**
  - Only send Form C and NENA fees (cheque/money order). NO other paperwork should be sent to NENA.
  - NCAC encourages course directors to keep a copy of all course documentation in case documents get lost in the mail.
  - NENA has a new treasurer. All NENA fees are to be sent to:

NENA Treasurer
National Emergency Nurses Association
P.O. Box 365
Chilliwack, BC V2P 6J4

  - Course fees are expected to be paid within 30 days of the course. Course directors will be receiving email notification for fees outstanding

Course fees to NENA via PayPal is currently under review

NENA is currently looking at the feasibility of paying NENA fees for courses through PayPal. Notification will be sent to course directors once this form of electronic payment is live on the website.

Course applications and approvals

- Once a course is applied for with ENA, ENA checks that the course director and instructors meet the requirements for teaching. Instructors must teach once every 18 months and have satisfactory instructor evaluations to be eligible to teach
- NCAC reps receive a list of approved courses in Canada on a weekly basis. NCAC will check to ensure that the course director is a NENA member. **Course directors are responsible to ensure their instructors are NENA members**
- Re-verification courses for ENPC 4th edition and TNCC 7th edition no longer exist. Course participants may challenge the course, but this is at the discretion of the course director

ENA membership required for all TNCC/ENPC/CTAS instructors

All instructors must have current NENA membership in order to teach courses. Instructors can go to the NENA website to renew. If your NENA membership has lapsed, instructors cannot teach courses until their membership is renewed. If course directors are unsure if their instructors are current members, they can contact their NCAC rep for their province.

ENPC 4th edition news

All current ENPC instructors should have received a revised provider manual by mail from ENA. Please contact ENA if you have not received your manual.

It is very important that course directors go to the course director only section of the ENA website to review the revised material that was posted in July 2014.The ENPC 4th edition exams and some of the slides have been revised. The clinical intervention stations have now been incorporated into some of the lectures. Course directors can find the revised slides and exams on the ENA website.

French translation progress: ENPC 4th edition/TNCC 7th edition

Translation of both courses is still being considered by ENA. ENA has formed an International Advisory Committee. The NENA president, Jan Calnan, is the Canadian representative on the newly formed committee. Until the translated materials are available, TNCC and ENPC instructors who teach the programs in French may use the existing translated materials for 3rd edition ENPC and 6th edition TNCC until December 31, 2014.

Course for Advanced Trauma Nursing (CATN)

The revision process continues. ENA will announce the launch date when the revision process is completed.

Join us on Twitter @NCAC3

NCAC Contact Information

Ann Hogan, Chair:
Ann.Hogan@horizonnb.ca

Eastern Rep: *Vacant*

Erin Musgrave, CTAS Rep: **ctas@nena.ca**

Brenda Lambert, Central Rep:
Lambertbrenda17@gmail.com

Denis Bouchard, Quebec Rep:
bouchardsante@gmail.com

Monique Mclaughlin, Western Rep:
monique.mclaughlin@vch.ca

NCAC generic email: **courses@nena.ca**

CTAS generic email: **ctas@nena.ca**

NENA AT WORK

NENA Bursary recipients: The value of a bursary

Certification in emergency nursing is very important to me and an issue that I am passionate about. I feel that specialty certification is a way to promote the specialized knowledge in emergency nursing. Nursing is in a continual state of change with improvements in the way we give care to our patients. It is imperative that we give our patients the benefit of our knowledge and keep current with the latest knowledge and best practice. One of the ways of doing this is through certification.

One of the ways to re-certify my Emergency Nursing Certificate (Canada) with the CNA was through continuing education. I have attended many courses and seminars throughout my career to maintain and augment my knowledge base, not only to keep me current, but as a life-long learner. I feel this is a way to become a specialist in emergency nursing, a way to mentor new nurses into our specialty and to lead by example amongst the staff I work with daily.

Specialty certification tells me that I have the knowledge to continue working in the emergency department, and keeping this certification current means that I have to keep my eyes and ears open to the opportunities that abound for ways to improve not only my knowledge, but also the care that I provide to my patients and their families. I care enough to give my very best and certification is one of the ways that I feel I can do this.

Pat Mercer-Deadman, RN, ENC(C)
March 13, 2014

Knowledge translation: Passing it on to ER nurses and the consumer "patient satisfaction"

As a staff educator in the emergency department it is my responsibility to stay current with the constantly changing aspects of emergency nursing. It is important to make continuing education a priority for myself, so I can better inform both my colleagues and the patients who access health care in our emergency room.

In the past I have attended NENA conferences and I share the information with staff nurses when I am teaching/facilitating ACLS, CTAS, TNCC and ENPC. Outlined below are two instances that demonstrate how easily knowledge gained at a conference can be disseminated and implemented clinically.

Patients as Consumers was a key note address presented at NENA 2013. It reflected that patients should be treated as consumers, and made to feel welcome! People remember how you make them feel… so, when I am orientating staff I share this story in hopes that it will challenge them to think about the care they provide, as well as their manner of delivery.

I attended a presentation in 2012 at NENA where I heard about a program that was initiated in British Columbia to teach parents about infants' crying patterns and how it was normal for babies to cry. Some babies were called high criers and this was normal for them. Providing this education to new parents helped them cope and better understand their child was not sick. I have shared this with some of my novice nurses and also have shared it with some new parents who present to triage with a child who is a "high crier".

There is value in networking and meeting other ER nurses, learning how other emergency departments operate and provide care. Discussing challenges and solutions experienced by other emergency departments prompts me to ask myself, is there something we could do different or better? Our mandate, as ER nurses, is to care, reassure, and educate patients and families during their times of crisis. This can be best accomplished by staying current in our practice.

Knowledge translation is an important part of my job, as staff educator. The 2014 NENA conference has many topics relevant to my professional practice, such as "Challenges with Orientation", "Pediatric Mental Health" and "Legal & Ethical Issues".

Respectfully
Debra Pitts RNBN, ENC(C)
Staff Educator
Emergency Program
Horizon Health Network
Saint John, NB

Looking for a new challenge and educational opportunity, I applied and was a successful applicant in the STARS Critical Care Academe. I graduated this past December and am grateful for the experience.

It has changed how I look at my job, how I care for my patients, given me a new skill set and, most importantly, increased my passion for emergency/critical care nursing. It was refreshing to be surrounded by colleagues from both the nursing (ICU and ER) and pre-hospital setting (paramedics) from across Alberta, Saskatchewan, and Manitoba who are passionate about their careers and were there for a common goal: to learn more.

This program has instilled confidence into me. It has cemented the knowledge I already had going into the program, as well as exposing me to new ideas, care frames and advanced knowledge. It has and will continue to change how I look after the critically ill emergency patients by increasing my critical thinking and knowledge base. I feel my patients' outcomes will improve, as I am now more prepared as to what to expect. It is also my hope that I will be able to share and teach my colleagues this newly acquired knowledge, as the opportunities arise.

Christine Maxwell, RN, BN, ENC(C)

Improving outcomes in emergency care

The Master of Public Administration Program assists with policy development, strategic direction, operation and financial management (www.dal.ca/masterofpublicadministration). As a frontline emergency nurse, I equated improving outcomes with individual patient results using evidence-based practice, "tried and true" methods, education and skill. My management career has allowed me to see health care from a different perspective, one where policies are born, strategic directions are developed and operational decisions made—each of these looking to improve outcomes.

Improving outcomes within emergency care is most often identified within the department/unit by morbidity/mortality, as well as data that can be mined from EDIS systems. However, outcomes need to be measured using a variety of tools that reflect strategic direction, operation requirements, and cost, as well as the above criteria. For example, exploring patient satisfaction with both strategic and operational requirements, specifically, rates for LWBS. These numbers need to be looked from a variety of perspectives—other patients in the area, staff and physician requirements, acuity levels and patient expectation—increased expectations require a different approach that targets public policy and education, for example.

It is my professional goal to develop the skills and knowledge offered by this program to improve patient outcomes in the emergency care setting by using public policy, strategic direction, management skills, as well as my years as a frontline care provider. In these times of fiscal restraint and declining nursing numbers, there is an increased requirement to use a variety of methods to improve outcomes.

Thank you in advance for your consideration,

Tanya Penney, RN, BScN, ENC(C)
Tanya.penney@cdha.nshealth.ca

NENA 2014 Pan-American Conference

April 27–29, 2014 • Toronto, Ontario, Canada







NENA Awards/Bursaries/Lifetime Recipients

YEAR 2014

Awards and Bursaries:
Christine Maxwell, Alberta
Debra Pitts, New Brunswick
Pat Mercer-Deadman, Alberta
Tanya Penney, Nova Scotia

Awards of Recognition
Glenn Perchie, Saskatchewan, Executive Director Emergency and EMS, Regina Qu'Appelle Health Region, Regina SK
Brent Hobbs, Director of Transport Services, Interior Health, Southern BC

NENA Honourary Lifetime Membership Awards
Pat Walsh, Retired, Newfoundland
Carla Policichio, Retired, Alberta
Helen Grimm, Saskatchewan

YEAR 2013

Awards and Bursaries
Lori Quinn, British Columbia
Andree Lineker, British Columbia
NENA Newfoundland
Sherry Uribe, British Columbia

NENA Honourary Lifetime Membership Awards
Tania Agnot Johnston, Manitoba
Jerry Bell, Saskatchewan
Ann Casey, Newfoundland
Anne Cessford, British Columbia
Val Eden, Nova Scotia
Karen Johnson, Ontario
Karen Latosek, Alberta
Linda McCracken Alberta
Carole Rush, Alberta

YEAR 2012

Awards and Bursaries
Kathleen Murray, British Columbia
Dawn Paterson, Alberta
Carole Rush, Alberta
Sherry Stackhouse, British Columbia
Jack Benes, Ontario
Janice Spivey, Ontario

NENA Honourary Lifetime Membership Awards
Louise LeBlanc, Ontario
Gina Dingwall, British Columbia
Betty-Lou Kindleman, Alberta
Lorraine Wuori, British Columbia
Donna Rae, Saskatchewan
Sandra Easton, Ontario
Bonita Bates, Ontario
Patricia Kasprow, Ontario

YEAR 2011

Awards and Bursaries
David Conroy, British Columbia
Heidi Krahn, Alberta
Colleen Brayman, British Columbia; Award of Excellence in Emergency Nursing-Education
Paula Mayer, Saskatchewan; Award of Excellence in Emergency Nursing—Administration
Claire Thibault, Quebec; Award for Commitment to Excellence in Emergency Nursing
Denise Kudirka, Quebec; Award for Commitment to Excellence in Emergency Nursing
Gary Pronych, Saskatchewan; Award for Service to NENA and to Emergency Nursing
Lori Ann Lonergan, British Columbia; Marg Smith Award for Pediatric Nursing Education

Tribute to Debbie Cotton

On August 5, 2014, the Nova Scotia nursing community lost a valued colleague and friend. Debbie Cotton was a huge influence in emergency nursing not only within the province, but also across Canada. From her early days as a staff nurse in Strait Richmond Emergency Department until her retirement in 2012, as Education Coordinator in DHA 7 (GASHA), Debbie worked tirelessly to deliver continuing professional development for emergency nurses. Debbie was a long-time member of NSENA and NENA, sitting on provincial and national committees and boards. Debbie was always in front of the line ensuring that Canadian Emergency Nurses had the opportunity to develop their knowledge and skills. She was a member of the original group of emergency nurses who were responsible for introducing TNCC and ENPC into Canada. In fact, through her persistence and collaborative nature, Debbie was instrumental in introducing TNCC into Quebec (Montreal 2001) and ENPC in 2013. Debbie also coordinated the first ENPC course in NFLD in 2013, as well. Debbie was a co-developer of the CAMAN AIME for Nurses Program in 2005 and was one of two main instructors since its development. As a member of the CTAS Education subcommittee, she worked many hours to help develop and deliver CTAS courses across Canada.

