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

Volume 26, Number 2, Fall 2003

In This Issue:

Call for nominations: "president-elect" and "communication officer"

Are you interested in serving on the board of directors? Then read on - this year there are two available positions. The president-elect position is a one-year term preceding the presidential role, and the communication officer position is a two-year term. Both positions would begin following the annual general meeting in Charlottetown, PEI. The board of directors meets twice yearly. Both meetings are three days in length. Typically, the spring meeting, though, is held in conjunction with a regional or national conference, so time away from home is usually longer.

As president-elect you are a vital member of the board. You would be expected to assume the role of president if the current president were to resign. Other duties include: reviewing and revising (as needed) the policy manual, position statements, bylaws and preparing achievements and actions in the strategic plan. There may be other duties that would be assigned to you by the president.

As communication officer, you are expected to ensure the production and dissemination of the "**Outlook**" journal every six months. You will liaise with provincial communication officers to encourage members to submit articles, pictures, tips, etc., to the journal. You will establish and maintain a credit rating with a printing firm for the production of "**Outlook**". You will ensure that all invoices for the production of the journal are correct and are submitted to the NENA treasurer for payment. You will also maintain a liaison with NENA webpage designers to ensure updated information is displayed, and you will act as a contact resource for affiliation members who wish to use the website services. You will also assist with national and regional conferences by acting as a liaison between the conference committee and the board of directors.

Two NENA members must nominate candidates and the nominee must be a NENA member in good standing. A nomination form has been included for your use. Please forward completed nomination and curriculum vitae to Celie Walsh-Gallison. Her address is listed on the nomination form. Nominations for these positions may also be made from the floor at the AGM. Announcement of successful candidates will be made following the election at the AGM in Charlottetown, PEI.

Outlook

Nomination Form

NENA executive position

Positions:

- Communication Officer
- President-elect

We, the undersigned voting members of NENA, do hereby nominate:

_____

for the position of

_____

on the NENA executive.

_____

(nominee) is in good standing with NENA.

1. Name: _____

Date: _____

Signature of nominator: _____

2. Name: _____

Date: _____

Signature of nominator: _____

I, _____,

do hereby accept this nomination for the position of

_____

on the NENA executive.

Signature: _____

Date: _____

Please return this letter of intent and CV, by April 27, 2004, to: Celie Walsh-Gallison, Suffold Road, RR#3, Charlottetown, PEI C1A 7J7 fax: 902 894-2927.

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Send manuscript enquiries or submissions to: Valerie Eden, RN, ENC(C), Outlook Editor, 34 Bow St., Dartmouth, Nova Scotia, B2Y 4P6 e-mail: valeden@hfx.eastlink.ca

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National Trauma Committee
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(W) 709 292-2482; (H) 709 489-4164; e-mail: pwalsh@cwhc.nf.ca

President's message

The issues for emergency nurses are not only increasing in number, but also in severity. Without a doubt, throughout the recent SARS outbreak, the public has heard, seen, or been directly exposed to observing how often health care workers in general, and in particular those working in emergency settings, truly put their own health and safety at risk daily. Across the country, emotions were heightened to know that the risk to our colleagues was intensifying....then sadness and tears to know that we had lost dedicated, committed colleagues to SARS. Our thoughts and prayers are extended to families impacted during this time. At the same time, our professional commitment is to work together to ensure improvements in establishing and promoting safer working environments with appropriate protective devices, education, and standards of care.

The work of NENA and its focus are definitely directed by the membership and issues in emergency care. Through the last year, great strides have been made to develop practice standards, emergency nurse core competencies, an emergency nurse orientation template (soon to be distributed) and position statements in collaboration with CAEP (Canadian Association of Emergency Physicians). This work is based on being responsive to the needs of the membership. To strengthen communication, work is also underway to further the development of the NENA website. Expertise in emergency nursing is in each of the members, and what better resource than being able to ask a question and obtain feedback nationally?

I have had the honour to work with remarkable NENA executive and provincial directors as I attended board of directors meetings for the last two years as the Emergency Nurse Interest Group of Alberta president. NENA members and leaders in previous years have all contributed to where emergency nursing in Canada is today. I believe that it is also the responsibility of each of us to guide and direct emergency nursing, through professional involvement and support of those provincial directors who carry the voice of emergency nurses' concerns to a national forum and into the future. To promote change within our facilities, I would encourage each of us to utilize the NENA standards, position statements, competencies, emergency nurse orientation templates, and other documents prepared nationally. It is with great enthusiasm and determination that I look forward to the next two years as the NENA president and commit to working for our members and their patients.

Carla Policicchio,
RN, MA, BScN, ENC(C)

Introducing NENA's new president

Carla Policicchio is the NENA president for 2003 to 2005. Carla obtained her RN diploma from the Royal Alexandra School of Nursing in 1976 and has had a career based almost entirely in emergency nursing. Following a year as a staff nurse in emergency at the RAH, she returned to university and obtained her BScN with the focus being to become a clinical educator. She has since also completed a Master in Nursing (1992) concentrating on emergency nursing. Carla has held numerous positions within emergency during her career: emergency nursing instructor (RAH School of Nursing), clinical educator, contract lecturer with Health Sciences Outreach with Grant MacEwan College, joint appointment at the University of Alberta, educational nurse specialist, and clinical nurse specialist in emergency. Within the last three years, Carla has taken on a new role as emergency health leader at the Northeast Community Health Centre and opened the first free-standing emergency department in Canada. This has been considered one of the most exciting and rewarding aspects of her career.

Carla has had a long history of involvement in professional groups: three terms as president for the Emergency Nurse Interest Group of Alberta, ward representative for the Alberta Association of Registered Nurses and, currently, a member of the National Working Group for the Canadian Triage and Acuity Scale (CTAS). She was also one of the first individuals to bring both the Trauma Nursing Core Course (TNCC) and the Emergency Nursing Pediatric Course (ENPC) to the province of Alberta. Carla's areas of interest are issues related to triage, nursing workload, quality improvement, and clinical education.

Enthusiasm and commitment to emergency nursing will be applied to Carla's role as president of NENA. She assumed this role on July 1, 2003. Her focus as president will be directed towards working collaboratively with the team of provincial directors and NENA executive to further advance the role of emergency nursing and advanced practice; to continue to develop national standards for emergency nursing; establish national benchmarks; build strong working relationships with other professional emergency associations; address practice issues nationally of emergency care and emergency nursing; and communicate effectively with NENA members.

From the editor

As I write this message, summer vacation is winding down and preparations for returning to school have begun with the yearly ritual of buying school supplies. This year has been easier for me because I have one son in junior high and the oldest son beginning senior high school, so the years of "THE LIST" have passed. Now it is a bunch of loose leaf paper, a bunch of pens and pencils, and a few binders. Voila! I'm done. To be honest, I like this time of year - for me it is a time of hope, anticipation and some anxiety that this will be a great school year for my kids - that they will have friends, that they will learn, and that they find the entire experience exciting. I approach September and the fall with the same sense of renewal that many people feel at the beginning of a new year!

So, it is with that sense of anticipation that I send to you this latest edition of **Outlook**. I am very pleased with the calibre of articles for this issue. There is no central theme, but rather a collection of articles that I think will appeal to you. Thanks to the section editors for their ongoing commitment to this journal and their continuing encouragement to nurses who submit the articles that you read.

It was also important to share some images from the national conference held in Regina, Saskatchewan this past May. The SENG planning committee did a fantastic job in organizing the conference. Those of us who were present learned from a variety of speakers, renewed old friendships and made some new friends. We hope to see you in PEI in May 2004.

PS: Another confession, I kinda miss "THE LIST" of school supplies!

Yours in nursing,
Valerie Eden, RN, BN, ENC(C), MDE

Outlook Letter to the editor

*This will be a new feature for **Outlook**. I would encourage all of you to send in your letters, questions, tips, ideas. Many of our issues and the problems that we face daily are the same, whether you work in Victoria, BC or Grand Falls, NFLD.*
The sharing of information is powerful. Trying to develop a new policy, looking for a new form? Request it here. This is your journal. It is a vehicle for communication for all of us. Use it. Please send your letters, etc., to: Valerie Eden, 34 Bow Street, Dartmouth, NS B2Y 4P6, or e-mail at: valeden@hfx.eastlink.ca

As past president of both the NSENA and NENA, I offer my profound congratulations and appreciation for the work you both (Donna Arsenault and Valerie Eden) have contributed to the NSENA Newsletter and the NENA Newsletter "**Outlook**". Both of these productions have come so far and have become very professional in appearance.

I am no longer in nursing due to health reasons, but I watch for my newsletters on a regular basis and I continue to find the articles very stimulating and informative.

Emergency nurses around our province and country should be very thankful for your time commitment and your energy that is given to both these productions.

Good Luck in the future and Best Wishes as always!

PS. Hello to all my fellow peers and friends from the past. I miss seeing you all!

Bev Mullin (Loder)

Bursary Winners

Sheila Early, BC
Jacqueline Lavoie, BC
Maria Decoste, NS
Bob Lawson, Sask
Alison Bulmer, NB
Cavell Bolger, NFLD/Lab
Erica Battram, Ont
Dale Byran, Ont
Bonnie Briere, Sask
Lisa Powell, Man
Angela Bachynski, Man

A special congratulations to the Awards of Excellence Winners! They are:

For Nursing Practice
Barbara Peters, BC
Bonnie Briere, Sask
Janice Spivey, Ont
Linda Hutchins, NS

For Education
Joy Durand, NS

Emergency Nurses Week - October 5-11, 2003.

This year's theme: "Emergency Nurses: We make a difference... starting with you!"

