

outlook

the official journal of the National Emergency Nurses' Affiliation Inc.

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Guidelines for submission

Editorial Policy

1. **Outlook** 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 NENA Outlook editor. The author should retain one complete copy.
2. Manuscripts must be typed, double-spaced (including references), on 8½" × 11" paper with adequate margins. Manuscripts longer than one page must be submitted in a disk format in Word Perfect or Word. Submissions are accepted via e-mail to the communication officer.
3. Author's name(s) and province of origin must be included.
4. Clinical articles should be limited to six pages.

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.

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 **NENA Outlook.**"

Please submit articles to:
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Outlook is the official publication of the National Emergency Nurses' Affiliation. Articles, news items and illustrations relating to emergency nursing are welcome.

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Outlook, is an infringement of copyright law. Requests for written consent prior to reprinting of any article, or part thereof, should be addressed to the editor.

President's report



How quickly a president's term can go by... This will be my last official report for the *Outlook* journal, as I hand over the presidency to Sharron Lyons on July

1 this year. It has been an absolute pleasure representing the emergency nurses of Canada for the past two years and I truly feel that we have made some significant progress in being recognized by various agencies and government. As the specialty group for emergency nursing, we have set the standards for emergency nursing practice.

I am particularly proud of our response to the H1N1 pandemic in being visible and vocal in all levels of government and in reviewing the event once over to make recommendations for policy-makers for any future events that may occur. Your board of directors has also worked very hard in helping us become a truly "national" organization by working with the emergency nurses of Quebec to bring them into NENA as full-fledged members—a process that


is continuing and will be helped along greatly by the proposed bylaw changes at this year's AGM.

We have also been very successful in maintaining our relationship with the Emergency Nurses Association in the United States and continue to explore areas in which we can work together to achieve common goals that are relevant across international boundaries.

Our organization continues to also be heavily involved in the Canadian Triage and Acuity Scale (CTAS) research and revisions. The training program continues to be updated and NENA remains an equal partner with the Canadian Association of Emergency Physicians (CAEP) in the facilitation of CTAS committees to further the development of the scale and consider future uses of it in Canada and the world. I have the fortunate opportunity to represent NENA and the CTAS working group in April in Brazil at the International Conference of Emergency Nursing in Sao Paulo. CTAS has been recognized around the world as one of the premier triage systems and many countries now

use it. It is truly something to be proud of as Canadian emergency nurses.

Looking forward, I continue to encourage each and every one of you to get involved in your profession. We are recognized as a strong organization that sets standards for practice for the emergency nurses of our country. By getting involved you can have a voice in setting and changing those standards. Every province has room at their provincial level and we, at the national level, always have room for interested people who want to work on things that can impact our profession.

Thank you for continuing to support our national organization. Although you may not feel that you see the benefits every day to the work we do, we can assure you that you do feel the impact at the bedside when we use our collective voice to address issues common to emergency nurses across the country. Please also continue to use our standards and position statements to influence your environments at the local and provincial levels. 

Landon James, RN, BSN, MA
president@nena.ca

Communication Officer's report



I'm looking forward to the NENA conference in a few short weeks. This year's conference will be terrific! I have never closely observed a national conference committee at work before. I had no idea what

a huge job it is to plan and prepare for a major conference.

The Saskatchewan Emergency Nurses' Group has been preparing for a very long time, and NENA members and guests are in for a treat. The committee has lined up excellent speakers and great entertainment. If you haven't been to Regina before, you may be surprised. Although we grouse about our winters, Saskatchewan is beautiful in the other seasons. Regina, with its parks, is truly lovely.


I have some exciting news to share. For those who haven't noticed, we now have the capability of paying for conference registrations on the NENA website

(<http://events.nena.ca/>) with PayPal. This year's conference committee is very excited about this, as are the other provincial affiliates that will enjoy this capability for future conferences. Thanks to Gary Pronych, our webmaster, who has burned the midnight oil to get us up and running in time for this conference season.


I want to remind each of you that the *Outlook* does not belong to the NENA board. It is **our** publication. I encourage each member to think about contributing.

Do you know how interesting it is to read about how another province is dealing with the very issues my province faces?


Thank you to each contributor for this *Outlook*. We are all so busy that it often requires sacrifice to take time to write an article or report.


I'm looking forward to seeing you in Regina. 

Stephanie Carlson,
Communication Officer



outlook
Bouquets



 Congratulations to Cathy Carter-Snell on her International Award for Nursing Excellence for Forensic Nursing Research by Sigma Theta Tau International Honor Society for Nursing. Dr. Carter-Snell is Coordinator/Instructor, Forensic Studies Program and Instructor, ACCN Emergency Nursing Program, at Mt. Royal University in Calgary and a contributor to NENA Outlook.

News from the provinces

Alberta: ENIG

This winter finds us in Alberta dealing with the ever-changing weather, from sunny and warm to blizzard and 20 cm of snow all within 24 hours. These weather changes tend to mirror changes within our government, as well, as once again our health care system appears to be undergoing more changes. This ever-changing roller coaster appears to be taking a toll on our nurses, with many looking and moving on to try new challenges in other departments.

In the last six months, Alberta emergency departments have been challenged with the ever-growing issue of overcrowding. This issue has now caught the eye of the media and has made many a newscast. This has brought a hurricane of change to our departments, called “overcapacity protocols.” These protocols are intended to move patients up to inpatient beds and, thereby, clear much needed emergency department space for incoming patients. Our nurses continue to give optimal care during all these changes and challenges.

The ENIG executive continues to support and plan for upcoming educational opportunities for its membership in the coming year. We encourage our membership to send us any ideas they have for educational opportunities. ☒



Dawn Paterson
ENIG President

Newfoundland and Labrador: NLENA

Membership has remained constant over the past few years at 30 members. We have offered incentives for those who join within the first few months. For the past two years NLENA has sponsored one member to attend the national conference each spring. The major source of revenue for NLENA continues to be

from TNCC courses offered throughout the province.

My term as provincial director for NLENA will be done June 30, 2011. Calls for nominations for the provincial director, and secretary /treasurer have gone out. This is a great opportunity for anyone who is up to the challenge. I have gained a wealth of knowledge from being in this position. NLENA offers you an

opportunity to voice your concerns/provincial input to the national voice. You can help change the future for emergency nurses! ☒



Cathy Fewer
NLENA President

Nova Scotia: NSENA

These past few months have been very busy ones here in Nova Scotia. In October 2010, Dr. John Ross, an Emergency Physician, released his report on emergency care in Nova Scotia. Over a period of a year he visited every emergency department in the province. He met with nurses, physicians, paramedics,

patients and the community. His questions were in relation to emergency care and what works and what doesn't. Out of these visits he made 26 recommendations to improve the care received in emergency departments. The Minister of Health has accepted these recommendations and plans to implement them. Some of the recommendations are as follows: expanding the training of paramedics to

give lyrics in the field, improved communication with patients while they wait in the overcrowded emergency department, better treatment of mentally ill and seniors in emergency departments. The implementation of this report should help to improve access to physicians and nurses, make emergency care patient-centred and provide better care for all.

Of course, with this comes change and this is causing some angst among the ED nurses. Some centres will have hours reduced to only days, some resources will be shifted from one facility to another. There are a lot of unknowns, which causes stress. Hopefully the changes that are implemented will better the care that is provided for our patients. ☒



Cate McCormick
NENA Secretary

Canadian Injury Prevention and Safety Promotion Conference


Be Visible: The Canadian Injury Prevention and Safety Promotion Conference will be held in Vancouver November 16–18, 2011. Hosted by the Canadian Red Cross, Safe Communities Canada, Safe Kids Canada, SMARTRISK and ThinkFirst Canada, this conference is designed to be of interest to all who play a role in the injury prevention field. It will address injuries across the unintentional and intentional spectrums, including traffic, drowning, falls, fire, violence, and suicide. For more information, visit: www.injurypreventionconference.ca

National Course Administration Committee report

The National Course Administration Committee (NCAC) would like to send reminders out to TNCC/ENPC instructors:

- ENA fees have increased for ENPC/TNCC effective March 1, 2011. Please contact the NCAC chair at chairncac@nena.ca for more information
- All course directors are reminded to send in course paperwork and fees within 30 days of the course to ENA and NENA

- TNCC/ENPC instructor networking breakfast session at the NENA conference, Regina, SK, Saturday, April 30, 2011. See conference brochure for details
- All TNCC/ENPC course directors and instructors must be current NENA members. Courses cannot be approved unless all instructors are current in their NENA status
- Watch future *Outlook* publications for information regarding rolling out of ENPC 4th Edition course across Canada

- Do you have an interesting trauma case? The Trauma editor of *Outlook* is currently accepting articles for review and publication. Please send your paper to chairncac@nena.ca 



Margaret Dymond
National Course
Administration Chair

What I learned from the 2010 Winter Olympic Games

I was very fortunate to be a nursing supervisor at the 2010 Winter Olympic/Paralympic games. For three months I was stationed at the Vancouver Village Polyclinic, only going home for a few days every now and then.

