Summer 2010
Volume 21,
Number 2

DYNAMICS

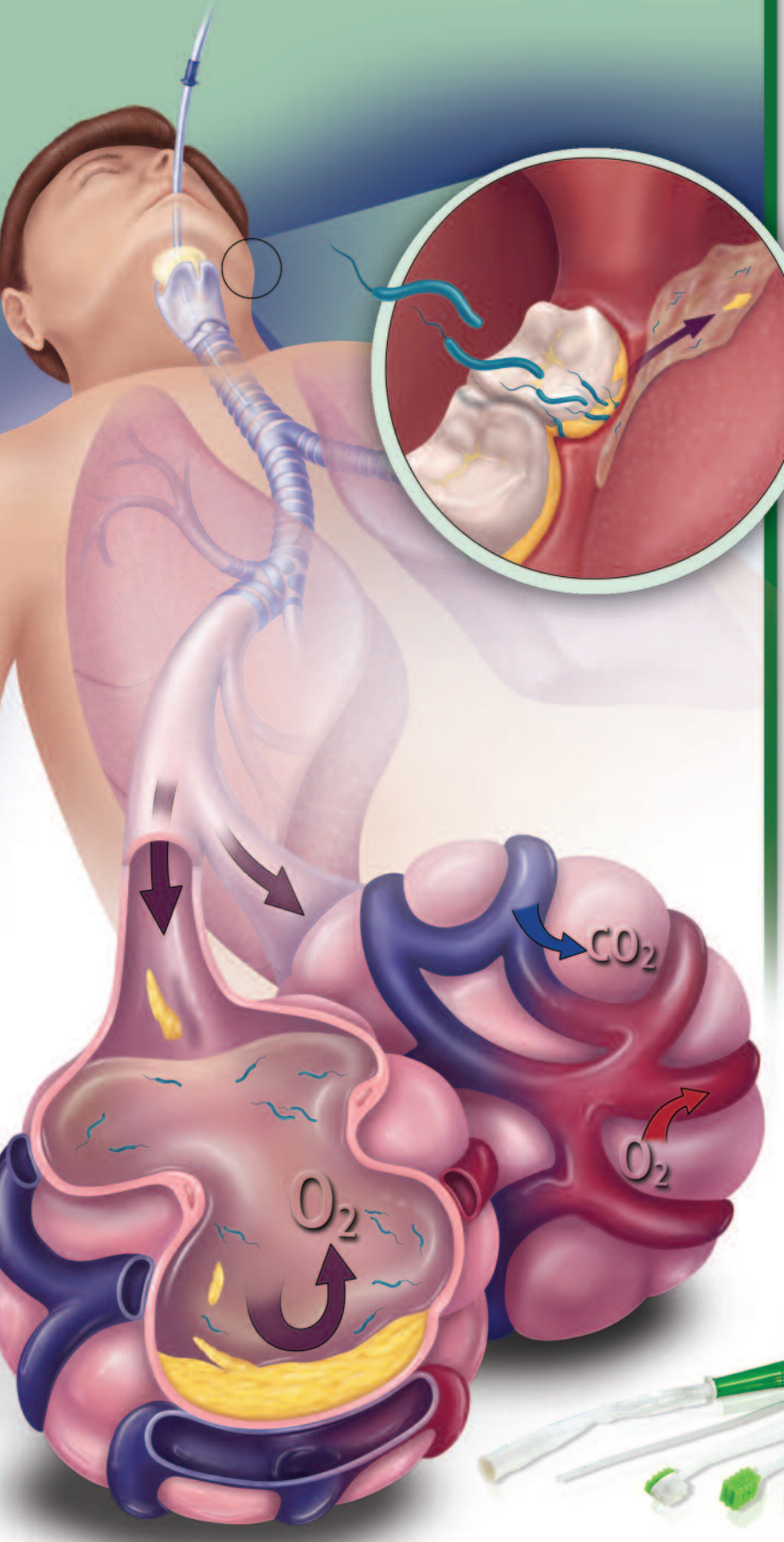
The Official Journal of the Canadian Association of Critical Care Nurses

Special Issue:

DYNAMICS OF CRITICAL CARE 2010

Index:

Canadian Association of Critical Care Nurses



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Volume Twenty-One, Number Two
Summer 2010

DYNAMICS
The Official Journal of the Canadian Association of Critical Care Nurses
is the only peer-reviewed critical care journal in Canada, and is published four times annually by Pappin Communications, Pembroke, Ontario.
Printed in Canada.
ISSN 1497-3715.

P.O. Box 25322,
London, Ontario, N6C 6B1.

For information on advertising, contact Heather Coughlin, Pappin Communications, The Victoria Centre, 84 Isabella St., Pembroke, Ontario, K8A 5S5, telephone (613) 735-0952, fax (613) 735-7983, e-mail heather@pappin.com, website: www.pappin.com
Send manuscript enquiries or submissions to Paula Price, ACCN Program, Faculty of Health and Community Studies, Mount Royal University, 4825 Mount Royal Gate S.W., Calgary, Alberta T3E 6K6

DYNAMICS
The Official Journal of the Canadian Association of Critical Care Nurses
is indexed in the Cumulative Index to Nursing and Allied Health Literature, EBSCO, the International Nursing Index, MEDLINE, and RNdex Top 100: Silver Platter.

DYNAMICS

The Official Journal of the Canadian Association of Critical Care Nurses

Dynamics, the Official Journal of the Canadian Association of Critical Care Nurses, is printed on recycled paper.

2010 Subscription Rates: Dynamics, the Official Journal of the Canadian Association of Critical Care Nurses, is published four times annually, Spring, Summer, Fall and Winter—Four Issues: $75 / Eight issues: $150 (plus GST). Payment should be made by cheque, money order or by VISA only. International and institutional subscription rate is four issues: $100 / Eight issues: $175 plus GST, where applicable.

Critical Thinking

Finding our voice as critical care nurses

"Every new beginning starts with an ending" (Bridges, 2004), and so it is the case as I begin my two-year term, as the national president of CACCN, first bidding good-bye to Cecilia Hyslop, who finished her term on March 31, 2010.

In the spring journal, Cecilia outlined the work and the accomplishments of the previous board under her leadership and direction. She leaves behind a legacy of many progressive and positive changes in the advancement of CACCN and in the improvement of services to the more than 1,100 members across Canada. The board of directors met the last week of March in London, Ontario, for three days with the first day devoted to finishing business as the "old" board, and to transition to the "new" board. The transition included a hand-over of portfolio assignments and time to orientate board members to new portfolios.

We also took time to say farewell to our departing colleague, Cecilia, and we were very pleased to welcome a new board member, Ruth Trinier, representing the Central Region. Ruth and all of the board members are introduced in this month's journal. Teddie Tanguay will fulfill the role of vice-president over the next two years. You can read from the brief biographies that the board brings a variety of work backgrounds (bedside nurse, nurse practitioner, hospital administrator, nurse educator, university critical care instructor, researcher) in addition to more than 115 years of combined critical care experience to the table. These many "lenses" the individual board members bring enrich the depth of perspective on any issue or topic the board discusses—truly illustrating that the "whole is greater than the sum of its parts" (Covey, 1989). You will also note that the board made the decision to re-title the name of the position of our National Administrator, Christine Halfkenny-Zellas to *Chief Operating Officer* to better reflect that Christine actually is the one full-time employee of CACCN and is responsible for the day-to-day running of the operations of the association. The name change is in keeping with a review of the titles of many other professional associations. Christine works for and reports to the board through the president and does an amazing job of running the affairs of CACCN.

I would also like to take this opportunity to remind members there is a call for an additional board member to be elected at the September Annual General Meeting in Edmonton. The reason for this new board member was outlined at the last AGM. Essentially, it is due to the increasing amount of work the board has taken on in recent years, which reflects the positive direction CACCN is taking in fulfilling our vision of becoming "The voice for excellence in Canadian critical care nursing." Consider putting your name forth or nominating a colleague for the position. Information on the nomination requirements and process are included in this issue of the journal. The information is also available on our website at **www.caccn.ca** or by emailing national office at **caccn@caccn.ca**.

With the CACCN vision in mind, the new board began its work in earnest with full agendas for days two and three of the board of directors' meeting, as we reviewed, discussed and debated many topics. New goals were identified for the next two years so that we could "Begin with the End in Mind" (Covey, 1989), using the five pillars of the strategic plan framework of leadership, education, communication and partnership, research and, finally, membership to align our future work with this plan. At the end of the third day, we walked away with a sense of optimism, as we clarified the work ahead and, I have to add, with a palpable passion and commitment of this board to advance the profile of critical care nursing in Canada by ensuring our voice is heard nationally.

On a personal note, I would like to add that beginning my role as president is something that I never envisioned for myself when I attended my first CACCN Dynamics conference and AGM in Edmonton in 1992, or as I watched the many boards since that time. It was difficult to see myself taking on such a leadership role because I underestimated the contributions I had to make. I did not realize that the experience I had gained as a critical care nurse was also the experience that prepared me well to become involved with CACCN.

What I can tell you is that my involvement with CACCN, first at the chapter level (as a founding member for Nova Scotia in 1986) and then as a member of the national board over the last three years has made me realize that each one of us who works in critical care (in any role) has a contribution to make that is

of value to others, and our voices need to be heard. Silent wisdom is not wise. Experience without voice is lost opportunity for improvement to care for those we serve. We need to be heard to share and to grow together and to improve and advance the care we provide to critically ill patients and their families.

Habit eight of Stephen Covey (bet by now you know I am a fan of Covey!) states, "Find your voice and inspire others to find theirs!" Critical care nurses are recognized as strong leaders and highly respected by other health care colleagues for the skills, advanced knowledge and professionalism we bring to bedside care every day. Our patients' lives depend on our collective wisdom and shared experiences. CACCN is the voice for critical care nursing in Canada. We want to hear from you… LOUDLY! Find your voice! Talk to your colleagues. Encourage them to join CACCN with you. Together we can change what needs to be changed. Although we are 1,100 members strong, we have the opportunity to represent the professional practice of thousands more critical care nurses in Canada, and we can only do that by increasing our membership so our voices grow louder and stronger together. Like the Olympic message… Believe!

So, as the torch was passed along from one board to the next and the flame glows brightly, please remember that a torch loses none of its light… by lighting another torch! We need you to pass along the flame.

As the summer approaches, I wish you balance and peacefulness in your life while you take the time to enjoy some time off from the intense and critical work you do wherever you live, to relax with family and friends. I join the new national board in saying that we look forward to serving you and working with you in the months ahead.

Take care,
Kate Mahon, President

References

Bridges, W. (2003). *Managing transitions: Making the most of change* (2nd ed.). Cambridge, MA: Da Capo Press, Perseus.

Covey, S.R. (1989). *The 7 habits of highly effective people*. New York: Free Press, Div. of Simon and Schuster.

Annual General Meeting Proxy Vote 2010

Every active member may, by means of proxy, appoint a person (not necessarily a member of the association), as his/her nominee to attend and act at the annual general meeting in the manner and to the extent and with the power conferred by the proxy. The proxy shall be in writing in the hand of the member or his/her attorney, authorized in writing, and shall cease to be valid after the expiration of one (1) year from the date thereof.

Proxy votes must be received in the national office no later than 2400 hours, Monday, September 13, 2010.

Proxy votes may be mailed/faxed to: Canadian Association of Critical Care Nurses, P.O. Box 25322, London, Ontario N6C 6B1 (Fax) 519-649-1458

The following shall be a sufficient form of proxy:

I, _____, of _____,

an active member of the Canadian Association of Critical Care Nurses hereby appoint

_____ of _____,
or failing her/him,

_____ of _____,

as my proxy to vote for me and on my behalf at the meeting of members of the association to be held on the 19th day of September, 2010, and at any adjournment thereof.

Dated at _____, this _____ day

of _____, 2010.

Signature of Member: _____

CACCN Membership Number: _____

Annual General Meeting Notice of Meeting

The CACCN Annual General Meeting will be held on:

Sunday, September 19, 2010
1630 to 1745 hrs
Shaw Conference Centre
Edmonton, Alberta

Members unable to attend the AGM are reminded they may vote via proxy, by completing the ***Proxy Form*** and submitting to:

CACCN National Office via facsimile 519-649-1458, e-mail caccn@caccn.ca or mail by no later than **2400 hrs Monday, September 13, 2010**

Awards Available to CACCN members

Criteria for awards available to members of the Canadian Association of Critical Care Nurses are published on pages 43–48 of this issue of Dynamics.

April 2010

Dear CACCN Member:

On behalf of the National Board of Directors of the Canadian Association of Critical Care Nurse, this letter is to provide notice to all members of the proposed revision to the association constitution and bylaws, which will be brought forward for approval at the **Annual General Meeting (AGM)** to be held on September 19, 2010, in Edmonton, Alberta, as part of the annual Dynamics Conference.

Our existing constitution and bylaws were originally approved by the membership in 2003, with the last revision approved September 2009. Following discussion at the Annual General Meeting and review of the constitution and bylaws at the national board of directors' meeting in March 2010, it was determined the revision of September 2009 to ***Article # VIII, Officers, Section 9, Dynamics***, required further clarification:

> *9.1 The Chair for Dynamics will be a member of the Board of Directors*

The national board is seeking to revise ***Article #VIII, Officers, Section 9, Dynamics***, as follows:

> *9.1 The Chair for Dynamics will be a member of the Board of Directors at the time of appointment.*
>
> *9.2 The Dynamics Conference for which the Director is responsible will be completed within one year of the end of the Director's term.*
>
> *9.3 There shall be a Board of Directors' member on the Dynamics Planning Committee, as an ad hoc member.*

The national board of directors will be seeking your comments and approval of the proposed change at the 2010 Annual General Meeting. Please refer to the summer journal or our website at **www.caccn.ca**, if you are unable to attend the AGM, but wish to submit a proxy vote. Proxy votes must be received by CACCN National Office by no later than midnight on September 13, 2010.

Sincerely,

Kate Mahon

Kate Mahon
President
CACCN National Board of Directors

Message from the Board of Directors

The 2010–2011 National Board of Directors for the CACCN from left to right, back row: Pamela Cybulski, Secretary/Membership; Kate Mahon, President; Joanne Baird, Treasurer; Ruth Trinier, Director, Awards/Corporate Sponsorship. Front row: Tricia Bray, Director, Publications/Research; Teddie Tanguay, Vice-President/Website

Kate Mahon

I am pleased to begin my third year as a member of the national board of CACCN, and equally excited to start my term as president this year. My association with CACCN goes back many years, as I was a founding member of the Nova Scotia chapter in 1986. I have served the Nova Scotia chapter in the past roles of president, secretary and chair of various committees. I have also been a past planning committee member for Dynamics when it was in Halifax in 1992, and will be chair of Dynamics in Halifax again in 2013. Being a member of CACCN has always been an important part of my nursing career, as a critical care nurse. It has also provided the opportunity to connect with colleagues in critical care across the country to share our practice and experience. And with those connections, lasting friendships have formed.

I am a native Nova Scotian, graduating in 1980 from Dalhousie University in Nova Scotia with my nursing degree. I have a post graduate certificate in critical care nursing and, in 2004, I completed my master's of health studies degree from Athabasca University in Alberta. I successfully wrote the very first CNA critical care certification exam in 1995. I have worked in pediatrics my entire career, first in beautiful Vancouver, B.C., as a staff nurse at the Vancouver General Hospital, Health Centre for Children, before returning to my home province (as most Maritmers do!) in 1982, where I began my critical care career as a staff nurse in PICU in Halifax at the Izaak Walton Killam Hospital for Children (IWK). I immediately knew I had found my niche in critical care and it has remained a part of my career path ever since. Since 1985 I have held a variety of management positions, always with a critical care focus. I am currently the Director of Perioperative, Emergency and Critical Care for the Children's Health Program at the IWK. My second passion is leadership development and I continue to enjoy facilitating and offering leadership courses for staff at the IWK with a focus on balancing work and personal life to achieve what matters most in our lives.

I have had the privilege to present at numerous past Dynamics conferences, but probably most enjoyed having the opportunity to share my "I am a Canadian Nurse!" keynote address at Banff in 2004 with 450 other critical care nurses. This past year in Fredericton, as a follow-up, I spoke in a plenary session, this time entitled "Stayin' Alive!" I love being a nurse in critical care and I guess some of that enthusiasm has influenced my daughter, Sinead, who began her first year of nursing at St. Francis Xavier in Antigonish, N.S., this past year. I hope that I am able to give as much back to critical care nursing through my participation on the national board as it has given to me over the past 30 years of my career. I look forward to working with my colleagues on the board while serving the members of our association over the coming year.

Teddie Tanguay

I obtained my nursing diploma from the Royal Alexandra Hospital School of Nursing in 1982. I began my career by working in orthopedics but, in 1983, my interest in critical care was born when I accepted a position in general systems ICU. There, I worked in many different capacities, including staff nurse, educator and management. In 1993, I graduated from the University of Alberta with a Bachelor of Science in Nursing. In 1994, I helped write the Canadian critical care certification exam and obtained my certification in 1995. Eventually, my passion for critical care and thirst for new knowledge led to a return to the University of Alberta where I obtained a Master's Degree in Nursing. I then began working as a nurse practitioner in critical care. As part of my interest and drive for furthering critical care nursing, I became involved in the Canadian Association of Critical Care Nurses. I became the founding member of the Greater Edmonton chapter and have held many executive positions. I have been involved in organizing various Dynamics conferences held in Edmonton, Calgary, and Banff. I also was previously on the national board of directors for CACCN. I am excited to begin my second term on the board of directors, as Western Region representative. I look forward to increasing awareness of critical care nursing in Canada as vice-president of CACCN.