Revised position statements

Revised position statements, standards and new core competencies are available for purchase by non-NENA members for $20.00 per document. For orders of 20 copies or more, 15% will be reduced from the total cost. Just make sure that you note this when you place your order. Send orders to Jerry Bell, 10 Laval Drive, Regina, SK S4V 0H1

NENA's annual report 2003

Historical perspective
The National Emergency Nurses' Affiliation Inc. was formed in 1981.

General structure
There are nine active provincial groups along with independent members from Quebec and/or living outside of Canada.

The NENA board of directors meets twice a year, in the spring and fall. The spring board of directors meeting is held in conjunction with the AGM and an educational conference. Odd years are in conjunction with the national conference and even years with a regional/provincial conference.

National Trauma Committee Report

From January to June 2003, there were 978 TNCC participants, an increase from 2002. However, SARS affected some of the courses which were cancelled. National Trauma Committee (NTC) plans to reschedule some of these classes because there are instructors who need to complete courses in order to maintain their instructor status.

TNCC course volume is up from the previous years with a total of 56 booked courses to date, with the highest numbers in Ontario, BC and Alberta.

ENPC activity has increased with 511 participants in a total of 31 booked courses. Highest increase has been in BC, Manitoba, Nova Scotia and Ontario.

The Course in Advanced Trauma Nursing (CATN) activity is down with 24 participants to date. It is believed that the decrease in numbers is partially due to course revision process.

Currently, there are 322 instructors, with the majority of instructors in Ontario, BC and Alberta

There are three new members on NTC. They are: Sue Yantha (Ontario), Diane Loiseau (Ontario), and Carole Rush (Alberta).

Submitted by Pat Walsh
Chairperson, NTC

Objectives
The mission of NENA is:
"To represent the Canadian Emergency Nursing Specialty"

The values of NENA are:
- All individuals have the right to quality health care
- Essential components of emergency nursing practice are wellness promotion and injury prevention
- Continuing education and professional development are fundamental to emergency practice
- Research guides emergency nursing practice

The goals of NENA are to:
- Strengthen the communication network
- Provide direction for clinical practice of emergency nurses
- Promote research-based practice
- Support and disseminate education

NENA 2001-2002 year-end financial report

INCOME	Actual	Budget	Variance
Fundraising	$915.00	$900.00	$15.00
Grants	$500.00	$1,000.00	($500.00)
Indirect Fees: ENPC	$9,070.00	$19,080.00	($10,010.00)
Indirect Fees: TNCC	$44,464.68	$31,920.00	$12,544.68
Indirect Fees: CATN	$630.00	$1,200.00	($570.00)
Interest Income	$0.00	$150.00	($150.00)
Member Fees	$26,660.00	$25,680.00	$980.00
Advertising	$1,294.70	$0.00	$1,294.70
Misc. Income	$16,971.80	$0.00	$16,971.80
TOTAL INCOME :	$100,506.18	$79,930.00	$20,576.80

EXPENSES:	Actual	Budget	Variance
Awards	$0.00	$0.00	$0.00
Advertising	$0.00	$0.00	$0.00
Bank Charges	$343.14	$200.00	($143.14)
Board Meetings	$25,438.83	$13,400.00	($12,038.83)
Bursaries	$2,500.00	$4,500.00	$2,000.00
CNA Fees	$214.00	$230.00	$16.00
Committee Meetings	$15,143.49	$8,250.00	($6,893.49)
Gifts	$60.00	$300.00	($270.00)
Interest Paid	$0.00	$0.00	$0.00
Legal	$30.00	$300.00	($270.00)
Liaison Meetings	$21,542.32	$0.00	($21,542.32)
Office Expense	$13,174.87	$6,250.00	($6,924.87)
Programs	$500.00	$4,000.00	$3,500.00
Promotions	$3,299.07	$1,575.00	($1,724.07)
Public Relations	$11,389.77	$4,150.00	($7,239.77)
Reimbursements: ENPC	$2,750.00	$6,360.00	($3,610.00)
Reimbursements: TNCC	$13,380.00	$10,640.00	($2,740.00)
Reimbursements: CATN	$210.00	$400.00	($190.00)
Misc	$304.00		$304.00
TOTAL EXPENSES:	**$110,220.44**	**$60,555.00**	**($49,665.44)**
INCOME/LOSS POSITION:		**($9,714.26)**	

Membership

As of March 31, 2003 there were 1,507 members of NENA, with the following provincial breakdown:

Alberta 123
British Columbia 241
Manitoba.....185
New Brunswick 77
Newfoundland/Labrador 45
Nova Scotia 127
Ontario.....579
(255 who are RNAO members)
Prince Edward Island 23
Saskatchewan 103
Independent 4

Total 1,507

Present special projects and activities (publications, research, conferences, certification, etc.)

Joint work and publication of **"Access to Acute Care in the Setting of Emergency Department Overcrowding"** with the Canadian Association of Emergency Physicians (CAEP)

Two NENA position statements, which are in the process of being printed:

- NENA Overcrowding Position Statement
- NENA Ambulance Diversion Position Statement

"NENA Emergency Nurse Orientation Template" was developed with the intent that it be adapted and incorporated into individual emergency department orientation packages across the country. Presently in the process of being printed.

Joint work with CAEP on development of an education program for Paediatric CTAS (Canadian Triage Acuity Scale). This education session took place in Toronto in November 2002 with representatives from all provinces, excluding Quebec. Provincial courses on Paediatric CTAS are in the process of commencing.

In May 2003, our AGM will be taking place in Regina, SK in conjunction with our national conference *"Emergency Nursing - A Kaleidoscope"*

Events of the past year (annual meeting, surveys, etc.)

The AGM of 2002 took place in Moncton, NB at a regional emergency conference. Executive positions up for election were that of president-elect and communications officer. Both positions were filled by acclamation. At the upcoming AGM of 2003, two executive positions will be up for election. They are the positions of treasurer and secretary. Executive positions in NENA turn over on July 1 of each year as deemed by the term of the position.

Issues of concern

- Romanow Report and response to it
- Political/Media Action
- Adult CTAS Educators
- Funding for triage education at both the provincial and federal level
- Workload volume
- Models of Care: Experience versus Competencies

Anne Cessford, President, NENA
April 6, 2003

outlook
Conference watch

The Nuts and Bolts of ED Nursing

Come to the Island... for a weekend of "NUTS AND BOLTS" emergency nursing in Charlottetown, Prince Edward Island. May 14-16, 2004. The conference will be held at the Best Western Hotel in Charlottetown and features a variety of pertinent topics in emergency nursing.

Topics include: sexual assault nurse examiner, 12 & 15 lead ecg's and thrombolytics, obstetrical emergencies and deliveries, pediatric emergencies and case studies, acute ischemic stroke, spinal cord injuries, domestic violence, street drugs - what's new, head injuries, extended roles of ER nurses, infection control in the ER, preparing for court, and many more.

The conference will include a famous fresh island lobster supper on Saturday evening (price pending). So come and enjoy our island hospitality! A block of rooms has been reserved at the Best Western Hotel, 238 Grafton Street, Charlottetown, PEI until April 15, 2004. Phone (902) 892-2461, Fax: (902) 566-9118, e-mail: salesbest@excite.com or visit the website www.bestwesternatlantic.com.

Conference Costs:

NENA Members: $225.00; Non-NENA Members: $275.00; Student Nurses: $175.00; One Day Conference: $175.00

Make cheque payable to: PEIENA, Box 2321, Charlottetown, PEI, C1A 8C1

For further information contact Celie Walsh-Gallison, Conference chair @ (902) 629-1462, or e-mail: nutsandbolts@isn.net

Emergency Nurses Interest Group of Alberta (ENIG) - "Sex, Drugs and Rock and Roll in Emergency Nursing"

AGM and Emergency Nursing Conference, October 3-5, 2003, Delta Lodge, Kananaskis, Alberta.

There will be a Peds CTAS workshop on October 3 prior to the conference.

Send registration to Mona Krahn, Box 1895 Banff, AB, T1L 1B7, or e-mail for information at: pamordon@telusplanet.net

The Third Halifax Symposium on Healthcare Safety

October 17-19, 2003, Pier 21 Conference Centre, Halifax, NS. Register on-line at: www.halifaxhealthcaresafety symposium.ca, e-mail registration: symposium@accesswave.ca (Please put *registration* in the subject line)

Saskatchewan hosts the 2003 national conference

"You must be out of your mind!" our SENG president Bob Lawson was heard to say. While attending the national conference in Ottawa 2001, Jerry Bell had "volunteered" SENG to host the 2003 national conference. This was to be the first national conference ever hosted by Saskatchewan.

At the SENG annual meeting, the idea took root with members of the executive committee mulling over the possibilities. Gradually, with Jerry's motivation, a timeframe from NENA, an extremely supportive sponsor, Hoffmann-La Roche, and the blessings of our manager, Helen Grimm, the conference took form.

Our first objective was to decide on a theme. Because of the many facets of emergency nursing, "Nursing, A Kaleidoscope" was chosen.

The second phase was a call for abstracts. Replies were received from as far away as Australia and Texas. Reading the scope of topics was an eye opener and it was a challenge to choose what was appropriate for us. Committee members divided the chores that are so important to a conference of this magnitude. Tasks such as hotels, audio visual, food, displays and door prizes had to be decided upon. Monthly meetings were held that were increased to weekly. Gradually over the months, we saw a clearer picture emerging. The level of excitement rose in proportion to the developments. Working closely with Dale Roberts (Hoffmann-La Roche) we zoned in on minute details, scenery, flags, name tags, etc. Little did we realize how many little unforeseen details would crop up. We were pleased with the variety and quality of door prizes that included a real kaleidoscope.