Over the last year, I have been asked what I learned or what did I take away from the Olympic experience. “I Believe” was the theme song of the 2010 Winter Olympics sung by Nikki Yanofsky, and I truly learned to believe.

I believe a small group of medical people can handle a large number of medical problems efficiently and effectively.

The services in the Vancouver Village varied from first aid treatment for scrapes, bruises and blisters to major illness and trauma. Twenty-four-hour staffing of the Polyclinic consisted of three to four nurses per shift (12-hour shifts), one public health nurse daily, emergency MD, two clerks and 24-hour ambulance coverage. Also available from 07:00 to 23:00 were

sports medicine MD, dentists, optometrists, pharmacist, physiotherapy, massage therapy, chiropractic, acupuncture, rehabilitation and recovery centre, and a full medical imaging department. We treated anyone living or working inside the Vancouver Olympic Village and saw approximately 200 patients per day, and we had fun doing it.


I believe we can do our job with a smile and deliver excellent customer service.

The overall mission was to touch the soul of the nation and inspire the world by creating and delivering an extraordinary Olympic and Paralympic experience with lasting legacies. Within the Polyclinic we asked our volunteer staff to be warm, welcoming and friendly, to provide excellent customer service and, if you were unable to answer a question, then find someone who could. This doesn't sound much like the usual busy emergency department and it did raise some eyebrows, as new staff joined us each day. However, it did

not take long for the new volunteers to embrace this way of working and everyone from clerks to surgeons walked around with smiles on their faces and everyone pitched in to help wherever needed, regardless of education, position or title.

I believe in the power of you and me.

Nowadays, emergency departments are the doorway to the health care system and how we see and treat patients is a reflection of the entire system.

In many cases, emergency staff are overworked, stressed and worn out. Believe you can make a difference—start your next shift with a smile and believe you can make a difference. 



Sharron Lyons
NENA President

Forensic Nurses' Society of Canada update

By Cathy Carter-Snell

The Forensic Nurses' Society of Canada (FNSC) is moving to yet another milestone in April 2011. We will be welcoming our first elected president—Janet Calnan—who will replace current

President Cathy Carter-Snell who has been in place since founding FNSC with Sheila Macdonald and Sheila Early in 2006. Janet has served a year as president-elect and as many of you know, is extremely well regarded and capable to move the FNSC forward.

In the past year, we have had a number of successes, as an organization and among our members. We are pleased to have had a key role in supporting legislation to allow non-physicians (i.e., nurses) to act as death investigators, have consulted on a number of initiatives related to elder abuse and the development of systems to support special interest groups, and have contributed interviews for an article on human trafficking in *Canadian Nurse*.

Our first official newsletter was published in October 2010 (thanks to Linda Reimer) and will be produced approximately twice a year. We started the first of a series of free webinars for members in fall 2010 with one on the BALD STEP mnemonic described in this issue. The next webinar will be held this spring by a Calgary crown prosecutor for nurses who may have to give witness testimony.

Some of our members received international recognition from the International Association of Forensic Nurses (IAFN): Sheila Early received an achievement award, Janet Calnan of Victoria and Delcia Brideau of Moncton were among the 100 nurses recognized as having made a difference to forensic nursing.

We are working with the IAFN to help promote Canadian nurses when IAFN comes to Montreal for its scientific assembly in October this year.

Our main priority this year was to develop a five-year plan of activities to support members and conduct a survey of members to prioritize key activities. The first key activity in the 2011–2012 year is to expand our communications. Activities in progress for the new membership year include updating the website for ease of member access, encouraging members to

Board meeting observer policy

NENA
Policies & Procedures
5.6.0

NENA board of directors' meetings are open to NENA members on a pre-arranged basis.

The objectives of open board of directors' meetings are to enhance the board's accountability to those who have an interest in the affiliation's affairs and to facilitate member understanding of the board's governance of the emergency nursing specialty.


Observer policy

- Those wishing to observe a NENA board of directors' meeting will contact the NENA president with their wish to do so at least 30 days prior to the board meeting, when possible.
- Number of observers allowed will be at the discretion of the board.
- If the request is less than 30 days in advance of a NENA board of directors' meeting, it will be at the discretion of the NENA executive whether permission will be granted.
- All observers shall be identified at the beginning of the meeting.
- A review of observer expectations will be outlined at the start of the meeting and is as follows:
 - i. Observers, prior to the start of the meeting, must agree to confidentiality of matters discussed.
 - ii. Observers will not be allowed to attend in-camera sessions.
 - iii. All observers will have non-voting status.
 - iv. Observers may not enter into the discussion of the business of the board.
 - v. The observer may comment in writing to their official representative while the meeting is in progress.
 - vi. Observers cannot be elected to chair a standing committee.
 - vii. Observers will be placed in a row behind the table where the meeting is held, depending on the number of observers present.
 - viii. NENA, Inc. will not be responsible for any expenses incurred by the observer attending a NENA board of directors' meeting (i.e., meals, accommodation, travel, etc.).
 - ix. If any observer becomes disruptive, they will leave the BOD meeting immediately at the request of the president.

submit articles or news events for inclusion on the site, and implementing a secure communications site for members to share documents or discuss issues.

We will also be forming a subcommittee to work on setting standards of practice for Canadian forensic nurses and continue to liaise with organizations such as NENA on position statements and issues related to prevention of violence or its consequences, including issues of abuse, assault and trauma.

The FNSC is accepting nominations in February and early March for board members, including a president-elect, a communications/education coordinator, a membership coordinator and a secretary. These are two-year positions (three-year for president-elect). Position information is on our website along with nomination forms and membership information (www.forensicnurse.ca) under the link for “Membership and Discussion”.

All emergency nurses are welcome to join. Thanks to our current board members for all their contributions. Feel free to contact any of our current board members for further information or to submit information for the website or newsletter: Cathy Carter-Snell, President; Janet Calnan, President-elect; Joanne Maclaren, Communications-education; Nancy Horan, Membership; Shana Jacobs, Treasurer; and Susan Wilson, Secretary. 

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NEA at work

Canadian Blood Services consults experts, stakeholder groups and public to improve organ and tissue donation and transplantation rates

By The Organ and Tissues Team, Canadian Blood Services

In April 2008, recognizing that Canada’s performance was not where it should be, the federal, provincial and territorial governments asked Canadian Blood Services to lead the design of a new system to improve organ and tissue donation and transplantation (OTDT) in Canada.

From the outset, the organization knew it could not, and should not go about this work alone. Collaboration and contributions from the diverse stakeholder communities would play a critical role. Three committees—a steering committee made up of prominent experts in health care policy, an expert organ committee and an expert tissue committee—were launched. The committees assessed the current state of OTDT in Canada, identified areas of focus, established a strategic direction, and began to develop proposed solutions for the new system in collaboration with the community.


The organ expert committee recognized that to earn the trust of the public, a system must give patients the best opportunity to get a transplant that saves or improves their lives and it must ensure fair access for all patients with end-stage organ failure. Those priorities guided the committee’s work.

The tissue expert committee’s work was guided by an emphasis on ensuring a safe supply of quality tissues that is accessible in a timely, equitable manner, as part of a system that is an efficient part of the health care system.

Along with the committees, thousands of health professionals, health system leaders, stakeholder groups and the public have offered their input for an integrated OTDT system. Over the last several months, more than 1,000 health experts were invited to multidisciplinary events held in 10 centres across the country, and there have been another 50 one-on-one or small group meetings. In addition, nine public dialogue

sessions were held across Canada, with more than 300 participants representing a cross-section of concerned citizens, community leaders, health professionals, donors, recipients, family members and those who simply wanted to make a difference.

As the need for donors increases, nurses play a vital role in helping improve OTDT performance by educating the community, identifying donors and offering clinical expertise. As a key part of the transplant team, their role is critical in the counselling of potential organ donors and their families.

Canadian Blood Services will continue to consult with stakeholders including the National Emergency Nurses Affiliation for the design of an improved OTDT system in Canada. Preliminary recommendations were presented to the Deputy Ministers of Health in December, and we are now working hard to refine our proposals with the goal of presenting a final set of recommendations in spring 2011. 

Hockey and health: Mike's story

By Mike Ertel, MD

Pay attention to the signs

My last memory of “Big Mike” (six-foot-three, 265 lbs.) was of him being wheeled out of the hockey rink in Las Vegas on a gurney flashing the “thumbs-up” sign to both teams, as the paramedics took him to the local emergency. Mike, age 40, died later that day.

I still get emotional thinking about it and I'm not totally sure why. I'm not a stranger to death—I've been an emergency department physician for 18 years, so I've seen more than my fair share, but this was different. I still think about it constantly.

What I do know is that Mike looked well when he left the arena—so much so that when the fire department and ambulance arrived, there was absolutely no sense of urgency to get him to the ER, although I told them that I was quite worried. Here's why.

When our two teams lined up at the beginning of the second period of the tournament finals, one of the opposing players mentioned that they had a guy on their bench who was acting a bit “out of it.” My teammate asked a few more questions and was worried enough to get me involved.