In addition to being a member of the CTAS Education subcommittee, Debbie was a long-time member of the national NCAC committee. Within the province, Debbie sat on a number of provincial committees and, as a member, she brought to the table her strong commitment to emergency nursing and continuing education.

Debbie, over the years, taught hundreds if not thousands of emergency nurses across Canada. Her contributions to emergency nursing are invaluable. While her focus was on emergency nursing, Debbie had a firm belief that all members of the ED team were important to positive patient outcomes. She believed in collaborative and interprofessional practice.

As the Education Coordinator in GASHA, Debbie was known for her passion and dedication to providing education to nursing staff. She has been described by one colleague as demonstrating an exceptional ability to present and explain complex situations and procedures due, in part, to her considerable knowledge of the subject area. Another colleague remarks that she cared deeply for the frontline nurses and she wanted them to understand as much about emergency nursing as they could. She would spend extra time with anyone who was struggling in a course to make sure they were comfortable and successful. She was a role model to all nurses to continue to pursue their journey of lifelong learning. She was a role model, a preceptor and a mentor to many frontline nurses and educators.

Debbie was the recipient of several awards that acknowledged her commitment and passion to nursing education, as well as her passion for teaching and mentoring other educators. For example, Debbie was awarded the Excellence in Nursing Practice Award from the College of Registered Nurses of Nova Scotia in 2009 that recognized her contribution to the profession, her dedication and commitment as an educator. As a Clinical Educator, Debbie was a role model for other educators around the province. She inspired many to pursue a career in emergency education.

On the personal side, all of us who spent time teaching with Debbie remarked about her amazing and unique organizational abilities, her joy in teaching, and her generosity in mentoring other educators to be the best educators they can be. She had a style of teaching and wealth of knowledge that made you want to teach like her.

While Debbie believed in providing the best education possible, she instilled the importance of having fun both during a course and afterwards.

Debbie loved sharing a good meal with extra desserts, especially specialty coffees. Stories have been shared about the adventures of teaching courses throughout the Maritimes... the road trips, snow storms, debriefings and sharing common lessons during and after a course, lying on beds with laptops at the ready. Those trips have led to lasting friendships among her cadre of nurse educators.

If you shared a room with Debbie, you learned that she was an early riser (0500 hours) and often she would go for an early morning stroll in whatever city she happened to be in. She would return to tell about the local coffee shops or a particular restaurant that she wanted to try out. She is remembered for her beautiful smile, her kind heart, her sense of humour, the big bold earrings, her bright lipstick, sweater and socks and the ever-present fanny pack. She loved her family, running, which she began later in life, travelling to far places, archeology, history and Elvis Presley Gospel music.

As the fall line-up of emergency courses began, one of Debbie's teaching colleagues remarked that teaching this fall will not be the same without Debbie here to support us all. Another colleague stated we have the memories she helped to create and the skills that she helped us develop. That is her legacy.

NENA CONFERENCE 2015
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Strangulation—Asphyxia and terror

By Stephanie Carlson, RN

Edited by Sheila Early

When we learn of a condition or activity that causes great distress to our patients and can be a precursor to death, we normally see it as a challenge. We take extraordinary measures to develop education campaigns to warn the public and develop procedures within our emergency departments to equip staff to be alert to signs and symptoms. However, we have missed the boat on a group of patients whose presentation signals a significant risk of immediate and long-term concerns and eventual fatality.

Specifically, these are the estimated 25% of domestic violence (DV) patients and 25% of sexual assault patients who have been strangled or suffocated during an assault (NFJCA, 2014). Frequently overlooked and often regarded as a rare occurrence in the past, strangulation is increasingly attracting the attention of emergency physicians, forensic nurses, prosecutors and police chiefs (Strack et al., 2001).

Although it has long been recognized that strangulation sometimes accompanies domestic and sexual assaults, the risk of eventual lethality in domestic relationships where a history of strangulation exists has been under-recognized. The San Diego, California, prosecutor's office found a history of reported domestic assaults that led to fatalities. Review of 300 fatalities found a significantly higher incidence of prior assault reports that included a strangulation component. Further studies have estimated that a history of strangulation increases the likelihood of eventual homicide seven-fold (Glass et al., 2008).

Strangulation is "a form of asphyxia (lack of oxygen) characterized by closure of the blood vessels and/or air passages of the neck as a result of external pressure on the neck" (Strack & McClane, 1999). It can be caused by manual pressure (throttling)—pressure applied by one or both hands or forearm; ligature (garroting) in which pressure is applied using a ligature; hanging where the weight of the body is suspended by a ligature; or postural strangulation where the neck is placed over a fixed object (Wilbur et al., 2001). Closely linked in effects are positional asphyxia, compression asphyxia (interference with oxygen exchange related to limitations of the respiratory movements of the chest and diaphragm), and suffocation (obstruction of the flow of air from the environment into the mouth and/or nostrils by mechanical means).

Regardless of the mechanism, emergency patients are unlikely to report in crisp medical terms what happened. Because the significance of strangulation is under-recognized, patients may not report strangulation at all or, when reporting, may minimize it. It may be helpful to ask questions such as, "Have you been choked or squeezed around the neck?", which may be more meaningful to victims.

Strangulation, despite our under-appreciation, is a serious event. It must be explained to victims that strangulation is much more than a casual injury. This is important to note because perhaps 23% to 69% of female domestic violence victims have experienced at least one strangulation during their lifetimes (Anderson, 2009) and one study found that up to 47% of DV victims had been strangled in the previous year. The rate of strangulation in sexual assault has been estimated to range from greater than 15% (Green, 2013) to greater than 25% (Strack, 2014). Ten per cent of violent deaths in the United States are attributable to strangulation (McClane et al., 2001).

Strangulation takes a victim to "the edge of homicide" (Strack & Gwinn, 2011). The consequences of strangulation range from transient and mild to severe and lethal. They may include bruising of the neck, face or chest; petechiae of the face, scalp, neck, eyelids, sclera; dysphagia, hoarseness, cough, headache; miscarriage; otorrhagia or hematotympanum; possible swelling or hemorrhage of the internal structures of neck with potential for lethality; subcutaneous emphysema; damage or fracture of the larynx; fracture of the hyoid bone; damage to the carotid arteries, including dissections; clot formation resulting in cerebral vascular accidents; immediate neurological effects including loss of consciousness, impairment of memory and inability to recount events accurately or delayed catastrophic neurological effects; aspiration pneumonitis, pneumonia and exacerbation of asthma, pulmonary edema; carotid sinus reflex; and death. Many of these signs do not appear for 24-48 hours post strangulation. Some may appear much later.

Four pounds per square inch (PSI) of pressure on the jugular veins (Smock, 2014) or 11 PSI on both carotid arteries can cause unconsciousness in less than 10 seconds, followed by convulsions (Sauvageau et al., 2012). Thirty-three PSI can occlude the trachea. To put this in perspective, it is estimated that an adult male can exert 80–100 PSI (Smock) and a female hexagenarian emergency nurse from Regina squeezed >40 PSI with her dominant hand. Permanent brain damage can occur in three minutes or less as neurons are starved for oxygen. Death can occur within four or five minutes. Glass et al. (2008) report that strangulation may cause serious physical and mental health consequences despite leaving few observable injuries (p. 5). Stated more forcefully, **"Lack of visible findings (or minimal injuries) does not exclude a potentially life-threatening condition"** (Green, 2013, p. 86). In fact, forensic pathologist Dr. Dean Hawley reports that petechiae may be present within the brain with no observable marks on the body of the deceased (Hawley, 2014). It has been proposed that lifelong cognitive deficit from anoxic encephalopathy and intra-cerebral petechial hemorrhage may follow.

Furthermore, these patients have experienced an incredibly emotion-laden event. When a person is strangled, her/his attacker literally holds the victim's life in his/her hands. Not unlike holding a knife to someone's throat, grasping the neck expresses absolute control of the life of the victim and unmistakable threat of imminent death. Even in the absence of injuries, the emotional impact on victims whose lives have been

threatened—often at the hands of an intimate partner—is huge and increases with repeated strangulations. Quite telling are the comments of victims who describe intensely menacing expressions on the faces of their attackers and make statements like the statement made to Regina nurses, "I thought I was done" and [I thought] "I would never see my baby again."

While some victims of single strangulations reported few long-term emotional effects, there is a marked increase in reported problems by victims of multiple strangulations. These consequences may include anxiety, depression, substance abuse, suicidal ideation, sleep disorders, depression, personality changes, memory loss, insomnia, nightmares, anxiety and symptoms associated with Post-Traumatic Stress Disorder (Smith et al., 2001).

Nurses should be alert to the patient whose history or appearance suggests strangulation, or who have marks around the neck and face. These patients may initially report being hit, pushed, shoved or sexually assaulted. Most victims of strangulation are female and have been assaulted by their domestic partner. Every patient who presents with any type of interpersonal violence should be asked if she/he has been "choked" regardless of visible signs. In the presence of a scratchy voice, sore throat, dysphagia, or cough, the index of suspicion should in increased.

It goes without saying that most emergency nurses are equipped to identify and document injuries. Nevertheless, forensic nurses are particularly suited to documenting strangulation patients because of their experience in precise descriptions of injuries and their familiarity (and perhaps greater comfort) with both victims and available resources. Furthermore, these patients often require a great deal of time for injury documentation; calling in a nurse examiner will free the primary nurse to care for other patients.