Our conference was preceded by a SANE workshop presented by Sheila Early, sexual assault nurse examiner, highlighting the role of nurses in examination of patients following sexual assault.

Then came the big weekend. An outstanding feature was the kaleidoscope projected on the screen during all breaks and meals. Two observations noted were: first, the camaraderie of emergency nurses from all provinces and, secondly, the number of young nurses present. It bodes well for the future of emergency nursing.

The food was great and most things went without a hitch. Due to the expertise of Jerry, Bonnie and Bob, the weekend proceeded smoothly and we were pleased with the outcome. The feedback from the evaluations was very positive.

Thank you to all committee members. And a very special thank you to all participants, many who travelled a great distance to attend.

Left and above, some of the speakers, board members and participants at "Nursing, A Kaleidoscope" in Regina, Saskatchewan, May 2003.

Filling in the gaps to build a strong foundation

Building the future: an integrated strategy for nursing human resources in Canada

Construire l'avenir : une stratégie intégrée pour les ressources humaines infirmières au Canada

Nurses are finally getting the attention they deserve. But not for the reason we'd like. With SARS behind us, and the West Nile Virus continuing to loom, Canadians are experiencing first-hand the effects of a system with too few nurses. A recent poll conducted for Maclean's Magazine showed that 95% of Canadians are aware there is an acute shortage of nurses. They know it, because they are feeling it.

We are working to change this situation.

Building the Future: an integrated strategy for nursing human resources in Canada is gathering the information that will help governments, educators, and employers make informed decisions on how to avoid a critical shortage in the future.

We have met with students in six cities; pilot tested our nurse occupational survey; met with nursing union activists in focus groups; and developed both the international nursing labour market report, and the inter-jurisdictional mobility of nurses in Canada report.

We are now conducting a national and international literature review; developing a survey of senior nurse managers; analyzing changing health care needs' impact on nursing; reviewing immigration and emigration trends; and analyzing career patterns.

And in the coming months, we will hold more focus groups across the country, perform key informant interviews, and develop a simulation model to project the number of nurses required to meet Canadians' health care needs.

We are doing this because we know that the only way to put an end to the shortage/surplus cycle is to create a long-term plan based on realistic information and projections. But this can't be done without the input of nurses.

This September, 39,000 licensed/registered practical nurses, registered nurses, and registered psychiatric nurses will receive our survey in the mail. The survey, which was originally scheduled to go out to 24,000 nurses this spring, was postponed to allow for an increase in the sample size. Expanding the sample size will not only provide information for each province and territory, but will provide consistent data to allow comparisons across Canada. In many instances, this survey will provide provinces and territories with new information to fill important gaps on nursing HR issues.

We urge nurses who receive our survey to fill it out. We know Canadian nurses work hard, and that their time is limited, but we need their input to be able to make the kinds of changes that can help employers attract and retain nurses.

We want to make a difference for all nurses in Canada and to build a better health system for all Canadians.

Building the Future is a milestone project. It is the first national nursing study that is both endorsed and led by all the nursing stakeholder groups in Canada: professional nursing organizations, unions, employers, researchers, educators, physicians, provincial and territorial governments, Health Canada and Human Resources Development Canada.

For more information on *Building the Future*, please see www.buildingthefuture.ca.

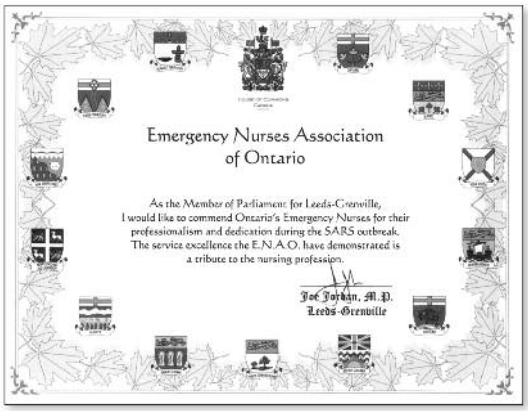
This photo of Cavell Bolger (left) and co-worker Ruth Cull was taken in March 2003 during the Labrador Winter Games which are held in Goose Bay every four years. Cavell writes: "All of the emergency nurses volunteer their time to do first aid for these events which last a week. Of course it happens in the winter when the temperature outside is always freezing cold. This paticular day we were doing first aid for the snowmobile races with a temperature of -32° with a wind chill of about -38° to about -40°.We had a few frost bites and one snowmobile crash that day with minor injuries. TNCC sure comes in handy with these events."

Outlook
Bouquets

Goodbye and hello

We say a special thank you to retiring board members: **Gail Colosimo** (New Brunswick) and **Cavell Bolger** (Newfoundland & Labrador) for their valuable contributions to NENA and to emergency nursing in Canada. While these two women may have been two of our quietest members, when they spoke we all listened. We wish both of you the very best in your future endeavours!

We welcome to the board table **Alison Bulmer** (New Brunswick) and **Joanne Collins** (Newfoundland& Labrador) and we look forward to working with you over the next two years.


Emergency Nurses Association of Ontario

As the Member of Parliament for Leeds-Grenville, I would like to commend Ontario's Emergency Nurses for their professionalism and dedication during the SARS outbreak. The service excellence the E.N.A.O. have demonstrated is a tribute to the nursing profession.

Joe Jordan, M.P.
Leeds-Grenville

To the emergency nurses of Ontario who were awarded a certificate of commendation (above) from the Member of Parliament for Leeds-Grenville, Joe Jordan, for their work during the SARS outbreak. Mr. Jordan, in his letter to Jan Spivey, ENAO president, stated, "I have heard nothing but positive reports on the handling of the situation by those, like yourselves, on the front line. Please accept the enclosed certificate as acknowledgement of my appreciation for your countless efforts in dealing with such a sensitive situation."

To all Ontario nurses for working through the SARS crisis and who continue to deal with its continuing effects.

To all the emergency nurses who successfully passed the certification exam.

Special thanks to Susan Phillips who served as section editor of Trauma Corner for **Outlook**. Susan has taken a position as gerontology clinical nurse specialist. Congratulations Susan and good luck in your new position!

"Bouquets" is dedicated to celebrating the achievements of NENA members. If you would like to send a bouquet to a NENA member, contact the communication officer, Valerie Eden, 34 Bow Street, Dartmouth, NS, B2Y 4P6 (H) 902 461-1897; (W) 902 465-8340; fax: 902 465-8435; e-mail: ***valeden@hfx.eastlink.ca****.*

Pediatric CTAS courses available

Over the course of the last two years, a great deal of work has been dedicated to the development of a Peds CTAS provider and instructor manual. One of the most significant rewards was the strong collaboration which was evident between NENA, members of CAEP (Canadian Association of Emergency Physicians) and CPS (Canadian Pediatric Society). Representatives of each group joined in the task of developing a provider and instructor manual for the Peds CTAS guidelines. The members on the committee were: Dr. Anna Jarvis (CPS), Dr. David Warren (CPS), Valerie Eden (NENA), Debbie Cotton (NENA), Louise LeBlanc (independent member), Dr. Michael Murray (CAEP), Jerry Bell (NENA), and myself for NENA.

A provider/instructor course was held in Toronto during which time NENA and each province sponsored two members to attend and, ultimately, become instructors for the province as we begin dissemination of the course.

A process has been established for individuals who are interested in holding a Peds CTAS course at a facility. The administration of the courses will occur with both NENA and CAEP. The following steps have been identified to provide a Peds CTAS course:

1. All instructors will register their courses (date and location) either through Pat Walsh from NENA at (709) 292-2482 or "pwalsh@cwhc.nf.ca", or Tammy Hesson, CAEP Membership Services at (613) 523-3343 X 10, 1-800-463-11458 or "membership@caep.ca".

2. Instructors must provide a complete list of attendees, confirming the final list of names and addresses within 10 days after holding the course, along with the names of instructors who have been verified.

3. All instructors must purchase their own complete instructor package ($90.00) including one provider's manual that can be copied for all attendees. Permission to copy the provider's manual (for attendees only) will be given when Peds CTAS guidelines and pocketcards are ordered.

These materials must be ordered at least two weeks before the course. If materials need to be couriered, these costs will be additional.

4. Please note that a $10.00 surcharge per attendee will apply to fund future endeavours on the part of the CTAS National Working Group (NWG).

5. In order to maintain a national standard, no changes to materials are permitted. However, any queries can be addressed to the Peds CTAS NWG that meets at the CAEP Annual Scientific Assembly.

6. Pat and Tammy will set up a protocol for this process to ensure that both organizations are fully aware of who the instructors are, who attends the courses, and who is a verified instructor.

Carla Policicchio, NENA President

A lesson in listening

By Kate Langrish, RN, BNSc, MN(c)
Staff Nurse, Emergency Services, The Hospital for Sick Children, Toronto, ON

The practice of including family members in the resuscitation or trauma room has been the focus of much debate in current literature, and continues to be controversial in practice settings. Though recent research has shown that most families would like to be given the option to witness invasive procedures and resuscitation (Boudreaux, Francis & Loyacano, 2002), the opinions of health care providers remain mixed (Back & Rooke, 1994; Helmer, Smith, Shapiro & Katan, 2000; Meyers, Eichhorn, Guzzetta, Clark, Klein, Taliaferro & Calvin, 2000; Sacchetti, Lichenstein, Carracio & Harris, 1996). Pediatric emergency nurses are frequently faced with family presence decisions. The following case study demonstrates that, ultimately, family members and patients must be listened to and supported in making the right family presence choices for themselves.