When another teammate, Scott Wood (a nurse), and I saw Mike, we were immediately concerned. He looked pale and sweaty, and his speech was slow and weak. He felt nauseated, but didn't vomit. He'd played a hard first period, but denied any chest pain until he sat on the bench between periods, and he said the pain was not severe. Mike had no cardiac history and had never smoked. This was the fourth game in three days for all of us at the tournament, where we play all day and stay up all night—not exactly heart healthy.

We laid Mike on the ground and gave him a baby Aspirin to chew. He improved over the next 10 minutes and by the time the emergency services arrived, Mike looked well. He apologized for “holding the game up,” said goodbye to his teammates and flashed that thumbs up. I shook his hand and wished him good luck—I was very concerned that his pain was cardiac in nature, but I never thought that he would be dead in 12 hours, leaving behind a wife and baby girl.

I'd never been at a hockey tournament in all my years where someone died on the ice, but two days before Big Mike's death, a 45-year-old man died at centre ice in the same tournament, with his wife watching from the stands. It was a very, very quiet plane ride home for our team and a brutal reminder of our mortality.


According to the Hockey Heart Study published in the *Canadian Medical Association Journal* (February, 2002), more than 500,000 men and more than 70,000 women (the latter number

growing rapidly) play recreational hockey. I've played for many years in a men's noon-hour league and many of us arrive at 11:50, hurriedly throw on our equipment and bound onto the ice without a warm-up. We play hard for an hour, and then rush back to work. Also not exactly heart smart.

No wonder stories like Big Mike's are becoming increasingly common. So, for all you hockey players who love the game and don't have time to take care of yourselves (present company included), here are some warning signs to heed:

1. Pain or pressure in the chest that is worse with exertion. We get especially concerned if there is radiation to either or both arms, and if the pain radiates to the jaw and/or teeth.
2. Upper abdominal pain and nausea and/or vomiting brought on by exertion—surprising as this may seem, this can be cardiac in nature.
3. Decreased energy levels and fatigue out of proportion to what you would expect with activity that you've done all your life. Many cases of “sudden unexplained death” have been preceded by the patient simply feeling a bit fatigued a day or two prior.
4. Pay attention to shortness of breath out of proportion to what you would expect. Listen to the “little guy” on your shoulder—he's usually very wise.
5. And finally, if you smoke—think again about quitting and don't stop thinking about it until you're successful. We, as physicians, can help, and there are few things in medicine that make me happier than hearing about a patient who has been able to quit smoking!

If you're a hockey player or any athlete and you experience these symptoms, no matter how subtle, visit your family physician or emergency department. I understand that none of us has the time to sit for hours upon end to get “checked out,” but the alternative is unthinkable.

I'm glad I've had this opportunity to tell Big Mike's story. I'll never forget him—I wish I could have done more, and I hope this little bit of medical advice will prevent some similar stories. 

Reprinted from Okanaganlife, January–February 2011, with permission of the author.

About the author

Dr. Michael Ertel is Chief and Medical Director, Department of Emergency Medicine at Kelowna General Hospital and an Associate Clinical Professor at University of British Columbia. Active in provincial and national activities supporting Emergency Medicine, he and Wendy, his wife of 21 years have three daughters.

Jigsaw puzzle

By Darla Bodell, RN

The room was a whirlwind, abuzz with heightened activity as I walked in. It is deemed the trauma room, the place where the sickest of the sick come into emergency to get state-of-the-art care. People were dashing about in some sort of organized chaos. There were at least eight of them—eight medical professionals all with their specific duty, doing their particular piece to make this trauma of a puzzle take some sort of shape. All the persons involved with a trauma work together in an orchestrated stressful scenario, linking their puzzle piece with the next person and then with the next person, hopefully to gain a positive outcome, matching the picture on the puzzle box. But when I walked in amongst the activity that was just getting started and saw a nurse performing CPR, pounding on a patient's chest, I could foresee the outcome, and it wasn't a good one. Sometimes the patient makes it, but most times they don't.

The buzzing continued. IVs were started here and there, vital signs taken, defibrillation initiated, medications were given to jumpstart the heart again, but to no avail, and the nurse resumed CPR. I saw the beads of sweat drip down his face, as he performed the procedure. Even for a man, CPR is a very labour-intensive activity and so I offered to take over for him. We switched positions and I initiated CPR, essentially where my compressions acted like the patient's heartbeat, pulsing blood through the vessels to maintain adequate oxygen perfusion to the vital organs, namely the brain. Within seconds I began to silently pray in my head that a blanket of peace would wrap around the family members.

I continued to compress the patient's chest and the family members were let in to see their loved one. A fully-grown daughter and son, likely with children of their own, came to hold their parent's hand. They teared up slightly at the ghastly sight laid out before them, but composed themselves for the sake of both their parent and for each other. "Don't give up," they pleaded. "Stay with us. Come on, stay with us." As I continued to repetitiously perform CPR, I resumed my silent prayers that no one else in the room knew I was doing.


The nurse and I spent the next 30 minutes switching on and off doing CPR. Medications continued to be given and defibrillation performed every few minutes—I sensed the room tension decreasing. All of which meant one thing: we've done all we can do. I looked at the doctor and we made eye contact. He nodded his head to me and I nodded back in understanding. I knew it was just a matter of time and I hoped that their hearts will realize it is time to say good-bye. Just then I heard the daughter whisper to her brother, "I think it's done. I don't think this is working anymore." My heart ached for them. These two children would be losing their parent tonight.

I continued CPR and watched, almost in slow motion, as the doctor approached the man and woman. In a soft voice he ex-

plained all the things we had done in the trauma room and ended the explanation with, "I'm so sorry. We've done everything humanly possible to help and there is nothing more we can do." The sister and brother simultaneously agreed and, with that, the doctor asked everyone to stop treatment.

The room became silent, the activity abruptly halted and you could hear the burst of heart wrenching weeping throughout the corridors of the emergency department. The daughter and son turned and held one another as though they would never let each other go. Seconds later the patient's spouse arrived along with numerous other family members. Hearing a spouse's guttural cry, as they realize their beloved has passed away is something you never forget as a nurse. It raises hairs on your arms and pierces through all sounds in a busy emergency room. It cuts at the core of who you are and you see the immediate result of loss. Someone has lost a spouse, a parent, a sibling, a friend and now they must begin a healing journey of picking up the pieces.

We, as nurses, help form the jigsaw puzzle with our expertise, but never know the outcome until it happens. Sometimes the puzzle pieces link together smoothly, in perfect accord creating a beautiful picture of healing, health and vitality. Other times, such as these, the puzzle pieces join together and the outcome may not have matched with the picture on the box. The final pieces were placed together etching a scene in my head I'll never forget of a patient passing into the spirit realm surrounded by their dearest loved ones standing at the bedside. It's never the final puzzle result we want, especially since we did everything we could as medical professionals. We always strive for the best outcome. In this situation, at least I know I was a small piece of that jigsaw puzzle and I did my part from a scientific, and medical standpoint, but I also made a difference by supporting the family as much as possible.

The family may never know what we did in that trauma room. They may never understand the medical procedures we performed or the physiologic process of the cells deteriorating. No matter what, we do whatever we must in order to help our patients and that often goes unnoticed. But that's okay with me. I know I did my part and I choose to trust that the final jigsaw puzzle picture turned out the way it was supposed to, regardless of whether I understand it or not. 

About the author



Darla has been an emergency nurse working in Abbotsford, B.C., since 2008, and finds joy in balancing work with home life as a wife of 10 years and mom to two beautiful children, Chase and Raya. Darla began to hone her passion for writing as she chronicled her years as a student nurse developing into an emergency staff nurse through her blog www.runningwildly.blogspot.com

NEHA CONFERENCE 2011

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**Ramada Hotel and Conference Centre
Regina, Saskatchewan
APRIL 29–MAY 1, 2011**

**Welcome to the National Emergency Nurses' Affiliation Conference 2011
Hosted by Saskatchewan Emergency Nurses' Group**

**Emergency Nursing!
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Friday, April 29

1630–2030 **Registration**

The Exhibit Hall will be open. Please visit our sponsors.

1830–2130 **Meet and Greet**—Please join the NENA Board and NCAC for light refreshments.

Saturday, April 30

0700–0800 **Registration and Breakfast Buffet**

0700–0800 **NCAC Breakfast for Course Instructors and Directors**

(Please sign up with registration.)