Comments by patients should be written with extensive use of quotations, principally related to what they experienced, what they saw in the faces of their assailants, and changes in sensorium during and following the occurrence. If the patient describes vomiting or incontinence of urine or feces, this should be noted, as well as signs of altered cognition and reported loss of consciousness. Nurses should also document the means of strangulation—whether hanging or ligature or manual, and whether the patient was pushed against a surface or throttled with hand(s) alone.

Nurses caring for strangulation victims should document all findings carefully, noting location, appearance, size, shape and areas of reported pain or tenderness. Changes in the patient's voice—which may be the only sign of strangulation—or coughing should be documented. Difficulty breathing requires immediate medical attention.

The patient should be inspected for marks and areas of tenderness. Scratch marks and/or lacerations may be present from the victim's attempts to remove the pressure from the neck causing inadvertent fingernail marks to the neck. The tympanic membranes should be inspected for signs of middle ear bleeding. Bruising may demonstrate the shape of the object(s) used to compress the neck, such as forearm, hands or ligature.

Obstruction of the jugular veins may cause petechiae above the level of the obstruction, as the carotid arteries continue to deliver blood to the head, but blood is unable to drain normally. The palpebral surfaces and sclera, and oral cavity should be inspected for petechiae and injuries. Regina forensic nurses have seen extensive petechiae on the scalp. Carotid artery obstruction may cause petechiae of the neck, upper back and upper chest.

If suffocation is a component of the assault, the victim may have bruising to the face, nose and mouth caused by pressure from the assailant's hands or objects. Injuries that are unrelated to strangulation should also be described on the chart. Strangulation rarely occurs apart from other injuries.

If the emergency department has an alternate light source (ALS), it may prove a valuable tool in the detection of bruising that is not apparent in ambient light. Faugno and Holbrook (2013) suggest that benefits of using an ALS include: enhanced ability to view bruises not seen by the naked eye; being able to advise law enforcement of presence of injuries; and demonstrating to physicians the presence of injuries. Vogeley et al. (2002) report identifying bruising using a Wood lamp (having a wavelength of approximately 365 nm) on pediatric patients. The Regina, Saskatchewan, forensic nurses have had success with hand-held lamps with wavelengths of 415 nm and of 455 nm and orange filters.

If the emergency department or the forensic nursing team is equipped for photography, this is an excellent opportunity to serve the patient by incorporating photography in the exam. If strangulation occurred during a sexual assault, routine swabs and samples should be collected. In some instances, surface DNA may be obtained on the neck from the assailant (reference).

If the patient has chosen to report the strangulation to police, or if the strangulation occurred within an assault that mandates reporting, the nurse should explain this to the patient and contact the police. Police may want to photograph injuries immediately. The nurse should advise responding officers that additional bruising may be more visible several days later.

The nurse should ensure that the emergency physician is informed of the strangulation related injuries and other observations. Most physicians will use appropriate diagnostic tools (when available), which may include chest x-ray, cervical spine x-ray, pharyngoscopy, carotid ultrasound, CT head/neck, and MRI of the neck (Falkenberg, 2014). It may be determined that the patient should remain in the hospital for observation for 24 hours.

Swiss researchers studied the use of imaging with CT and MRI to assess the life-threatening potential of manual strangulations. They preferred MRI over CT because of its superiority in identifying soft tissue injuries without the radiation exposure. Using a point system, they identified that a history of loss of consciousness (and/or incontinence), congested petechial hemorrhages, and a positive MRI for two of the three zones of the neck (Christe et al., 2010) signalled increased risk of permanent injury or demise.

Once a patient has been cleared medically, the patient should be advised to seek medical care immediately if there is development of any respiratory or neurological symptoms (described to the patient in lay terms). The nurse should stress the need for counselling by a practitioner with an understanding of interpersonal violence.

The patient should be warned about the long-term risks associated with a relationship in which strangulation has occurred. The health care team should review safety issues and present options within the community. If children reside in the home, their welfare should be addressed, perhaps with involvement of social services agencies. If the strangulation occurred within a dangerous relationship, which is often the case, and the patient states readiness for transition housing, the patient should be linked with community agencies that can facilitate a suitable escape from a the situation that created this need for medical attention.

The strangulation documentation form used by Winnipeg Health Sciences Centre is presented below. Thank you to the Winnipeg Health Sciences Centre for permitting us to reproduce its strangulation documentation form.

A note about the strangulation assessment record: *The information contained in this publication is of a general educational nature intended for the use by staff of the Winnipeg Regional Health Authority (WRHA) and is in no way to be considered as medical or other professional advice. The authors, reviewers and publishers shall not be responsible for errors, omissions, inaccuracies or continued completeness contained herein. The information in this publication should not be used or relied upon to replace the skill and professional judgment required when determining appropriate patient care or treatment, to ensure compliance with any applicable laws or regulations, or as a substitute for specific medical or professional advice from a licensed professional. The authors, reviewers and publishers disclaim all legal liability in respect to the contents herein. The information contained in this package should be used as a guideline or for reference purposes only.*

About the author

Stephanie Carlson works as a sexual assault nurse examiner at Regina General Hospital and Pasqua Hospital in Regina, Saskatchewan. She began working as an emergency nurse and has been a NENA member since 2002.

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Health Sciences Centre
Winnipeg

STRANGULATION ASSESSMENT RECORD

DATE
PATIENT
DOB
HSC NO.

Date of Strangulation:

Previous strangulation attempts: ❑ Yes ❑ No

Method/Manner of Strangulation: (Check all that apply)

❑ One Hand ❑ Right Hand ❑ Left Hand
❑ Two Hands ❑ Knee ❑ Foot ❑ Ligature Describe: _____
❑ Forearm ❑ Right Forearm ❑ Left Forearm
❑ Strangled from front ❑ Strangled from behind
❑ Smothered Describe: _____

How much force/pressure was used, on a scale from 1 to 10? (Circle number)

Low Force/Pressure **1 2 3 4 5 6 7 8 9 10** High Force/Pressure

What is the estimated length of time of the strangulation?

How many attempts?

What stopped the strangulation?

Was the patient shaken during attempted strangulation? ❑ Yes ❑ No

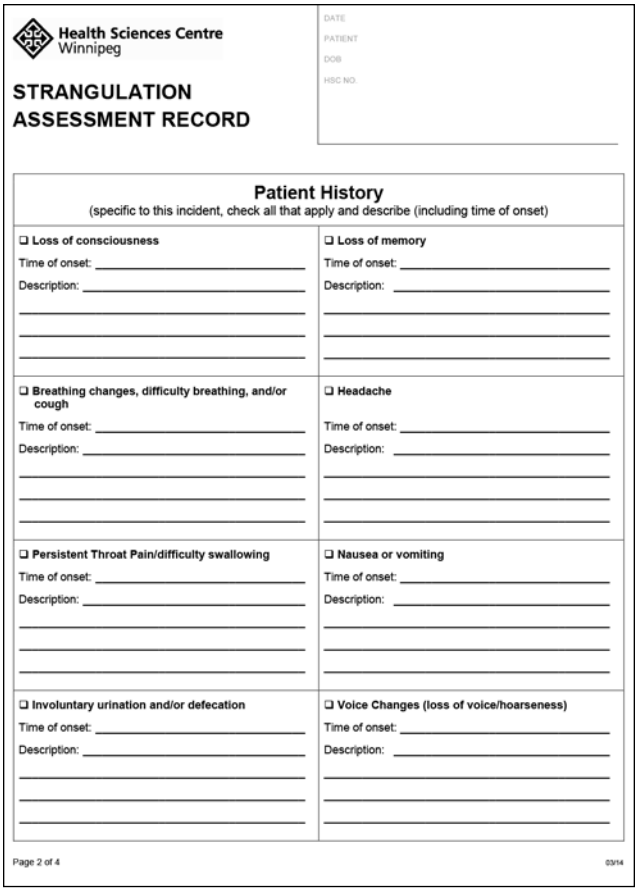
Was the patient lifted off the ground? ❑ Yes ❑ No

Was the patient's head pounded against a surface ❑ Yes ❑ No

Description

FORM # NS01365 03/14 NOT A PERMANENT HEALTH RECORD FORM Page 1 of 4

Strangulation assessment record page 1.



Health Sciences Centre
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STRANGULATION ASSESSMENT RECORD

DATE
PATIENT
DOB
HSC NO.

Patient History
(specific to this incident, check all that apply and describe (including time of onset)

❑ **Loss of consciousness**
Time of onset: _____
Description: _____

❑ **Loss of memory**
Time of onset: _____
Description: _____

❑ **Breathing changes, difficulty breathing, and/or cough**
Time of onset: _____
Description: _____

❑ **Headache**
Time of onset: _____
Description: _____

❑ **Persistent Throat Pain/difficulty swallowing**
Time of onset: _____
Description: _____

❑ **Nausea or vomiting**
Time of onset: _____
Description: _____

❑ **Involuntary urination and/or defecation**
Time of onset: _____
Description: _____

❑ **Voice Changes (loss of voice/hoarseness)**
Time of onset: _____
Description: _____

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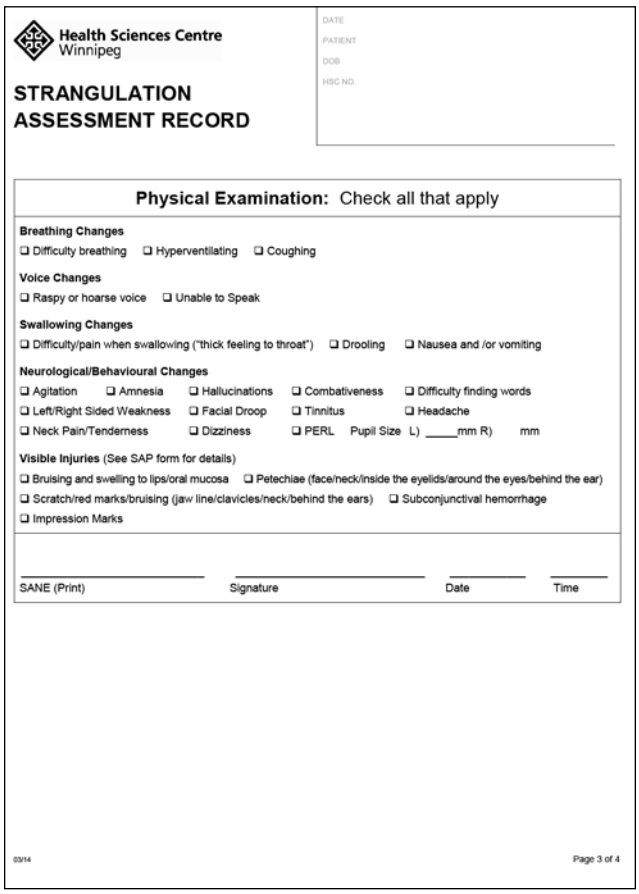
Strangulation assessment record page 2.