Pamela Cybulski

This will mark my fourth and final year on the board of directors for CACCN. I am very proud and honoured to be part of such a dynamic group of nurses. Like the other members of the board of directors, I am dedicated to assisting our membership to achieve standards of excellence and advocacy for patients and their families in intensive care. My portfolio as secretary, central Canada representative, also includes membership and recruitment. The board of directors at CACCN is continuously striving to develop incentives that will give back to the membership. We are very concerned about succession planning for new nurses to critical care to ensure that they will have a quality roadmap to follow to continue the vision that CACCN has developed.

Membership in CACCN is a great way to develop and sustain a personal impact on the creation of an excellent critical care working environment. It is through the strength of our membership numbers that we ensure professional power to bring about necessary changes to the health care system. One of my other roles on the board of directors is to work with the Canadian Nurses Association (CNA) in promoting certification in critical care. Although certification is not required to be a member of CACCN, we want to ensure that we can provide educational opportunities for nurses to attain and maintain their certification in critical care.

I am a critical care educator at Brampton Civic Hospital, Ontario, with 30 years of experience in critical care. I have seen the sustained development of critical care nurses, in both knowledge and technological skills, increase dramatically over the years to meet the challenges of the critically ill. I look forward to learning collaboratively from my colleagues across the country and representing your voice at a national level.

Joanne Baird

It is both an honour and a privilege to be re-elected for my second term on the CACCN board of directors as an Eastern representative.

I will be continuing the portfolio of treasurer and will be the liaison with the London and Montreal chapters. I am a native Newfoundlander and Labradorian and graduated from the General Hospital School of Nursing in 1984. Immediately after graduation I started my career as a critical care nurse working in several ICUs within the province. I have worked in Grand Falls-Windsor for the past 22 years, as a direct patient care provider in our nine-bed ICU. I completed a post-graduate intensive care course in 1986, Bachelor of Nursing in 2005, and certification and recertification in critical care nursing. I bring to the board a wide range of experiences, including being a member of the Newfoundland and Labrador Nurses' Union provincial board of directors for the past 10 years. I was a member of the provincial SARS taskforce that travelled the province speaking to health care workers about their concerns and requirements for pandemic planning. I was a member of the 2005 Dynamics NL planning committee, which was enjoyed by all, and had poster presentations at Dynamics Halifax and Ottawa. Personally, I have been married for 22 years and have two terrific teenage children. I have been involved in my community serving in many organizations including Girl Guides of Canada and Junior Curling. I enjoy all that Newfoundland has to offer with my favourites being fishing, snowmobiling and weekends at our cabin. I look forward to serving this exceptional organization.

I know that through the leadership of the president, Kate Mahon, and a very dedicated and motivated Board of Directors, this organization will continue to grow and prosper. I look forward to the next two years.

Tricia Bray

I am looking forward to my second term on the board of directors representing Western Region—thank you for the opportunity to serve again. I will be assuming the publications and research portfolio during this term, and hope to learn from working with Paula Price, Dynamics Clinical Editor, and the editorial review board. During this term I am also planning to start building the framework for a CACCN research network, something that I think is important for our organization and Canadian critical care nursing.

I have spent most of my nursing career in critical care and have enjoyed the many opportunities it has provided. I am currently an instructor with the Advanced Studies in Critical Care Nursing program at Mount Royal University in Calgary.

I have lived in Western Canada all my life and, as a member of the board, I have enjoyed the honour and privilege of working with critical care nurses from across Canada. Even though we are a large country, our critical care community is a small one with many common challenges and successes, and it is together that we are strongest. I am proud to be part of "The Voice for Excellence in Canadian Critical Care Nursing."

Ruth Trinier

I am both delighted and honoured to begin my journey with the national board of directors of CACCN as a Central representative. I will be assuming the portfolio for awards and sponsorship, and I will become the liaison for the New Brunswick and Nova Scotia chapters.

I have worked at the Hospital for Sick Children in Toronto since 1984, originally as a clerk in the emergency department. It was my exposure there to nursing that inspired my return to school.

While continuing my work at Sick Kids, I obtained a Diploma in Nursing at George Brown College (1989) and a Bachelor of

Science in Nursing (2000) from Ryerson University. In September of 2009, I began my pursuit of a Master's in Nursing at Athabasca University.

For the last 11 years, I have had the privilege of caring for the children and families who have been admitted to the pediatric intensive care unit, as a direct care provider. I can say with all honesty, I love my work. In addition to patient care, this environment has provided me with numerous opportunities to grow in the profession including conference planning, education, preceptorships, research and more.

I was encouraged and supported by Cecilia St. George-Hyslop, our past president, to become involved with the work of the CACCN. As a result, I responded to the call for task force members for the review and revision of the Standards for Critical Care Nursing Practice. Through this opportunity, I was introduced and allowed to work with a group of compassionate, dedicated critical care nurses from across Canada—all members of CACCN. I look forward to serving on the national board and continuing my association with the incredible nurses who provide care to the critically ill.

Christine R. Halfkenny-Zellas
Chief Operating Officer

It has been my pleasure to work for the national board of directors and the members of CACCN for the past two years. With more than 25 years of administration, corporate, government and human resources experience behind me, I feel my skills blend well with the goals of the association. The past and current board members are simply wonderful to work with.

I am a graduate of the Canadian Institute of Management, holding the designation of Certified in Management (C.I.M.). Over the past 18 years, I have been employed as a constituency assistant for a cabinet minister in the Ontario Legislature, a program officer for youth sport, recreation and development with the Ontario Ministry of Tourism, Culture and Recreation, and the corporate/human resources administrator for a mid-size international van/flatbed trucking company.

I was born in London, Ontario, but have had the good fortune of being an "army brat". This led to experiencing new communities in Canada and abroad. Having moved a lot as a child, I have a love for travelling, as well as an appreciation for setting roots and staying in one place. My husband and I have two teenage children and a golden retriever. We spend most of our time outdoors. With spring just around the corner, we can't wait to break out the fishing gear, BBQ, and our bicycles.

My time with the CACCN has been enjoyable and quite the learning experience. I have had the pleasure of meeting many of you via email, telephone and in person at the Dynamics conferences in Montreal and Fredericton. I look forward to working with our members, the national board of directors and the Dynamics conference planning committees for many years to come.

Website banner advertising

CACCN is now offering the opportunity to have your logo and website link accessible to our members and the general public 24 hours a day, seven days a week.

Why not consider a banner advertisement on the homepage of the CACCN website at **www.caccn.ca**?

If you are interested in taking advantage of this new service, please email CACCN National Office at **caccn@caccn.ca** for more information.

Call for nominations

The election of directors to the Canadian Association of Critical Care Nurses' (CACCN) Board of Directors will take place at the CACCN annual general meeting on September 19, 2010, for a two-year term commencing April 2011 and running to March 2013.

There are **two positions available:**

- One Director in Central Region
- One Director at Large from any region

CACCN members interested in letting their names stand for election to the Board of Directors should contact the national office at (866) 477-9077 or **caccn@caccn.ca** or visit the website at **www.caccn.ca/aboutCACCN** to obtain nomination forms.

Completed forms must be received in the National office no later than **2400 hours** on **July 5, 2010,** via:

- e-mail at **caccn@caccn.ca**
- facsimile to 519-649-1458 (photo must be sent by mail or .jpg attachment) or
- mail to CACCN, PO Box 25322, London, ON N6C 6C1

Each nominee will be asked to address the membership at the Annual General Meeting (max. speech—5 minutes)

Notification of Nominees:
The Association will notify members of nominations to the board in the following manner:

- After the close of the Call for Nominations, information about the nominees will be posted on the CACCN website in the Members Only area, and in the Critical Connections Bulletin.
- If the open position has one nomination at the close of the Call for Nominations, the nominee will be acclaimed to the open position.
- If the open position has two or more nominees at the close of the Call for Nominations, an election by secret ballot at the next Annual General Meeting will take place.
- If no nominations have been received at the close of the Call for Nominations, a call from the floor will occur at the next Annual General Meeting.

What's happening at www.caccn.ca?

Members' Only Area

The Members' Only area contains a wealth of information such as electronic copies of previous **Dynamics** journals, opportunities to earn Continuing Education Credits, and more, including the Member's Discussion Forum.

Just what is a Discussion Forum? The definition of a discussion forum is an *electronic 'bulletin board'* for like-minded individuals to exchange ideas, post questions, offer answers, offer help and get to know one another". Some people are comfortable with participating, jumping right in to the action, while others may need to ease their chairs slowly to the edge of the electronic round table. Whether you are a seasoned discussion board veteran or new to the process, stop by … look around … post an introduction … answer a question …

Not a CACCN member?

What are you waiting for? Join the association and take advantage of the Member's Only benefits.

CACCN Dynamic Career Connections

CACCN Dynamic Career Connections is the official job site for the Canadian Association of Critical Care Nurses. Our mission is to connect employers with hard-to-fill positions with the brightest, most qualified critical care nurses in Canada.

For Job Seekers, there are many benefits to registering your resume on the job site:

- Three privacy settings give you complete control over the confidentiality of your resume
- View and apply to positions from some of the best employers in Canada
- Block companies from viewing your profile and/or resume
- Manage all of your applications from one central location
- Set up a Job Alert to search for and notify you know when a job matches your criteria

CACCN membership is ***not*** a requirement of registering your job seeker profile and resume on CACCN Dynamic Career Connections.

For Employers, CACCN Dynamic Career Connections, provides you with the following:

- Direct access to qualified critical care nurses ready to work
- Extended reach to a targeted candidate pool
- Post jobs confidentially
- Advanced pre-screening tools to filter applicants for easy management

CACCN Dynamic Career Connections powered by

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Visit us today at: www.caccn.com

Research Review

Gallagher, R., Trotter, R., & Donoghue, J. (2010). Preprocedural concerns and anxiety assessment in patients undergoing coronary angiography and percutaneous coronary interventions. **European Journal of Cardiovascular Nursing, 9**, 38–44.

Research purpose

The stated aims of the study were: 1) To describe concerns and factors associated with anxiety in patients undergoing angiography and percutaneous coronary intervention (PCI), and 2) to assess the validity of the Faces Anxiety Scale (FAS) for patients prior to angiography and PCI.

Design

Cross-sectional, observational design, using survey methodology.

Setting

A cardiac inpatient unit and pre-coronary angiogram unit in a 350-bed tertiary care hospital in Sydney, Australia.

Participants

Patients scheduled for coronary angiography and possible PCI who were more than 18 years old and able to read and speak English. Urgency status was not specified. Patients who were being treated for a psychiatric illness, or who had dementia or visual impairment that would hinder their completing the survey were excluded.

Methods

Measures. Two measures of anxiety were used.

- *FAS:* an ordinal, visual analogue scale that employs five pictures of facial expressions ranging from neutral to extreme fear. These images have been derived from "…universally recognized facial expressions" (p. 40). Participants are asked to point to the face that most closely matches their current anxiety level.
- *Spielberger State Anxiety Inventory (SAI):* a 20-item instrument with each item rated by participants on a four-point scale. When used with PCI patients, the reported reliability (Cronbach's alpha) has been 0.92.

A single-item, open-ended measure of participants' major concern was also used and responses were recorded verbatim. Clinical and demographic data were collected from the health records.

Procedures. Participants were recruited from the daily angiogram schedule. Consenting participants were interviewed before their procedure by one, consistent research assistant, which took approximately 20 minutes. The FAS and SAI were administered in random order.

Main findings

One hundred fifty-nine subjects participated, with a mean age of 67 years. Approximately 80% were having the procedure for the indication of stable angina, 72% were men, 88% lived with another, and 70% had a history of angina, myocardial infarction or coronary revascularization. Anxiety, as measured by the SAI, was experienced by 54% of the sample, and was low to moderate level. Using the FAS, the prevalence of anxiety was 4%, and was at a low level overall. The correlation between the two instruments in this sample was 0.521 (p = <.001). The sensitivity of the FAS was 27% and specificity 95%. Most participants (80%) identified a major concern, and the most common was uncertainty about the outcome from the procedure(s), followed by concerns about physical pain or problems during the procedure, then concerns about personal affairs (e.g., financial affairs, other health issues).

The investigators conducted multiple regression analysis to determine predictors of anxiety. The predictors that emerged in the final model included taking medication for anxiety or depression, having experienced anginal symptoms before the procedure, or having reported a major concern related to the outcome of the procedure. These predictors accounted for 12% of the variance in anxiety.

Stated limitations

The authors noted that the prediction model had low explanatory value (12%), indicating there are likely other predictors that had not been taken into account. They suggested social support and trait anxiety as possible candidates. They also postulated that another visual analogue scale for anxiety should have been incorporated into their measures, but did not state the reasoning for this suggestion.

Conclusion

The authors concluded that the prevalence of anxiety before angiogram and/or PCI was high, but that the FAS was not a useful measure of anxiety in this setting, since its sensitivity for moderate anxiety or greater was unacceptably low. They also concluded that the final model of predictors of anxiety did not explain sufficient variance to be useful and that other predictors should be explored. Finally, these authors stress that interventions to reduce anxiety in this patient group were necessary to mitigate its potentially harmful effects.

Commentary

The investigators have identified a problem worthy of study: in spite of PCI being a very common procedure, patients still experience anxiety, and it is often inadequately assessed by nurses in busy cardiac catheterization settings. The FAS was a promising candidate for a tool that would be easily administered and provide a reliable measure of anxiety in these patients. However, this scale performed disappointingly in terms of sensitivity to anxiety. This leaves few, if any, tools that have been validated for angiogram/PCI patients that are also clinically practicable for such procedure-oriented, short-term admissions. The investigators made a convincing argument that anxiety has potentially adverse consequences for cardiac patients, but they did not offer strong evidence pointing to this being a significant *actual* problem. Nonetheless, since anxiety is a form of psychological distress, it merits preventive or therapeutic interventions.

One of the predictors of anxiety found by the investigators was having been on medications for anxiety or depression. This has

not been reported previously in the literature, but makes good clinical sense: if a patient has a tendency toward anxiety or depression, an unfamiliar situation, coupled with uncertainty about outcomes (diagnosis, necessary treatment) would likely cause added anxiety, and may overcome the effectiveness of medications that they are taking. The significance of this predictor also leads to the hypothesis that perhaps the SAI actually measured trait anxiety, not state anxiety, or that trait anxiety perhaps acts in concert with, or *mediates* state anxiety. Interrelationships between the two types of anxiety in this population have been previously reported (Uzon, Vural, Uzon, & Yokusoglu, 2008).

This study has some limitations that were not acknowledged by the authors. First, it was not well-specified in the paper whether only elective patients were included, or elective, urgent and emergent patients were also allowed. There was a subtle implication that only elective patients were included ("…were included in the study if they were *scheduled* (emphasis added) for a coronary angiogram and potentially a PCI…", p. 40), but the clinical characteristics reveal that ACS patients (whose procedures were presumably urgent or emergent) comprised 12% of the sample. Patients undergoing urgent or emergent procedures likely experience greater anxiety than those having elective procedures so, if the sample included both, the investigators should, ideally, have obtained statistical control for this variable.

Second, the sample was drawn from a hospital that serves only privately insured patients, and the authors did not comment on the bias this may introduce. Their findings, therefore, have limited generalizability to non-privately insured patients.

Third, there was no analysis of either the prevalence of anxiety or its predictors by sex/gender. There is some evidence to suggest that women and men differ in the amount of anxiety experienced (Heikkilä, Paunonen, Virtanen, & Laippala, 1999), and in health-related quality of life after PCI if they do experience anxiety (Mortensen et al., 2007), so this type of analysis would make an important contribution to our understanding of the needs of these patients. It is acknowledged that the sample size may not have been large enough to detect differences in subgroups, but this does not alter the need for such analyses.

Finally, it was not specified whether the protocol provided for consistent wording of the "major concern" question, or what the wording was. While this is not a large limitation, providing this information would have added confidence in the study's rigour, and increased readers' understanding of what was being measured.

In summary, this interesting study has some limitations, but still serves as a reminder that even the most common procedures cause anxiety in patients, and that, unfortunately, reliable yet practical ways to assess this important factor in patients undergoing angiogram and PCI are not yet available. Since accurate assessment is required for effective nursing interventions, further study is needed.

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CACCN calendar of events

DATES TO REMEMBER!