0800–0900 **Opening Remarks**

0900–1015 **Keynote Address:**

The History of Nursing—Sandra Bassendowski

1015–1045 **Coffee** (Exhibit Hall opened)

1045–1145 **Breakout Sessions**

Fluid Resuscitation in the Pediatric Patient—Colleen Brayman

Assessing for Delirium in the Elderly—Mohamed Toufic El Hussein

Nurse Practitioner Roles in Saskatchewan—Dalmar Lynds

1145–1345 **Lunch and AGM**

(Exhibit Hall closed during the AGM)

1400–1500 **Breakout Sessions**

Technology in Education—Sandra Bassendowski

Attitudiology 101—Anne-Marie Papa

E-mc2: Accelerating Excellence in Saskatchewan's Health Care System—

Bonnie Brossart

1545–1700 **Keynote Address:**

Patients and Families at the Centre of Care

Saturday evening

You do not want to miss this special event which will capture the spirit of the rich prairie past and provide an opportunity to really enjoy the present with nursing colleagues. You'll enjoy a great steak, cooked uniquely in a pitchfork fondue, followed by comic entertainment by Andrew Grose. Buses will begin loading at 1730 hours to transport to the RCMP Heritage Centre. Supper will be served at 1830 hours. Following the off-site activities, there will be a cabaret and midnight lunch at the Ramada. Tickets must be purchased two weeks in advance.

Sunday, May 1

- 0730–0830 **Late Registration**
- 0730–0845 **Breakfast Meeting Plenary Session**
(Exhibit Hall Opened)
The HIGHNEE: A Review of Lessons Learned from H1N1 2009 in Canada—
Valerie Pelletier and Landon James
- 0900–1015 **Keynote Address:**
*Stretcherside Chats—*Anne-Marie Papa
- 1015–1045 **Coffee**
- 1100–1200 **Breakout Sessions**
*CT Angiograms—*Dr. Andrea Lavoie
*Bariatric Surgery—*Dr. Steven Pooler
*PICCS, TICS, and Other Sticks—*Dr. Shante Lala
- 1200–1300 **Lunch** (Last opportunity to visit the Exhibit Hall)
- 1300–1415 **Keynote Address:**
How to Fit a Heart Attack into Your Busy Schedule!—
Philip Jones
- 1430–1530 **Breakout Sessions**
Advancing RN Practice Through SUN Government Partnership—
Rosalee Longmoore and Lynn Digney-Davis
The Manitoba Emergency Nurses Retention Research Project—
Jo-Ann Sawatzky
Ultrasound Guided IV Insertion—
Jane Daigle and Heather Peddle-Bolivar
- 1545–1645 **Breakout Sessions and Coffee on the Go**
Family-Centred Care in the ER—
Pam Holberton and Jacqueline Joosten
*Utilizing Innovative Strategies to Improve Patient Care & Flow Through the ER—*Holly Crowe
Medical Legal Risks of Emergency Nursing—
Chris and Paula Mayer
- 1700 **Closing Remarks**

Safe travels...
See you next year in Halifax!

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Conference information

Conference registration

Registration forms are available on the NENA website at <http://nena.ca>. Registration may be done online at <http://events.nena.ca> with PayPal payment or may be completed online and printed and sent with payment to:

MariElena Guerrero

4647 Ellard Court, Regina, SK S4X 0B3

Phone: 306-586-3920

Email: nena2011@seng.ca

NENA member discount

NENA members will receive a \$75 discount on the registration fee. You may join at time of registration.

Members of NENA or CACCN: \$375.00

Non-Members: \$450.00

Students: \$175.00

Saturday Entertainment Package: \$30.00

Registration includes morning and noon meals and coffee breaks, admission to the Exhibit Hall, and all conference materials.

Registration cancellation policy

Cancellations received at nena2011@seng.ca prior to April 12, 2011, are subject to a \$75 processing fee which will be deducted before a refund is issued. If you are unable to attend, you may transfer your registration. Please advise MariElena Guerrero.

SATURDAY NIGHT:



Comedian Andrew Grose

In addition to more than 19 years of performances around the world, Andrew's credits include Comedy Now, Comics! and multiple Just For Laughs Television Galas, three episodes of Comedy At Club 54, three Madly Off In All Directions, and six CBC

Debaters. He can be heard every weekday on Alberta's 630 CHED, co-hosting the Afternoon News.

Cost is \$30 per person for supper, entertainment and transportation to the site and back to the Ramada for the cabaret. The charge for guests with conference attendees is also \$30.

Transportation from the airport

Taxi and commercial shuttle service is available from the airport for a reasonable charge.

Hotel reservations

The conference site is located in downtown Regina, a convenient walk to fine dining, shopping and entertainment at Casino Regina.

Ramada Hotel & Convention Centre

1818 Victoria Avenue

Regina, Saskatchewan S4P 0R1

Registrations: Toll free 1-800-667-6500

Local 306-569-1666, ext 7200

Email: regina@saskramada.com

Conference hotel room rate

Conference Rate: \$129—134 + taxes single/double

After March 25: \$159 + taxes

A major credit card will be required to hold your room reservation with a one-night deposit. A limited number of rooms at conference rates are available through March 25, so register early. Please quote reference number **14760 or National Emergency Nurses** when registering for special pricing.

Check-in time is 1600 hrs; check-out is 1200 hrs.

Rooms can be cancelled up to 1600 hrs on the day of arrival.

Please advise the hotel at the time of registration.

The Ramada features many amenities:

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Injury documentation: Using the BALD STEP Mnemonic and the RCMP Sexual Assault Kit

By Cathy Carter-Snell, RN, PhD, ENC-C, SANE-A, Forensic Studies Program, Mount Royal University, Calgary AB

Abstract

Injury assessment, nomenclature and documentation vary widely across emergency departments. The Royal Canadian Mounted Police (RCMP) has forensic laboratories across Canada and performs the majority of testing of evidence for Canadian victims of sexual assault outside of Ontario or Quebec. Most emergency nurses are familiar with the large box the RCMP officers bring for the documentation and collection of evidence after sexual assault. Fewer are familiar with the inner contents of the kit or documentation. The sexual assault kit and documentation are now undergoing change, with a new kit soon to be released. The RCMP forensic laboratories identified the need for kit changes due to equipment updates and research related to quality and best practices. Some health care professionals across the country and representatives of Making a Difference Canada were consulted for suggestions on documentation and kit contents. Mount Royal University's Forensic Research Network (www.mtroyal.ca/forensicrosearch) will be developing free educational materials on the kits and use of contents in preparation for the release of the new kits (hoped to be late 2011, but not yet determined). In the meantime, the focus of this article is to introduce emergency nurses to a few key changes in documentation and evidence collection they may anticipate. The largest of these changes is the adoption of a mnemonic phrase to aid in standardization of injury documentation and assessment known as BALD STEP.

Assessment and documentation of injuries and physical findings after an examination are extremely important, both to provide a baseline for determining care priorities and for potential legal proceedings. Presence of recorded injuries is a key factor in sexual assault prosecution even though at least 1/3 of women have no injuries at all after sexual assault (Carter-Snell, 2007). A major challenge in injury documentation is inconsistencies between departments in the types of injuries recorded and the terms used for the injuries. The rates of injuries reported, therefore, vary. Rates of non-genital injuries across sexual assault studies range from 23% to 76%, and genital injury rates from 5% to 85% (Carter-Snell,

2007). Not everyone included redness, swelling, or tenderness in their list of injuries in the research, often due to inconsistencies in quantifying these for research purposes. Another source of variation was in the techniques used to visualize injuries. Rates of genital injury were three times higher in the studies where the examinations were conducted by sexual assault nurse examiners (SANEs) compared to emergency physicians. The studies involving emergency physicians did not include aids to visualization like toluidine or colposcopy, while most of the SANE studies did include these aids. Experience with sexual assault examinations has also been linked to injury identification. Not all emergency physicians have experience with sexually assaulted patients. In contrast, most emergency physicians are experienced with body trauma assessment. In the same systematic review, the rates of non-genital injury were twice as high when assessed by emergency physicians compared to the rates in studies with SANE assessments. The review also showed incorrect and inconsistent terms in use for the same injuries (e.g., bruising and ecchymosis; cut and laceration). The use of a standard range of potential findings and consistency of terminology will allow us to better understand rates of injury with sexual assault or intimate partner violence and will provide a guideline for assessment among those staff who do not conduct these examinations regularly. This was the objective when looking to improve the RCMP documentation, and the advisory group and the RCMP laboratory decided to adopt the BALD STEP mnemonic developed by Carter-Snell in 2005 to teach forensic assessment.

BALD STEP mnemonic

Sexual assault nurses have often used the TEARS mnemonic (Girardin, Faugno, Seneski, Slaughter, & Whelan, 1997; Slaughter, Brown, Crowley, & Peck, 1997) to represent tears, ecchymosis, abrasions, redness and swelling. While this has been useful as a beginning standard, it omits a number of key injuries or physical findings and uses terminology that is now outmoded (ecchymosis and tears). One of the patients the author vividly recalls identifying as a victim of violence was brought in to emergency by her husband—she held up two misshapen wrists, each with parallel linear red marks across them. When asked what happened, her husband stepped in to tell us she had slipped on a bald (worn) area of carpet on their stairs in their home and had fallen all the way down. Her x-rays revealed bilateral fractured wrists and, combined with the bruises to her wrists, the history and localized injuries did not match the pattern one would expect if she fell in that manner. The need for an index of suspicion, comprehensive injury assessment, and the reminder of this woman combined to form the BALD STEP mnemonic as shown in Figure 1. The mnemonic can be used for assessing any emergency patient who sustains assault or trauma.