Health Sciences Centre
Winnipeg

STRANGULATION ASSESSMENT RECORD

DATE
PATIENT
DOB
HSC NO.

Physical Examination: Check all that apply

Breathing Changes
❑ Difficulty breathing ❑ Hyperventilating ❑ Coughing

Voice Changes
❑ Raspy or hoarse voice ❑ Unable to Speak

Swallowing Changes
❑ Difficulty/pain when swallowing ("thick feeling to throat") ❑ Drooling ❑ Nausea and /or vomiting

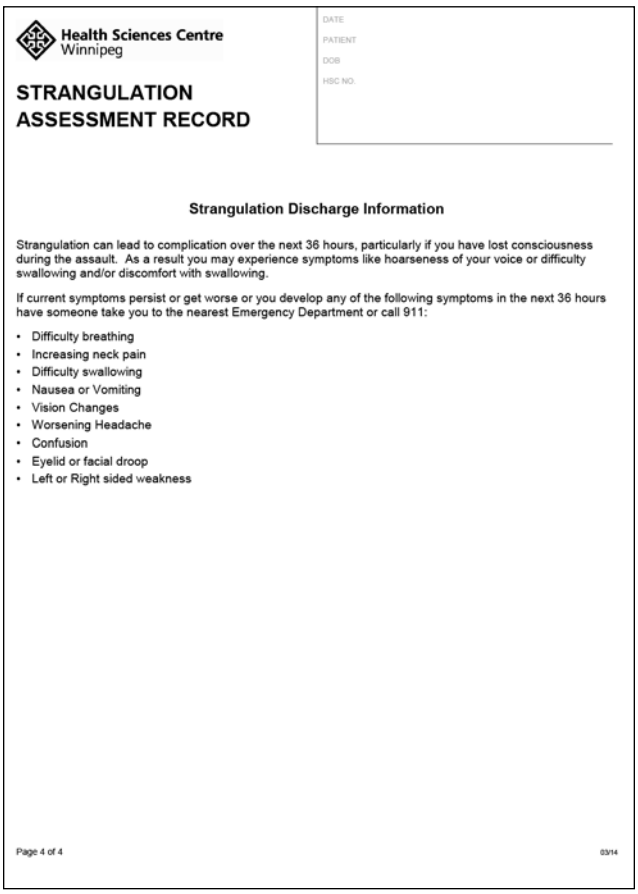
Neurological/Behavioural Changes
❑ Agitation ❑ Amnesia ❑ Hallucinations ❑ Combativeness ❑ Difficulty finding words
❑ Left/Right Sided Weakness ❑ Facial Droop ❑ Tinnitus ❑ Headache
❑ Neck Pain/Tenderness ❑ Dizziness ❑ PERL Pupil Size L) ____mm R) mm

Visible Injuries (See SAP form for details)
❑ Bruising and swelling to lips/oral mucosa ❑ Petechiae (face/neck/inside the eyelids/around the eyes/behind the ear)
❑ Scratch/red marks/bruising (jaw line/clavicles/neck/behind the ears) ❑ Subconjunctival hemorrhage
❑ Impression Marks

SANE (Print) Signature Date Time

03/14 Page 3 of 4

Strangulation assessment record page 3.



Health Sciences Centre
Winnipeg

STRANGULATION ASSESSMENT RECORD

DATE
PATIENT
DOB
HSC NO.

Strangulation Discharge Information

Strangulation can lead to complication over the next 36 hours, particularly if you have lost consciousness during the assault. As a result you may experience symptoms like hoarseness of your voice or difficulty swallowing and/or discomfort with swallowing.

If current symptoms persist or get worse or you develop any of the following symptoms in the next 36 hours have someone take you to the nearest Emergency Department or call 911:

- Difficulty breathing
- Increasing neck pain
- Difficulty swallowing
- Nausea or Vomiting
- Vision Changes
- Worsening Headache
- Confusion
- Eyelid or facial droop
- Left or Right sided weakness

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Strangulation assessment record page 4.

Just sleeping, or opioid-induced sedation: A review of unintended advancing sedation and respiratory depression after the administration of opioids in the emergency department

By Charlene Drebert, RN, BScN

"*Patient sleeping, resps easy on room air*". How many times have we charted something similar? For patients experiencing severe pain in the emergency department, it can be quite a process for both nurse and patient to achieve adequate pain control. Once a patient appears comfortable and settled to sleep, we may hesitate to wake them to check their level of sedation. Unfortunately, silently observing the patient and counting their respiratory rate does not necessarily provide an accurate assessment of their respiratory status. A full assessment includes the rate, depth, and effectiveness of respirations, as well as the patient's level of drowsiness, how easily he rouses, and his ability to stay awake after being roused. Other methods, such as continuous SpO_2 and $ETCO_2$ monitoring, can provide additional information for trends, such as the patient's oxygen and ventilation status when not being stimulated. Even the act of waking a patient to spot-check his SpO_2 can mask his true oxygen levels during sleep, since the stimulation of applying the finger probe can be enough to increase the depth or rate of respirations.

The purpose of this article is to help prevent the adverse effects of opioid analgesic administration, namely opioid-induced sedation and respiratory depression in the emergency department. Despite the frequency of administering opioid analgesics in the ER, there are no universally accepted guidelines for monitoring practising for these patients. Literature suggests each unit develops their own policies and protocols regarding the administration of opioids. This article will explore the important role nurses have in monitoring patients, such as distinguishing between sleep versus excessive sedation. It will also examine a number of variables that affect a patient's risk for sedation and respiratory depression. These include opioid tolerance and naivety, polypharmacy, the patient's individual risks (such as overall health status, physical characteristics and co-morbidities), and iatrogenic risks. It will also discuss methods for patient monitoring, such as thorough respiratory assessments, SpO_2/$ETCO_2$ monitors, sedation scales, and clinical documentation tools.

Nurses are the ideal choice for monitoring patients for excessive sedation related to opioids. Coupled with 24-hour proximity to patients and clinical assessment skills, vigilant nursing staff can be leaders in preventing adverse outcomes. For example, prior to administering doses of narcotics, nurses can screen patients for factors that increase the risk for opioid-induced sedation. Recognizing excessive sedation early is crucial for best patient outcomes. Nurses must be able to judge when to withhold additional doses of narcotics, assess the difference between sleep versus sedation, and know how to respond to medical emergencies regarding excessive sedation and respiratory depression.

Opioids are one of the most common drugs implicated in adverse reactions. According to the Sentinel Event Alert, 29 per cent of these opioid-related adverse events (including deaths) were related to improper patient monitoring. In order to avoid accidental overdose of narcotics, nurses should screen patients for both opioid tolerance and naivety. Patients new to narcotics (or who are being restarted on narcotics) require extra precautions, such as starting at the lowest effective dose and carefully titrating in order to achieve adequate pain control. In opioid-tolerant patients, it is important to avoid the practice of rapid narcotic dose escalation. In addition, chronic pain patients may already have narcotics on board, such as sustained-release morphine or fentanyl patches.

Knowledge of polypharmacy (the use of multiple medications) is vital to better predicting the effect of narcotics on individual patients. For example, patients should also be screened for any substances that may contribute to opioid-induced sedation. These include common CNS depressants, such as alcohol, benzodiazepines, barbiturates, and hypnotics. Even over-the-counter substances such as antihistamines and antiemetics may contribute to a patient's level of sedation. Polypharmacy may also occur between different types of narcotics, such as oral, subcutaneous, intramuscular, and intravenous morphine. In cases like this, it is important to know the onset and peak times of various drugs. For example, an immediate-release oral opioid has a peak time of 60 to 90 minutes, while an IV dose of morphine has a peak time of 15 to 30 minutes. Imagine a scenario where a patient is initially given an oral narcotic, but after half an hour is changed to IV narcotics to treat escalating acute pain. Knowledge of drug onset and peak times will help the nurse to be aware of how the oral dose has not yet reached its time of peak drug concentration, and to take this into consideration before administering additional doses of IV narcotics.

There are many individual characteristics that predispose patients to an increased risk of oversedation and respiratory depression. Literature emphasizes the need to screen patients

for these risk factors, many of which are related to a patient's general health status and are patient-specific. These include: a diagnosis of sleep apnea or sleep-disorder breathing, snoring, smoking, end-organ damage affecting the metabolism and elimination of narcotics, extremes of age, surgical incisions that could impair effective breathing, morbid obesity, the presence of disease states (such as underlying cardiac and respiratory conditions), large neck size, and type of response to narcotics in the past (e.g., opioid naïve or tolerant).

Some risk factors contributing to oversedation are iatrogenic, and may involve finances, staffing, education, environmental variables, and hospital workplace circumstances, and unit culture. For example, departmental budgets may limit the availability of technology-supported monitoring, such as equipment for continuous capnography and pulse oximetry. The most concerning of the iatrogenic factors involve the administration of narcotics and variables in nursing practice. This includes monitoring practices, communication, nurse-patient ratios, high patient turnover, experience with equipment, unclear policies, and lack of education. Nurses can also develop alarm fatigue, in which they become desensitized to the sounds of alarms and do not always respond to alerts from respiratory, SpO_2, or $ETCO_2$ monitors. Unit culture may also support the idea of "just let the patient sleep" instead of rousing the patient to assess neurological status or sedation. This last factor tends to occur more frequently on night shifts.

Assessing a patient's sedation and respiratory status is critical to preventing opioid overdose. The first 24 hours of opioid therapy are the most dangerous time in terms of opioid-related sedation and respiratory depression. Parameters to monitor include respiratory rate and pattern, oxygen saturation, and level of sedation. A respiratory assessment includes listening to the sound of breathing. Sounds such as snoring indicate airway obstruction, and can be an ominous sign in a sedated patient. Note the rate, regularity, and depth of respirations. The nurse should observe the trends in respirations, and any shallow breathing or episodes of apnea. When capnography is unavailable, observing the depth of respirations is the easiest method to assess carbon dioxide clearance. For example, a patient who is breathing shallow, fast, or slow may have inadequate ventilation. Pulse oximetry measures oxygenation. While an extremely useful tool, oxygen saturation does not measure ventilation. Monitoring for elevated end-tidal CO_2 via capnography is a more sensitive indicator of respiratory depression, and can detect respiratory compromise before decreased chest wall movement or oxygen desaturation are observed. Next, assess the patient's level of sedation. Sometimes referred to as the sixth vital sign, sedation scores are a vital part of providing safe opioid therapy. While sedation is an extremely sensitive indicator of impending respiratory depression, not all nurses feel strongly about assessing sedation before administering opioids. One study surveyed 602 nurses, and found that only 66 per cent felt that assessing the level of sedation was an important consideration prior to giving narcotics.