June 1, 2010: Brenda Morgan Leadership Award Deadline

June 1, 2010: BBraun Sharing Expertise Award Deadline

June 1, 2010: Cardinal Health Chasing Excellence Award Deadline

June 1, 2010: Baxter Corporation Award for Excellence, The Guardian Scholarship Deadline

August 16, 2010: Dynamics 2010—Early Bird Conference Registration Deadline

September 1, 2010: Smiths Educational Award Deadline

September 3, 2010: Dynamics 2010—Conference Registration Deadline

September 13, 2010: AGM Proxy Form Deadline

September 16–17, 2010: CACCN National Board of Directors Fall F2F Meeting

September 18, 2010: Chapter Connections Day (Edmonton, AB)

September 19–21, 2010: Dynamics 2010 Conference (Edmonton, AB)

September 19, 2010: CACCN Annual General Meeting (Edmonton, AB)

October 15, 2010: CNA Initial Certification Examination Application Deadline

November 26, 2010: CNA Re-certification Application Deadline

For award criteria, visit **www.caccn.ca**

CRITICAL CARE NURSING ABSTRACTS

Four of the strategic goals of CACCN are: 1) to provide educational opportunities for critical care nurses; 2) to optimize quality of critical care nursing practice; 3) to provide varied opportunities to profile critical care nursing research; and 4) to provide opportunities for nursing colleagues to network.

CACCN's national conference, Dynamics of Critical Care, provides an excellent venue for accomplishing all of these goals. However, only a portion of CACCN members are able to attend a Dynamics conference annually. Cognizant of this, CACCN is pleased to be printing its tenth annual "Special Dynamics of Critical Care Issue", which includes the abstracts from Dynamics of Critical Care 2010.

The following abstracts represent the concurrent session and poster abstracts being presented during Dynamics of Critical Care 2010 being held in Edmonton, Alberta, September 19–21, 2010.

It is our hope that CACCN members interested in pursuing a profiled topic will contact our national office at (519) 649-5284 or e-mail **caccn@caccn.ca** to receive information regarding how to contact the author about the work.

We hope you will carefully consider the critical care nursing topics currently being investigated and discussed in various centres across Canada!

DYNAMICS OF CRITICAL CARE 2010

Abstracts: Oral presentations

The Power of Critical Care: One ICU's Experience with H1N1

Marie Aue, The Scarborough Hospital, Scarborough, ON

History has a tendency to repeat itself, as was the case in April 2009, when the World Health Organization declared H1N1 a pandemic influenza virus because it was reported around the world. One should have learned from the mistakes made from the pandemic of the Spanish Civil War and again from the 2003 outbreak of Severe Acute Respiratory Syndrome (SARS). In the past, H1N1 was considered to be a strain that affected only pigs. In 2009 this new strain of influenza emerged in people in North America. H1N1 flu virus is contagious and is spread the same way as the seasonal flu. Because people have no natural immunity to this virus, many people became severely ill. In comparison to the seasonal flu, H1N1 affected more young and healthy people while the seasonal flu affected seniors and young children. People with underlying medical conditions and pregnant women were at greater risk for severe illness. The focus of this presentation is to share our experience of caring for a pregnant patient with H1N1. This case study will be used to emphasize the challenges and associated complications encountered in caring for this patient. A collaborative team approach to evidence-based care for the critically ill patient will be utilized.

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Achieving Consensus—Revising the Standards for Critical Care Nursing

Tricia Bray, Valerie Banfield, Jennifer Giesbrecht, Sandra Goldsworthy, Pamela Hughes, Dale Kastanis, Grace MacConnell, Charlotte Pooler, Michelle Sobrepena, Ruth Trinier, CACCN Standards Review Committee

Consensus is defined as "an opinion or position reached by a group as a whole". While a seemingly simple concept, achieving true consensus, rather than majority rule, can be challenging. Consensus requires the establishment of a common goal and agreement on how the goal will be accomplished, and includes the viewpoints of all involved.

The CACCN Board of Directors identified revision of the standards as a priority. In the fall of 2008 a national committee was established from a group of volunteers representing each CACCN region, to revise the Standards of Critical Care Nursing. The standards had not been revised since 2004 and, like critical care nursing practice, required a "rethinking of our current ways of doing".

The challenges seemed overwhelming. Most committee members had never worked together before, committee work needed to be completed by teleconference across all national time zones and all members knew the document required change, but there was no clear vision of what the end result should be.

This presentation will show the process of finding consensus within a national committee. This will include the background work and discussion required to establish a common vision, the initial steps toward revision, and how a task that seemed insurmountable "fell into place" without acrimony or conflict. The Standards for Critical Care Practice (4th Edition) represents a collaborative process that valued input from each member from start to finish.

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Developing Competency to Build Capacity in a Pediatric Intensive Care Unit

Lynn Coolen, Becky Palmer, Leslie Braun, Sarb Randhawa, Rosella Jefferson, Dori Van Stolk, Melanie McVittie, Tracie Northway, Karen LeComte, British Columbia Children's Hospital, Vancouver, BC

Hiring for critical care is a challenge due to the competencies required to work within specialty practice areas. Despite critical care nursing certificates available throughout Canada, the onus is often placed upon individual intensive care units (ICUs) to build upon the critical care nurses' competence and support them in their development. This journey requires continuing education opportunities, clinical consolidation time and an environment that supports education. Our experience highlights the importance of creating a standardized approach to professional development to enable competency development for critical care nurses.

Over a two-year period, 46 nurses (42% of nursing staff) were hired to the Pediatric Intensive Care Unit (PICU) creating an imbalance of competence levels. As a result, the unit struggled to provide care to complex children without relying on overtime of senior staff. A decision was made to address RN competency development through utilization of the Lean improvement methodology.

In order to better understand areas for improvement, the project leaders spent two weeks observing and interviewing in the PICU. They discovered 90% of PICU nurses surveyed were dissatisfied with their professional development. A mismatch between patient complexities and available nurse competence levels was observed and later validated. Post-validation, a team of PICU nurses, frontline leaders and learning and development experts was formed to create a professional development pathway to increase PICU registered nurse competence.

During the rapid process improvement week, ideas were generated for testing and four areas of focus emerged: creation of a professional development pathway; revision of the competency (CAPE) tools and creation of validation tools;

revision of professional portfolios; and redefining roles and responsibilities of nursing leaders. Throughout the week, the team tested ideas with nursing staff in the PICU. By the end of the week, the professional development pathway was created, CAPE tools were reviewed and revisions were planned, and competency validation tools were created and tested.

Staff embraced the concept of tracking their progress using a professional portfolio. Review of the frontline nursing leadership roles and responsibilities proved to be the most complex of the project. It required conversations about role expectations and abilities within the leadership team. All agreed a concerted effort was required in moving nurses forward in a standardized approach to development. Overall, there has been an increase in staff satisfaction to 85% with the professional development pathway. This has led to efficiencies in staff resources resulting in an increased ability to provide care to the most complex patients.

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Leading the Way: A New Approach to Mentorship and Revitalizing Critical Care Nursing in a Busy Intensive Care Unit

Ingrid Daley, Elizabeth Gordon, Claire Holland, Toronto General Hospital, University Hospital Network, Toronto, ON

The Medical Surgical Intensive Unit (MSICU) at one of Canada's largest academic tertiary care centres has introduced a clinical orientation tool to assist novice practitioners in their learning progression during their first year of ICU practice. The MSICU unit council committee, comprising expert and novice frontline registered nurses (RNs), as well as the patient care coordinator and educator, realized that ongoing critical care nursing shortage and recruitment/retention issues necessitated an orientation tool to guide charge nurses in assigning new hires to critically ill patients. The goal was to ensure the tool fostered an optimal learning experience structured around orientation standards leading to the development of confident, competent practitioners.

Impetus for this clinical orientation tool arose from observations that new hires were often overwhelmed or bored at the bedside and patient assignments were not consistently appropriate in fostering the incremental development of critical care skills. The orientation tool reflected a staged approach to patient assignments that gradually exposed the new hire to progressive levels of complexity. Embedded within the tool were guidelines specifying performance competencies expected of new hires at three-month intervals in their first year of critical care practice.

This clinical tool has been found to decrease the anxiety and stress of novice critical care nurses and provides a sense of satisfaction with the orientation experience. In this presentation, we will report the implementation process and outcomes associated with its use over the past two-and-a-half years.

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Closing the Gap: Practice-Research Synergy in Critical Care

Karen Dryden-Palmer, Judy Van Hyuse, Anne-Marie Krancevic, Laura Keating, Rose Gaiteiro, The Hospital for Sick Children, Toronto, ON

This presentation will discuss initiatives undertaken to foster interprofessional clinical staff interest in research and evidence integration in a pediatric critical care unit. The objective of these initiatives was to encourage more rapid integration of evidence into bedside clinical decision-making and facilitate a culture of practice that is inclusive of research and evidence generation.

We will describe how we successfully encouraged dialogue between the interprofessional clinical team and research teams, established infrastructure to support frontline engagement in research activities and created educational opportunities for the development of skills for evidence appraisal and research participation.

Our synergistic plan included multiple learning and communication strategies delivered through a relationship-building approach. We hoped to create a shift in the separate cultures of clinical care and research. We will describe the implementation of evidence-based practice rounds, communication strategies, a frontline research workshop, a research bulletin board and the research website.

The result of these activities is increased interest and questions from the interprofessional team regarding research projects and evidence generation. Multimodal access to information relating to research activities in the program, as well as numerous intake points for individuals interested in pursuing a research question have been highly successful. Study coordinators have noted increased calls to review potential candidates for studies and to discuss study protocols. We will present data that demonstrate an improvement in enrolment rates and impact on staff satisfaction.

We found that collaboration between education and research leaders is necessary for a comprehensive approach to closing the practice-research gap. Methods of knowledge-sharing and frequent opportunities to bring practitioners and researchers together in a busy clinical setting have proven to be obtainable and the key to success. Development of sustainable communication tools and creative educational opportunities has inspired shared interest amongst all groups. Improving systems issues have nurtured a collaborative relationship between the research and clinical focuses of the critical care program. We hope that knowledge gained through these initiatives can inform future strategies for new knowledge integration in clinical arenas.

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Traumatic Brain Injury Clinical Practice Guidelines: The Impact of Guideline Implementation on Nurse and Physician Knowledge and Satisfaction

Karen Dryden-Palmer, Erica Childs, Jamie Hutchison,
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This presentation will discuss the development and successful implementation of multidisciplinary Traumatic Brain Injury Clinical Practice Guidelines (TBICPG) into clinical practice in a pediatric critical care unit. The TBICPG address both the medical management and the holistic care of the child and family experiencing critical brain injury. The process of interdisciplinary guideline development, implementation strategies, and the resulting impact on practice and professional satisfaction will be highlighted. Results of a pre- and post-guideline implementation study will be shared. Measures include knowledge enhancement in a variety of domains of traumatic brain injury care, nurse and medical trainee satisfaction and patient outcome indicators. Results indicate that guidelines are useful tools for integrating evidence-based practice recommendations into clinical care. Attention to preserving knowledge through enhanced access to resources and supportive clinical tools were identified as essential for sustainability. Information gained about this implementation can inform future nurse-led projects for new knowledge integration in critical care clinical arenas.

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The Power of International Partnership: The Successful Introduction of the Bedside Pediatric Early Warning System

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The Bedside Pediatric Early Warning System (Bedside PEWS) is an integrated systematic method of assessment, documentation and quantification of clinical findings that match illness severity scores with recommended clinical responses. An international implementation project was initiated by the Bedside PEWS team at the Hospital for Sick Children, Toronto, partnering with Barbara Bush Children's Hospital at the Maine Medical Centre. The experience of international collaboration and remote support for large-scale practice change will be highlighted in this presentation. Interprofessional education strategies including integrated workshops, locally generated case study review and comprehensive communication and support strategies will be shared. Early conclusions drawn from participant satisfaction and implementation data have been encouraging. Information presented in this report will be valuable to professionals interested in implementing early response programs and can inform future international collaborative partnerships for clinical practice improvements.

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Balancing the "Goods": Managers' Perceptions of Napping During Breaks on Night Shifts

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While evidence exists to support the benefits of a brief nap when working night shift, napping remains a controversial practice for nurses (Alspach, 2008; Humm, 2008). The results of a recent national survey of managers of Intensive Care Units (ICUs) illustrate why this is an issue with interesting moral dimensions and highlight the challenges faced in balancing "goods".

Forty-eight managers responded to a web-based survey of members of the Canadian Association of Critical Care Nurses (CACCN). Of these respondents, 48% had greater than 10 years of critical care experience, 56% had been managers for six years or longer, and 96% were aware nursing staff napped on breaks during night shift. When asked about their approval of nurses napping during breaks on night shift, 54% of respondents strongly or somewhat approved, while 0% perceived that their manager colleagues or senior administration strongly approved, 27% perceived that their manager colleagues somewhat approved, and 4% perceived senior administration somewhat approved.

The responses to the open-ended survey questions reflected the tensions present in balancing the good of the patient, the nurse and the unit. It was acknowledged that napping on break during night shift could ensure that nurses were alert and well rested, decreasing the potential for errors and improving patient safety. Managers also identified that napping could improve the health and well being of nurses, prevent injuries, and promote a safe drive home after the shift. On the other hand, respondents outlined how patient safety and team cohesion could be jeopardized by a number of factors, including: decreased alertness of nurses post-nap; extended breaks leading to inadequate break and patient coverage; the inability to find the napping nurse when he/she is needed; nurses who fail to wake up on time; and the use of shared lounge space during naps. Balancing these goods was particularly challenging given the less-than-ideal environment for napping due to the perceived lack of administrative support for napping, the busyness of the units, and the lack of appropriate locations and resources for napping to occur.

Twenty-four-hour care will always be needed in critical care environments, and this will continue to pose challenges for nurses in terms of sleep deprivation and fatigue and the ways to combat the consequences. Future research will need to focus on developing a realistic, effective napping regimen and adapting the current environmental context of napping to enable a shift in the balance of these competing factors.

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Nurses' Perceptions Around the Use of Conscious Sedation (Procedural Sedation) in the ER

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Problem: Every practitioner has a slightly different experience or preference when it comes to preparing patients for procedures. There are many medications to both sedate and provide analgesic for patients, but the most effective tend to require more extensively trained personnel to administer and monitor the patient receiving the drug (Evans, Jagim, & Mason, 2008). Both nurses and physicians have certain beliefs around the efficacy of certain drugs. Patients may need more extensive physiological support, such as mechanical ventilation and hemodynamic monitoring, and this may be beyond the scope of many emergency rooms (ERs). Physicians often order parameters for conscious sedation, and the nurse administering the medication may be uncomfortable with the patient's response (Joseph-Belfort, 2009). The Foothills Medical Centre ER requires, as part of its protocol, an RT with an AMBU bag at the bedside, as well as ECG monitoring. Although the protocol also requires at least one physician and an RN certified in IV push drugs at the bedside, physicians will often opt to have two physicians at the bedside with one of them administering an anesthetic, perhaps because of the possibility of complications. The protocol now is explicit in parameters for monitoring the patient before, during, and post procedure, but the commitment and proficiency of nurses performing this skill is highly dependent on their beliefs around which sedation drugs are most effective with the least complications and side effects (ENA, 2005).

Research question: What are nurses' perceptions around the use of conscious sedation (procedural sedation) in the ER?

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Atypical Presentation in the Elderly—Assessing for Delirium in Critical Care

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"Population ageing is both a triumph and a challenge" (World Health Organization, 2002). The fastest growing population around the world is people over the age of 85 years. This increase in longevity coupled with the phenomenon of ageing baby boomers will impact all aspects of health care in the next decade.

ABSTRACTS

In this presentation we will discuss the concept of atypical presentation, complexity of ageing and the nurse's ability to assess delirium in critical care settings. Delirium is considered a medical emergency and, yet, it is missed in acute care settings due to assumptions made by health care professionals about older adults, dementia, ageing, changes associated with ageing, and lack of awareness of the atypical presentations found in this population.

Atypical presentation is gradually being recognized by gerontological and geriatric health care professionals, but not in all acute care settings. Delirium can develop more rapidly in the older adult due to age-related vulnerability coupled with exposure to precipitating factors such as polypharmacy, infections, dehydration, sudden health status changes, dementia, and surgery. Even a change of environment that is disorienting to an older adult who is experiencing an acute illness will create the conditions under which delirium could quickly emerge.

In our presentation we contend that due to the vulnerability of any patient in critical condition, it is necessary for all staff to be well versed in assessment of older adults following the principles of atypical presentation assessment and investigation. It is our contention that we would reduce the number of older adults who stay in our acute care system for long periods of time due to resultant iatrogenic outcomes, if nurses in critical care, as well as all areas of acute care, were knowledgeable and conversant in atypical presentation investigations and, in particular, delirium presentation in the older adult patient.

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Striving for Excellence: Interprofessional Simulation Lab Training in Critical Care Nursing Education

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Health professionals can develop personal, professional and cultural beliefs and attitudes that can affect their willingness to collaborate, as an interprofessional team member. In health care education, learners are traditionally taught within their specific professions. Learners formulate their own opinions regarding their professional role and can often form stereotyped ideas about the roles of other health care team members. These beliefs can lead to territorial behaviours within the team that cause conflict and team ineffectiveness. If there is a lack of knowledge on the part of a team member, as to the other professions' expertise, skills, training, values or theory, then all team members are not included in decision-making and defining goals. The risk associated with not recognizing another disciplines' unique contributions, their expertise or their perspective is that creative solutions to client care situations may be overlooked.

Learning with, from and about other professionals provides not only a better understanding of the skills and roles of team members, but also leads to a more effective, collaborative interprofessional team. Clinicians who have been exposed to values and knowledge from other professions as students are more inclined not to develop bias with regards to other professions and find relevance in future clinical areas.