Most of the findings in BALD STEP are injuries from blunt mechanisms (bruises, abrasions, avulsions, lacerations, deformities, swelling, tenderness and erythema and petechiae). Penetrating injuries and mixed injuries (i.e., bite marks) are also

BALD STEP Mnemonic for Physical Findings	
B BI bitemark	S SW swelling
BL bleeding	ST stain (+ FL if Fluorescent)
BR bruise	T TE tenderness to palpation
BU burn	TR trace evidence (+ specify type)
A AB abrasion	E ER erythema
AV avulsion	P PA patterned (draw shape)
L LA laceration	PT petechiae (draw region/spread)
D DE deformity (acute)	PE penetrating (+ I incised, S stab, P puncture, G known gunshot)
Indicate characteristics (e.g. shape, size, colour) beside each injury	
Carter-Snell, C. (2011). Snellconsulting.org OR cartersnell@shaw.ca. May be reproduced.	

Figure 1. BALD STEP Mnemonic

included, as well as patterned injuries. The mnemonic also includes physical findings that may be of relevance such as bleeding, trace evidence and stains. Some key points regarding these findings are summarized in the following sections.

a) Bruising and blunt force

Bruises and tenderness are often found after blunt force trauma. Bruises vary widely in appearance, both in colour and in patterns. They may be deep and not appear on the surface of the skin for two to three days, or may be red, blue, or purple if relatively fresh. There is no reliable way to age a bruise since factors such as age, metabolism, skin condition, medications and body temperature can all affect the progression of bruise colours and appearance. Careful documentation of the colour is important, however, as an expert may be able to interpret these findings to some degree. For instance, if yellow is present the breakdown of hemoglobin has begun and the bruise will be at least 18 to 24 hours old (Bariciak, Plint, Gaboury, & Bennett, 2003; Langlois & Gresham, 1991; Mosqueda, Burnight, & Liao, 2005; Stephenson & Bialas, 1996). On the other hand, some bruises never turn yellow, and a blue or purple bruise may still be as old as or older than another person's with yellow present. Patients should be reminded that the appearance of a bruise will change over time and if they find new bruises or they worsen in appearance they should return for reassessment and documentation or have the police photograph the new injuries.

Erythema (redness) is considered a non-specific finding rather than an injury, as it may be caused by many mechanisms other than trauma. Some aspects of redness may suggest, however, that it is an injury in its early stages. These include redness that does not disappear with repositioning or with application of pressure, tenderness to palpation, location in an area consistent with the patient's history of contact, patterning, or if it is focal (localized to one spot) rather than generalized.

Deep bruises may only be noticed by the presence of tenderness to palpation in some cases. Tenderness is considered more objective than reports of pain, since tenderness is determined by the patient's reaction to palpation such as grunts, grimaces, groans or withdrawal. Pain is self-reported and does not involve touch. Only 18% of women with physical injuries reported having any pain across the research, while 47% had tenderness to palpation (Carter-Snell, 2007). It is, therefore, very important to include palpation for tenderness in the assessment and documentation, as well as gross visual inspection from head to toe.

The terms "bruise" and "ecchymosis" should not be used interchangeably. Although their end result is the same (i.e., leakage of blood into the interstitial tissues), the mechanism is quite different. Ecchymosis is now recognized as being from medical reasons such as vascular disorders that affect the movement of blood out of the blood vessel walls (Sheridan & Nash, 2007). In contrast, bruises are the result of blunt forces being applied to the area, mechanically disrupting and damaging the blood vessel walls.

b) Swelling, compression or application of significant force

Application of blunt force may result in swelling. This is another non-specific finding, as swelling may be from multiple factors. Swelling is difficult to quantify reliably between staff—what is significant swelling to one nurse may be moderate to another. For

this reason, swelling is generally excluded from injury research. It does not mean, however, that it is not to be documented or is unimportant. Like erythema, swelling may be an indicator of trauma, particularly if it is focal or consistent with the location of trauma.

Petechiae are collections of small red spots usually less than 1 mm to 2 mm in diameter (Gall, Goos, Payne-James, & Culliford, 2003). These are the result of the rupture of venules, typically from compression such as strangulation or having a heavy object on top of the body. Petechiae will form in any area above the compression, particularly in mucous membranes such as the mouth or eyes. For instance, patients who were trapped under debris and heavy equipment in a tornado showed patches of petechiae in all areas above the area of compression. In areas where the capillaries and venules are close to the surface with little superficial tissue you may also see petechiae with blunt trauma (e.g., on the cervix with impact of the penis), or with suction (e.g., "hickeys"). Petechiae do not blanch when pressure is applied. Other non-trauma causes of petechiae should be ruled out such as subconjunctival petechiae seen with vigorous coughing, side effects of marijuana use, fat embolism, radiation, bone marrow malignancies, viral infections or platelet abnormalities.

Bones may fracture if sufficient force is applied in comparison to bone strength. Diagnosis of fractures is out of the scope of most nursing practice and typically requires x-ray confirmation. During assessment of closed fractures, however, nurses may notice an acute deformity of the bone or joint and with palpation we may even feel a bump or "step" (a "step deformity"). In the BALD STEP we are referring only to acute rather than chronic deformities or disabilities.

c) Breaks in skin integrity

Breaks in skin integrity may result in increased risks of infection for the patient and may affect decisions regarding prophylaxis such as HIV medications. Examples of injuries include abrasions, avulsions, lacerations, and penetrating injuries.

An abrasion is the most superficial of the breaks in skin and is the result of blunt injury. The top layer of skin (epidermis) are removed either from pressure such as being held, or from friction such as fingernails or movement across a rough surface. Typically there is little or no bleeding unless deeper dermal papillae are disrupted. Underlying tissues such as connective tissue remain intact.

An avulsion results when skin or tissue is peeled back. Examples of avulsions are removal of toenails if the foot is caught, fingernails being removed by an abuser, teeth being removed or part of the scalp being peeled back if hair is caught in machinery.

A laceration is from blunt forces. It occurs when the tensile strength of the skin is exceeded. This may be from too much force or fragile tissues (e.g., thinning layers or loss of connective tissue with aging). The edges of the skin literally tear apart. Characteristics include ragged, uneven wound edges and often cross-bridging of hairs or connective tissue in some parts of the wound. There may be abrasions at the wound edges and debris. Lacerations are often incorrectly called "cuts" by emergency staff, but the mechanisms are quite different. Genital lacerations are typically quite small (e.g., 0.5 cm to 1 cm) on the fossa navicularis or posterior fourchette and may sometimes be missed if not

familiar with their appearance. Application of toluidine 1% dye to the area is helpful to confirm the presence of lacerations. After swabs of the labia are obtained for the kit, the dye is applied to external genital regions with a cotton-tipped swab, or is available in pre-loaded applicators (National Forensic Nursing, 2006). The dye is taken up by exposed nucleated cells that are underneath the epithelium when skin is torn. Abrasions do not generally extend into the nucleated layers, so do not typically take up the dye unless deeper. After 60 seconds the dye is removed gently from the area either with either water-soluble lubricant or 1% acetic acid wash and wiping gently with gauze. Any areas of concentrated deep purple are most likely lacerations. If diffuse pale purple colouring remains despite attempts to remove it, this is likely a non-specific finding, as there could be many causes for it such as irritation (e.g., panties, yeast infections).

Penetrating injuries are most often either incised (cut) or stab type wounds. Both have more even edges and, if deep enough, will cut through connective tissue. There is usually some bleeding although it may be dried by the time of arrival. An incised or cut wound is wider than it is deep, as the knife cuts across the skin. In contrast, a stab wound is deeper than it is wide, with the penetrating object going deeper into the tissue. There may also be markings of the hilt of the knife or handles around the opening. Gunshot wounds will differ in appearance depending on the type of weapon, the type of ammunition and the distance between the weapon and the victim. If closer contact, there may be a burn around the point of entry and a more symmetrical penetrating wound. With more distance, there is often tattooing of gunpowder or shot and the wound is a little less symmetrical. At far distances, there may only be a slit or could be only buckshot spread and no central wound visible. Even experienced trauma surgeons mislabel exit and entrance wounds (Apfelbaum, Shockley, Wahe, & Moore, 1998). This can lead to incorrect conclusions and even convictions, so these terms should be avoided. Simply describe the wound characteristics and leave it to the experts. It may also not be known that a gun was involved if the patient was brought in unconscious and the wound is not obvious. In that case, call it either a stab or puncture and carefully describe the characteristics.

d) Other findings

Trace evidence may be on the patient's body or clothing. Examples include loose hairs or debris. These should be collected and placed into a paper envelope. Sharp debris such as glass or a needle should be placed in a container that won't puncture such as a urine container. There may also be stains visible on the skin. If these are dry and there is residue, you may be able to scrape the residue into a paper envelope with a tongue depressor or microscope slide. If not, then use a wet swab to wipe the entire stain area and store it according to the kit directions. If the stain is wet, a dry swab can be used.