Case study

I was a relatively new nurse in the emergency department of a tertiary care pediatric hospital when a 15-year-old boy named John* was brought into the trauma room. While riding his bike, John had been struck by a car head-on and thrown through the windshield. He sustained a number of injuries, including three severe facial lacerations requiring plastic surgery. Just prior to leaving for the operating room, one of my colleagues informed me that John's mother and 19-year-old sister had arrived and were waiting outside the trauma room door. As it is part of our routine practice to allow family members into the trauma room with a support person, I informed John, who was conscious, that I was going to bring his family in to see him. John cried, "Just bring in my sister. My Mom can't handle this." I reassured John that I would verbally prepare his mother and that she would surely want to see him prior to his surgery. Despite his alert, oriented state, I felt that John may have been confused due to the narcotics he had received, and I brushed off his concerns. I went into the hall and spoke with his mother, Jane*, who was visibly very upset, and his sister. I informed them that John had cuts and bruises, but was able to speak to them. Jane was shaking as I escorted them into the trauma room. Upon seeing her son, Jane burst into tears, screaming, "How can you do this to me?" She collapsed on the floor and another nurse had to guide her from the room in a wheelchair. As we wheeled John up to the operating room, he was shaken and worried about his mother. He informed me that his mother had spent the day in court with her other son, who had been accused of a criminal offence, and that he had not wanted to increase her anxiety further. He went in to surgery crying, expressing feelings of guilt for distressing his mother, while Jane, unable to accompany her son, required added stress reduction care in the emergency department.

Reflection

This difficult situation did not result from a lack of knowledge or good intentions on my part. Rather, it was my failure to really listen to John and his family, and allow them to express their concerns that resulted in increased distress and anxiety. I did not give John or his family the opportunity to express their unique needs, and as such, I could not give them the support they needed to make a truly informed decision. John's request not to see his mother should have prompted me to further investigate the situation. I could have explored alternative plans with John, which might have led to better outcomes for him and his family. I could have also approached his mother and sister and honestly reported John's statement, allowing them to discuss his apprehension and consider the best choice for them under the circumstances.

When I care for children who have sustained traumatic injuries, I often remember John and Jane, and consider the importance of listening in communicating with families. I have learned that listening can make all the difference in the provision of family-centred nursing care. I still advocate for family presence, and believe that families have the right to choose to be with their ill or injured loved ones. I now understand, however, that children have a voice and an ability to share in family presence decisions. Each family has unique needs and we must strive to provide them with all of the information and support necessary to assist them in making their own informed choices about family presence.

**Names have been changed to protect patient confidentiality*

References

Back, D., & Rooke, V. (1994). The presence of relatives in the resuscitation room. **Nursing Times, 90**, 34-35.

Boudreaux, E.D., Francis, J.L., & Loyacano, T. (2002). Family presence during invasive procedures and resuscitations in the emergency department: A critical review and suggestions for future research. **Annals of Emergency Medicine, 40**(2), 193-205.

Helmer, S.D., Smith, R.S., Shapiro, W.M., & Katan, B.S. (2000). Family presence during trauma resuscitation: A survey of AAST and ENA members. **Journal of Trauma, 48**(6), 1015-1024.

Meyers, T.A., Eichhorn, D., Guzzetta, C.E., Clark, A.T., Klein, J.D., Taliaferro, E., & Calvin, A. (2000). Family presence during invasive procedures and resuscitation. **American Journal of Nursing, 100**, 32-43.

Sacchetti, A., Lichenstein, R., Carracio, C., & Harris, R.H. (1996). Family member presence during pediatric emergency department procedures. **Pediatric Emergency Care, 12**(4), 268-271.

Women in the military

This Veterans Day is an important time to remember the nearly one million women veterans in America. ***Chicken Soup for the Nurse's Soul*** *offers this story to honour those who serve our profession and our country so gallantly. For their service then, now, and forever, we thank all those who sustain and defend our freedom. Reprinted with the permission of the author, LeAnn Thieman, co-author* ***Chicken Soup for the Nurse's Soul.***

Women in the military

The first military women to arrive in Vietnam were nurses, in 1956. As the American presence in Southeast Asia grew, so too did the number of young women who served. In all, nearly eight thousand military women were there, along with thousands more who served in the civilian sector.

Eighty-three per cent of us were nurses, the rest held positions in special services, supply, air traffic control, cartography, the USO, American Red Cross, and many other jobs in support of our combat troops.

We were all fairly young when we volunteered to serve our country. And many of us were woefully naive in believing our recruiters' promises; mainly that we could be stationed anywhere in the world that we wanted, and that Vietnam was "strictly voluntary."

Still, when our orders arrived sending us to war, most of us believed in our hearts that we were needed, that what we were doing was important, and that it was our duty to go. We did our jobs, facing the perils of enemy fire, horrific heat and humidity, disease, insects, isolation, long work hours, and sleepless nights. Then, we managed to pull ourselves together, dab some perfume behind our ears, and do it all again the next day.

We learned a lot about ourselves. We discovered our strengths, and tried to survive our weaknesses. We were ordinary young women trying to function in the most extraordinary of circumstances; dealing in life and death, and seeking not just to survive, but to understand.

We did the best we could with who we were and what we had. And daily we collected our memories and stored them away someplace safe, out of our conscious minds where we thought, "I'll deal with this later."

And after a year, we came home, back to "The World." In one plane ride, we went from war to peace. In one year, we had gone from childhood to irrevocable adulthood. We knew we had changed, that our lives would never be the same, and that we could never explain any of it to the folks back home. We couldn't, and we didn't. For, as unacceptable as it was for the guys to talk about the war when they came home, no one wanted to acknowledge that young women had been there. Even as the Women's Movement was making its voice heard, the underlying message was clear: "nice girls wouldn't have gone to war."

So we came home quietly, went back to our homes, our families, our jobs, and never spoke about the war to anybody. Many of us quit nursing, and never knew why. Some of us had recurring nightmares, flashbacks, unexplained illnesses, depression, or abused drugs or alcohol. Many women applied themselves with a fury to school, attaining one degree after another, to work, rising to the top leadership positions in their companies, to their church, their social organizations, their families - anything to avoid the memories they had stored away "to think about later." The memories had created a deep impenetrable wound that needed to be healed.

In 1982, the initial healing ground was laid in the form of the Vietnam Veterans Memorial - The Wall. The women, just like men who had served, were drawn to it. The healing power of that sacred place is evident to all who have been there. We could go to The Wall, and mourn, and cry, and reach out for comfort if we chose, and yet it was so easy to be invisible there. Women simply weren't recognized as veterans.

Then, on Veterans Day 1993, the Vietnam Women's Memorial is dedicated in Washington D.C. Thousands of women vets attend and we are overwhelmed. We lead the parade; the nurses, Red Cross workers, entertainers, women who worked in administration, logistics, and intelligence. The streets are lined with people applauding and crying. A vet sits high up in a tree yelling "Thank You! Thank You!" A man in a flight suit stands for over two hours at attention, saluting as the women pass by. People hand us flowers and hug us. One GI has a picture of his nurse taken "July 1964." He is trying to find her.

We find each other. We know, at last, that we are not alone; that we are not crazy or paranoid, but that we have a lot of work to do in order to heal. We talk to each other and find comfort as well as pain in our words and our tears. Words and tears that, now, finally we share. Now, after so many years, the process has finally begun, and we hold each other close, and say "Welcome Home!"

Janis Nark, Lt. Col., U.S.A.R. (Ret.)

To learn more about this book or her speaking presentations, see the author's website at www.LeAnnThieman.com , or call her toll-free at 1-877-THIEMAN.

Memoriam - Marg Smith

In the spring, we lost one of our own, Margaret (Marg) Smith. Marg was a Halifax, Nova Scotia Children's Hospital graduate. Her career, however, was in emergency nursing. She worked as an emergency nurse in Saskatchewan and Alberta. She was president of SENG (Saskatchewan Emergency Nurses Group) and was a member of the NENA Board of Directors. She made valuable contributions to the improvement of emergency nursing. For example, Marg believed that continuing education was important for all emergency nurses and to that end she was instrumental in bringing TNCC to Saskatchewan. She was proud to be an emergency nurse and was a tireless promoter of the specialty of emergency nursing.

In Marg's memory, NENA Board of Directors has established the Margaret Smith Bursary for Pediatric Emergency Nursing. This $300.00 bursary will be awarded at each spring AGM to a nurse who advances pediatric emergency nursing. Please use the current bursary guidelines and application process to apply.

The NENA Awards of Excellence

Annual awards of excellence in: emergency nursing practice, emergency nursing research, emergency nursing administration, and emergency nursing education

Excellence in nursing and health care deserves recognition. By celebrating nurses' achievements in the four domains of practice, the understanding of nursing is expanded and a positive image is reinforced. The NENA Awards of Excellence program enables nurses to honour colleagues for their outstanding contributions and for demonstrating excellence in relation to the standards of nursing practice.

Following is the criteria and nomination process for NENA Awards of Excellence.

Selection process

An awards committee of NENA is appointed by the board and reviews all the nominations to determine that the criteria for each award has been met. Based on this review, the committee makes recommendations to the NENA board of directors. Awards are given to successful candidates in each category at the NENA annual general meeting.

The NENA awards committee bases its review of nominations for awards solely on the documentation submitted for each candidate. Candidates stand the best possible chance of recommendation to the board of directors for an award if the supporting materials clearly show outstanding contributions as specified.

All nominations must be submitted to a provincial representative on the NENA board of directors by January 31 in the year of the annual general meeting. The representative will forward this information to the awards committee chairperson.