Respiratory therapy and critical care nursing program students were brought together in a simulation lab to enhance role understanding in relation to each other's theory, training and skills. By role playing, they experienced how interprofessional team collaboration can enhance both individual and team practice. Through reflection, they can find relevance in future practice situations to improve patient care.

This presentation will describe how educators from respiratory therapy and critical care nursing collaborated to design and facilitate an interprofessional simulation lab. The Interprofessional Perception Scale was completed prior to and immediately following the session. Evaluations were conducted to determine the attitudes and perceptions concerning interprofessional learning and working.

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Caring to Make a Difference: The Case of a Patient with Necrotizing Fasciitis

Anne Fu, York Central Hospital, Richmond Hill, ON

Evidence-based practice blended with clinical expertise provide a powerful, accurate and effective strategy in the care of patients. This case presentation highlights the importance of utilizing evidence-based and interdisciplinary clinical expertise in the care of a middle-aged patient in our intensive care unit (ICU) with necrotizing fasciitis, a potentially lethal condition commonly known as flesh-eating disease, with a mortality rate as high as 75% (Baharestani, 2008).

The patient was transferred to our ICU post debridement for the management of his septic shock and care of his extensive wound. On admission, the patient required inotropes, ventilator, and hemodialysis support for his multiple organ failure (MOF). Topical negative pressure therapy, often referred to as vacuum-assisted closure (VAC®), was also used, as an adjunct wound therapy. Care for the patient was challenging and demanding in terms of staffing and resources, with more than an hour of wound dressing change three times a week. The ICU interdisciplinary team (registered nurses, intensivist, dietitian, registered respiratory therapist, pharmacist, social worker) rose to the challenge and provided holistic and person-focused care to the patient and the family. The patient's condition improved steadily during his five-week ICU stay and he was discharged home with full recovery after eight weeks hospital stay.

Necrotizing fasciitis is a devastating disease. However, through the use of evidence-based practice, critical thinking, compassion and nursing excellence, our ICU nurses and the interdisciplinary team are "caring to make a difference" and changing the lives of the patient and his family.

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Wound Care Challenges in Critical Care

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Critical care is a fast-paced environment that demands quick and knowledgeable decision-making. We learn early on in our critical care training the importance of prompt and appropriate interventions for any sign of organ dysfunction. Unfortunately, failure of our largest organ, the skin, does not always receive the same priority.

Preventing and promptly treating integumentary complications is essential to a patient's recovery. Critically ill patients are at risk for a multitude of complications related to their skin including pressure ulcers, skin tears, intertrigo (moisture-associated skin damage), complex surgical wounds and wound infections. Pressure ulcers alone account for 26% of skin-related complications in Canadian health care settings. Any skin-related complication, left untreated or treated incorrectly, can become life threatening. Skin complications also prolong the length of stay, add to patient morbidity and contribute to ongoing disability.

Despite the existence of best practice guidelines related to the various wounds that are prevalent among critically ill patients, translating knowledge regarding wound care remains a challenge. Nurse competence and confidence regarding wound care management may be impacted by a number of factors, including inadequate educational opportunities or a lack of clinical mentors. The advanced wound care products available on the market are continually evolving, which only adds to a nurses' uncertainty when trying to choose an appropriate product to treat their patients.

This presentation will review the basics of moist wound healing, and utilize best practice guidelines to examine appropriate treatment options for a variety of wound care challenges. Audience participation will be encouraged, as clinical examples are used to guide participants to identify a wound care plan, exploring appropriate options among available wound care products and technologies.

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What's New in Fluid Resuscitation and Augmentation in 2010

Peter Godor, Royal Alexandra Hospital, Edmonton, AB

Fluid resuscitation and fluid augmentation are arguably the most commonly prescribed therapies in the intensive care environment by practitioners. Patients may require augmentation of their fluid status for a variety of reasons, such as the need to increase urinary output, increase blood pressure, achieve hemodilution, increase preload and so on. Practitioners have a wide variety of fluids available at their disposal, including various preparations of colloids and crystalloids. The role of the practitioner is to consider the reason for fluid administration in combination with patient's physiological particulars to determine the appropriate solution for administration.

This presentation will explore some of the basic principles of fluid resuscitation, fluid augmentation, and available fluid products. In addition, available research and existing guidelines will be reviewed to assist with the promotion of evidence-based practice. This presentation will give practitioners a framework to aid in choosing the appropriate fluid products for augmenting the patient's fluid status.

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Nurse Practitioners in the Intensive Care Unit: How to Implement, Maintain and Expand

Peter Godor, Royal Alexandra Hospital, Edmonton, AB

Nurse practitioners (NPs) are relative newcomers to the health care delivery model, having been around with any significance only in the last three decades in North America. Despite the relative youth of the profession, NP numbers have increased exponentially in the U.S., with a more modest increase seen in Canada. NPs and related topics are arguably one of the most researched and published-about roles in health care, with significant interest directed towards role implementation and growth.

The purpose of this presentation is to explore the particulars that are essential for the implementation of an NP position in the intensive care unit (ICU). The presentation will focus on the organizational aspect of the role and role implementation, rather than the specifics of the role and scope. Attention will be directed towards organizational readiness and stakeholder buy-in, funding models, competing interests, potential conflicts, and their resolutions, appropriate selection of nurse practitioners for the role and characteristics of an effective nurse practitioner program.

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Therapeutic Hypothermia

Rhonda Hardy-Joel, Grey Nuns Hospital, Edmonton, AB

Therapeutic hypothermia may be one of the most important therapies offered to cardiac arrest patients. Research has shown improved neurological outcomes in this population. Emerging research is also demonstrating other patient populations that may benefit from therapeutic hypothermia, as well. Despite promising results, therapeutic hypothermia is not widely practised in intensive care units (ICUs) across Canada.

The purpose of this presentation is to discuss and describe the therapeutic hypothermia protocol currently practised at the Grey Nuns ICU in Edmonton, Alberta. An overview of the evidence, method of cooling, indications, contraindications and nursing interventions during cooling are discussed. Order sets, protocols and patient care are reviewed with rationale

discussed. The process of passive versus controlled rewarming is reviewed. A case presentation to encourage discussion and highlight the process of therapeutic hypothermia will be provided.

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Challenging Accountability: Are You Having the Right "Confrontations"?

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Take a moment and reflect upon your work place: Is it really healthy? Is there evidence of unmet expectations, broken promises, or bad behaviour? Are you having "Ground Hog Day" with repeated unmet requests? Are your unit standards inconsistently met? Does horizontal violence or "peer-to-peer" bullying exist through passive/aggressive and disrespectful/hurtful communication?

We are all accountable to ensure human dignity and respect is upheld in our workplaces. This sounds like such an easy task. Take a moment and reflect how often you take the path of least resistance and resort to silence or perhaps even violence, instead of actually dealing with the problem at hand directly and in a timely manner. Remaining silent or acting out aggressively is no solution at all.

This session will review some early strategies taken in our intensive care unit (ICU) at the Hospital for Sick Children to enhance communication and narrow the gap between actual and expected performance. Even in a unit where turnover is low, approximately three to five per cent, we recognize our responsibility towards creating a healthier work environment and are beginning to make inroads to creating a culture of respect and healthy communication.

The stresses and strains of daily work in a critical care environment are undebateable. Complexities such as short staffing, high patient acuity, and death and dying may contribute to our less-than-optimal communication at times. Our delay in immediately addressing bad behaviour and/or unmet expectations is unhelpful. By participating in unhealthy communication, we serve to devalue and disrupt the work place and this is unacceptable. We must role model healthy work behaviours and challenge the status quo! So how, then, can we change this culture of malaise?

This session will discuss significant strategies by our unit, toward enhancing communication. This includes our team learning the principles and skills of "Crucial Confrontations", as well as understanding the concept of peer-to-peer bullying. **Crucial Confrontations**, a model by Patterson, Grenny, McMillan, and Switzler (2005), provides the tools to resolving broken promises, violated expectations and bad behaviour. This seven-step model supports unbundling the problem – content? pattern? or relationship? The model provides tools to challenging accountability and reinforces how to have meaningful discussions with colleagues. By asking a simple "What happened?" question and setting a safe environment, the learner engages in meaningful versus destructive conversation.

With the passing of Bill C-168, we can look forward to a healthier workplace due to this new legislation.

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Towards the Inclusion of Families in Critical Care Rounds

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Background: Principles of family-centred care support the inclusion of family members in patient rounds. However, in many critical care settings, family members are excluded from patient rounds.

Purpose: The purpose of this project was to increase understanding of staff and family perceptions and beliefs about parental inclusion in rounds in one pediatric intensive care unit (PICU)in order to design an effective and sustainable approach to changing policy and practice and move towards excellence.

Methods: This study combined quantitative and qualitative approaches to inquiry. Data were collected through surveys distributed to all nurses, physicians and other health care professionals working in the specified unit, as well as through in-depth individual interviews with a subset of parents and health care professionals.

Results: Most parents wanted to be present at rounds, and viewed their participation to be an important dimension of their parenting role. Health care professionals were divided about the advisability of including parents in rounds, citing concerns about the well being of parents, patient confidentiality, and the efficiency of rounds, as drawbacks to parental participation. The findings illustrate how policy and practice changes directed toward the inclusion of parents in rounds must address the practical concerns of health care professionals and, at the same time, attend to the ethical dimensions of parent-child and health care professional-parent relations.

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Early Mobilization of Patients in the Intensive Care Department: A Quality Improvement Initiative

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In the last two decades, significant attention has been given to quality improvement (QI) initiatives. These once-novice initiatives, such as deep vein thrombosis, GI bleed and ventilator-associated pneumonia prevention measures, are now well entrenched parts of our care in the intensive care unit (ICU). The trajectory of these QI Initiatives is relatively similar; they all start with an identified problem, followed by identification of evidence-based solutions, implementation, and change in culture. One of the newly emerging topics in critical care, over the last few years, is the benefit of early mobilization of patients.

This presentation will address the topic of early mobilization in adult critical care, including a thorough review of literature. In addition, the process of implementation and change of culture experienced by the Royal Alexandra Hospital's ICU will be examined. This examination will focus on specifics of the implementation of the early mobilization initiative, such as difficulties encountered and the successes that were achieved. A timeline of the process will be identified to follow the process of change in unit culture by this exciting, new QI initiative.

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Lessons Learned from the 2009 Pandemic: Mechanical Ventilation Strategies for Patients with H1N1

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The 2009 H1N1 pandemic has been the most serious influenza outbreak in several decades, with the potential mortality and morbidity rate that has not been seen for nearly 100 years. In early 2009, a new strain of Influenza A virus, H1N1, entered the general population causing significantly higher mortality and morbidity than expected with other strains of influenza. During the first wave of the pandemic, in the spring of 2009, it became apparent that respiratory system failure accounted for the majority of mortality and morbidity experienced.

Over the last several decades, mechanical ventilation strategies have advanced significantly for acute respiratory distress syndrome (ARDS). However, they have not been tested against the pandemic proportion of Influenza A. The last Influenza A pandemic took place prior to the availability of sophisticated mechanical ventilators and today's advanced understanding of respiratory pathophysiology. Therefore, evidence-based and practice-proven strategies for H1N1-specific mechanical ventilation were not available for the 2009 pandemic. Certainly, the vast amount of research and experience that existed relating to ARDS provided useful guidelines for treating patients with H1N1.

This presentation will examine the 2009 H1N1 pandemic, as it relates to the respiratory system. The fascinating pathophysiology of acute respiratory distress syndrome (ARDS), in the context of H1N1 infection, will be reviewed in detail. This review will incorporate new evidence-based literature about H1N1 in combination with the pre-existing understanding of ARDS. In addition, treatment options with mechanical ventilation will be discussed.

Significant focus will be aimed at the practical knowledge that was gained during the 2009 pandemic relating to mechanical ventilation, including mechanical ventilation modalities most useful for patients with H1N1, the role of high PEEP and high Mean Airway Pressure, de-recruitment, atelectasis, and recruitment maneuvers, and the role of non-conventional modalities such as HFO and ECMO.

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Times they are a Changin': A New Approach for Entry into Critical Care

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Historically, critical care units have had the luxury of hiring experienced medical-surgical nurses to meet their staffing needs. However, critical care nursing shortages have challenged educational facilities and health regions alike to fill these acute needs. Both graduate nurses and internationally educated nurses (IENs) are now being hired into critical care to meet these staffing demands.

This presentation reviews the approaches utilized by both a health region and the post-secondary institution to support these new challenges. Representatives from both the health region and the post-secondary education institute will relate experiences and "lessons learned" while facing this challenge. The health region's development of a mentorship program for the new graduate nurse in critical care; the health region's development of an evaluation tool utilized to determine clinical competence for the experienced critical care nurse; and the post-secondary institutions' use of high-fidelity simulation in the critical care nursing program are discussed in this presentation.

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"On The Road Again"— The Transport of a Critically Ill Patient

Kara Livy, Royal Alexandra Hospital, Edmonton, AB

Critically ill patients are at increased risk of morbidity and mortality during transport. The reported incidence of adverse events or patient harm ranges in the literature from 6% to 71%. While the severity of these events is often not well described, life-threatening events may be as high as 8% of intrahospital transports. Circulatory and respiratory complications were most commonly reported, along with equipment-related complications. These risks can be minimized and outcomes improved with careful planning, the use of appropriately qualified personnel, and selection and availability of appropriate equipment.

Critical care staff may under-estimate the risks of transport leading to adverse events, particularly when the emergency and diagnostic imaging departments are in close proximity to the intensive care unit (ICU), providing a false sense of safety. While intra- and interhospital transport is increasingly becoming the jurisdiction of highly trained and specialized transport personnel, each institution must develop contingency plans using locally available resources. Understanding which patients are most at risk and the types of events that occur during transport is an important step in patient preparation and aligning resources to prevent adverse events and improve patient outcomes.

This discussion will begin with a review of reported incidents during both intra- and interhospital transports. General guidelines and recommendations for the safe intra- and interhospital transport of critically ill patients have been developed and published, and these will be reviewed and discussed. Finally, risk-stratification literature will be discussed and clinical decision-making tools will be provided for review for both intra- and interhospital transports.

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Beyond Gray's Anatomy

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Anatomy is one of the foundational subjects in nursing. Although many of us have taken an anatomy course, for most this was a cursory examination using only a textbook with coloured drawings. Most of the time, this was not a true anatomy course but, rather, one paired with the equally important topic of physiology. Very few have had the privilege of participating in the dissection of human bodies in a gross anatomy laboratory, an opportunity more often associated with the training of physicians.

However, as critical care nurses and nurse practitioners (NPs), we are expected to provide similar levels of advanced care to our patients, including performing advanced procedures. Although we are provided with the basics of land-marking for the execution of these techniques, it is often unclear how our land-marking skills relate to the underlying anatomy of our patient. This understanding is critical, not only to perform the procedure, but also to understand the potential for, and correction of possible complications of these procedures.

In this session we will introduce you to surface anatomy and land-marking, as it relates to the underlying structures involved with some of our most common, yet demanding clinical procedures. Included will be a guided visual anatomical tour of Foley catheter insertion, nasogastric and orogastric tube insertion, oral intubation, central venous line insertion, arterial line insertion, chest tube insertion and lumbar puncture. Diagnostic imaging will used to provide a more classic view of how we usually see the deep structures of our patients. This session will enable critical care nurses and NPs to integrate and relate the surface anatomy of their patients with those important anatomical structures lying deep to the surface, allowing them to perform these advanced procedures with greater confidence and skill.

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End of Life Decision Making— Whose Decision is it Anyway?

Kara Livy, Royal Alexandra Hospital, Edmonton, AB

Surrogate decision-makers face significant pressure when treatment decisions are made. Many family members, particularly spouses, experience anxiety, depression, and features of post-traumatic stress disorder. Literature suggests that participation in end-of-life decisions may contribute to the psychiatric morbidity found in these family members. In very

recent literature, a plethora of "decision-making tools" have been developed and studied in an effort to assist family members and surrogate decision-makers through the decision-making process.

Careful decision-making is essential to ensure that care provided is consistent with the patient's wishes. A popular hierarchy for surrogate decision-making is one that begins with the surrogates reporting the patients' specific (if known) preferences. If this is not possible, surrogates are then asked to attempt substituted judgment relying on available evidence to express what they believe the patient would choose, if able. Finally, if preferences are not known, surrogates are often expected to choose the treatment they believe to be in the patients' best interest.

But how is a surrogate decision-maker trained to know what is in the patient's best interest? Is it instead not the responsibility of the medical team to determine the interventions that will provide the highest likelihood of benefit? Decisions are made on a daily basis by medical professionals regarding the medical and surgical risk/benefits of treating every medical condition, so why relinquish this most delicate and irreversible decision to uninformed and nonprofessional individuals who bear the responsibility of this decision for the rest of their lives? Have we not just imposed burden on lay individuals to make decisions for which they are not equipped to lessen our burden of responsibility?

This session will be an audience participation-guided discussion that addresses the topic of surrogate decision-making using an ethical framework that includes the key precepts of respect for patient autonomy, duty toward beneficence and nonmaleficence, and an obligation to ensure just distribution of resources. Come and participate in a collegially guided conversation with critical care nurses and NPs who participate in these discussions on a daily basis.