Some departments have an alternate light source (>400 nm wavelength) or an ultraviolet light (<400 nm). Ultraviolet lights will fluoresce with many non-relevant substances so are of little value. Alternate light sources are of some value, but not essential. Under certain circumstances semen stains may fluoresce if a wavelength greater than 450 nm is used (Nelson & Santucci, 2002). Absence of fluorescence, however, does not mean semen stains are not present. The area should still be swabbed if there is a history of ejaculation, sucking, biting or licking in that area. Ultraviolet and alternate light

sources have also been shown to sometimes reveal deep bruises and bitemarks that are not visible in ambient light (Golden, 1994; Lynnerup, Hjalgrim, & Eriksen, 1995; Vogeley, Pierce, & Bertocci, 2002). If an ALS is available, the head-to-toe examination should be conducted first with the ALS in a darkened room to allow taking wet/dry swabs of any stains that fluoresce before they may be disrupted with palpation. Then the head-to-toe examination is repeated with inspection and palpation with the room lights on.

Bleeding should also be noted from any site, including whether it is active or dried. It is also helpful to note any signs of healing such as serous fluid, granulation tissue or scar tissue formation. This information will help an expert to interpret the injuries.

Burns may be thermal, electrical or chemical. Regardless of the cause, there will be some disruption to the skin. There may be erythema, blistering, or loss of various thicknesses of skin, ranging from partial superficial or partial thickness to full thickness. Look for symmetry of burns, clear lines of demarcation such as water lines or patterned burns. These may suggest non-accidental burns.

Documentation with BALD STEP

The key principle in injury documentation after trauma or assault is to remain objective. Only chart the injuries (e.g., BR, AB) or findings and relevant characteristics such as colour or size. Avoid interpreting the injury (e.g., "fingertip bruises" or "fresh bruise") or cause of the injury (e.g., "slap" or "belt") even if the patient has indicated the possible object. This is for the experts to interpret if qualified by the court. It is also important to avoid subjective determinations such as "small", "moderate" or "large"—instead provide measurements, landmarks or comparisons to a bilateral part. For instance, when explaining a swollen eye, perhaps describe how much farther forward the eyelid protrudes than the non-injured eye or measure the differences in wrist size with a swollen wrist.

The new RCMP documentation will have the BALD STEP mnemonic appear on the same page as the body Traumagram to act as a key. An example is shown in Figure 2, although the final version on the RCMP documents may differ slightly. The first few initials of each finding are used as a way to shorten documentation while ensuring all findings are included. Any additional characteristics can be added beside the initials such as size, colour, shape, or signs of healing. Although it is only included on the body Traumagram the BALD STEP mnemonic is also applicable to the genital Traumagram or other detailed Traumagrams available (e.g., hand, face).

Consistency of documenting all findings is important. Some findings clearly occurred prior to the assault or trauma, such as a fully healed scar or a tattoo and can be recorded as such. The extent of documentation of characteristics required in your department will depend on local procedures. Some departments choose to indicate the finding and write "old" beside it, and not include measurements or characteristics. Invariable nursing practice should then be that if the term "old" is used, the patient has indicated that the injury or finding was there prior to the assault (e.g., BR-old). Similar practice can be used for scars or tattoos—note location but not size.

The advantage of the BALD STEP mnemonic is that it reduces charting while increasing the breadth of injuries and physical find-

ings you include in the assessment and standardizing charting. There is no need to include negative charting. Narrative charting is only required if further explanation is required rather than repeating each injury identified. In the narrative charting you may simply state, "Inspected and palpated from head to toe in ambient light, BALD STEP findings are shown on Traumagram." This will reflect that you assessed for each of the findings and only recorded those found. The same may be done with the genital exam. Make this your invariable practice and you will only need to use narrative notes to record any deviations from this practice.

There are a few clarifications related to the use of the BALD STEP abbreviations to note:

- **Patterned injuries:** include the abbreviation beside the appropriate injury (e.g., BR-PA) and the characteristics such as size, shape, colour of the injury. If there is a patterned injury then draw it onto the Traumagram, indicating PA beside it and the type of injury (e.g., PA-BR) and the dimensions along with other characteristics. Examples would be a bite mark shape, an oval injury or a crescent shape. If the pattern won't fit on Traumagram, note the location and draw a box on the white space in which you can re-create the pattern, then clearly note the dimensions and other characteristics within the box. Patterned injuries approximate the shape of an object although may not be exactly the same due to differences in skin, dispersion of blood and tissue compression. Pattern of injury is not the same as patterned injury. Pattern

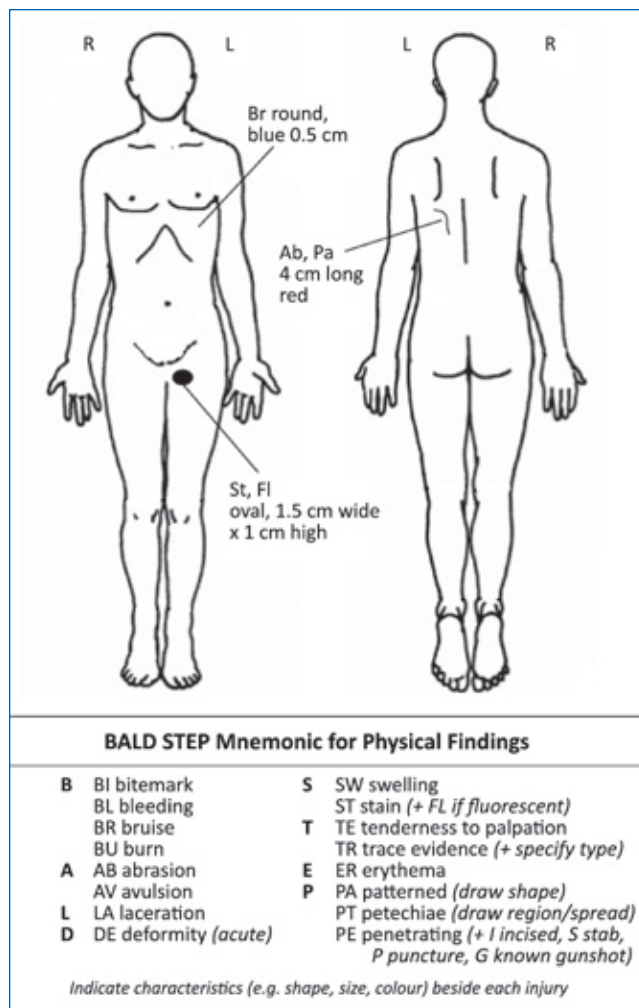


Figure 2. BALD STEP and the Traumagram

of injury is a collection of injuries that would be expected given the mechanism and guide the focused assessment (e.g., with a fall from heights you expect spinal injury and injuries at points of impact; with strangulation you expect petechiae, difficulty swallowing/hoarseness, potential loss of consciousness and incontinence). You may use cross-hatching on the diagram to indicate the area of spread of injuries such as petechiae, erythema or patterned injuries.

- **Stains:** may be visible in ambient light. They would be recorded as ST with descriptions (e.g., colour, size, shape). If the stain or bruise is only seen when it fluoresces with a light source then it would be ST-FL or BR-FL.
- **Lacerations:** if using toluidine to help confirm presence of genital lacerations or bite marks to the breast then it should be noted if the laceration is seen with or without the toluidine or both. An example would be "LA-with & without toluidine" or "LA-only with toluidine."
- **Penetrating injuries:** are noted on the RCMP documentation, but the associated descriptors do not appear to be included: I for incised, S for stabbed or P for puncture (could add G for gunshot). You can document one of two ways: write these descriptor initials and their meaning onto the Traumagram and record as PE-I, PE-S or PE-P; or on the Traumagram write PE-incised, PE-stab or PE-puncture. Again, include descriptors such as burns or abrasions on edges, size, and bleeding.

It is likely that sexual assault teams with existing documentation and consent forms may be able to continue to use their own documents, as long as the evidence is catalogued and principles are maintained. Some teams have more extensive consents and have already incorporated the BALD STEP mnemonic. There are concerns that for those teams who have not incorporated the BALD STEP there will continue to be variability in the range of injuries and findings recorded or the terminology.

The RCMP kit also comes with useful labels to use for any documentation or evidence. Each label in a kit has a unique number and numerous labels with the same number. These are placed on documents, evidence records and evidence samples to ensure they can be identified and linked to the patient.

Proposed contents of the RCMP kit

There are a number of other changes to anticipate with the kit. Although not all recommendations were implemented from the advisory group, the kit will offer a number of key improvements. There are discussions of developing an end-user evaluation to seek your input as you use the kits and that further changes may be made. The main purpose of the kit changes were for the laboratory to simplify the range of evidence collected, to ensure procedures are based on maximum recovery of evidence and best practices and to standardize evidence collection and equipment. It has not been decided whether those teams who have their own kits (e.g., urban centres) will be able to buy the same equipment for their own kits or whether they will have to buy the entire RCMP kit.