Preparing a nomination package

1. Review a copy of the candidate's resume or curricula vitae (CV). Use it as a guide in putting together the nomination. A current copy of the resume or CV should be included as part of the submission. Information on the resume should include, but not be limited to: professional association involvement, professional development, education, posters, presentations, etc.
2. There must be a minimum of two letters of support from colleagues or associates of the candidate that will strongly support the nomination. Select people who have knowledge of the candidate's exceptional achievements and/or people who provide varying perspectives about the candidate's outstanding qualities (e.g. peers,

The Ontario report: FYI across the country

In 2002, Health Canada funded a "Healthcare Workplace in Crisis" study. The Toronto Globe & Mail recently published these results: "The health care sector is one of the unhealthiest to work in, due to widespread stress and uncertainty caused by a decade of cuts, layoffs, and politically motivated restructuring". "People responsible for keeping the rest of the population healthy suffer more from fatigue, burn-out, and stress-related ailments than any other work sector". No surprise to emergency nurses!

Is it any wonder that recruitment and retention of nurses are such big problems? Recession, restructuring, and terrorism in recent years have changed our lives forever. Restructuring in Ontario resulted in 20 ERs closed, seven with reduced services, and a very few had expanded services.

The Ontario Ministry of Health has just released a study on the state of Ontario's hospitals. The number of patients seen in Ontario ERs is 10% higher than in 1997. The acuity level of patients seen is much greater. The emergency department is the barometer of how the entire health care system is functioning. The most frequent complaint from the public continues to be wait times in emergency. The report concluded that, "there are ongoing problems in dealing with the worried well and the walking wounded".

The College of Nurses of Ontario published the following: "If Ontario maintained its 1986 nurse-to-patient ratios, we would have 93,889 Ontario RNs working. Instead today, Ontario has 82,788 RNs working, a shortfall of 11,101.

Myths about restraint use:

Myth: Restraint use prevents falls.
Truth: 47% of falls happen with restrained patients.
Myth: Restraints prevent disruption of treatment.
Truth: 81% of patients restrained to prevent ET tube removal, removed them anyway.
Myth: Restrained patients are discharged sooner.
Truth: Restrained patients are hospitalized an average of twice as long as unrestrained.

Health care truisms:

1. An adult's body contains 250 grams of salt, enough to fill three to four shakers.
2. On August 30, 1892, cholera arrived in the US for the first time, carried aboard the Hamburg-American Line's ship, the Moravia.
3. Physicians in medieval England were known as leeches.
4. The odds of being killed by falling in a hole is 1 in 2.8 million.
5. The odds of being killed by falling earth is 1 in 4.9 million.
6. The average brain comprises 2% of a person.

Janice L. Spivey, ENAO President

employers, students, patients, other health professionals, other organizations).
3. Provide the contacts with a copy of the appropriate award criteria and ask them to: indicate why they support the candidate and how the candidate is exceptional; give specific examples indicating how the candidate meets the various criteria for the award; indicate their positions, professional relationship (etc.) with the candidate.
4. Develop a summary. Using the candidate's resume and letters of support, prepare a summary of the candidate's achievement and highlight how the candidate meets the award criteria.
5. Complete and submit a nomination form (included with this issue) with the package.
6. Forward all submissions to the provincial director by January 31 of each year. Incomplete or late applications will not be eligible for consideration. Successful candidates will be presented with awards at the annual general meeting. In order to facilitate the process of the applications, the nominator will involve the nominee in the submission and verification of information.

Award of Excellence in Emergency Nursing Practice
This award recognizes NENA members who excel in clinical care/nursing practice. The nurse must be providing direct care for the clients in an emergency-type setting.

The candidate must excel in all major categories of practice:

1. Nursing knowledge
2. Clinical decision-making
3. Professional accountability and responsibility
4. Application of research
5. Interpersonal relationship and communication skills

Award of Excellence in Emergency Nursing Education
This award recognizes a NENA member who excels in emergency nursing education. The candidate must be providing nursing education in an emergency care setting.

I. The candidate must show outstanding performance in a majority of the following areas:

1. Lecture, demonstration, discussion, clinical or lab instruction Demonstrates and utilizes the principles of adult learning
2. Consultation, including tutoring, advising and thesis supervision
3. Program, curriculum or course design and development
4. Innovative teaching methods
5. Educational planning and policy-making
6. Production of educational material (study guides, instructional materials and resources, audiovisual, text books.)

Award of Excellence in Emergency Nursing Research
This award recognizes a registered nurse who excels in nursing research. In an effort to encourage nursing research, this category is not restricted to emergency nurses, nor is the research restricted to emergency nursing, but the findings may be transferable to the advancement of emergency nursing.

The candidate must show outstanding performance in a majority of the following areas and competent performance in the remaining areas of nursing research.

1. Research with a clinical focus and demonstrated practical application
2. Contribution to the development of nursing research as a principal investigator or research assistant, or a member of a committee receiving grant proposals, or as a member of a nursing research committee
3. Acts as a role model, mentor and a consultant to foster the development of beginning researchers
4. Evidence of external peer review evaluating the outcomes of completed research
5. Contributor to the communication of nursing research findings through presentations at conferences, public speaking engagements, consultations and publications
6. Obtains funding for nursing research based on peer review

Award of Excellence in Emergency Nursing Administration
This award recognizes a NENA member who excels in the administration of emergency nursing. The candidate must be in a management position in an emergency setting.

The candidate must excel in a majority of the following areas and show competent or better performance in the remainder.

1. Planning and implementing effective and efficient delivery of nursing services
2. Participating in the setting and carrying out of organizational goals, priorities and strategies
3. Providing for allocation, optimum use of, and evaluation of resources such that the standards of nursing practice can be met
4. Maintaining information systems appropriate for planning, budgeting, implementing, and monitoring the quality of nursing services
5. Promoting the advancement of nursing knowledge and the utilization of research findings
6. Providing leadership that is visible and proactive
7. Evaluating the effectiveness and efficiency of nursing services
8. Empowering staff through participatory management

All nominees should also fulfill the following conditions:
I. Supportive documentation must demonstrate outstanding performance in relation to the majority of the standards of nursing practice:

1. Specialized body of knowledge
2. Competent application of knowledge
3. Provision of a service to the public
4. Code of ethics
5. Self-regulation
6. Responsibility and accountability

II. The candidate must also meet all of the following general criteria:

1. Consistently demonstrates excellence as a professional nurse
2. Consistently demonstrates responsibility for professional development
3. Participates in the activities of a professional organization
4. Actively demonstrates innovative and progressive ideas in nursing
5. Acts as a role model and mentor
6. Contributes directly or indirectly to improving the quality of emergency nursing care in one's province/nation

The NENA Bursary

NENA recognizes the need to promote excellence in emergency care, and, to this end, 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 only receive a bursary 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

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 **Outlook**). 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.)
- Presently working 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”
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.

outlook
The NENA bursary

This was not an accident: An injury prevention primer for emergency and community nurses

By Shelley Reid, RN

Early one morning in February, Alison, 18 months old, is in the kitchen with her father and two older sisters. While her father is getting the two older children ready for school, Alison reaches up and pulls on the tablecloth. Her father had set his coffee down near the edge of the table; the cup is pulled off. The hot liquid lands on the toddler and scalds parts of her face, shoulder and arm. Alison is taken to the emergency room, where she is treated for second-degree burns.

Julian, aged three, is playing in his bedroom while his parents carry grocery bags from the car to the kitchen. After a few minutes, Julian doesn't answer their calls. He is no longer in his room. He has slipped through the patio door into the pool, to which he gained access via the elevated deck attached to the house. It is only the beginning of May and the water is freezing. Julian is resuscitated and rushed to the emergency department. He is admitted to the intensive care unit where his condition is listed as critical.

(Reprinted from CHIRPP, 1997).

Most nurses can relate to these stories; either we have dealt with these situations professionally or as members of the public. Injuries among children and youth are a major health problem. Fifty years ago, before the introduction of vaccines and antibiotics, childhood diseases claimed eight times as many lives as injuries. Now, injuries are the leading cause of death (Canadian Pediatric Society (CPS), 2001) and the second leading cause of hospitalization in children and youth (CHIRPP, 1997). This problem exists despite the fact that 90% of injuries are predictable and preventable through a combination of strategies using the three E's: enforcement (laws), environment (technology), and education (human behaviour).

This article will examine the burden of pediatric injuries in Canada and discuss various practical strategies that nurses can use on and off the job to help prevent injuries. Traditionally, the word "accident" has been used to describe how an injury occurs. Its use is intentionally avoided in this article as this word implies that injuries are unpredictable, acts of fate, something over which we have no control and not preventable. Yet, it is well-known that injury events are not accidents – they are predictable and, therefore, it follows that they are preventable.

An informal survey was developed to identify what nurses who work in an emergency department (ED) do to educate patients and their families about preventing injuries. Through the survey, attitudes, knowledge and current practices with respect to educating families about injury prevention were identified. The survey was pre-tested in the Children's Hospital of Eastern Ontario (CHEO) ED and then conducted in several of the regional community hospitals. Interim survey results have identified that emergency RNs primarily get their injury prevention knowledge on the job, from their experience as parents, and from a variety of media sources. Most of the responses indicate that educating parents and children about strategies to prevent injuries is a high priority. Despite this, and while injury prevention has been part of the public health scene in Canada for a while, as a whole, the nursing profession has not championed the injury issue. Most nursing school programs do not address it as a major public health issue. Yet, nurses as trusted health care professionals have a unique opportunity to influence the public's behaviour. Following are specific strategies that nurses can employ to reduce the toll that injury takes on Canadian children and youth.