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The H1N1 Pandemic: Preparation, Coping, Aftermath and What We Have Learned

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Early in the trajectory of the H1N1 influenza outbreak, it was apparent that it would likely become a pandemic with global effects. As epidemiologic models have been accurate in the past predicting influenza migration patterns, the timing and severity of the "second wave" of H1N1 was predicted for the fall of 2009 with a potentially overwhelming magnitude. As the development and production of the vaccine was estimated to be later than needed, pandemic preparations had to be made to ensure adequate health care delivery to the population in need.

This presentation outlines the Royal Alexandra Hospital's intensive care unit (ICU) preparation, experience and aftermath of the 2009 H1N1 pandemic. Attention will be focused on the significant logistical preparations that took place, and how flexibility and rapid adaptation to changing conditions were needed for coping successfully. In addition, the ICU's experience with the pandemic will be reviewed along with key points that were learned, including the logistics of increasing the ICU's capacity to meet the rapidly changing patient numbers, and the challenges of caring for these high-acuity patients with H1N1. A review of the literature will be undertaken to compare and contrast the findings of the 2009 H1N1 pandemic, as experienced by the Royal Alexandra Hospital's ICU with other ICUs from across the country and around the world.

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Continuous Electroencephalography (CEEG) Monitoring: A Training Program for ICU Nurses

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This presentation will discuss the purpose, description, outcomes, evaluation and future of a training program for Continuous Electroencephalographic (CEEG) monitoring that was developed in the critical care unit at University Hospital in London, Ontario.

ABSTRACTS

Purpose: Our critical care unit population includes cardiac, medical/surgical, and neurological patients. In 2008, we were identifying a significant number of non-clinical seizures with CEEG in post-op cardiac patients and comatose patients. This led us to determine that more monitoring was needed and, as a result, nurses needed to be trained to initiate CEEG monitoring. As well, a small group of nurses needed to learn how to interpret CEEGs.

Description: In our critical care unit we have developed a minimalistic CEEG that is accurate and quick to apply. Since 2008, most of our nurses have been trained on how to apply the CEEG electrodes and set up the system. In 2009, two workshops were held in which 60 nurses were trained how to interpret CEEGs for seizure activity, burst suppression and spectral edge frequencies. Our neurologist interprets the CEEG with the nurses at the bedside to help reinforce their interpretative skills.

Evaluation and outcomes: The CEEG workshops were evaluated highly by the nursing staff; staff stated that they are more comfortable with CEEG interpretation. CEEG monitoring has become a standard of care for all of our sedated or comatose patients. The nursing staff is highly efficient at applying the electrodes, initiating CEEG monitoring, and interpreting the results.

Future: Monthly EEG will be posted on our website for nurses to practise interpretation skills. A trial of a prototype CEEG cap is continuing and improved EEG software will be in a trial soon.

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Standardizing Nursing Shift-to-Shift Handoffs on a National Level

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The need to improve upon nursing shift-to-shift handoff was highlighted during an impromptu meeting of two teams from intensive care units on opposite sides of the country at last year's Dynamics conference in Fredericton. Over beer and nachos, a plan was proposed to bring together pediatric intensive care units (ICUs) from across Canada to participate in a national improvement initiative focusing on standardizing nursing shift-to-shift handoffs.

Upon return to our two respective sites, we set out to seek input and support from our leaders. Within two months, 12 pediatric ICUs had been approached and had communicated an expression of interest in participating in this initiative. The Canadian ICU Collaborative was contacted and agreed to participate, as improvement facilitators in this initiative. Researchers from hospital A and hospital B pooled their collective thoughts with the two PICUs and created a three-phase action research project to improve nursing shift-to-shift handover in an effort to improve patient safety and efficiencies within PICU. The three phases include: 1. Development of a national framework/model for nursing shift-to-shift handoff; 2. Testing and adaptation of nursing shift-to-shift model to meet each unit's specific cultural needs; and 3. Knowledge transfer and sustainability.

This research is felt to offer a unique opportunity to the critical care community at large because of its potential to standardize care across the country. In addition, it aligns itself with five of the six Canadian Patient Safety Institute's safety competencies: 1) Contribute to a Culture of Patient Safety, 2) Work in Teams for Patient Safety, 3) Communicate Effectively for Patient Safety, 4) Manage Safety Risks, and 5) Optimize Human and Environmental Factors and with Accreditation Canada's required organizational practice on communication, "the team transfers information effectively among providers at transition points".

Clinical handoff is defined as a transfer of information and professional responsibility between individuals and teams. Failure in complete and accurate communication has been shown to impact patient care and safety. Findings from this

study are not known at this time. However, this presentation will focus on how a simple idea can evolve into an opportunity for national standardization and collaboration. The desire to unite from a national perspective and collectively move forward on improving care is impressive and positive for critical care but, more importantly, for the patients and families for whom we provide care.

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Safe Intrahospital Transfer of Patient Care: The Role of the Intensive Care Unit

Tracie Northway, Angela Assalone, Jennifer MacKenzie, British Columbia Children's Hospital, Vancouver, BC

The handoff and communications between care providers is one of the most critical processes in health care. In fact, 66% of sentinel events occur during this process (AORN, n.d.). It is also a process that is not well defined or standardized despite the amount of literature and improvement work done in this area.

The intensive care unit (ICU) targeted the transfer of patients from ICU to the inpatient areas, as an area for improvement. The first rapid process improvement week (RPIW) looked at standardizing the preparation process for transfer. The second RPIW built upon the first RPIW's findings and focused on the handover process throughout patient care areas. Areas for improvement of safe intrahospital patient transfer were identified through direct observation of patient transfers from the ICU to inpatient areas and a review of patient handoff literature recommendations. During the observation, existing handover processes were observed to be unreliable and a waste of resources. Consequences from the observed handovers included: unnecessary delays in diagnosis treatment and care; repeated tests; missed or delayed communication of test results; incorrect treatment or medication errors; wasted time in clarifying information; and increased frustration between ICU and receiving units.

During the RPIW, executive, practice leaders, frontline nurses and leaders from each inpatient area, rehabilitation, emergency and ICU tested ideas for improving the safety of patient transfer of care throughout the hospital. The areas of focus were on standardizing the preparation for transferring and receiving the patient, streamlining the technology (equipment transfer), and standardizing the handover information process. The end result was a creation of a transfer of care process, which included decision support tools, standardized physician transfer order set and a two-part transfer of care documentation tool based upon the mnemonic SHARED (situation, history, assessment, risk, expectation, documentation). The ICU has been an early adopter of this standardized transfer of care process. To date, audits of this transfer of care process have shown ICU has a greater than 90% compliance with the process resulting in less rework for the transferring ICU and receiving nurses. Most importantly, actual or potential patient safety events related to transfer of care from ICU to the inpatient areas has decreased by 80% since the implementation of this process.

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The Positive Side of Combining End-of-Life Care and Multiculturalism

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In the last few years, end-of-life (EOL) decision-making discussions have become common in the intensive care unit (ICU). Important to consider when holding these discussions is the integration and respect of families' personal needs, as well as cultural and religious practices. Cultural and religious sensitivity on the part of staff may reduce the burden that families feel at the EOL, and becomes even more important if EOL discussions are followed by discussions about organ and tissue donation.

ABSTRACTS

Over a two-year period, nurse clinicians for organ and tissue donation gathered data on the inclusion of EOL rituals. The data revealed that if they are offered, grieving families appreciate their inclusion as part of saying good-bye. A reference guide on religion, focusing on EOL care, rituals and organ and tissue donation concerns was developed in order to assist the staff when dealing with religions unfamiliar to them.

This presentation will address the religious aspects of care and how the organization and the manager can play a leadership role in developing staff skills in cultural and religious sensitivity. A method for developing cultural awareness will be discussed based on the Bennett model (1993) to help nurses improve their effectiveness when working with all families at EOL. Examples of questions that can be used to elicit information about families' perceptions of the illness and expected medical/nursing care will be explored. Kleinman et al. (2006) demonstrate that these questions can be fundamental to understanding "the others" (a culture other than ours) perception of events and how to deal with it. An overview of the rituals currently offered at the bedside and how the practice change has been disseminated in a large university hospital setting will be discussed. Finally, statistics on the presence of a nurse clinician for organ and tissue donation and the inclusion of EOL rituals will be discussed.

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Development of a CRRT Filter Life Audit Tool in a Canadian Hospital: Can it be Useful for Practice?

Sharon Slivar, Frances Fothergill Bourbonnais, Sue Malone-Tucker, The Ottawa Hospital and University of Ottawa, Ottawa, ON

Continuous Renal Replacement Therapy (CRRT) is a specialized therapy for critically ill patients with acute renal failure (ARF). Nursing staff in intensive care environments have a major responsibility for care of patients on CRRT. The nursing work involved in CRRT is highly complex and the learning requirements are challenging.

The authors completed a national survey with nurse educators related to CRRT practices in Canada. (Langford, Slivar, Malone-Tucker, & Fothergill Bourbonnais, 2008). This survey of 50 hospitals revealed that a major issue for 34 hospitals utilizing CRRT was the prevention and management of adverse events (Langford et al., 2008). For example, 91% of agencies that used CRRT reported filter clotting as a major concern resulting in treatment interruption. Premature filter clotting is a costly event, as it results in reduced efficacy of treatment, increased patient blood loss and increased nursing workload. While anticoagulation remains the "mainstay" of filter patency to promote filter life, a number of other factors such as vascular access (type of catheter and site placement), and method of fluid replacement (pre- or post-dilution) are also considered important predictors of extracorporeal circuit life (Davies & Leslie, 2006; Baldwin, Ronco, Bellomo, & Kellum, 2007).

To this effect, the authors have developed a CRRT filter life audit tool to facilitate the identification of factors resulting in decreased filter life. Although the literature has revealed filter clotting as a factor contributing to decreased filter life, preliminary findings from the use of this audit tool for one month in a large tertiary care ICU revealed that other factors are also involved. This presentation will discuss the findings from the use of this audit tool.

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Decision Making in the ICU: Who Wants to Decide?

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Almost 100,000 Canadians are admitted to intensive care units (ICU) every year. Data from administrative databases in the province of Ontario suggest that the incidence of mechanical ventilation and, thus, the requirement for critical care resources, will increase and outpace population growth over the next 20 years, as a result of the ageing baby-boomer cohort.

Approximately 80% of patients in the ICU are incapable of participating in decision-making due to severity of illness and treatment interventions, such as mechanical ventilation and intravenous analgesia and sedation. Yet, the ICU is a place where difficult decisions are frequently required, including those involving transition from aggressive to palliative care and participation in randomized controlled trials of novel therapeutics. The explicit wishes of most patients are unknown, as few draft formal advance directives or living wills, or share their preferences for life-sustaining therapy or research participation with family members.

Surrogate decision-making (SDM) is the predominant approach to decision-making for treatment and research in North American and European ICUs, and is supported by both

legislation and ethical arguments. There are strong reasons to support the involvement of surrogates in critical care decision-making. It is well documented that patients want their family members involved in decision-making. Despite patient endorsement of SDM involvement in treatment and research decisions, it is unclear whether or not SDMs want to play this role. This presentation will discuss both patient and family members' views of decision-making in the ICU and discuss strategies for eliciting and optimizing their preferred decision-making roles.

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A Nursing Focused Approach to Understanding and Interpreting CT Images of the Traumatic Brain-Injured Patient

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Patients with traumatic brain injuries (TBI) are commonly cared for by critical care nurses in intensive care units (ICUs) across Canada. These patients face a long and uncertain path to recovery and, in fact, many patients never return to their full pre-morbid state. Computed Tomography (CT) or CAT scan is the primary neuro-imaging technique used for the initial evaluation of the acute head-injured trauma patient. This is due to the fact that a CT scan of the head can be rapidly acquired, is universally available, quickly interpreted, and provides highly reliable images. Understanding and interpreting CT imaging is a skill with which not many critical care nurses (CCN) may feel comfortable. However, gaining this knowledge will assist the critical care nurse in following the trajectory of care and progress of one's patient.

In this presentation, the theory of non-contrast CT head imaging for the TBI population will be reviewed. The session will briefly review neurological anatomy, and provide a nursing focused approach to reading and interpreting a head CT in relation to the TBI patient. A depiction of various types of TBIs, including skull fractures, intracranial bleeds, diffuse axonal injuries, and intracerebral contusions and edema will be included. A discussion of the lexicon used in reporting anatomy of structures and injuries will be presented in a clinically focused "approach"-based format emphasizing nursing care and patient management.

The delivery of exceptional critical care nursing will be enhanced through understanding this interaction of technology and clinical management of the TBI patient. This advanced knowledge facilitates confidence and empowers critical care nurses to push the boundaries of practice, strive for excellence in care and, ultimately, change the lives of their patients—the quest for greater knowledge is the foundation of exceptional care.

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A Survey of Oral Care Practices for Intensive Care Patients Receiving Mechanical Ventilation

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Background and significance: Despite strong scientific evidence in the literature on the role of oral care in the prevention of systemic infections such as ventilator-associated pneumonia (VAP), oral care practices remain a neglected professional behaviour in intensive care units (ICUs) and VAP continues to be an important cause of morbidity and mortality in ventilated patients (Blot, Vandijck, & Labeau, 2008). In order to assure patient safety and quality of care, it is crucial to adopt safer health professional behaviours.

Purpose: The purposes of this study were twofold: 1) To describe actual oral care practices provided by critical care nurses for mechanically ventilated critically ill patients, and 2) To understand, referring to the Theory of Planned Behaviour (TPB), the factors influencing this behaviour (intention, attitudes, subjective norms, perceived behavioural control and beliefs).

Method: A descriptive cross-sectional and correlational study design was used. A mail-in self-administered survey was conducted to collect data. A convenience sample was obtained from an available population of 979 subjects using the Ordre des Infirmières et Infirmiers du Québec (OIIQ) provincial database. The sampling target included any registered nurse (RN) who was a current 2009 member of the OIIQ, was working in an ICU in the province of Quebec, and had previously consented to transmit his or her name and address to OIIQ for research purposes. A 69-item instrument was developed and the psychometric properties of the instrument were analyzed for content validity, internal consistency and stability.

Data analysis: Data analysis is now being conducted using SPSS 16.0 software. Descriptive statistics such as means and percentages will be computed. Bivariate correlations and multiple regression analysis will also be performed.

Results: Results will be presented at Dynamics 2010.

Conclusion: This study contributes to report indicators describing oral care practices, and documents factors influencing professional behaviour among critical care nurses in Quebec. This may lead to a better understanding of this practice, and safer and higher quality care for this vulnerable critically ill population.

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Valve Repair and Replacements in a Percutaneous Era

Lindsay Thorpe, Joseph Gajasan, Audrey Tennant, Brenda Ridley, University Health Network, Toronto, ON

Surgical interventions for valve replacement have historically been performed in the cardiovascular surgical realm. Surgical valve repair and replacement date back to the 1960s era of cardiopulmonary bypass (Cohn & Edmunds, 2003). The knowledge and skill set for this patient population is finely honed within the cardiovascular surgical realm. The patient population involved is a high-risk gr oup with complex co-morbidities and limited surgical options. With the evolution of technology, percutaneous valves and valve repair have become a new and integral part of cardiac management strategies. Consequently, implications for the coronary intensive care (CICU) are the new challenges faced and an expanded skill repertoire for the health care team.

The purpose of our presentation will be to provide an overview of the program managing this percutaneous patient population post-procedurally and post-operatively in the CICU setting. Beyond educational programs, there was also a multicollaborative approach providing patient-centred care in the CICU for this new patient population. Coupled with this will be the specific nursing challenges and nursing practice changes. Our program to date includes 20 patients who underwent percutaneous pulmonary valve replacements using two valve types, 70 patients who underwent percutaneous transfemoral aortic valve replacement using two valve types and three patients who underwent mitral valve repair.

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On the Road to Recovery, Smoothing the Bumps Along: One Unit's Experience with Transitional Care Improvement

Pamela Watt, Karen Dryden-Palmer, The Hospital for Sick Children, Toronto, ON

Current evidence has indicated there are unique needs for patients recovering from critical illness. Often these patients, who are moving to the recovery phase of their illness, are inadequately prepared and supported through the adaptations they must navigate.

This presentation will share one critical care unit's experience with enhancing transition services for recovering critically ill children and their families. Contexts for these transitions include: critical care to acute ward environment, transition to home and transition to other care organizations. Patients and families who benefited from these care improvements were acutely and chronically ill, and experienced both planned and unplanned hospitalizations. Strategies, which enhanced nurses' knowledge of the transitional need of patients, organizational processes supporting continuity and efficiency of care as well as tools that support nurses in providing best transition care, were developed. We will report feedback from children and their families' as well as satisfaction reports from nurses. The importance of the recognition of transition and relocation, stresses, and the benefits of a systematic pre-emptive and patient inclusive approach, will be highlighted.

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Oral poster presentations

Nurse Residency Program: A Solution to Safely Introduce New Grads in Critical Care While Improving Accessibility to Services

Melanie Berube, Émilie Laplante, Angie Belmonte, Isabelle Lepage, Marie-Pierre Valiquette, Sébastien Touchette, Hôpital du Sacré-Cœur de Montréal, Montréal, QC

Background: The shortage of nurses has been one of the main issues in Canadian ICUs over the last decade. This situation has led organizations to turn their attention towards new graduates to maintain accessibility to services. However, the integration of inexperienced nurses in ICU might affect patient care safety. A critical care nurse residency program was, therefore, implemented to increase recruitment of new graduates and address the safety issue.