A sexual assault kit can only be sent to the forensic laboratory if authorized by the police. Some departments have storage and procedures to collect kits on all assault victims and store them until the victim decides if they want to report (e.g., "third option" or "anonymous kits"), but the police will still need to be involved

for the kit to be analyzed. Regardless of the situation, informed consent must be obtained from the patient to conduct a physical examination for effects of assault, to collect evidence and samples, and to share information with the police if involved.

Two key points in evidence collection include avoiding contamination and chain of custody. Always wear gloves and change them frequently, as even a minor break can cause your own DNA to be detected and replicated millions of times in the laboratory! Do not allow samples from different regions to touch each other to avoid cross-contamination during evidence collection. Chain of custody is established if you can account for everyone who has had contact with the kit and the whereabouts of the kit at all times. Once the kit is open, it must remain with you and be visible. If you step out of the room, take the kit with you or assign a teammate to remain with it so there can be no question of someone inserting something into it or altering the evidence. The officer should not be in the room during the physical examination due to privacy of health information, but will have concerns about chain of custody. Assuring police that chain of custody will be maintained is important. Once the kit is complete, hand it directly to the officer. You (or the physician conducting the examination) will review the samples contained in the kit with the officer and sign for transfer of these on an evidence record.

It is important to use the history of the assault to carefully direct your head to toe examination for injuries and to select which samples will be collected—not all are needed with each patient and may cause unnecessary distress. If the patient changed their clothes between the assault and now, there is no need to include clothing. If there was no history of anal or oral penetration, you may not want to do the rectal swab or the oral swab respectively. It is important, however, to collect the sample anyway if the person was unsure of contact (e.g., breast sucking, anal penetration) due to intoxication or unconsciousness.

The proposed contents of the new kits are as follows:

- Paper bags for clothing that may contain evidence (e.g., panties)
- Sterile plastic vials for debris on body
- Swabs for stains, bite marks—the type of swab used (“Cap-Shure”) allow for air flow through and around the lid so some air drying of sample occurs within the container
- Paper envelope for cut scalp or pubic hair samples (ONLY cut if there is debris on hair such as semen)
- Sticks for scraping under fingernails (right and left hand) if there is a history of the patient scratching the assailant and paper to place under the hand while scraping, then bundle with the stick
- Swab for oral sample of teeth/gum line IF there was a history of oral-penile penetration. Once this swab has been taken the patient can drink or eat if there are no other medical contraindications
- Lancet, FTA paper, dessicant, Mylar envelope, and non-alcohol cleansing wipe to obtain the DNA blood reference sample from patient with a finger prick after cleansing site. Only one of the quarter-sized circles on the FTA paper needs to be filled (an alternate is to use a butterfly/scalp vein connector for venipuncture if other samples are required and then to fill the FTA circle with the blood remaining in the tubing). The FTA paper is placed in the envelope with the dessicant

- White paper and a comb with embedded cotton batting for pubic hair combing—the paper is placed under the patient’s buttocks and comb down once on each side (if there is pubic hair). Fold the comb inside the paper to enclose any debris or loose hairs that may fall onto it and place in the accompanying envelope. If a blood sample cannot be obtained either through venipuncture or finger prick then a buccal swab may be obtained as long as there is no history of oral-penile penetration. For a buccal swab, take one of the extra swabs supplied and rub it on the inner cheek on each side to obtain epithelial cells. Plucking of hair is no longer used, as we are generally able to get the reference DNA from either blood or the buccal swab.
- Swab for external genital region (labia)—RCMP have labelled as “outer vaginal” but actually mean the labia. If the area is dry, moisten a swab and wipe down either side of the labia.
- Swabs to take two duplicate vaginal wall samples—hold together and swab the walls of vaginal, across cervix and down into posterior fornix region (the cervix traps sperm and the fornix is an excellent reservoir)
- Vaginal smear and slide to take a smear using the duplicate vaginal swabs (both the swabs and the slide are returned to the lab). Do NOT disturb smear by using a microscope to examine it. Motility testing or vaginal wash samples are no longer obtained
- Anal swab for exterior anal region—helpful even if only vaginal penetration is reported as 30% of women have positive swabs although reporting no anal penetration
- Rectal swab—this must be obtained from above the pectinate line, the line just above the lowest 1/3 of the anal region where the keratinized epithelial tissue changes to mucosa/columnar epithelium. This is best exposed with the patient bearing down, dilating the anus.
- Documentation (NCR copies): consents, sexual assault history (provides areas of contact, recent consensual activity, activities since assault), sexual assault interview (appearance, timing of kit collection and emotional state, details of assault, excited utterances); forensic evidence record (types of samples collected and initials of officer, examiner); body Traumagram; genital Traumagrams (male/female); head/neck and hand Traumagrams if further detail is required or injuries won’t fit on body Traumagram; medical practitioner’s guide with instructions for personnel.

Some of the key items discontinued from the kit are the plastic garbage bags, the drop sheet and the equipment to collect plucked hairs. The plastic garbage bags were removed as plastic increases the risk of DNA degradation, especially if there are moist samples of clothing or swabs. Also removed is the “drop sheet”—the sheet the patients stood on as they undressed to collect trace evidence. There was very little yield with this practice in terms of evidence and the practice has been discontinued. Certainly if there was reason to suspect trace evidence on the clothing (e.g., broken glass, debris), the emergency staff could have the patient stand on a paper and include that in the kit if desired.

The technique for the bite mark swab collection has also been modified. The original technique called for two swabs—one moistened with water rolled over the teeth indentations and immediately followed by rolling a dry swab over the area. The water was found to “wick” the DNA upward from the indenta-

tions and then can be picked up by the dry swab. Only one swab is used in the new RCMP kit. Take one of the extra swabs provided in the kit, moisten one side of the cotton applicator with water and keep the other side dry. This same technique can be used for any dry stain. Wet stains only require a dry swab.

A second kit will also be available for toxicology testing if the patient had voluntary or involuntary incapacitation with drugs or alcohol. This kit will include two grey-stoppered vacutainers containing sodium fluoride and potassium oxalate, non-alcoholic swabs (e.g., betadine) and venipuncture equipment, as well as two sterile leak-proof urine containers. The preservative in the grey vacutainers prevents degradation of toxicologic materials (e.g., cocaine) and reduces need for refrigeration after the samples are obtained (LeBeau et al., 1999). The urine can be collected in the urine containers, but samples will need to be refrigerated. A preferred alternative is to transfer urine with a sterile syringe and large bore needle into two more grey vacutainers to prevent degradation. It is very important to obtain the blood and urine samples at approximately the same time (no more than 30 minutes apart) to allow the laboratory to calculate metabolism and anticipate metabolites. There will also be a form for blood and urine collection that summarizes medications the patient has taken, their symptoms and the type of drug screen requested, if known. An understanding of clinical toxidromes is helpful for emergency staff to both document the relevant symptoms and to recommend a more focused screen.

Summary

The BALD STEP mnemonic provides a standardized way to collect a broader range of injuries and physical findings typically seen with trauma and assault. It aids in reducing charting while providing a more comprehensive range of factors for which we should observe. The mnemonic can be handwritten onto any Traumagram or emergency chart for use with other types of trauma or assault patients or if working in areas without RCMP kits and documentation. Standardization of terms and documentation improves our invariable practice and allows for improved comparison of injury rates and findings across emergency departments. A major gap in injury research and knowledge is an understanding of patterns of injury and severity classifications with different types of assault (Sommers, 2006). These patterns of injury will help us to better anticipate those who may have been victims of violence, such as the woman I encountered many years before. Use of standardized terminology and documentation, such as with BALD STEP, is necessary before this work can be advanced. The integration of BALD STEP with the RCMP kit is an exciting first step toward improving our understanding of trauma and injury. ✎

About the author



Cathy Carter-Snell has worked mainly with trauma patients most of her career, in both emergency and intensive care. She has worked in forensic nursing for 11 years and is a certified sexual assault nurse examiner and emergency nurse, frequently serving as an expert witness in court. Cathy has won an international research award for her dissertation on injuries

with sexual assault, and a centennial award from CNA for her contributions to Canadian forensic nursing. She has developed two online programs for nurses at Mount Royal University—the ACCN Emergency Nursing certificate and the Forensic Studies certificate. She continues to teach in these programs, conduct research with the Forensic Research Network, and is transitioning out of her role as president and co-founder of the Forensic Nurses' Society of Canada.

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A typical MVC with an atypical pattern of injury: Carotid artery dissection

By Margaret Dymond,
RN, BSN, ENC(C)

Case

A 49-year-old male involved in a head-on MVC at highway speeds of 100 km/hour arrives in a northern community emergency department (ED) by emergency medical services (EMS) at 1900 hours. EMS reports the patient was conscious on scene and complaining of neck and back pain. The patient arrives to the ED in spinal protection, oxygen per high flow mask, and one large bore intravenous (IV) running normal saline. The patient's vital signs are stable with a Glasgow coma score of 15 and no spinal deficits. The rest of the primary and secondary trauma survey are unremarkable. The patient's workup includes laboratory trauma panel, x-rays of the cervical, thoracic and lumbar spine, chest x-ray, and a pelvic x-ray. All investigations are normal. The patient is observed overnight in hospital and discharged the following morning in stable condition.