Child passenger restraints

When used properly, child passenger restraints have been shown to reduce injury by 70% and the chance of death by 90% (CPS, 2001). Seatbelts are designed for adults and can cause injury in four- to 10-year-olds, as they are not designed to fit children this size. They should be in booster seats. As well, air bags have been shown to reduce head and neck injuries in adult passengers, but pose risks of injury and even death to children who should be in the back seat - "the Kid Zone" - until 12 years old (Transport Canada, 2001).

It is well-known that car seats can be difficult to install! Legislation passed in September 2002 requires all new Canadian vehicles to come equipped with a universal child restraint attachment system. The system has lower anchorage bars and is designed to make installation of infant and child seats easier. A retrofit kit is available for cars manufactured without the system.

Additionally, The American Academy of Pediatrics (AAP) suggests that parents buy infant seats with higher weight limits (because infants grow out of infant seats before they grow into forward-facing child seats). Rear-facing infant seats are available that fit children up to 30 to 35 pounds. See Transport Canada's and the American Academy of Pediatrics' websites for more information: www.aap.org/family/carseatguide.htm; www.tc.gc.ca/roadsafety.

Drowning prevention

Drowning accounts for eight per cent of injury-related deaths among the zero to 20-year-old age group, but accounts for 20% of injury-related deaths among toddlers and, after MVCs, is the major cause of death due to injury for toddlers (CHIRPP, 1997).

As an intervention in pool safety, nurses can teach parents and caregivers that a toddler-proof enclosure surrounding the entire pool is required (municipal regulations vary). Although the Red Cross offers swimming lessons to infants and up, lessons cannot be seen as a preventive measure in children under the age of four (CHIRPP, 1997). Parents and caregivers also should be advised about the risk of toddlers drowning in bathtubs and toilets. The basic message is that around water, if a child is out of arm's reach they are too far away.

Scalds and burns

Children under age five are most impacted by fire and burn-related mortality and hospitalization. In this age group, about 17% of injury-related deaths were caused by fire and burns. Smoke inhalation is the main cause of death in residential fires; smoke alarms reduce the risk of death in fires by 86% and reduce severe injuries by 88% (Beaulne, 1997).

Nurses should remind families to replace smoke-alarm batteries every six months (Tip: change the batteries when changing the clocks spring and fall). Knowing that lower-income households have fewer smoke alarms than higher-income households, nurses should advocate for free smoke alarms in low-income areas. If auxiliary heaters are used, users should be encouraged to use cool-to-the-touch automatic shut-off models.

Most tap water scalds occur in the bathtub. Hot water heaters are typically set at 60˚C, a temperature at which scalding is possible. Lowering the temperature to 49˚C significantly decreases the likelihood of a serious scald. When it comes to preventing scalds, nurses should also recommend that parents avoid holding children while drinking hot liquids. Additionally, parents could use placemats instead of tablecloths and place hot liquids in insulated containers that allow a controlled release.

Fall-related injuries

Although falls account for a minor proportion of injury-related deaths, they are a leading cause of injury-related hospitalizations. For all ages, falls cause more deaths and hospitalizations in boys than girls. These deaths were mainly among boys under the age of one and also between 15 and 19 years of age (Beaulne, 1997). Nurses can help parents and kids prevent injuries related to falls by sharing the following recommendations:

- Advocating against the use of baby walkers; although they haven't been manufactured since 1989, they are still in use
- Educate families to use window guards which must be at least 90 cm high (National Building Code of Canada, 1995) to prevent children from slipping through windows and falling. Use of screens alone gives a false sense of protection and they do not support a lateral load. Guards on balconies are also useful.
- Safety gates should also be installed at the tops and bottoms of all stairs with carpet covering the bottom of the staircase (energy absorbing surface!)
- We need to make new parents aware of the hazards related to falls and suggest ways to make the home a safer environment.

Unintentional poisonings

Although mortality from unintentional poisonings is low in all age groups, it tends to increase with age, starting at age five. Children aged one to four years old have the highest rate of hospitalization for unintentional poisoning mainly as a result of ingestion of medication and biological products. Poisoning is the second leading cause of injury-related hospitalization in this age group (after falls).

- Nurses can educate parents to keep medications and biological products out of reach and locked up (a tool box with a combination lock works well…the combination # can be written right on the lock until the kids learn to read!)
- Teach parents the importance of keeping pills in the original, labelled child-resistant bottle so that pill identity is not confused.
- Provide parents with the local Poison Control Centre toll-free phone number. It should be readily available to parents and caregivers.
- Epicac should also be kept in a secure place at home, but should only be used by a parent on the advice of a poison control specialist.

Playground-related injuries

Boys have a higher hospitalization rate than girls for injuries caused by playground equipment. Children in the five- to nine-year-old group are three times more likely to be hospitalized than their younger or older counterparts. There are national standards in Canada for playground equipment in public spaces, but there are no standards for designers and consumers of home playground equipment. As a result, Canadian families should use the American standards (Beaulne, 1997). Nurses can educate parents and children to prevent/reduce injuries caused by playground equipment by employing the following recommendations:

- Only allow children on age-appropriate structures
- Remove cords and drawstrings from clothing to prevent strangulation
- Remove bike helmets before using playground equipment - they can get trapped and also cause a strangulation
- Supervise children carefully
- For more information on playground safety: www.safekidscanada.ca.

Sports and recreational injuries

Sports and recreational activities result in a large number of injuries in children and youth; 19% of emergency department visits are attributed to sports and recreation injuries (CHIRPP, 1997). Boys account for about two-thirds of these injuries. The 10- to 14-year-old age group constitutes the group most affected by these injuries, leading the others, accounting for 57% of all injuries. Basketball, ice hockey and soccer have the highest number of reported injuries for both genders. Baseball

and football also generate many emergency visits for boys. The majority of injuries occur during informal sporting events (that is not a school, organized, or training event). Nurses can promote the use of safe, protective sports equipment both in informal and organized sport. We can also advocate for rule adaptation to control certain risks like:

- prohibiting body checking in younger children and youth hockey players
- zero tolerance for rear checking in hockey and
- no head-first hitting in football (Beaulne, 1997)

Injuries due to abuse/neglect

Pre-school children and adolescents (ages 15-19) are at greatest risk of harm from maltreatment. Assault is the leading cause of injury-related deaths among infants. Pre-school kids are at risk because of their physical vulnerability and dependence. Adolescents are at risk for many reasons, including that they may try to defend themselves, which could lead to escalating violence. The perpetrator is most often a direct relative, friend or acquaintance. Poverty is notable as a critical population-level determinant of abuse and neglect. Nurses can help by identifying risk factors in families and providing or directing them towards early intervention and parent support programs (Beaulne, 1997).

In conclusion, as nurses, we have been exposed to many patients and families who have suffered as a result of injury. Nursing is well-positioned to help families prevent this major public health problem. The point is not activity prevention, it's injury prevention - encouraging people to consider the choices and take risks in the smartest way to enjoy life to the fullest. To make the discussed recommendations easier to remember and to implement, all of the above-discussed strategies can be grouped under the following themes as advised by Smartrisk (www.smartrisk.ca), a leading injury prevention group in Canada: *buckle up, drive sober, look first, wear the gear, and get trained*.

About the author

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References

Beaulne, G. (ed.). (1997). **For the safety of Canadian children and youth: From injury data to preventive measures**. Ottawa: Health Canada.

Canadian Hospitals' Injury Reporting and Prevention Program (CHIRPP). (1997). **CHIRPP Injury Report.** [On-line]. Available: http://www.hc-sc.gc.ca/pphb-dgspsp/injury-bles/chirpp/injrep-rapbles

Canadian Pediatric Society. (2001). **Keep your child safe.** St-Laurent, QC: Ross Pediatrics.

National Building Code of Canada. (1995). [On-line]. Available: http://irc.nrccnrc.gc.ca/catalogue/nbc1.html.

Transport Canada. (2001). **Keep kids safe: Car time 1-2-3-4.** Ottawa, ON: Transport Canada.

The significance of significance

By Cathy Carter-Snell, RN MN

Abstract

In this article, the concepts of statistical and clinical significance are reviewed. Implications of significance levels for error and power are discussed as well as issues in interpreting significance.

You find a research article in your nursing journal which deals with a treatment you would like to implement in your unit. After reading the article, however, you become discouraged. In the conclusions section, the authors describe the difference between the regular and experimental treatment as not significant. Should you be discouraged? What might explain this lack of significance?

In order to answer this question, we need to first briefly discuss probability theory. Health care research has traditionally relied on probability theory, in which a study is designed with a preset (apriori) significance level, also known as an alpha level. Once the research is conducted, a probability is calculated and, if it is less than the preset level, the study results are considered statistically significant. This then raises the issue of whether the results are clinically significant.

We began this research series in a previous article by exploring the concept of evidence-based practice as an overall clinical goal. Understanding significance is important to interpreting research evidence. The purpose of this article is to explore the concepts of apriori alpha levels and their implications for error in research studies, followed by a discussion of clinical and statistical significance.

Understanding significance levels

When a research study is designed, the researcher must first decide at what point their potential findings will be considered statistically significant. Statistical significance is achieved when the probability of obtaining a result is smaller than what would be anticipated by chance. Statistical testing examines the variability in a sample and the probability that the results obtained in the sample population are more than expected from chance or random variation. Consider the results if you flip a coin. Although we anticipate a 50% chance of heads or tails, we know that we never get exactly that with 100 tosses. If we got 42 heads and 58 tails, for instance, measuring statistical significance would calculate if the difference between the two is more than we would expect with chance. If it is less likely or probable, then it is considered statistically significant. A typical significance (alpha) level chosen as a cut-off for a study would be 0.05, or chance of finding a difference by error five times out of 100. If an obtained probability is smaller than 0.05, such as p=0.023, it would be considered statistically significant.