Methods: This initiative was undertaken in a tertiary teaching centre. The main objective of the one-year program is to provide support to new graduates enabling them to reach the competent stage, as determined by Benner (1984). It is based on the Kolb (1984) experiential learning model. During the first six months of the program, residents are paired with experienced nurses and courses are offered on a regular basis. The emphasis is on the development of competencies to provide safe care. During the second six-month period, residents benefit from mentoring and have to attend courses focusing on complex nursing interventions and leadership. Recruitment and retention, accessibility to services, residents' progression over time as evaluated by the Casey-Fink survey (2006), and evaluation of the program through focus groups were retained as outcome indicators.

Results: From June 2008 to January 2010, 46 new graduates were recruited, facilitating a 55% increase in recruitment for this category of nurses when comparing to the previous two-year period. Residents' retention rate reached 80%, which represents a 25% increase in retention of new graduates in contrast to 2006-2007. Moreover, opened ICU beds went from 18 to 24 and intermediate care unit beds from 8 to 14 despite the fact that recourse to agency personnel decreased by 40%. Preliminary results relative to residents' experience revealed a favourable progression over time (Casey-Fink total score of 92.3/140 at one month vs.103.6/140 at one year). As to the evaluation of the program by experienced nurses, they reported reflective practice by residents, less stress because of sufficient time to teach the required skills, and acquisition of a solid knowledge base as core themes. Finally, considering the comprehensiveness of the program, university recognition was obtained through credit equivalencies.

Conclusion: Our findings confirm that a residency program is an initiative that can improve accessibility to services while addressing patients' safety. Consequently, this type of program should be recognized as a standard for the orientation of inexperienced nurses in critical care.

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The Development, Implementation, and Evaluation of a Best-Practice Checklist for ICU Rounds to Improve Team Communication

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Purpose and background: Effective teamwork and communication are imperative to reduce adverse events and to promote positive patient outcomes in the intensive care unit, given 85% of errors result from communication failures (Pronovost, 2003). The implementation of a checklist during rounds has been shown to significantly improve team communication and understanding of patient goals (Pronovost, 2003). The intent of this project is to produce an evidence-based, unit-specific tool that can be easily used by the interprofessional team during rounds in a medical-surgical intensive care.

Methods: The Institute of Health Information's (IHI) Plan-Do-Study-Act (PDSA) cycle was used to guide the development, implementation, and evaluation process of the tool. The checklist represents a synthesis of multiple sources of information acquired through a comprehensive literature review and survey of resources from other facilities. Multidisciplinary team engagement was sought for item generation and deletion for the checklist. A five-point Likert scale was used to capture feedback.

Results: Sixty-eight clinicians (59 registered nurses; four physicians; four registered respiratory therapists, one pharmacist) participated in Cycle 1 evaluation of the checklist. Ninety-six per cent of clinicians strongly agreed/agreed that the checklist was an important mechanism to organize and document goal setting. Eighty-one per cent strongly agreed/agreed the checklist resulted in improved team communication. Eighty-six per cent felt it was comprehensive, and the majority strongly agreed/agreed the checklist improved their understanding of the patients' goals for the day.

Conclusions: An evidence-based daily goals checklist was developed with multidisciplinary feedback and evaluated by front-line clinicians. The evaluation demonstrated the utility of the tool to clinicians and improved communication amongst health care team members. Respondents reported that the tool clarified the patients' daily goals.

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Glucose Monitoring in Critically Ill Patients

Rhonda Hardy-Joel, Grey Nuns Hospital, Edmonton, AB

Recent studies have shown the importance of glucose control in critically ill patients. Both hyperglycemia and hypoglycemia have been shown to be detrimental to overall patient outcomes in ICU. Most institutions use a form of point of care (POC) testing to monitor glucose levels. A quality initiative was developed to investigate the accuracy of POC testing glucose levels in critically ill patients.

Glucose was measured with POC testing, arterial blood gas (ABG) analysis, and lab analysis. A comparison of at least two of the three methods was done to note for discrepancy between measures done simultaneously. Results showed the largest discrepancy in POC glucose measurements compared to any of the other two methods. Both lab and arterial blood gas analysis for glucose correlated closely.

In critically ill patients insulin infusions are often initiated and titrated based on POC testing values. A larger study is warranted to determine if POC testing is the best method of measuring glucose values in critically ill patients.

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Practice Advancement Through Continuing Education (PACE) Days

Julie Kruchowski, Orla Smith, Liz Butorac, Karen Wannamaker, St. Michael's Hospital, Toronto, ON

Medical Surgical Intensive Care Unit (MSICU) nurses are required to have the knowledge, skill, and judgment to perform advanced nursing competencies (ANCs). To schedule and deliver education that enables nurses to obtain and maintain their ANCs is a challenge in an environment of high patient acuity and workload. After reviewing self-reported ANCs in 2008, the MSICU education team developed and implemented practice advancement through continuing education (PACE) days to address the educational needs of the nursing staff.

All nurses in the MSICU were invited to attend an eight-hour PACE Day to facilitate achievement of their ANC requirements and enhance their awareness of evidence-based practice. Six sessions from August 2008 to March 2009 were attended by 85 nurses. Nurses were granted a paid education day and received a PACE Education Manual. Members of the MSICU nursing leadership team and four staff nurses provided lectures and skills reviews on the following topics: chemotherapy and hazardous drug administration; therapeutic hypothermia post cardiac arrest; pain, sedation, and delirium; neurological assessment; thrombolytic administration for vascular occlusion; intra-abdominal pressure monitoring; lumbar drains; defibrillators and pacing; intermittent pneumatic compression stockings; blood and fluid warmers; and oral care for ventilated patients. A newly adopted electronic educational resource, Linkhealthpro, was introduced with the sessions. PACE materials were uploaded to the website to enable easy access from home or work. Completion of a chemotherapy and hazardous drugs competency test was required during the session. Course evaluations were obtained to assist in the refinement of the sessions and to solicit input for future sessions.

PACE Day evaluations revealed that hypothermia, defibrillators, and fluid warming sessions were most relevant to MSICU nurses' learning needs. Nurses enjoyed this method of education delivery; they appreciated small, hands-on classes and wanted similar sessions repeated on a regular basis. The evaluation completion rate of 92% showed that 83% found the sessions very relevant to their practice. These responses, along with suggestions for future topics, support the need for dedicated, in-hospital education days to keep MSICU nurses well informed and competent in their critical care nursing practice.

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Nurse Versus Nomogram-Directed Glucose Control in the CVICU: A Randomized Controlled Trial

Mary Mustard, Clarence Chant, J.O. Friedrich, St. Michael's Hospital, Toronto, ON

Optimal glucose control reduces mortality and morbidity in post-operative CVICU patients. Nomograms provide a standardized approach to the titration of insulin, but don't apply to all situations. Nurses frequently titrate other medications in ICU to achieve predetermined responses (e.g., inotropes) without a nomogram.

This study was designed to compare the effectiveness and safety of nurse-directed versus nomogram-directed intensive glucose control in critically ill patients after cardiovascular surgery. Our study demonstrates that glucose control in the CVICU using nursing judgment is as effective, efficient, and safe as that dictated by a previously validated paper nomogram.

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The Oxygen Supply and Demand Framework: A Tool to Support Integrative Learning

Eileen Shackell, Mary Gillespie, British Columbia Institute of Technology, Vancouver, BC

Patients experiencing critical illness have increased cellular oxygen demand and experience challenges in ensuring adequate oxygen supply to body tissues. (Morton, Fontaine, Hudak, & Gallo, 2005). Managing the physiological consequences of critical illness typically involves using specialized knowledge, skills, and interventions in order to monitor and enhance the patients' oxygen supply or decrease their tissue demand for oxygen. For example, hemodynamic assessment, monitoring, and drug therapy share the common goal of optimizing cardiac output and oxygen supply. Mechanical ventilation and oxygen therapy strategies improve patients' arterial oxygen saturation and oxygen supply. Pain, temperature and anxiety management strategies assist with decreasing oxygen demand in critically ill patients.

Traditionally in nursing education, physiology and physiological concepts are explored using a structural framework based on body "systems". Initially, the curriculum for the Critical Care Specialty Nursing program at the British Columbia Institute of Technology (BCIT) followed this lead, yet, in clinical practice, students experienced challenges applying physiological knowledge in an integrated, holistic and functional way. The faculty recognized the need to support students' learning by making explicit the links between physiological concepts, function and patient presentation. The Oxygen Supply and Demand Framework (Shackell & Gillespie, 2009) was developed by the BCIT Critical Care Specialty Nursing faculty to meet this need.

The Oxygen Supply and Demand Framework is a concept map, specifically an advanced organizer that incorporates the interrelated physiological concepts that influence balance between oxygen supply and demand in critically ill patients (Novak, 1991). It is used by faculty and students to guide patient assessment, link patient assessment data to physiologic concepts, draw conclusions about physiological function, and select and understand rationale for patient care interventions (Kinchin, 2000). To date, anecdotal feedback from educators and students using the Oxygen Supply and Demand Framework has been extremely positive.

In this session, we present the Oxygen Supply and Demand Framework and briefly explore its theoretical foundations. In addition, we briefly describe its inclusion in the BCIT Critical Care Nursing Program and offer a practice-based case study to illustrate the utility of the Oxygen Supply and Demand Framework for nursing education. Finally, we consider the implications of the Oxygen Supply and Demand Framework for critical care nursing practice, education and research.

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Towards Least Restraint in the ICU: Challenges and Learnings in an Inner City Hospital

Orla Smith, Julie Kruchowski, Karen Wannamaker, St. Michael's Hospital, Toronto, ON

Physical restraint use is common in acute and critical care settings. The Patient Restraints Minimization Act (2001) in Ontario states that a hospital may restrain or confine a patient or use a monitoring device on a patient: 1) If it is necessary to prevent serious bodily harm to the patient and/or to others; 2) If it enhances the patient's freedom or enjoyment of life; 3) If it is authorized by a plan of treatment to which the patient (or substitute decision maker [SDM]) has consented. Recommendations from a recent coroner's inquiry into the death of a man who developed acute venous thromboembolism while in restraints in a psychiatric facility further underscores the need for hospitals to act and implement strategies to minimize restraint use and minimize the potential for patient harm associated with restraint use in appropriate circumstances.

In 2009, St. Michael's Hospital formally adopted a Least Restraint Policy. A philosophy of least restraint respects the autonomy, quality of life, and the preservation of dignity of all patients. Least restraint means two things: 1) All possible alternative interventions are exhausted before deciding to use a restraint; and 2) When restraint use is required and meets the criteria, the safest and least restrictive approach is employed. Decisions about restraint use (or non-use) in critical care can be difficult. An interprofessional, critical-care specific educational initiative, inclusive of case studies, bedside support, and audit-feedback, was developed to implement the policy across the critical care units at St. Michael's. This oral poster presentation summarizes the challenges and learnings associated with the implementation process.

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Staff versus Staph: Enhancing Patient Safety by Reducing Methicillin-Resistant Staph Aureus in a Critical Care Trauma Centre

Gina Souliere, Jo-Anne Vandierendonck, Victoria Hospital, London Health Sciences Centre, London, ON

The 2006 Canadian Intensive Care Unit Surveillance Study report identified that in Canadian ICUs, 20% to 50% of Staph Aureus isolates were Methicillin-Resistant (MRSA). MRSA is responsible for significant morbidity and mortality in the ICU setting. To enhance patient safety, a multidisciplinary team consisting of a critical care educator, infection control practitioners, and medical, nursing and allied health professionals was created to review infection prevention and control practices, and opportunities to reduce MRSA transmission in a 30-bed critical care unit.

This project focused on four key areas: education and increased awareness of MRSA, hand hygiene, environmental cleaning and compliance with contact precautions. The Ontario Ministry of Health and Long-Term Care Infection Prevention and Control core competencies were presented to 150 nursing and allied health staff working within critical care. Additional project elements consisted of revamping a cleaning checklist specific to the critical care setting, waterless hand hygiene products placed at convenient locations (derived from staff input and trial), hand hygiene and contact precautions compliance audits, chlorhexidine bathing, monthly infection control tips and on-line quizzes.

Post implementation of the four key areas identified, there was a 47% reduction in MRSA transmission. Audits demonstrated good compliance with contact precautions, but less than 25% of staff met hand hygiene expectations. However, the multidisciplinary team and critical care staff remained focused on steps to reduce the transmission of MRSA. Improvements to environmental cleaning, new posters, additional education in a variety of formats, a review of the location and number of point-of-care waterless dispensers, and a review of CCTC-specific routines to determine barriers to hand hygiene were among the initiatives that were reinforced.

Post project, many lessons were learned including the importance of a multidisciplinary approach, creating opportunities for all members of the multidisciplinary team to share potential solutions in a safe environment, and that support from critical care and hospital-wide leadership was imperative.

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ABSTRACTS

DYNAMICS OF CRITICAL CARE 2010

Partnering for Patient Safety: A Clinical Nurse Specialist Intervention to Ease the Transfer from ICU

Lyne St-Louis, Diane Brault,
Jewish General Hospital, Montreal, QC

Transferring patients with complex health conditions safely from an area of increased monitoring, supported by high technology, such as the intensive care unit, to an area with a lower nurse-to-patient ratio is an intricate process. The care of these patients, once transferred, requires varying levels of expertise. As indicated in the literature, this type of transition is often associated with high stress levels for the patient and family, as well as potential complications for the patient.

In order to ensure positive outcomes in care for patients transferred from the ICU, a formal assessment, consultation and follow-up process is conducted by the clinical nurse specialist (CNS) who systematically assesses the medical and psychosocial needs of the patient, while considering the complexity of care required on the units. The CNS also assesses the resources needed to ensure safe care and collaborates with the ICU and the medical ward interdisciplinary team to facilitate the transfer.

On average, 150 patients are assessed each year by the CNS. Among the patients deemed ready to be transferred out of the ICU, about 20% of patients are considered at high risk for complications upon their transfer. In these situations, the CNS partners with the health care providers on the affected unit to develop the best possible comprehensive patient care plan to meet both the patient's and family needs.

Patients, families and staff members have verbalized that this safety initiative is helpful. The next step would be to formally measure patient, family and staff satisfaction with this intervention.

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Dynamics 2015	TBD *Winnipeg, MB*

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Poster presentations

A Patient with Varicella in the ICU

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Most people acquire Varicella when they are children, but it can occur during adulthood. Varicella is not considered a serious skin problem in most healthy individuals. However, the severity of the illness varies with the individual. Complications do occur with newborns and in adults. Pneumonia and encephalitis or significant infections are the most serious complications of Varicella infection in adults.

The focus of this presentation is to share this experience of caring for a patient with Varicella pneumonia with critical care nurses. A case study will be used to emphasize the complications and challenges of septic shock encountered in caring for this patient. A collaborative team approach to evidence-based care for the critically ill patient will be utilized.

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Management of Intertrigo in the Intensive Care Setting

Nancy Giles-McIntosh, Kathie Cowie,
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The very nature of being a patient in the ICU implies bed rest for prolonged periods of time, urinary and fecal incontinence, multiple medications, and dependency on sophisticated life-support technology.

Along with pressure ulcer and shearing injuries, intertrigo and moisture-associated skin damage is common. The two ICUs involved in this product evaluation have a high prevalence of intertrigo. Traditionally, treatment had been limited to placing dressings in the folds, using costly and often-ineffective creams, lotions and powders to minimize the damage created by excessive moisture. This ineffective treatment regimen creates a challenge for the bedside nurse. For the patient, intertrigo can be painful, itchy and long lasting.

In an effort to improve treatment, a silver-impregnated textile was introduced. There was limited literature available regarding the effectiveness of this textile product in the critical care setting, therefore a dual-site evaluation was conducted. Various patients were selected who had intertrigo in their skin folds, either pre-existing or hospital acquired. Staff was trained on proper use of the product. Daily progress was documented.

The overwhelming majority of patients showed improvement beginning in as little as two days of treatment. Improvement was noted not only in hospital-acquired cases, but also in those who had suffered from intertrigo prior to hospitalization.

It was learned that not only is staff education key, but both patients and staff preferred the use of this silver-impregnated textile product because of its ease of use and effectiveness.

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Narrowing those Knowledge and Practice Gaps: Getting Back to Basics!

Cecilia St. George-Hyslop, Nancy Breen, Natalie Lundy and Sophie Joseph, Hospital for Sick Children, Toronto, ON

In the critical care unit at the Hospital for Sick Children, a novel strategy for learning was developed. This novel adjunctive teaching aid called, "Back to Basics," serves to narrow the gap between knowledge, skill expectations, policy and actual clinical practice. Back to Basics is designed to capture and address practice or safety issues and is disseminated every two weeks on staff paycheques.

A combination of factors, including a large critical care nursing staff, a high ratio new graduate nurse population, and abundance and complexity of knowledge that nursing staff have to obtain and retain led to gaps in clinical care. Inconsistencies in care between caregivers and the recognition that sometimes concepts taught do not always consistently translate themselves to bedside care led to the development of this innovative tool.