At 1400 hours the day following the MVC, the patient experienced acute onset of dizziness at home, fell to the floor, and was found to have left hemiplegia and hemiparesis, left facial droop, and expressive aphasia. EMS transported the patient to the community hospital for further assessment. Air transport was arranged from the local hospital to a trauma facility for assessment of the stroke-like symptoms following an MVC. The patient remained stable during transport with no resolution of the symptoms.

On arrival to the trauma facility, the patient was clinically stable. A computerized tomography (CT) of the head revealed a thrombus within the right middle cerebral artery (MCA) and an acute right MCA territory infarct. The patient was found to have bilateral carotid artery dissections on magnetic resonance angiography (MRA).

Introduction

Carotid artery dissection (CAD) is an uncommon injury in trauma patients. The symptoms may not present from hours to days post injury and should be considered in any patient who presents with a stroke-like syndrome following trauma. CAD following trauma may have significant morbidity ranging from transient focal deficits to cerebral infarction (Opeskin, 1997). Blunt carotid artery injury has been associated with a mortality of 20% to 40% and permanent neurologic deficit in 40% to 80% of patients (Opeskin, 1997). Carotid artery injury may not be associated with any outward sign of injury and may go undetected until the appearance of obvious

irreversible neurologic complications occurs. It may also be masked or misinterpreted in the setting of associated head or neck trauma.

Incidence

CAD occurs in less than one in 1,000 victims of blunt injuries according to one source (Davis et al., 1990). Another trauma facility documented CAD in eight of 2,024 patients (0.4%) incurring blunt force trauma (Laitt et al., 1996). Increased risk of this injury occurred in patients with head, facial, and cervical spine injuries (Davis et al., 1990). The actual incidence may be higher, as some dissections are asymptomatic or cause only minor transient symptoms and remain undiagnosed (Zohrabian, 2009).

Mechanisms of injury

The main mechanism is blunt trauma from high-impact forces, but CAD can occur from minor mechanisms of injury. Direct blow to the neck accounts for 50% of cases followed by neck hyperextension (Opeskin, 1997; Pica, 1995). Other mechanisms of injury include penetrating injury, wearing a three-point restraint seatbelt during an MVC, neck manipulation or strain (even yoga), intraoral trauma (mostly children), basilar skull fracture, and abdominal compression (Opeskin, 1997; Franges, 1986). See Table 1.

Pathophysiology

CAD starts as a tear in the inner lining of the arterial wall leading to hematoma and/or thrombus formation. Pseudo aneurysm formation in the ves-

Table 1. Common mechanisms of injury in carotid artery dissection

- Direct blow to the neck
- Neck hyperextension
- Penetrating injury
- Neck manipulation or strain
- Intraoral trauma
- Basilar skull fracture
- Abdominal compression

sel can also occur. These mechanisms occlude blood flow leading to lack of flow to the territory of brain supplied by the injured vessel resulting in an ischemia or infarction. Some patients have presented years later due to the development of intraluminal stenosis (Zohrabian, 2009).

Clinical presentation

Most patients have associated head and neck injuries. Of patients who have a diagnosis of blunt carotid trauma, only 6% of patients with CAD are diagnosed at the time of hospital admission, as the symptom onset can be delayed (Opeskin, 1997). Clinical findings common in carotid artery injury include Horner's syndrome (see Table 2), a lucid interval followed by decreasing level of consciousness, transient focal signs, hemiplegia or hemiparesis, and speech abnormalities (Zohrabian, 2009; Franges, 1986). Some patients may have evidence of physical trauma to the neck such as a hematoma or ecchymosis.

Table 2. Horner's syndrome

- Ptosis
- Miosis
- Anhidrosis
- Enophthalmos

Headache and neck pain may be present. Less common symptoms may include visual changes, pulsatile tinnitus, decreased taste sensation, and cervical bruit (Zohrabian, 2009).

Therapeutic approaches to treatment

The goal of treatment is to restore blood flow to prevent further ischemia or infarction. Therapeutic approaches to injuries of the carotid artery include both medical and surgical options ranging from observation, anticoagulation, carotid reconstruction or ligation, or extracranial bypass (Zohrabian, 2009).


Medical management includes management of blood pressure to prevent further compromise of blood flow, volume expansion to increase vascular volume and flow, and managing cerebral edema and increased intracranial pressure should these symptoms occur (Franges, 1986).

The patient's clinical course

The patient has no past medical problems. All laboratory tests were within normal limits including the 12-lead electrocardiogram. The patient was placed on Aspirin for secondary stroke prevention and referred to a rehabilitation centre for further care and management. The patient continues to have severe motor and

speech deficits. Re-imaging of the neck vessels will be required in the future to assess recanalization.

Summary

CAD is an uncommon injury seen in trauma patients. Signs and symptoms may not be clinically apparent for hours to days later. Any patient presenting with a stroke-like syndrome following a head or neck injury should have investigations to rule out a CAD. 

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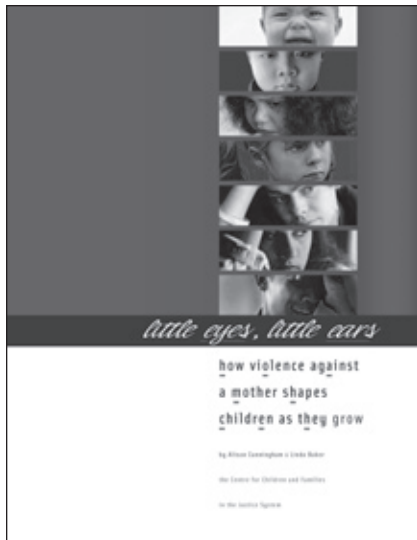
Little Eyes, Little Ears: How Violence Against a Mother Shapes Children as They Grow

By Sheila Early

One of the advantages of being an educator is that you are able to search out from a variety of sources materials that are extremely useful in clinical practice. Here is a short review of a document from the Centre for Children and Families in the Justice System,

Public Health Agency of Canada (2007), written by Alison Cunningham and Linda Baker. The document highlights the consequences when a child is a witness to violence in the family. Copies can be obtained from the National Clearing House on Family Violence or retrieved as a PDF at the site below.

**Little Eyes Little Ears:
How Violence Against a Mother
Shapes Children as They Grow**
http://www.phac-aspc.gc.ca/ncfv-cnivf/pdfs/fem-2007-LELE_e.pdf



Topics covered by the document include:

- Types of violence against women and children including spiritual abuse, which refers to ridiculing or punishing behaviours because of religious beliefs, not allowing practice of one's chosen religion or forcing unwanted religious practices on an individual, as well as the more familiar physical, emotional and sexual abuse
- Facts and figures on family violence from the General Social Survey of Canada (2004) and police statistics on violence such as in 2005, of the "658 homicides known to police, 62


women and 12 men were killed by current or former partners" (page 5)

- Unhealthy side effects of children witnessing violence against their mothers, such as "victims are to blame for violence" (page 7)
- Descriptions of what children may feel and think when they witness violence. One example given is that children may perceive that "if there is no blood or other signs of injury, Mommy is not hurt" (page 8)
- A very nice table describing what teenagers may think and feel when they witness violence, such as responsibility "I have to protect my younger siblings from this situation" (page 9)
- Discussion on myths and reality about woman abuse and children
- Effects of abuse on children from infants and toddlers to adolescents with its effect on normal development and what features of woman abuse are most distressing for each age group. The section on adolescents is most detailed on how home violence can be manifested in behaviours
- Description of the roles children may assume in the family such as "the perfect child"
- Disclosure and barriers to disclosure are discussed, as well as general reporting of child maltreatment guidelines
- A "how-to-help" section, which also includes references. One reference that is worth looking at is the Adverse Childhood Experiences study available at www.acestudy.org

- A very extensive list of resources and references, both Canadian and global.

The document also lists 10 ways a child can be changed by violence in the home (pages 10–11):

1. Children are denied a good father and positive male role model
2. Abuse can harm the mother/child bond
3. Children can develop negative core beliefs about themselves
4. Children can be isolated from helpful sources of support
5. Unhealthy family roles can develop in homes with domestic violence
6. Abuse destroys a child's view of the world as a safe and predictable place
7. Abuse occurs with other stressors and adversities with negative effects
8. A child's style of coping and survival may become problematic
9. Children may adopt some of the rationalizations for abuse
10. Children may believe victimization is inevitable or normal

I liked this resource because it was clear, concise and had very concrete examples of all discussion points. I would encourage all emergency nurses and those working in forensic nursing fields to read the complete document, develop a short in-service for your units from it, and take one more step towards recognizing that violence is a global issue that often starts in the home. We all need to play a part in violence prevention, both in our professional and personal lives. 



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