It should be noted in probability theory that if something is statistically significant, it does not "prove" there is a difference. We only know that there is probably a difference. Unfortunately, if huge samples of research subjects are used it may also result in falsely positive significant results. This is why multicentre trials or nationwide surveys only use a portion of the population, rather than trying to use as many as possible. If multiple tests are performed on the same data, eventually it is possible to also have falsely significant results. For this reason, if more than one statistical test is used, some may choose more stringent significance levels or use other means to ensure it will be possible to detect a difference through their research design. One simple method to control for this risk is the "Bonferonni split". In this method, the desired significance level is divided by the number of tests. If two tests were to be performed and a significance level of 0.05 was desired, the actual cut-off would be a probability of less than 0.025 for each test before it would be considered significant. This is controversial, however, as some researchers believe you should just publish the obtained probability and let the reader determine if it is significant.

Lack of significance does also not prove there is no difference. It may mean that there is probably not a difference. It could also mean that there were problems with the research study. Examples include research tools or methods which were not sensitive enough to detect a difference, too small a sample size, or less sensitive statistical tests in relation to the type of data obtained. In a later article, we will discuss the issue of types of tests and levels of data. At its simplest, the more precisely an item is measured, the more sensitive the statistical tests to noting a difference. If we measure pain control in terms of "poor", "adequate", and "excellent", this is less sensitive than a pain scale measured in millimetres or relying on the amount of sedation equivalents used. Sample size, the variability or sensitivity of tests to a difference, and the type of test used all affect the ability of the study to detect a true difference. This is also known as "power".

A lack of significance could also be due to random differences in group composition. If there is something abnormally distributed between groups which is unexpected, it could alter the ability to see a difference. Consider a study in which groups of abdominal surgery patients were compared for pain relief and post-operative outcomes, and were randomly assigned to either patient-controlled analgesia (PCA) or intramuscular (IM) analgesia groups. It was anticipated there would be a significant difference in pain relief with the PCA group compared to the IM group, yet there was not. In comparing the groups after random assignment, there were more patients who had received hysterectomies in the PCA group than the IM group. Most of these were not the newer laparoscopy type, but the invasive abdominal type. It was noted that the PCA group had a longer length of post-operative stay. The invasive nature of the surgery combined with the psychologic implications of the surgery for the women could contribute to this difference.

Significance, power and confidence

The choice of a significance level influences the chance for random errors in a study. If a significance level of 0.05 is chosen, you are saying that you are willing to accept that five times out of 100 a positive finding will actually be only due to chance and not actually exist. This is called Type I error. It perhaps makes sense to choose a more stringent significance level such as 0.01 or 0.001. This brings further problems, however. As you decrease the chance of false positives or Type I error, you also decrease the probability of being able to detect a true difference if it exists (the power). This is also known as "power". Power of a statistical test is defined as "the probability that it will yield statistically significant results". Essentially, it is likely that a study will be able to detect a true difference when in fact it exists. It relies on three factors - the size of the sample, the alpha level set, and the type of statistical test being used. A more stringent significance level may greatly decrease power and yield a non-significant result. One way this is counteracted is to increase the number of subjects in the study. Many researchers estimate their sample size for a study based on power for given tests. Unfortunately, if subjects are lost from studies or the estimated effects are not as large as anticipated, the obtained power of a test at the end of the study is often very low.

In one study of nursing research articles published in the late 1980s and early 1990, it was shown that most nursing studies had low power particularly due to small sample sizes. This is a reality in clinical studies with only small groups of patients available to us. The lack of adequate samples is changing slowly over time as nurse researchers begin to share or access large datasets such as Statistics Canada data or other researchers' data, to participate in multicentre trials, and to conduct studies of data across

studies. This aggregation of data is known by a few terms, most commonly meta-analyses for quantitative data and meta-synthesis for qualitative data. These concepts will also be explored in a later paper.

Given the impact of statistical significance on power, we need to consider the impact of the results and the risks involved in order to choose a significance level. If there is a high risk if there is a false positive, such as a potentially toxic medication, a more stringent significance level would generally be desired. In order to have a reasonable chance of finding a difference, a power level of at least 0.80 is desired. This is an 80% chance of finding a difference if it does really exist. The more stringent level will increase the sample size greatly, which helps explain why so many drug companies have moved to multicentre trials. On the other hand, in a study of pain relief with one well-accepted treatment compared to another common treatment, a less stringent level may be chosen and fewer patients will be required to conduct the study.

Clinical significance

Tests relying on statistical significance have been criticized in many areas, as they may miss clinical significance. Clinical significance is present if the findings are meaningful clinically. Consider the results of the PCA and IM study again. The IM patients remained an average of 5.32 days in hospital compared to an average of 5.9 days, or 11 hours longer, in the PCA group. While not statistically significant with a two-tailed alpha level of 0.05, it was potentially clinically significant. An additional 11 hours could mean another full day's stay in hospital, incurring more costs. This is supported by an increased delay in the time to first ambulation in the PCA group which again was not statistically significant, but could have contributed to the longer length of stay.

Interpreting significance

Reports of research studies generally include statements of probability and may or may not include a discussion of the "cut-off" alpha level selected by the researcher. Study conclusions and tables usually focus on the presence or absence of statistical significance. This is also a source of controversy in the research world. Some argue that, rather than choosing an arbitrary "cut-off" level, we should be seeking the probable range in which the true value lies by reporting a range of values in which we are confident that the true value likely exists. This is known as a "confidence interval". The standard used is a 95% confidence interval, which means a range of values in which we are 95% confident that the true value lies. The width of this interval varies with the amount of measurement error in the study. Yet another approach used by researchers is to simply report the probability obtained and let readers determine for themselves whether it is significant in their eyes.

We generally discourage implementing findings from one study with significant results. It is recommended you look for other supporting studies. There is a note of caution, however. Finding a number of studies with similar results may not always increase certainty about the findings, or give a true picture of the issue. There have been publishing biases noted in some instances. Many research journals tend not to publish studies with non-significant findings, or only publish those which the peer reviewers favour. This does not give a fair representation of the variability of results. An additional problem in publishing is that some researchers publish the results of the same studies in two or more journals, giving the impression that there are more articles favouring the results. You will have to read carefully and look closely at the authorship to detect this problem.

Conclusion

Now let's go back to that non-significant study you were looking at in the beginning. You will have to ask yourself if there were factors in your experience which would have interfered with their ability to detect a difference such as inappropriate methods or a poor question. Was their sample size reasonably large, such as at least 20 to 40 subjects per study group? Is there a power level reported with the completed data which is acceptable, or a 95% confidence interval used? Was the cut-off level unreasonable given the risk with the study so that power was unreasonably affected? You may also want to see if there were other similar studies in which results were also non-significant. You will also want to consider the clinical significance of the findings. If there is truly no statistically significant difference in treatments, can you then choose the one which is most comfortable for patients or least expensive? If it was statistically significant, will it make an important impact on your practice, or is it only a numerical exercise? While numbers may help, only you can determine the significance of significance in your setting.

References

Altman, D.G., Fore, S.M., Gardner, M.J., & Pocock, S.J. (2000). **Chapter 14: Statistical guidelines for contributors to medical journals**. In D.G. Altman, D. Machin, T.N. Bryant, & M.J. Gardner (2nd ed., pp. 171-190). Bristol: BMJ Books.

Cohen, J. (1977). **Statistical power analysis for the behavioural sciences.** Orlando: Academic Press.

Gardner, M.J., & Altman, D.G. (2000). Chapter 3: Confidence intervals rather than p values. In B (Eds), **Statistics with confidence** (2nd ed., pp. 15-27). Bristol: BMJ Books.

Hojat, M., Gonnella, J.S., & Calleigh, A.S. (2003). Impartial judgment by the 'gatekeepers' of science: fallibility and accountability in the peer review process. **Advances in Health Sciences Education: Theory and Practice**, 8(1), 75-96.

Melander, H., Ahlqvist-Rastad, J., Meiger, G., & Beerman, B. Evidence based medicine - selective reporting from studies sponsored by pharmaceutical industry: Review of studies in new drug applications. **BMJ: British Medical Journal, 326**(7400), 1171-1174.

Polit, D.F., & Sherman, R.E. (1990). Statistical power in nursing research. **Nursing Research, 39**(6), 365-369.

Snell, C.C., Fothergill-Bourbonnais, F., & Durocher-Hendriks, S. (1997). Patient controlled analgesia and intramuscular injections: A comparison of patient pain experiences and postoperative outcomes. **Journal of Advanced Nursing, 25**(4), 681-690.

Forensic DNA analysis - invisible science

By Dean Hildebrand, PhD

"Molecular consciousness". That's the term used by a colleague to describe the essence of his work. As a seasoned forensic DNA scientist working in the Armed Forces DNA Identification Laboratory in Maryland, his job is to apply the latest DNA identification methods (both nuclear and mitochondrial) to the remains of U.S. soldiers killed in the various conflicts of the century. The quotation emphasizes the sometimes frustrating job of a forensic biologist faced with having to isolate traces of unseen biological evidence (DNA) from a bone fragment while protecting it from inadvertent mixing with the sea of cellular debris that surrounds us at all times. The thousands of cells we exude (sloughed or falling from us naturally or even expelled in a cough) act like genetic "bread crumbs" leaving an invisible biological trail everywhere we go. Potential contamination like this is the nemesis of the forensic biologist and its control is a primary concern. Hence the effort and expense devoted to proper training of laboratory personnel and the special design of forensic DNA laboratories. Although the above-mentioned discipline represents the most challenging application of forensic DNA analysis, its use is becoming ubiquitous in even routine investigations that require human identification.