The format of Back to Basics is a five-point questionnaire in true or false or multiple-choice format. The answers are on the back, so the learner can get a refresher of some basic principles that affect patient care in a quick and non-stressful manner. While the initial questions were solely the creation of educators and quality and safety champions, before too long, staff registered nurses were engaged and were encouraged to send suggestions for questions or develop questions themselves. With recent preparation for accreditation review, Back to Basics expanded to include an accreditation question on each issue.

Sample question: Which of the following patients with congenital cardiac disease should have their MIE hooked up to blended gas for manual ventilation?

1. Tetralogy of Fallot
2. Single ventricle physiology patients (i.e., HLHS)
3. PA with intact ventricular septum (PA-IVS)
4. Truncus Arteriosus
5. VSD with Interrupted Aortic Arch or Coarctation

Answer on reverse: Which of the following patients with congenital cardiac disease should have their MIE hooked up to blended gas for manual ventilation? Part of the daily safety check at the onset of shift (or when you change assignments) is to ensure your MIE set up is attached to the correct amount of oxygen—i.e., does your patient require **"blended" with air (< 100%) or "unblended" oxygen (100%).**

a) Tetralogy of Fallot (incorrect—does not need blended gas)
b) **Single ventricle physiology patients (i.e., HLHS) (BLENDED GAS)—correct**
c) **PA with intact ventricular septum (PA-IVS) (BLENDED GAS)—correct**
d) **Truncus Arteriosus (BLENDED GAS)—correct**
e) **VSD with Interrupted Aortic Arch or Coarctation (BLENDED GAS)—correct**

Evaluation of this strategy will include a survey of user satisfaction beyond informal feedback, and use of IClicker technology to look at retention of information.

The Work of Family Members: Pushing Our Boundaries

Virginia Vandall-Walker, Athabasca University, Athabasca, AB

Dealing with the critical illness of a relative is hard work for family members. While they necessarily yield primary responsibility for the physical well-being of their ill relative to the health professionals, many remain significant in promoting the overall well-being of the patient. They set to work to manage the situation in order to get through as best they can. What constitutes this work?

Two grounded-theory investigations of nursing support for family members of critically ill adult patients revealed that family members were engaged in a cycle of work that involved physical, emotional, and behavioural responses to the situation in order to fulfill their needs. These needs were influenced by personal resources and by the intensity of their love and commitment to their ill relative. Prior to these studies, the nature and intent of family members' work in critical illness had received minimal research attention.

The proposed explanatory model developed from these research findings provides evidence of the work that family members engage in that can, at times, push our boundaries. For example, the "WORK of Gaining Access" was shown to be pivotal to meeting their overarching "NEED to be there" at the bedside. Understanding their work and appreciating the needs that provide the impetus for it can help critical care nurses to more effectively harness a family member's energy by working in partnership for the mutual benefit of all involved: the patient, the nurse, and the family. These findings extend our understanding of family members' experiences with critical illness beyond current knowledge of family burden, stress and coping, and need recognition and fulfillment.

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Balancing Family Needs and Nursing Work: Taking a Reflective Approach

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For families, having a family member admitted to ICU creates both anxiety and helplessness (Millar, 1994; Holden et al., 2002). It is a time of emotional turmoil, during which families are living with intense fear of loss (Williams, 2005). Historically, intensive care units (ICUs) have often functioned in ways to keep families outside the doors, only allowing families to have brief visits. Current knowledge would suggest that this practice is detrimental to both patient and family. Patients can feel more secure having a family member present to advocate for them and reduce their anxiety (Grandberg et al., 1998). Research has consistently shown that families need proximity to the patient, information and hope, and these are achieved by being able to spend as much time at the bedside as possible.

Critical care nurses regularly express concern about the challenges created by having family members continually present at the bedside. Increased family presence at the bedside can distract the nurse from patient care and drain staff time and energy, contributing to the perception of increased nursing workload. In a time of nursing shortage combined with increasing patient acuity, this perception becomes even more magnified. (Farrell et al., 2005). In some centres where an unrestricted visiting policy has been in place for many years, some nurses and physicians have begun calling for more restrictions on family presence in the ICU.

Interacting with families involves a set of complex communication skills. This poster will describe a structured one-day workshop and follow-up program, based on a reflective practice model, to create the context for nurses to develop and refine these skills. Program content, including selection criteria and participation requirements, will be identified. The application of the reflective practice model in the ICU of a large university teaching centre will be presented. Potential strategies for evaluation will be proposed.

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New Communication Technology Empowering the Critical Care Nurse

Coleen Karr, Ruth Haydock, Cindy McMeekin,
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It has been shown through many studies that rapid response teams attend to patients who become acutely ill and require immediate intervention in hope of preserving life. This recovery response has shown to decrease unexpected hospital mortality by as much as 30% according to the Second International Conference on Rapid Response Systems in Pittsburgh, PA, 2006.

Nursing practice is interwoven with technology in that experienced critical care nurses are able to transcend the nature of technology to deliver expert care to their patients. Similarly, inpatient care is a complex process that requires interdisciplinary teamwork and frequent communication amongst the team in order to provide optimal care for the patient. Wireless technology is the evolution that connects and promotes the success of the patient in crisis.

A one-touch communication device that weighs less than 2 oz provides immediate access to team members and instils the necessary provisions to promote the benefits of patient care. The lines of communication are immediate and not tied to land line connections. Even following isolation regulations, a simple touch of a button initiates communication without compromising protocols.

Communication, as well as continuity and concordance with the patients' wishes, are "foundational premises of care that is patient-focused and safe" (McCauley, 2006).

This poster presentation will show the benefits of the Vocera communication badge, which enables instant wireless voice communication that is controlled with naturally spoken commands. This enables immediate hands-free communication amongst the interdisciplinary team in order to provide the most effective means of care to the critically ill patients throughout the hospital.

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The Efficacy of Peer Motivated Education within the Intensive Care Setting as a Standard of Improving Infection Control Practices

Krista Shea, Lesley Lenssen, Michelle Stephens, Judy Kojlak, Silvia Ancvirs, Tanya Charyk-Stewart, Mary Lou Card, David Tanner, London Health Sciences Centre, London, ON

Introduction: The Ontario Ministry of Health and Long-Term Care identified the need to increase basic infection control knowledge among health care professionals. Within our teaching hospital, internal groups including our Joint Health and Safety Committee and leadership teams also identified similar needs. Our hospital decided to go beyond the traditional model of educate and enforce.

Problem: To improve basic infection control knowledge among health care professionals within the critical care setting.

Objective: To gain a better understanding of the barriers impacting compliance for proper infection control practices by assessing knowledge, attitudes, behaviours and perceived barriers for infection control of all staff members within the critical care setting.

Method: A systematic approach was utilized focusing on policy development, enhanced education (including "hands-on" demonstrations and unit-specific vignettes), as well as compliance monitoring. To evaluate training, a 63-item questionnaire was designed, pre-tested and administered to all participants electronically. It consisted of multiple-choice questions regarding demographics, infection control knowledge, practices, attitudes, perceptions, and potential barriers. Likert scales were used where appropriate. Descriptive analysis of responses was undertaken and stratified by various disciplines.

Results: Two hundred and ninety staff and physicians were trained using the on-line Ministry infection control education modules, as well as attending a one-hour, peer-instructed educational session. Initial evaluation of the training demonstrated improved knowledge with regard to infection control practices. A subsequent questionnaire was distributed to focus on barriers to compliance post instruction in order to develop further educational/environmental requirements.

Conclusions: As a result of poor infection control performance indicators, our enhanced infection control training in the critical care units with the evaluation survey was essential in creating a safer environment for patients, staff and physicians at LHSC. Learning more about our health care professional's infection control behaviours, perceptions, attitudes and perceived barriers was crucial for developing ongoing interventions for improvement. The use of peer educators within the critical care environment proved to be a useful resource in motivating staff to participate and evaluate current infection control practices.

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Award information

CACCN Chapter of the Year Award Program

Award value: $500.00 plus a plaque.

Deadline: There is no application process, rather the award program will be for the period of April 1–March 31 each year.

Purpose: The Chapter of the Year Award is to recognize the effort, contributions and dedication of a chapter of CACCN in carrying out the purposes and goals of the association.

Criteria for the award program:

1. Chapters may win the award for one year followed by a two-year lapse before entering again.
2. A point system has been developed to evaluate chapter activities during the year. The chapter with the most points will be the winner of the Chapter of the Year Award. CACCN reserves the right to adjust points depending upon supporting materials submitted.
3. The award winner will be announced at Chapter Connections Day and at the annual awards ceremony at Dynamics.

Conditions for the award program:

All chapters of CACCN are eligible to participate provided they have on file at national office all of their financial (quarterly) and activity (annual) reports required for the qualifying period. Chapter website must be current.

If the above conditions are not met, the entry will be disqualified.

Announcement of the winner will be published in CACCN publications.

Categories and their corresponding points that will be used to determine the winning chapter are as follows:

1. Any educational programs that occurred during the fiscal year.
   Programs between:
   1–3 hours .....25 points each
   3–8 hours .....50 points each
   > 8 hours .....100 points each
2. A list of new members recruited during the fiscal year, including national CACCN membership numbers. Calculate your points based on the percentage of new members recruited as compared to the total membership of the previous fiscal year (prior to the qualifying period).
   1–10% .....10 points
   11–20% .....20 points
   21–30% .....30 points
   31–40% .....40 points
   41–50% .....50 points
   51–60% .....60 points
   61–70% .....70 points
   71–80% .....80 points
   81–90% .....90 points
   91–100% .....100 points
3. Evidence of chapter members who have contributed articles to either the chapter newsletter, or had a paper published in **Dynamics, the Official Journal of the Canadian Association of Critical Care Nurses.**
   25 points for each article/paper
4. Projects that provide public education, community service and/or promote the image of critical care nursing. These projects must be presented under the auspices of the CACCN chapter (i.e., participating in blood pressure clinics, teaching CPR to the public, participating in health fairs). Validation must be provided that the event was a CACCN-sponsored project by, for example, submitting a letter from the receiving group or a picture of the event, etc.
   50 points for each project

In the case of a tie, CACCN reserves the right to determine the winner. Good luck in your endeavours!

Sorin Group sponsors this award

CACCN Research Grant

Award value: $2,500.00

Deadline for submission: February 15 of each year.

Grant available: A CACCN research grant has been established to provide funds to support the research activities of a CACCN member that are relevant to the practice of critical care nursing. A grant will be awarded yearly to the investigator of a research study that directly relates to the practice of critical care nursing.

Eligibility: The principal investigator must:

- Be a member of CACCN in good standing for a minimum of one year.
- Be licensed to practise nursing in Canada.
- Conduct the research in Canada.
- Publish an article related to the findings in **Dynamics, the Official Journal of the Canadian Association of Critical Care Nurses.**

CACCN members enrolled in graduate nursing programs may also apply. Members of the CACCN board of directors and the awards committee are not eligible.

Application requirements:

- A completed application form.
- A grant proposal not in excess of five pages exclusive of appendices. Appendices should be limited to essential information, e.g., consent form, instruments and budget.
- A letter of support from the sponsoring agency (hospital, clinical program) or thesis chairperson/adviser (university faculty of nursing).
- Evidence of approval from an established institutional ethical review board for research involving human subjects and/or access to confidential records. Refer to the CNA publication **Ethical Guidelines for Nursing Research Involving Human Subjects**.
- Brief curriculum vitae for the principal investigator and co-investigator(s) describing educational and critical care nursing background, CACCN participation, and research experience. An outline of their specific research responsibilities is to be included.
- Proof of CACCN active membership.

Budget and financial administration:

- Funds are to be issued to support research expenses.
- Funds must be utilized within 12 months from the date of award notification.

Review process:

- A research review committee will review each proposal. Its recommendations are subject to approval by the board of directors of CACCN.
- Proposals are reviewed for potential contribution to the practice of critical care nursing, feasibility, clarity and relevance.
- Deadline for receipt of application in CACCN national office is February 15. The recipient of the research grant will be notified by mail.

Terms and conditions of the award:

- The research award is to be initiated within six months of the receipt of the grant. Any changes to the study timelines require notification in writing to the board of directors of CACCN.
- All publications and presentations arising from the research study must acknowledge CACCN.
- A final report is to be submitted to the board of directors of CACCN within three months of the termination date of the grant.
- An article related to the research study is to be submitted to **Dynamics, the Official Journal of the Canadian Association of Critical Care Nurses,** for publication.

Editorial Awards

Edwards

1st place award value: $750.00 Edwards

Runner-up award value: $500.00 CACCN

Deadline: None. Awards committee selection process.

The Editorial Awards will be presented to the authors of two written papers in **Dynamics, the Official Journal of the Canadian Association of Critical Care Nurses**, which demonstrate the achievement of excellence in the area of critical care nursing. An award, provided by Edwards Lifesciences, will be given to the author(s) of the best article, and another award is given to the author(s) of the runner-up article. It is expected that the money will be used for professional development. More specifically, the recipient must use the funds:

1. Within 12 months following the announcement of the winners, or within a reasonable time;
2. To cover and/or allay costs incurred while attending critical care nursing-related educational courses, seminars, workshops, conferences or special programs or projects approved by the CACCN, and
3. To further one's career development in the area of critical care nursing.

Eligibility:

1. The author is an active member of the Canadian Association of Critical Care Nurses (minimum of one year). Should there be more than one author, at least one has to be an active member of the Canadian Association of Critical Care Nurses (minimum of one year).
2. The author(s) is prepared to present the paper at Dynamics of Critical Care (optional).
3. The paper contains original work, not previously published by the author(s).
4. Members of the CACCN board of directors, awards committee or editorial committee of **Dynamics, the Official Journal of the Canadian Association of Critical Care Nurses** are excluded from participation in these awards.

Criteria for evaluation:

1. The topic is approached from a nursing perspective.
2. The paper demonstrates relevance to critical care nursing.
3. The content is readily applicable to critical care nursing.
4. The topic contains information or ideas that are current, innovative, unique and/or visionary.
5. The author was not the recipient of the award in the previous year.

Style:

The paper is written according to the established guidelines for writing a manuscript for **Dynamics, the Official Journal of the Canadian Association of Critical Care Nurses**.

Selection:

1. The papers are selected by the awards committee in conjunction with the CACCN board of directors.
2. The awards committee reserves the right to withhold the awards if no papers meet the criteria.

Presentation:

Representatives of the sponsoring company or companies will present the awards at the annual awards ceremony during the Dynamics conference. Their names will be published in **Dynamics, the Official Journal of the CACCN**.

The Spacelabs Innovative Project Award

SPACELABS Healthcare

Award Value: $ 1,500.00 (Total)

Deadline: March 1.

The award funds of $1,500.00 will be granted annually:

- $1,000.00 will be granted to the Award winner and $500.00 for the runner up.

Do you have a unique idea?

The Spacelabs Innovative Project Award will be presented to a group of critical care nurses who develop a project that will enhance their professional development.

The primary contact person for the project must be an active member of CACCN (for at least one year).

If the applicant(s) are previous winners of this award, there must be a one-year lapse before submitting again.

Applications will be judged according to the following criteria:
1. the number of nurses who will benefit from the project
2. the uniqueness of the project
3. the relevance to critical care nursing
4. consistency with current research/evidence
5. ethics
6. feasibility
7. timeliness
8. impact on quality improvement.

Within one year, the winning group of nurses is expected to publish a report that outlines their project in **Dynamics, the Official Journal of the Canadian Association of Critical Care Nurses.**

Smiths Medical Canada Ltd. Educational Award

smiths medical
bringing technology to life

Award value: $1,000.00 each (two awards)

Deadlines: January 1 and September 1.

The CACCN Educational Awards have been established to provide funds ($1,000.00 each) to assist critical care nurses to attend continuing education programs at the baccalaureate, masters and doctorate of nursing levels. All critical care nurses in Canada are eligible to apply, except members of the CACCN board of directors.

Criteria for application
1. Be an active member of CACCN in good standing for a minimum of one (1) year.
2. Demonstrate the equivalent of one (1) full year of recent critical care nursing experience in the year of the application.
3. Submit a letter of reference from his/her current employer.
4. Be accepted to an accredited school of nursing or recognized critical care program of direct relevance to the practice, administration, teaching and research of critical care nursing.
5. Has not been the recipient of this award in the past two years.
6. Incomplete applications will not be considered; quality of application will be a factor in selecting recipient.

Application process
1. Submit a completed CACCN educational award application package to National Office (forms package online at **www.caccn.ca**).
2. Preference will be given to applicants with the highest number of merit points.
3. Keep a record of merit points, dating back three (3) years.
4. Submit all required documentation outlined in criteria—candidate will be disqualified if documentation is not submitted with application.
5. Presentations considered for merit points are those that are not prepared as part of your regular role responsibilities.
6. Oral and poster presentations will be considered.

Post-application process
1. All applications will be acknowledged in writing from the awards committee.
2. Unsuccessful applicants will be notified individually by the awards committee.
3. Recipients will be acknowledged at the Dynamics of Critical Care Conference and be published in the official journal.

Chapter Recruitment and Retention Award

This CACCN initiative was established to recognize the chapters for their outstanding achievements with respect to recruitment and retention.