Some nurses hesitate to assess sedation levels because patients are sleeping. Sometimes patients are sleep deprived from pain or are exhausted from suffering through illness. As such, nurses may feel strongly about letting patients rest, and may let them sleep through the night or even until mid morning without waking them. If the patient has been receiving stable doses of narcotics and has a normal respiratory assessment, it is usually acceptable to let him sleep. If there is any doubt as to whether the patient is actually "sleeping" (or is potentially oversedated from medications) never hesitate to wake the patient. Just remember to check the patient's respiratory status before attempting to rouse him. Any stimulation (even putting a pulse oximetry on his finger) may change the depth, rate, or regularity of respirations, and may prevent an accurate assessment. In addition, ask the patient a question. Does he stay alert, or does he become drowsy when he tries to talk? Is his speech slurred? Does he fall asleep mid-sentence? If so, this is a sign of oversedation.

On a reassuring note, a patient who has well-controlled pain and who is sleeping normally will typically fall asleep again after they are woken for the sedation assessment. A patient who has difficultly falling back to sleep may be having poor pain control. If so, they require additional evaluation of their pain level and need for analgesia. In addition, a sedated patient may still experience pain, and should be assessed for any discomfort.

There are no clear guidelines for using sedation scales in the emergency department. The Richmond-Agitation Sedation Scale (RASS) is mainly utilized in intensive care units, and focuses on goal-directed sedation for agitation and delirium rather than opioid overdoses. The Inova Sedation Scale (ISS) and Pasero Opioid-Induced Sedation Scale (POSS) have both been used for assessing sedation in noncritical care settings, and focus on sedation in regards to pain management. The POSS scale has been rated as the most user-friendly by nurses. It is simple, easy to understand, and offers useful decision-making information. However, any patient who is somnolent or nonresponsive to stimuli must be treated as an emergent situation. Hold all sedating drugs, and contact the physician.

While these tools provide guidance on how to score the level of sedation, they do not specify when to assess patients or how to document the findings. For example, how often should a patient be assessed? Where and how is this charted? The answers to these are specific to each unit and departmental policies. The emergency department at Princess Alexandra Hospital in Australia has a morphine administration protocol in which vital signs, sedation score, and pain score must be documented at 10-minute, 30-minute, and 60-minute intervals after the last dose of morphine. Following this, documentation returns to the nurse's normal patient observations. Charting this longhand in the nursing progress notes can be cumbersome and time consuming, especially if the patient is receiving frequent assessments. As such, some institutions have acute observation charts. Princess Alexandra Hospital uses a similar chart for patients on frequent doses of regular and prn opioids (intramuscular, subcutaneous, and oral). In addition to simplifying charting, these types of clinical documentation tools help to highlight trends and promote clearer communication between health care providers. It also provides a standardized method of assessment and documentation.

In summary, it is important to educate staff about opioid-induced sedation, and to screen patients prior to administering narcotics. Monitoring should include respiratory status, as well as sedation, and frequency of monitoring should be according to patient condition, unit policy, and nursing judgment. Despite any technology-supported monitoring devices, there is no replacement for strong clinical assessment skills. Are you sure the patient is just sleeping? Don't just guess, convince yourself, and wake up the patient. Patient safety starts with you.

About the author

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NENA AT WORK

How attending the NENA conference changed patient flow in our ED: Implementation of a Rapid Assessment Zone

By Marie Grandmont, RN, BN, ENC(C)

I call it serendipity… Who knew that an encounter on that cool drizzling morning running on the sea wall in Vancouver would change the pathway for patients in our emergency department in Winnipeg? I was in Vancouver attending the NENA conference in May 2013. Part of the organized events for the conference was morning yoga or a walk or run along the sea wall. I chose the run and met Sherri Morrish. This was the moment that began the wave of change for patients coming to Concordia Hospital Emergency Department (ED).

Sherri and I began running together and talking about where we were from and where we worked. We had many similarities in our lives, but the discussion of what both brought us to Vancouver did not come out till the end of the run. When I discovered she was speaking at the conference about streaming, I knew our conversation that started on the sea wall had only just begun.

Prior to coming to Vancouver, I had read the article Sherri published in the spring 2013 edition of the *Canadian Journal of Emergency Nursing (CJEN),* Streaming in the emergency department: An innovative care delivery model. I knew she was speaking at the conference and I signed up for the breakout session on streaming, which I will now refer to as a Rapid Assessment Zone (RAZ). The Concordia Emergency Department leadership team had some brief discussion on Rapid Assessment Zones prior to my attendance at the conference. Our Director of Patient Services and Physician Director for the emergency department had both attended a conference in Toronto in the fall of 2012 where they had an opportunity to tour two EDs that had effectively implemented a Rapid Assessment Zone. A Minor Treatment Area, staffed by a nurse and nurse practitioner, already existed and worked effectively within Concordia Emergency to see CTAS level 4 and 5 patients. We were

investigating ways to improve patient flow for the more acute CTAS level 3 and some CTAS 2 patients who were ambulatory and hemodynamically stable. I informed the leadership team that I was going to attend the session RAZ at the NENA conference and I would report back to them.

A Rapid Assessment Zone is an area located within the emergency department where patients can be assessed who have urgent, but less-serious conditions, functioning to improve patient flow and resulting in improved ED efficiency (Kelly, Bryant, Cox, & Jolley, 2007). Unlike the traditional manner patients are assessed in the ED where they occupy a stretcher for the duration of their stay, RAZ is an unconventional model of care for these patients. They are placed in an exam room to be assessed and receive treatment, and then are moved back to a waiting area to await further testing and results. This, in turn, frees up stretchers in the main ED for patients who are in need of more urgent care (Morrish, 2013).

I attended the presentation on Rapid Assessment Zones, which was a panel presentation, delivered by several hospitals in British Columbia, including representatives from Nanaimo and Kamloops. I listened to all perspectives and methods of establishing RAZ, gathering information to bring back to Concordia Hospital. After her presentation, Sherri and I spoke very briefly and exchanged contact information. She informed me she was going to be in Winnipeg the next week with her family. I insisted she come and present her information to Concordia ED Leadership. Once again, I believe this was not a coincidence.

The next week, Sherri was in Winnipeg and graciously donated her time to present to the Chief Nursing Officer and the Concordia ED leadership team on implementation of a Rapid Assessment Zone. Having come from a similar ED in Kamloops, Sherri toured Concordia ED after her presentation and made multiple suggestions to create RAZ within the existing infrastructure of the ED without having to change the layout of the current space and staffing levels. Ideas that had come from the directors' attendance at a conference in Toronto now seemed to be coming to fruition, as Sherri discussed Kamloops' experience with establishing RAZ in its ED. Sherri's presentation and site visit were the catalyst for change at Concordia ED.

Planning began immediately to ensure implementation of RAZ was successful. A conference call between Kamloops ED leadership and Concordia ED leadership was the beginning. Sherri shared her Master's thesis with us and we poured over her supportive literature. Last September, several members of Concordia ED staff and leaders went to Kamloops and Kelowna on a site visit to examine their RAZ layout, discuss staffing levels and physician coverage. Change management strategies were implemented immediately by Concordia leadership, with our primary sponsor being the Chief Nursing Officer. We met weekly over the summer with a goal to open our Rapid Assessment Zone in the fall of 2013.

Our RAZ at Concordia ED has recently had its first anniversary. It required the efforts of the entire ED staff to get it established and functioning effectively. RAZ has had it challenges, since there were many changes that occurred during this time. It is the hard working nurses and physicians of Concordia ED who deserve the credit for its success. Thanks to the Concordia Chief Nursing Officer and the ED leadership team who were the driving force behind this initiative. The story of RAZ at Concordia ED is a detailed one, but that story will be for another *CJEN*.

The next time you are considering whether or not you should attend the NENA conference, think about what initiatives are at work in your emergency department. Consider all the possibilities for networking with nurses and sharing information that you may miss if you do not attend. After all, you never know who you may encounter running on the sea wall…

About the author

Marie is the Educator for the emergency program at Concordia Hospital in Winnipeg and has worked in the emergency department there for 20 years. She began her career as a baby emergency nurse in Dawson Creek, BC.

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In her spare time, Marie loves to standup paddleboard. Marie and her husband Scott have two children, Jeremy and Jenna.

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Sherri and her husband have two daughters, Anna and Victoria.

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The use of algorithms in cardiac arrest management

By Heather Mercer, RN

Managing a cardiac arrest can be a highly stressful and anxiety-provoking event for emergency nurses. This article describes how the use of algorithms in training and practice can aid nurses in functioning competently and efficiently, ensure nursing actions are based on best practice standards, and decrease the stress and anxiety of the event. Current standards for emergency cardiovascular care, with suggestions for how algorithms can be taught and introduced into clinical nursing practice, will be outlined. Implications for individual nursing practice will be examined, as, ultimately, using algorithms as a management tool for cardiovascular emergency care has the goal of improving patient clinical outcomes.

Nurses' experiences with cardiac arrests

Many nurses rate participating in the management of a cardiac arrest as one of the most stressful job situations they find themselves in (Manderino et al., 1986; Covell, 2006). In a study investigating critical incident debriefing, Mitchell (1984) found that the psychological aspects of dealing with a cardiac arrest included very high anxiety. Nurses identified working against the clock, having no second chance to do things, and sudden swings between quiet times and great activity as stress-producing aspects of cardiac arrest management (Farrington, 1995). Another source of stress was confusion during the arrest, as staff struggled to find which role to take, and reduced stress when a team leader was recognized/appointed (O'Donnell, 1990; Covell, 2006). Nurses have repeatedly expressed fear surrounding the "code" process despite what was considered adequate preparation (McCarthy, 2007).

Nursing preparation is key for competent performance during cardiovascular emergencies. In an analysis of cardiac arrests occurring in an emergency department and managed by nurses, Daniele (2012) found that although more than 96% of emergency nurses had recently completed Advanced Cardiac Life Support (ACLS) and triage training, only two-thirds of them felt safe in the management of a cardiac arrest. In another study of U.S. hospitals, 62% of ACLS-certified nurses felt prepared to lead a resuscitation event, and only 44% of nurses thought the ACLS course provided sufficient training to lead a cardiac resuscitation team (Besser et al., 2010).