FN6RN

Section editor Sheila Early, RN, BScN, SANE-A

This article on DNA is written by Dean Hildebrand, PhD, who is Coordinator of Forensic Sciences at British Columbia Institute of Technology (BCIT) which has campuses in the lower mainland of BC. Dean was instrumental in creating the opportunity for the first forensic nursing course in BC which took place July 7-11, 2003 at the Vancouver campus, BCIT.

The forensic nursing course is a three-credit course taught by Virginia Lynch, MSN, RN, FAAFS, FAAN, of Beth El College of Nursing, University of Colorado, Colorado Springs, Colorado, USA, and other guest speakers. Virginia has been described as the "architect of forensic nursing" as she formalized the forensic nursing care model on which current forensic nursing practice is based.

The emergency nurse of 2003 is a frontline health care professional who needs to recognize the significant role in DNA collection and preservation that nurses have in caring for trauma patients, be it the child who has an unusual fracture, the victim of MVA who may or may not be a driver, the male or female patient who has been sexually assaulted or involved in interpersonal violence.

Please send suggestions for future forensic nursing articles to sheiladawn_early@telus.net

A successful forensic DNA analysis, however, does not begin at the front door of the laboratory. The education and training about what constitutes good potential DNA evidence and how one should collect and protect that evidence is not only the realm of the forensic biologist, but also that of the many "first responders" who may come into contact with it long before laboratory personnel: the police officer, the forensic pathologist, the forensic dentist, the forensic anthropologist, or the emergency nurse are examples. The responsibility to understand the biology of DNA and the capabilities (and limitations) of the DNA analysis technology should include all of the professionals tasked with collecting DNA evidence.

It is from this premise that this article was conceived in an effort to assist in the education of the forensic nurse in areas of DNA. Although obviously well-versed in many areas of biology, the forensic nurse may be years removed from the education they received on aspects of molecular biology. The aim of this article is to present a brief primer on DNA – "Biology 101" if you will.

Deoxyribonucleic acid (DNA) is an amazing molecule. The genetic "blueprint" of all living organisms, this molecule is a paradox – simplistic, but infinitely diverse. From a single-celled prokaryote to the most complex, multi-celled eukaryote, every species on Earth uses DNA as its genetic code. A phosphate connected to a sugar which in turn is connected to one of only four possible nitrogen-containing bases (given the one-letter symbols G, A, T, and C), this building block is repeated over and over in a double-stranded polymer. The only difference between a plant and a human (or any two species) is the order in which these building blocks are connected. Termed the "double helix", its structure was determined in the early 1950s by James Watson and Francis Crick, and is an example of how function follows form. Studying the unique three-dimensional structure determined by these Nobel laureates eventually led scientists to understand how this polymer is replicated (copied) in cell division and transcribed (used as a template for making RNA) in the complex mechanisms that produce proteins. This in turn led to breakthroughs in recombinant DNA technologies (harnessing the capabilities of DNA outside the cell for use in molecular biology) and led to modern day *in vitro* techniques used in forensic biology.

The human (nuclear) genome consists of approximately three billion basepairs and has now been completely sequenced. Divided between 46 chromosomes (23 pairs of autosomes and one pair of sex chromosomes), the genome contains tens of thousands of genes distributed throughout the genome. Every single nucleated cell contains a complete complement of the genome, an amazing example of biological organization considering that each nucleus must replicate, organize and repair almost a metre of DNA! A striking realization that has come out

of the Human Genome Project is that only a small fraction of the genome is "functional" or acts as a direct code for making protein, with the rest being non-functional. Some have even called it "junk" DNA, but this is probably a misnomer because it undoubtedly has an important, albeit under-appreciated, role. Much of this DNA is unique (occurs only once in the genome), but much of it is repetitive (interspersed many times throughout the genome or arranged in a tandem fashion in one area of the genome). One such class of the latter are the short tandem repeats (STRs), an important class of repetitive DNA that is now analyzed throughout the world for the purposes of forensic identification and paternity testing. STRs have been found to be relatively polymorphic (variable) within the population, a trait that is useful for distinguishing one person from another.

As eluded to earlier, DNA is a long polymeric molecule. Its chemical stability varies and, under conditions that facilitate degradation, the backbone of the polymer is broken down into successively shorter and shorter fragments. When properly preserved, however, DNA can linger for thousands of years (hence the growing subspecialty of archaeology that utilizes ancient DNA analysis in studies of ancient species and populations). Alternatively, certain conditions can degrade DNA in a matter of hours or days. Understanding the conditions that degrade DNA is important for the forensic personnel who collect, preserve and/or analyze DNA. Moist conditions, for example, foster microorganism growth that results in nuclease-induced degradation of DNA. It is for precisely this reason that samples like water-moistened swabs used to collect saliva, blood or sloughed skin cells must be adequately dried and packaged in a material that "breathes" (like paper envelopes or cardboard evidence boxes). These swabs, if properly dried and stored in a cool environment, will remain viable sources of DNA evidence for a prolonged period of time.

Degradation is always a concern when dealing with DNA evidence, but today's technology does overcome some of the challenges inherent with highly degraded samples. A molecular "Xeroxing" technique for DNA called polymerase chain reaction (PCR) is used to copy, and thus amplify, the STR regions of interest. As the name implies, short tandem repeats are short and thus still able to be analyzed when the DNA is highly degraded (fragmented). It is not unheard of to get a usable DNA profile from the equivalent of a couple dozen cells and from DNA that no longer contains large intact tracts of DNA. This was unheard of in days prior to the advent of PCR and has opened the floodgates, in terms of the types of materials that can be used for DNA analysis, and brought a new tool to investigators.

But perhaps PCR's greatest strength is also its greatest weakness, for it plays no favourites – it will amplify DNA in a sample whether it be from the crime scene or from the person who collected it. Contamination control is more crucial than ever when dealing with PCR. Any personnel involved in the collection of DNA evidence must show their own "molecular consciousness" by taking some simple but crucial precautions: wear protective clothing (gloves, lab coat or covering, and face mask). Gloves, in particular, should be changed often. Non-disposable instruments that might be used in sample collection or preparation (like tweezers) must be decontaminated between each use with, for example, bleach or commercially available products like "DNA Away" (VWR Canlab). One sample should never touch another and they should be individually packaged. Forensic laboratory personnel must have DNA profiles on file, but this precaution has not been extended to the frontline personnel involved in the process – a consideration long overdue in the author's opinion.

So, how do emergency nurses fit in with this discussion? Like police officers, emergency medical professionals often have the first contact with victims or perpetrators of crimes and, therefore, represent the first link of the investigative chain. Obviously medical issues take priority in this situation but, at the same time, whenever feasible, evidence should be safeguarded. Potential evidence is at stake. This is the reason our Forensic Science Technology Program at BCIT offered its first forensic nursing course this summer. Emergency rooms need personnel who are versed in areas of basic forensic science covering such things as firearms and weapons (including the recognition of wound patterns they produce), odontology (bitemark recognition), photography (to document any evidence), hair and fibres, DNA and others. Most are familiar with the role of the sexual assault nurse examiner, but there is a much bigger role for nurses to take in forensic investigations, particularly in Canada. This applies to DNA evidence as well, and nurses should recognize what can be used as evidence. There are the obvious items, such as clothing stained with bodily fluids (blood, semen and saliva), or the same substances on a person's skin that can be collected by swabbing. In reality, anything that has been contacted by another person can contain traces of DNA in the form of skin cells. The author did a case once from a piece of discarded clothing that contained a tiny bloodstain (~2mm diameter) that matched the victim of the crime and at the same time a small section of the clothing itself (with no visible staining) yielded a perfect DNA match to the suspect who allegedly wore the clothing. Another case in point deals with the victims of assaults or child abuse who have been bitten (or conversely the perpetrator who has been bitten by the victim). Research and casework has shown that bitemarks can contain saliva from the biter that can be removed by simply swabbing the area. The documentation of the wound and the swabbing should be done as soon as possible and need not necessarily be done by the forensic dentists.

DNA technology provides forensic investigators with a powerful identification tool. As mentioned, standard nuclear DNA tests require only a few dozen cells to produce a result. Even more sensitive tests are available using mitochondrial DNA where even a single cell has enough genetic material to type! So the take-home message when it comes to working with DNA evidence – do as we do in the forensic laboratory and learn "molecular consciousness". Because the words spoken in 1877 by Edmond Locard, one of the pioneers of modern forensic science, have never been more poignant – "Wherever he steps, whatever he touches, whatever he leaves, even unconsciously, will serve as a silent witness against him".

About the author

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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: 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: _____

NENA Award of Excellence application form

Forward all submissions to the provincial representatives by January 31 of each year. Incomplete or late applications will not be eligible for consideration. Successful candidates will be presented with awards at the annual general meeting. In order to facilitate the process of the applications, the nominator will involve the nominee in the submission and verification of information.

Award of Excellence in: _____

Nominee: _____ Address: _____

_____ Postal Code: _____

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

E-mail: _____

Employer: _____ Current position: _____

Nominator: _____ Address: _____

_____ Postal code: _____

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

Letter of support (1) from: _____

Letter of support (2) from: _____

Signature of nominee: _____

Signature of nominator: _____ Date: _____

Awards of Excellence

Do you have an idol? Someone who helped you through that long day, evening, or night shift in ER? Well, NENA wants to hear about them! NENA is looking for nominations for Awards of Excellence in emergency nursing. There is no limit to the number of awards that are awarded in four categories: Emergency Nursing Practice, Emergency Nursing Research, Emergency Nursing Administration, and Emergency Nursing Education.