Some of the techniques that health agencies and schools use to teach nurses emergency cardiovascular care (ECC) include traditional classroom instruction, simulation labs, and hands-on experience (Manderino et al., 1986; Covell, 2006). However, many studies have demonstrated a deterioration in CPR performance within months of a course, as knowledge retention is low in critical incidents (Oermann et al., 2011; Kaye & Mancini, 1986). An established process is necessary so that nurses do not need to depend solely on procedures committed to memory when the stakes are high.

Why best practice matters

McKibbon (1998) describes evidence-based practice as "an approach to healthcare wherein health professionals use the best evidence possible, i.e., the most appropriate information available, to make clinical decisions for individual patients". Evidence-based nursing practice is a model for nursing care that bases decisions and actions on current best evidence in order to deliver the best outcomes. Sometimes the "evidence" may be obtained through research studies or meta-analyses of studies, or it may be an amalgamation of traditional expertise and experience that has previously generated exceptional outcomes. One reason that practice standards are incorporated into and enforced by nursing management is so that nurses are consistently making decisions that are proven to yield the desired outcomes. Studies show that nurses who are confident about their skills perform more competently during a cardiovascular emergency, and yield better outcomes (Covell, 2006).

Advanced Cardiovascular Life Support (ACLS) guidelines have changed in recent years to reflect new evidence leading towards better outcomes. For example, studies showed that many nurses and other health care providers were unable to quickly and accurately identify a pulse in a crisis situation or with hemodynamically challenged patients (Sullivan, 2008). Research also indicated that a delay of merely seconds to minutes in starting chest compressions was inversely proportional to survival rates of patients (Hazinski, 2010). Because of these and other findings, the American Heart Association (AHA) changed their recommendations for emergency cardiovascular care to commence chest compressions without first ascertaining an absolute lack of pulse (Barill & Dare, 2011). This is an example of new evidence informing changes in practice standards.

The American Heart Association is the North American leader in researching, promoting and publishing guidelines for cardiovascular care, and the European Resuscitation Council (ERC) is their European counterpart. The AHA and ERC both publish similar guidelines and algorithms for use by nurses, doctors, paramedics and lay people for managing cardiovascular emergencies and many of these guidelines are adopted by health authorities and hospitals as standards of practice for their staff to follow (American Heart Association, 2011; Barill & Dare, 2011). Provincial organizations such as the Heart and Stroke Foundation of British Columbia use adapted versions of the AHA's recommendations, which are based on research studies and incorporated into practice standards all across Canada and the U.S., and become part of best practice for nurses to follow.

Guidelines from the AHA and other agencies ensure that nurses are able to achieve optimal outcomes for emergency cardiovascular care. The AHA publishes algorithms that are taught in ACLS courses and used as part of core curriculum for emergency nursing preparation. They caution that particular algorithms rarely correspond exactly to real-life patient situations, and don't replace a flexible and thorough understanding of patient care (McCann, 2006). However, they are useful in clinical scenarios to make sure nothing is missed, to direct an initial treatment approach, to summarize a large amount of information, and to ensure evidence-based best practice.

Some of the algorithms they publish include general overviews for adult cardiac arrest, acute coronary syndrome, atrial fibrillation/flutter, and algorithms for special populations such as pregnant patients, among others (McCann, 2006; AHA, 2011; Barill & Dare, 2011). Their universal adult acute cardiovascular life support algorithm is used as a standard in health authorities across British Columbia (American Heart Association, 2011; Barill & Dare, 2011).

Current standards for emergency cardiovascular care

Current standards for emergency cardiovascular care (ECC) in a hospital setting are available from the AHA. The universal guidelines are established to support the 'chain of survival', which includes early access, early CPR, early defibrillation, and early ACLS (McCann, 2006). After initial assessment and CPR initiation, many of the algorithms direct the nurse to identify the type of rhythm present in the patient, as this will determine which algorithm to continue with. Nurses can assist in attaching leads, monitors or defibrillator pads for a 12-lead ECG (Deakin & Nolan, 2005; Awar & Walinsky, 2003).

In between rhythm assessment, nurses can continue with chest compressions, establish IV/IO access, assist with endotracheal intubation or other ventilation efforts, administer medications, monitor vital signs, document actions taken during the code, perform secondary surveys and carry out many other interventions (McCann, 2006; Barill & Dare, 2011; Gonzales et al., 2010). Although there are many different algorithms available for different situations, the universal algorithm is still useful in all situations because evidence indicates that the most likely arrhythmia underlying cardiac arrest is ventricular fibrillation (VT), which is managed with the universal algorithm (Jennings, 1993). In addition, non-VT rhythms are still treated the same way initially (McCann, 2006).

Another current standard for ACLS recommended by the AHA is quality CPR, which is defined in their guidelines and has demonstrated improved patient outcomes, as opposed to ad-hoc bystander CPR (Barill & Dare, 2011). The AHA and ERC also recommend simultaneously attempting to treat reversible causes, such as hypothermia or cardiac tamponade (Hazinski, 2010). Other standards include guidelines for cardiac drug use, and each algorithm has corresponding recommendations for dosing and administration. For example, epinephrine is recommended to increase cardiac output and peripheral resistance for non-ventricular fibrillation/tachycardia, as well as ventricular fibrillation/tachycardia (Barill & Dare, 2011; McCann, 2006). Following the initial management of a cardiac arrest is post-arrest care, for which algorithms are also available that direct therapeutic induced hypothermia and transfer to a specialized care unit (Chapman, Dietrich, & Lutes, 2009).

Teaching and using algorithms

As mentioned previously, nurses would benefit from having established flow processes and guidelines for managing ECC that did not force them to recall large amounts of critical information during crisis situations. Having algorithms such as those published by the AHA available for use would serve an ideal purpose. Flow diagrams or algorithms focus the nurse on the priority actions when it is easy to get distracted by procedures such as establishing airways or intravenous access (American Heart Association, 2000). There are several keys to training and supporting nurses in using algorithms.

First, it is important for nurses to be trained as part of an interdisciplinary team. Because in-hospital code management is almost always performed with a group of multi-skilled interdisciplinary personnel, it is essential for each member of the team to understand the roles of the others and be able to complement them (American Heart Association, 2000). While the character of the team leader of the resuscitation attempt is important, what has a greater impact on outcome is the character of the team as a whole (Zaritsky et al., 1995). One way this might be accomplished is by training nurses in ACLS alongside physicians, respiratory therapists and other health care providers and instructing them in recognizing who would fill each specific role. Some of the recommended ECC actions, such as treatments for reversible causes of arrhythmias, may fall outside the scope of registered nurses and need to be performed by another team member, and nurses need to know who that is going to be (CARNA, 2006).

A second component for training in ACLS is using simulated situations where nurses can practise hands-on skills. A study of nursing students who practised CPR skills on mannequins that gave automated feedback and increased their proficiency at motor skills found that they retained the skills longer than students who were taught the procedures in traditional didactic lecturing (Oermann et al., 2011). Algorithms can facilitate this process by summarizing key information so that nurses and nursing students have it available to refer to during practice. It is important that these skills are reviewed and practised, as studies have shown that CPR performed by nurses is often not consistent with practice standards (Abella et al., 2005).

A third way that the use of algorithms can support and facilitate nursing practice is by having them readily available in emergency departments and other hospital units for staff to easily access. Often laminated charts or books are stocked as part of a crash cart, such as *The Handbook of Emergency Cardiovascular Care for Health Care Providers* published by the AHA (2010). This ensures that the most current evidence is available to support decision-making in spite of being in a crisis situation where knowledge-retention from training is quite low. The key features of an algorithm or flowchart are easy-to-remember summaries of important information, such as the traditional A-B-C approach to lifesaving, which has been successfully indoctrinated into lay-persons' language (McCann, 2006).

Algorithms can be used during ACLS instruction as a focal point for summarizing more complex information, as a class outline, or as an educational aid to take home or memorize. They can be printed on the back of staff nametags, be available on the walls of nursing stations, or on crash carts. As periodic updates based on current evidence from either local or international sources become available, the updated versions can be distributed to staff. Because of the team-based nature of emergency cardiovascular care, the same algorithms with appropriate corresponding details should be given to all members of the code team, not just nurses.

Implications for nursing practice

Researching the usefulness of ACLS algorithms has given me an opportunity to appreciate the importance of integrating current evidence with practice standards and daily nursing care. I recently participated in a stressful code blue response to a cardiac arrest in hospital and found the environment to be chaotic, disorganized, and created a large amount of tension and anxiety among nursing staff. Long after the event, I replayed it in my mind and examined my practice to see where I could have performed better. Since participating in ACLS courses and continuing to take part in cardiac arrest management in the emergency department, as well as reviewing algorithms, I have felt my sense of competence growing. Covell and colleagues found that adequate preparation for and use of appropriate algorithms decreases nurses' anxiety and gives them a sense of competence that translates into improved patient outcomes (2006). By constantly seeking to examine their practice and basing actions on evidence, nurses can move towards optimal outcomes for their patients. One

way this is reassessed is by yearly CPR recertification and notification of new changes to evidence-based recommendations.

Even without the opportunity to apply algorithms during cardiac arrests, nurses can still apply the principles of evidence-based practice standards and prioritization of actions to other critical care situations. For example, sepsis management, protocols for acute asthma exacerbation, and trauma nursing. Each crisis situation is an opportunity to learn more and become more efficient and competent for the next instance that comes up and, although preparing ahead is crucially important, having easily accessible information is another key to successful practice.

Conclusions

Although emergency cardiovascular care has the potential to be a difficult, stress-producing experience for nurses; through proper training and with the use of flexible, clear guidelines in the form of algorithms, nurses can be well prepared. Although mastering advanced cardiac life support may require years of practice and encountering a variety of experiences, novice nurses can get a head start by learning to prioritize actions in crisis situations. Algorithms aid in summarizing the most current and best evidence to guide nurses' practice, and they can be easily distributed and taught in a hospital setting. Future research needs to be done examining the efficacy of having practice standards and flow process standards available for nurses and their direct influence on outcomes.

About the author

Heather Mercer is an RN working in Kelowna General Hospital Emergency. She has a background in chemistry and medicine and is happy to have found her way to emergency nursing, as it is a great fit for her. She lives with her husband and cat and enjoys playing hockey, gardening, and hanging out with 14 nieces and nephews.

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Osteoporosis: A concern for ED nurses?

By Cathy Sendecki, BSN, RN, GNC(C)

The diagnosis of osteoporosis is usually a small note in the Past Medical History, an incidental condition compared to other chronic illnesses that could be contributing to the presenting complaint. Some ED visits, however, are directly related and, in other cases, the patient's health may be positively impacted by following up on this insidious condition.

Osteoporosis is a disease characterized by loss of bone mass resulting in weak, brittle bones. Throughout life, bone remodelling occurs, as established bone is resorbed and new osteoblasts replace this tissue. Until approximately age 20, this results in increasing bone mass to peak bone density. From the middle of the fourth decade of age on, the creation of new bone tends to decrease while resorption of previously formed bone continues or increases, resulting in loss of bone mass for men and women. While there is no single cause, some risk factors can increase bone loss. One of the most common involves the hormonal changes associated with menopause, at which time women may lose 2% to 5% of bone mass yearly for five to six years; the rate then decreases to approximately 1% per year. By this time, approximately 20% loss may have occurred. Smoking, excessive alcohol intake, lack of exercise, or a diet low in calcium may contribute. The process generally goes on gradually, without symptoms, and is discovered only when a fragility fracture is diagnosed. At this point, osteoporosis is well established.

This condition may be classified as primary or secondary. Primary osteoporosis occurs when there is no obvious cause of bone loss other than age-related changes, possibly genetically related. Secondary osteoporosis refers to bone loss due to disease conditions such as celiac, hyperthyroidism, rheumatoid arthritis, immobility or to medication such as glucocorticoids, thyroid, or aromatase inhibitors which lower estrogen levels.

Diagnosis is by assessment of bone mineral density, which is compared to that of healthy young adults. The results are expressed as changes in Standard Deviation, "-SD". Low bone mass, termed osteopenia, is present when test results are in the range of -1 to -2.5 SD's below the young adult mean; osteoporosis is diagnosed when the score is less than -2.5 SD. In general, the lower the bone mass, the higher the risk of fracture, but other factors contribute, especially falls.

Common presentations in the emergency department

Presenting complaints usually relate to Fragility Fractures, defined as those caused by a fall from standing height or from a minor injury that would not fracture normal bone. Sites commonly include hip, wrist, vertebrae and humerus.

Management includes the standard emergency care of any fracture, with attention to circulation and pain management. If the injury is due to a fall, assess for possible causes. Was it clearly a slip or trip? Any dizziness? Has an acute illness, such as UTI or ACS contributed? As most of these patients will be older adults, they are at risk for complications specific to this age group, such as delirium, falls, skin breakdown and deconditioning. If the patient does not require admission for surgical treatment, we must ensure they can manage the pain adequately, and are able to mobilize safely and have the necessary assistance at home. A wrist or humerus fracture for someone who requires a walker becomes a major impediment to toileting at night or meal preparation.

If the patient is fit for discharge, she needs information about managing at home, and the importance of ongoing management of osteoporosis. Consider a referral to Home Health for personal care assistance.

Vertebral compression fractures

Vertebral compression fractures occur nearly twice as often as wrist and hip fractures. There may be no known cause. It has been estimated that 30% occur in bed, and many are caused by lifting, bending forward, falling onto the buttocks, coughing or sneezing. The majority of these fractures occur to the anterior aspect of the vertebra as a wedge fracture; some involve the collapse of the entire vertebral body. Most are stable fractures, as the fragments of bone are impacted, but occasionally an unstable "burst fracture" results. Over the days following the initial fracture, further deformity may occur, or even further fractures. Assessment includes a history of any activity when the pain began, and how it has developed; as with other spinal injuries, assessment of sensation and function is needed.

Initially, a few days of bed rest may be required until the pain begins to improve with medication. This puts less pressure on the fractured vertebrae, but carries the risk of deconditioning. The patient needs to know how to turn, transfer and move safely, for example, how to maintain alignment of shoulders and hips. Conscious attention to posture, to sit or stand tall helps to maintain a neutral spine.

Pain management with analgesics and non-pharmacologic measures will generally be needed. Non-steroidal anti-inflammatory drugs (NSAID's) are contraindicated for older adults due to the risk of gastric bleeding and renal compromise. Regular doses of Acetaminophen 325 mg–650 mg four times daily will provide some baseline relief. In addition, opioids will often be required initially. Consider the total daily dose of Acetaminophen when compound agents such as Acetaminophen with Codeine or Oxycodone are prescribed. For frail elderly patients, the maximum recommended dose is 2.6 Gm daily. Ice packs applied for 15–20 minutes hourly are recommended for the first week. After this time, heat may provide more comfort.

Side effects of analgesics and decreased mobility need to be addressed, with attention to fall prevention, such as getting up

slowly and mobilizing once the patient feels steady. Routine laxative use with opioids in addition to adequate fluid and fibre intake will help to avoid constipation.

Vertebral compression fractures are often not well understood by patients and family: "How can I go home with a spinal fracture?" "How long until it heals?" As with other injuries, pain may increase over the next few days before starting to subside, and considerable pain may be experienced for at least six weeks, but is expected to gradually subside. Discharge teaching needs to include education about "red flags" for further attention. In particular, these patients and their caregivers need to know that if worsening pain, decreased strength, loss of control of bowel or bladder or change in sensation occur, they need to return to the ED. Even though their condition is stable now, and improvement is expected, untoward changes can occur. Patients may benefit from a referral to Home Health physiotherapy or occupational therapy to assess function, safety and pain management at home.

The Osteoporosis Canada website, **www.osteoporosiscanada.ca,** is an excellent resource for patients and caregivers. In particular, the section "After the Fracture" is recommended for information on safe movement and activity during convalescence and beyond. For patients without internet access, relevant portions may be printed. This may be an opportunity for younger family members to assist.

The importance of ongoing management

Vertebral compression fractures may be an incidental finding, such as those of unknown age noted on a chest x-ray. Such fractures may contribute to spinal deformity, particularly kyphosis—as this becomes pronounced, posture changes, and chest expansion and digestive function may be compromised.

All patients with a suspected osteoporosis need to follow up with their GP specifically for diagnosis and management of osteoporosis. Medications to slow bone loss or increase new bone formation are indicated. A number of classes of medications are available, bisphosphonates are often prescribed. These all decrease the risk of vertebral fractures, and many also decrease the risk of other fractures, particularly those of the hip and wrist. Adequate calcium, preferably from dietary sources, and supplemental Vitamin D3 are also recommended. Exercise programs geared to those with decreased bone density are available in many communities, and help to prevent falls and further injury.

According to Osteoporosis Canada, more than 80% of fractures in patient's over age 50 are due to osteoporosis. Fractures from osteoporosis are more common than heart attack, stroke and breast cancer combined. Osteoporotic hip fractures account for more hospital bed days than heart attack, stroke, or diabetes. Less than 20% of fracture patients undergo diagnosis and adequate treatment for osteoporosis. At least one in three women and one in five men will sustain an osteoporotic fracture.

This is an opportune time to educate all family at the bedside. This disease has been described as a pediatric disease with geriatric consequences. The importance of good bone health in youth, with adequate diet and exercise needs to be emphasized to younger family members, as well as ongoing healthy choices for all. Fall prevention is paramount, so printed information on home safety, the importance of appropriate footwear, hip protectors and local supports such as Falls Assessment Clinics should be provided. Without treatment, one half of patients who fracture a hip will have a second hip fracture within five years; 20% of those who sustain a vertebral fracture will experience another within 12 months.

Our goal is to make this fracture the last, contributing to a good quality of life for individuals with benefits for the health care system.

About the author

Cathy Sendecki, BSN, RN, GNC(C), has worked at Burnaby Hospital Emergency Department since 1987, in the past several years as Geriatric Emergency Nurse Clinician, as part of the Older Adult Program. Particular interests include working with persons with dementia and their care partners and embracing the challenges of dealing effectively with Elder Abuse. She enjoys being a grandma.

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Human Trafficking

Section editor's note

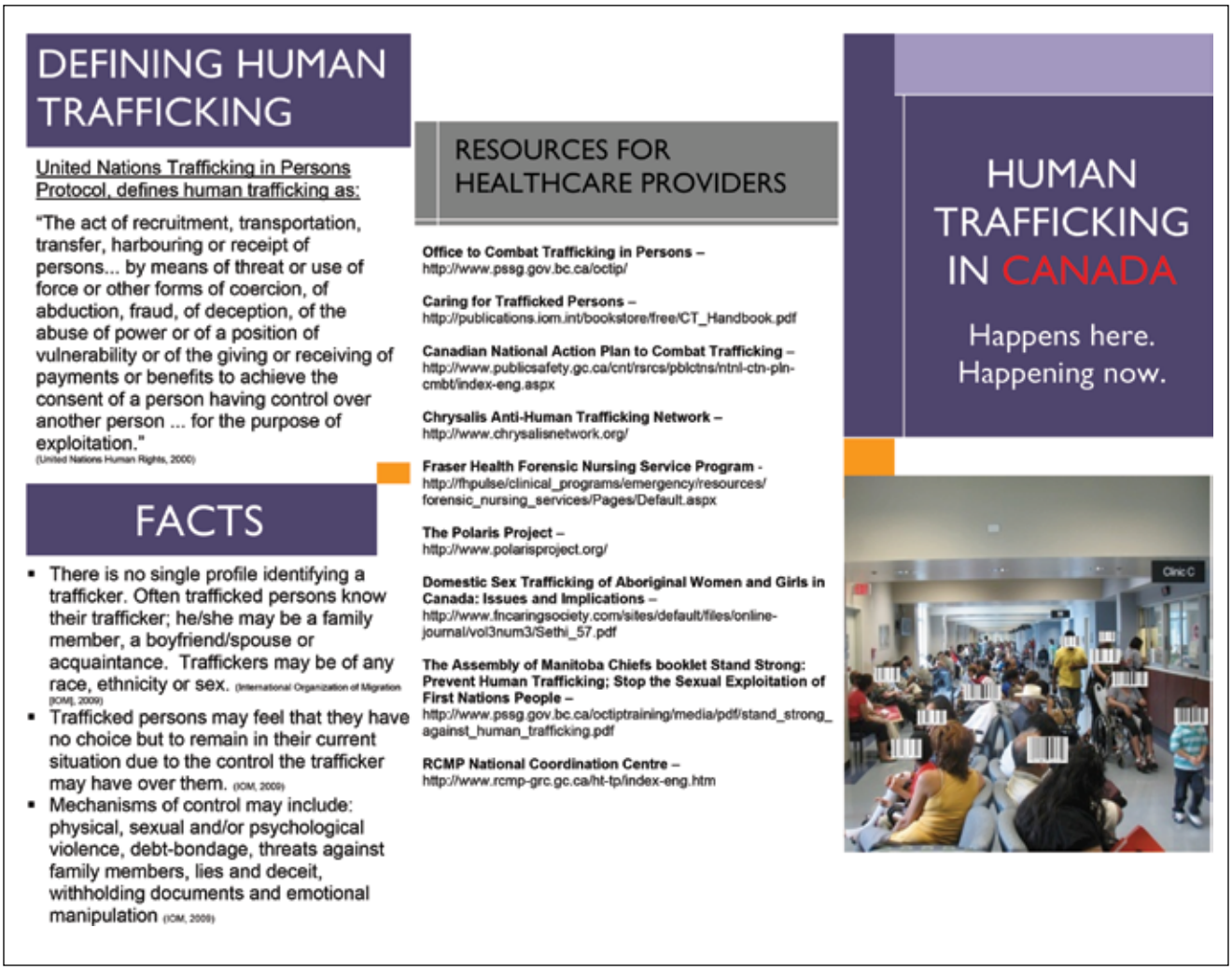
As the lead instructor for BCIT's FSCT 7810 Introduction to Forensic Health Science three-credit course, I have a variety of student assignments within the course. One such assignment is for students to develop a brochure or pamphlet, as a teaching tool on a topic related to forensic nursing, present the material to a group and evaluate the effectiveness of their tool. One group in a 2013 course developed a brochure on Human Trafficking that went beyond my expectations as an educator. I asked them to refine it for publication in this journal.

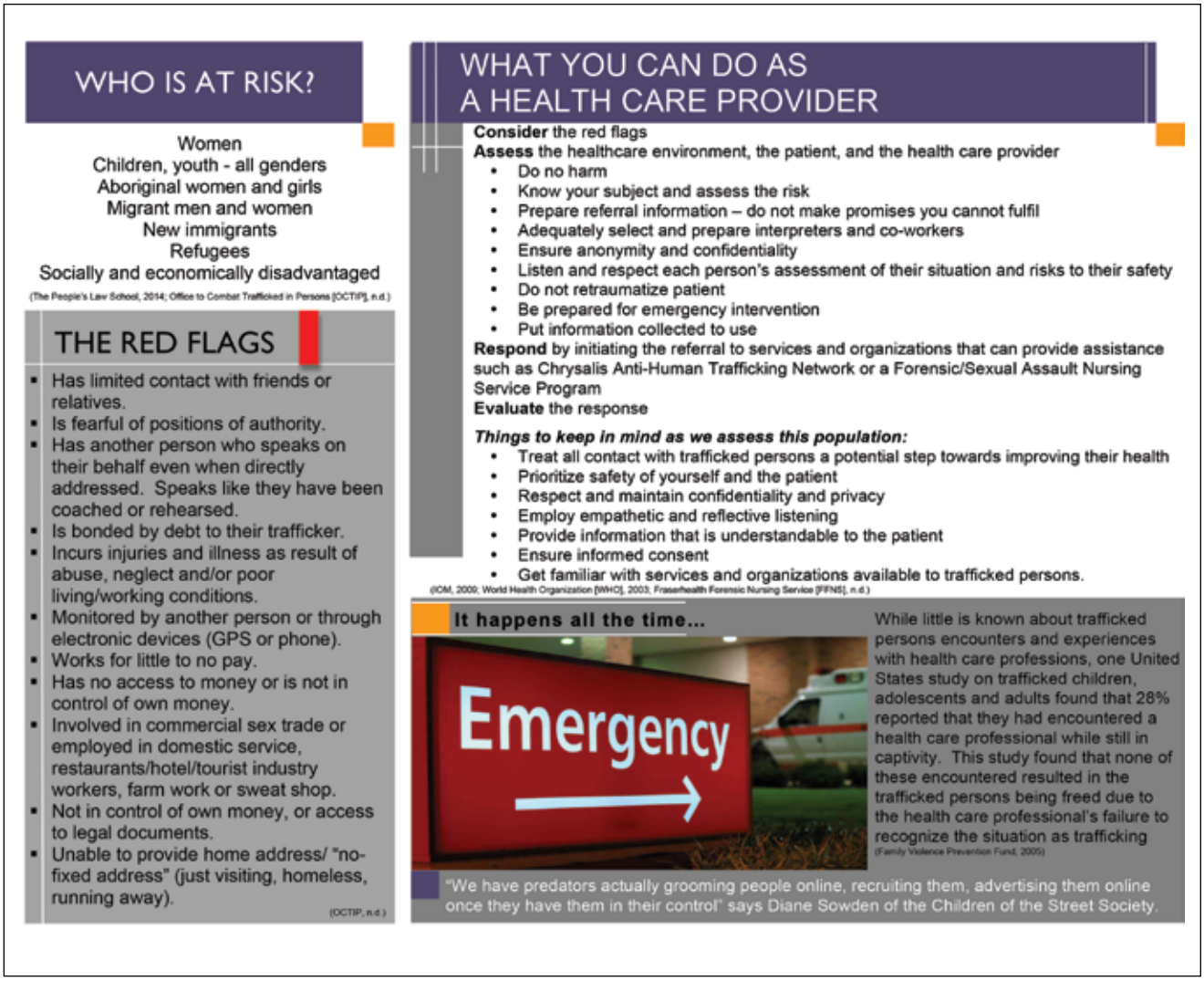
Sheila Early

About the authors

Erica Wong graduated from Douglas College in British Columbia in 2014, and is currently employed in the Emergency Department of Delta Hospital, Delta, B.C. She has taken electives from BCIT such as High Acuity Specialty Nursing Theory Level 1 and Introduction to Forensic Health Science. While receiving her nursing education, Erica was the co-coordinator of the BSN Peer Mentorship Program and received awards such as a BSN Leadership Award in 2014 and Douglas College Health Sciences Innovative Teaching Award in 2014.

Malory Vojtko is a 2014 graduate from the Bachelor of Science in Nursing program at Douglas College. Malory was part of the leadership program at Douglas College, where she obtained a BSN leadership certificate. In December of 2012, Malory and some of her peers decided to organize a clothing drive so as to provide individuals of the Downtown Eastside with warm clothes and food during the cold winter months. Malory first became exposed to Forensic Nursing upon taking the Introduction to Forensic Health Sciences course at BCIT. She immediately became interested in this area of nursing. Malory currently works at Royal Columbian Hospital, New Westminster, BC, on 3 North, Vascular Surgery.





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NENA Bursary application form "A"

Name: _____ Date of Application: _____

Address: _____

Phone numbers: work (____) _____ - _____; home (____) _____ - _____; fax (____) _____ - _____

E-mail: _____

Place of employment: _____

Name of course/workshop: _____

Date: _____ Time: _____ Length of course: _____

Course sponsor: _____ Cost of course: _____

Purpose of course: _____

Credits/CEUs: _____ ENC(C) Certified: ❑ Yes ❑ No

Previous NENA Bursary: ❑ Yes ❑ No Date: _____

Please submit a proposal of approximately 200 words stating how this educational session will assist you and your colleagues to provide an improved outcome for the emergency care user. In submitting your proposal, bursary recipients are agreeing to permit NENA to publish the essay in CJEN/NENA website. Attached?: ❑ Yes ❑ No

Ensure photocopies of provincial RN registration and provincial emergency nurses association membership are included with your application. Attached?: ❑ Yes ❑ No

NENA Bursary application form "B"

I acknowledge that _____ (name of applicant) is currently employed in an emergency care setting. This applicant should receive monies for _____ (name of course).

Reason: _____

Other comments: _____

_____

Signed: _____

Position: _____

Address: _____

NENA Bursary application provincial director's recommendation form "C"

Name of bursary applicant: _____ Province: _____

Length of membership with provincial emergency nurses group: _____

Association activities: _____

_____

Do you recommend that this applicant receive a bursary? ❑ Yes ❑ No

Reason: _____

Provincial director signature: _____ Date: _____

The NENA Bursary

NENA recognizes the need to promote excellence in emergency care and, to this end, to provide financial aid to its members. NENA will set aside a predetermined amount of monies annually with the mandate of providing a high standard of emergency care throughout Canada. All sections of the emergency nursing team are eligible for consideration including staff nurses, managers and educators.

Applications must be submitted prior to the spring Board of Directors meeting of NENA for review by the standing committee for bursary disbursements. On April 1 of each year, the number of bursaries awarded will be determined by the number of registered members per province for that NENA fiscal year i.e.:

1–99 members:	1 bursary
100–199 members:	2 bursaries
200–299 members:	3 bursaries
300–399 members:	4 bursaries
400– 499 members:	5 bursaries
500–599 members:	6 bursaries
600 + members:	7 bursaries

One bursary is to be available to NENA Board of Directors members and one bursary per year will be available to an independent member.

Successful candidates can receive a bursary only once every three years.

NENA Bursary application process

Each candidate will be reviewed on an individual basis and awarded a number of points as set out below:

1. Number of years as a NENA member in good standing
   - 2 years ..... 1 point
   - 3–5 years ..... 2 points
   - 6–9 years ..... 3 points
   - 10 + years ..... 5 points

2. Involvement in emergency nursing associations/groups/committees:
   - Provincial member ..... 1 point
   - Provincial chairperson ..... 2 points
   - Special projects/committee—provincial executive ..... 3 points
   - National executive/chairperson ..... 5 points

3. Candidates with certification in emergency nursing and/or involved in nursing research will receive an additional five points.

If two candidates receive an equal number of points, the committee will choose the successful candidate. All decisions of the bursary committee are final.

Each application will be reviewed once per spring board meeting.

Preference will be given to actively involved members of NENA and those actively pursuing a career in emergency nursing. Those members requesting assistance for emergency nursing certification, TNCC, ENPC, CATN, as well as undergraduate or post-graduate studies that would enhance emergency care will also receive preference.

Candidates must have completed Forms A, B and C (included with this issue of **CJEN**). The provincial director may forward applications at the spring board meetings.

Any incomplete forms will be returned to the provincial director for correction if possible.

Eligibility

- Current RN status in respective province or territory. (Proof of registration required.)
- Active member in NENA Inc. for at least **two** consecutive years. (Proof of membership required.)
- Working at present in an emergency setting, which may include:
  - Emergency department
  - Nursing station
  - Pre-hospital
  - Outpost nursing
  - Flight nursing

Application process

Candidates must complete and submit the following:

a. NENA Bursary application form "A"
b. Bursary reference form "B" Bursary reference form B completed by the applicant's manager or supervisor
c. 200-word essay
d. Photocopies of provincial registered nurse status and NENA registration

Provincial representative responsibilities:

a. Completes bursary candidate's recommendation form "C"
b. Ensures application forms are complete before submission
c. Brings to Board of Directors meeting all completed applications

Selection process

The standing committee for bursary disbursements will:

1. Review all applications submitted by provincial representatives and award bursaries based on selection criteria.
2. Forward names of successful candidates to the Board of Directors for presentation.