Recruitment Initiative:
This initiative will benefit the chapter if the following requirements are met:
- Minimum of 25% of membership is **new** between April 1 to March 31, the chapter will receive one (1) full Dynamics tuition.
- Minimum of 33% of membership is **new** between April 1 to March 31, the chapter will receive one (1) full Dynamics tuition and one (1) $100.00 Dynamics tuition coupon.

Retention Initiative:
This initiative will benefit the chapter if the following requirements are met:
- If the chapter has greater than 80% renewal of its previous year's members, the chapter will receive three $100.00 coupons to Dynamics of that year.
- If the chapter has greater than 70% renewal of its previous year's members, the chapter will receive two $100.00 coupons to Dynamics of that year.
- If the chapter has greater than 60% renewal of its previous year's members, the chapter will receive one $100.00 coupon to Dynamics of that year.

These criteria were updated at the Board of Directors face-to-face meeting in April 2008.

BBraun Sharing Expertise Award

B|BRAUN

Award value: $1,000.00

Deadline for nominations: June 1 each year.

The **BBraun Sharing Expertise Award** will be presented to an individual who exhibits stellar leadership and mentoring abilities in critical care.

The candidate is an individual who supports, encourages, and teaches colleagues. The candidate must demonstrate a strong commitment to the practice of critical care nursing and the nursing profession. These qualities **may be** demonstrated by continuous learning, professional involvement, and a commitment to guiding novice nurses in critical care.

Each nomination must have the support of another colleague and the individual's manager. It is not necessary for the candidate to be in a formal leadership or education role to

qualify for this award.

Criteria:

- Nominee must be a CACCN member.
- The nominee must have at least three (3) years of critical care nursing experience.
- At least one nomination letter must be written by a CACCN member.
- Preference is given to a mentor who has CNA certification.
- The nominee must demonstrate an awareness of, and adherence to the standards of nursing practice as determined by the provincial nursing body, and the Standards of Critical Care Nursing (2009).
- Members of the CACCN board of directors are not eligible.

Three (3) letters of support are required:

- The nominator must outline the qualities of the candidate, and reasons the candidate should be chosen to receive the award;
- Two additional letters must testify to the eligibility of the candidate, as well as outline his/her attributes (one must be written by the nominee's manager);
- All three letters must be sent by electronic mail by each person on the same day with the subject matter: "BBraun Sharing Expertise Award—Candidate's Name" to the director responsible for awards at National Office (**caccn@caccn.ca**).

Selection process:

- Each nomination will be reviewed by the awards committee in conjunction with the CACCN director of awards and sponsors;
- The successful candidate will be notified by email and regular mail.
- The successful candidate will be recognized at the annual awards ceremony at the Dynamics conference and her/his name will be published in **Dynamics, the Official Journal of the CACCN**;
- The awards committee reserves the right to withhold the award if no candidate meets the criteria;
- The funds may be used to attend educational programs or conferences related to critical care.

The Guardian Scholarship – Baxter Corporation Award for Excellence in Patient Safety

Baxter

Award value: One award of $5,000.00 or two awards of $2,500.00 each

Deadline: June 1 of each year.

The Baxter Corporation Guardian Scholarship will be presented to an individual or an interdisciplinary team who propose to make, or who have made significant contributions toward patient and/or caregiver safety in the critical care environment. Recipients of this award will identify ideas that encompass safety and improve the quality of care in their practice area.

Eligibility

The applicant must:

- Be an active member of CACCN in good standing for a minimum of one year.
- Be licensed to practise nursing in Canada.
- Members of the award review committee and/or the board of directors are not eligible.

Application Requirements

- The project will describe an innovative approach, to develop new or revised processes, to encompass patient safety and improve the quality of care at the unit, hospital or health care system level.
- The project/proposal will show evidence of collaboration among team members.

A complete application form that includes:

- A proposal of a project, or a description of a completed project, which makes a significant contribution toward patient and caregiver safety in critical care.
- The proposal will include the background perspective, statement of the problem, and intended means to change practice. The proposal should include a timeline by which the project will occur.
- Brief curriculum vitae for the principal applicant and team members describing educational and critical care nursing background and CACCN participation.
- Proof of active CACCN membership
- If this project requires ethics approval, please submit evidence of approval with your application.

Review Process

- Each proposal will be reviewed by the awards review committee and a representative of the Baxter Corporation.
- Proposals are reviewed for their contribution to patient safety, evidence of transferability of the project, innovation, sustainability, and leadership within critical care practice areas.
- Deadline for receipt of applications is **June 1** of each year.
- The successful candidate will be chosen and notified in writing by **July 1.**

Terms and Conditions of the Award

- A proposed project must be initiated within three months of the receipt of the scholarship.
- Any changes to the timelines require written notification to the board of directors of CACCN.
- All publications and presentations must recognize The Baxter Corporation and CACCN.
- An article related to the project is to be submitted to **Dynamics, the Official Journal of CACCN,** for publication.

Budget and Financial Administration

- One half of the awarded funds will be available to support the project expenses immediately.
- The remaining funds will be awarded upon the publication of an article describing the project in **Dynamics, the Official Journal of CACCN.**

The total funds available are $5,000.00.

The award funds may be granted to a maximum of two applicants ($2,500.00 each).

NOTE: *The CACCN Board of Directors & Baxter Corporation retain the right to amend the award criteria.*

Revised March 24, 2010
Board of Directors

The Brenda Morgan Leadership Excellence Award

Award value: $1,000.00

Deadline: June 1 of each year.

The Brenda Morgan Excellence Leadership Award was established in June 2007 by the CACCN Board of Directors to recognize and honour Brenda Morgan, who has made a significant contribution to CACCN and critical care nursing over many years. Brenda is the first recipient. Brenda is highly respected for her efforts in developing, maintaining and sustaining CACCN in past years.

This award for excellence in leadership will be presented to a nurse who, on a consistent basis, demonstrates outstanding performance in the area of leadership in critical care. This leadership may have been expressed as efforts toward clinical advances within an organization, or leadership in the profession of nursing in critical care. The results of this individual's leadership must have empowered people and/or organizations to significantly increase their performance capability in the field of critical care nursing.

This award has been generously sponsored by CACCN in order to recognize and honour a nurse who exemplifies excellence in leadership, in the specialty of critical care.

Eligibility criteria:
Persons who are nominated for this award will have consistently demonstrated qualities of leadership and are considered visionaries and innovators in order to advance the goals of critical care nursing.

The nominee must:

a) Have demonstrated a leadership role or have held a key leadership position in an organization related to the specialty of critical care.
b) Demonstrated volunteerism and significant commitment to CACCN, i.e., have participated in CACCN activities at local or national levels (been a member of provincial executive or national board of directors, helped to plan a workshop or a conference), or indirectly provided support of CACCN activities through management activities—supporting staff to participate in CACCN projects or attend conferences.
c) Have been a member of CACCN for a minimum of five years.
d) Have a minimum of five years of critical care nursing experience.
e) Be registered to practise nursing in Canada.
f) Hold a valid adult or paediatric specialty in critical care certification—Certified Nurse in Critical Care, CNCC(C) or CNCCP(C) from the CNA (preferred).
g) Consistently conducts themselves in a leadership manner.
h) Have effectively engaged others in the specialty of critical care nursing.
i) Have role-modelled commitment to professional self-development and lifelong learning.
j) Have inspired and mentored others to contribute to critical care nursing.
k) On a consistent basis, exemplifies the following qualities/values:
   - pro-active/innovator/takes initiative
   - takes responsibility/accountability for actions
   - imagination/visionary
   - positive communication skills
   - interdependence
   - integrity
   - recognition of new opportunities
   - conflict resolution skills/problem-solving skills
   - committed/passionate/dedicated/motivator
   - advocates for patients and families.

Application process:
The application involves a nomination process. Please submit two letters describing how the nominee has demonstrated the items under the criteria section of this award. Please use as many examples as possible to highlight what this candidate does that makes her/him outstanding. The selection committee depends on the information provided in the nomination letters to select award winners from amongst many deserving candidates.

The winner will be awarded The Brenda Morgan Leadership Excellence Award and honoured during the awards ceremony at the annual Dynamics Conference. The winner's name will be published in **Dynamics, the Official Journal of the CACCN.**

Terms and conditions of the award:
The award winner will be encouraged to write a reflective article for the **Dynamics, Official Journal of the CACCN** sharing their accomplishments and describing their leadership experience. The article will reflect on their passion to move critical care nursing forward, their leadership qualities and how they used these effectively to achieve their outcome.

Selection process:
Each nomination will be reviewed by the award committee in conjunction with the CACCN Director of Awards and Sponsorship. The Brenda Morgan Leadership Excellence Awards committee will consist of two members of the board of directors and Brenda Morgan (when possible).

The awards committee reserves the right to withhold the award if no candidate meets the criteria outlined.

Chasing Excellence Award

Award value: $1,000.00

Deadline: June 1 annually.

This award is presented annually to a **CACCN** member who consistently demonstrates excellence in critical care nursing practice. The *Cardinal Health Chasing Excellence Award* is $1,000 to be used by the recipient for continued professional or leadership development in critical care nursing.

The *Cardinal Health Chasing Excellence Award* is given to a critical care nurse who:
- In critical care, has a primary role in direct patient care.
- Has been a CACCN member in good standing for three or more years.
- Holds a certificate from CNA in critical care CNCC(C) or CNCCP(C) (preferred).
- Note: Current members of national board of directors are not eligible.

The *Cardinal Health Chasing Excellence Award* recipient consistently practises at an expert level as described by Benner (1984). Expert practice is exemplified by most or all of the following criteria:
- Participates in quality improvement and risk management to ensure a safe patient care environment.
- Acts as a change agent to improve the quality of patient care when required.
- Provides high-quality patient care based on experience and evidence.
- Effective clinical decision-making supported by thorough assessments.
- Has developed a clinical knowledge base and readily integrates change and new learning to practice.
- Is able to anticipate risks and changes in patient condition and intervene in a timely manner.
- Sequences and manages rapid multiple therapies in response to a crisis (Benner, Hooper-Kyriakidis & Stannard, 1999).
- Integrates and coordinates daily patient care with other team members.
- Advocates and develops a plan of care that consistently considers the patient and family and ensures they receive the best care possible.
- Provides education, support and comfort to patients and their families to help them cope with the trajectory of illness and injury, to recovery, palliation or death.
- Role models collaborative team skills within the inter-professional health care team.
- Assumes a leadership role as dictated by the dynamically changing needs of the unit.
- Is a role model to new staff and students.
- Shares clinical wisdom as a preceptor to new staff and students.
- Regularly participates in continuing education and professional development.

Nominations:
Two letters describing the nominee's clinical excellence and expertise are required, one of which must be from a **CACCN** member. The nomination letters need to include three concrete clinical examples outlining how the nominee meets the above criteria and demonstrates clinical excellence in practice. In addition, a supporting letter from a supervisor such as a unit manager or team leader is required.

Selection:
Each nomination will be reviewed by the awards committee in conjunction with the **CACCN** director of awards and sponsors. The successful recipient will be notified by mail, recognized at the annual awards ceremony at the Dynamics conference and her/his name will be published in **Dynamics, the Official Journal of the CACCN**. The awards committee reserves the right to withhold the award if no candidate meets the criteria.

References:
Benner, P. (1984). **From novice to expert. Excellence and power in clinical nursing practice**. Menlo Park: Addison-Wesley.

Benner, P., Hooper-Kyriakidis, P., & Stannard, D. (1999). **Clinical Wisdom and Interventions in Critical Care: A Thinking-in-action Approach**. Philadelphia: Saunders.

Canadian Association of Critical Care Nurses

DYNAMIC CAREER CONNECTIONS
on www.caccn.ca

CACCN Dynamic Career Connections is the official job site for the Canadian Association of Critical Care Nurses. Our mission is to connect employers with hard-to-fill positions with the brightest, most qualified Critical Care Nurses in Canada.

Job Seekers: This new job site provides you with the opportunity to post your resume confidentially, view and apply for positions from some of the best employers in Canada, set up job alerts to search and notify you when a job matches your criteria and best of all registration for job seekers is always FREE. *You do not need to be a member of CACCN to register with Dynamic Career Connections. Register your resume today!*

Employers: CACCN knows how important it is for you to find new ways to directly reach Critical Care Nurses. CACCN Dynamic Career Connections provides you with the opportunity to extend your reach to a targeted candidate pool, post your jobs confidentially. Use the advanced pre-screening tools to automatically filter applicants for easy resume management. *Register to post your jobs!*

If you are interested in taking advantage of this new service, please visit **www.caccn.ca**, click on **CACCN Dynamic Career Connections,** and register to start searching for your new career or team member.

JOB LINKS
on www.caccn.ca

JOB LINKS is a simplified web link page on the CACCN web site designed to provide immediate links to critical care nursing career opportunities in Canada and around the world. If your facility is interested in taking advantage of this service, please visit **www.caccn.ca**, click on **JOB LINKS,** and view the PDF contract for more information.

Canadian Association of Critical Care Nurses

Vision statement

The voice for excellence in Canadian Critical Care Nursing

Mission statement

The CACCN is a non-profit, specialty organization dedicated to maintaining and enhancing the quality of patient- and family-centred care by meeting educational needs of critical care nurses.

Engages and empowers nurses through education and networking to advocate for the critical care nurse.

Develops current and evidence-informed standards of critical care nursing practice.

Identifies professional and political issues and provides a strong unified national voice through our partnerships.

Facilitates learning opportunities to achieve Canadian Nurses Association's certification in critical care.

Values and beliefs statement

Our core values and beliefs are:

- Excellence and Leadership
  - Collaboration and partnership
  - Pursuing excellence in education, research, and practice
- Dignity & Humanity
  - Respectful, healing and humane critical care environments
  - Combining compassion and technology to advocate and promote excellence
- Integrity & Honesty
  - Accountability and the courage to speak for our beliefs
  - Promoting open and honest relationships

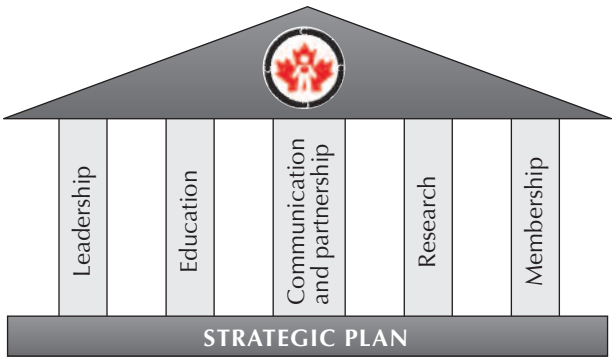
Philosophy statement

Critical care nursing is a specialty that exists to care for patients who are experiencing life-threatening health crises within a patient/family-centred model of care. Nursing the critically ill patient is continuous and intensive, aided by technology. Critical care nurses require advanced problem solving abilities using specialized knowledge regarding the human response to critical illness.

The critical care nurse works collaboratively within the interprofessional team, and is responsible for coordinating patient care using each member's unique talents and scope of practice to meet patient and family needs. Each patient has the right to receive care based on his/her personal preferences. The critically ill patient must be cared for with an appreciation of his or her wholeness, integrity, and relation to family and environment. Critical care nurses plan, coordinate and implement care with the health care team to meet the physical, psychosocial, cultural and spiritual needs of the patient and family. The critical care nurse must balance the need for the highly technological environment with the need for safety, privacy, dignity and comfort.

Critical care nurses are at the forefront of critical care science and technology. Lifelong learning and the spirit of enquiry are essential for the critical care nurse to enhance professional competencies and to advance nursing practice. The critical care nurse's ability to make sound clinical nursing judgments is based on a solid foundation of knowledge and experience.

Strategic plan: Five pillars



1. ***Leadership:***
   - Lead collaborative teams in critical care interprofessional initiatives
   - Develop, revise and evaluate CACCN Standards of Care and Position Statements
   - Develop a political advocacy plan
2. ***Education:***
   - Provision of excellence in education
   - Advocate for critical care certification
3. ***Communication & Partnership:***
   - Networking with our critical care colleagues
   - Enhancement and expansion of communication with our members
4. ***Research:***
   - Encouraging, supporting, facilitating to advance the field of critical care
5. ***Membership***
   - Strive for a steady and continued increase in CACCN membership

W H Y C A C C N ?

Vision: The voice for excellence in Canadian Critical Care Nursing

CACCN Mission Statement

The CACCN is a non-profit, specialty organization dedicated to maintaining and enhancing the quality of patient- and family-centred care by meeting educational needs of critical care nurses.

Engages and empowers nurses through education and networking to advocate for the critical care nurse.

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Identifies professional and political issues and provides a strong unified national voice through our partnerships.

Facilitates learning opportunities to achieve Canadian Nurses Association's certification in critical care.

CACCN Values Statement

Our core values are:

Excellence and Leadership
- Collaboration and partnership
- Pursuing excellence in education, research, and practice

Dignity and Humanity
- Respectful, healing and humane critical care environments
- Combining compassion and technology to advocate and promote excellence

Integrity and Honesty
- Accountability and the courage to speak for our beliefs
- Promoting open and honest relationships

Revised April 2010

Application for membership

Name: _____

Address: _____
(Street)

_____
(City) (Province) (Postal Code)

W (____) ____ - _____ H (____) ____ - _____ F (____) ____ - _____

E-mail: _____

Employer/School: _____

Position: _____

Area of Employment: _____

Nursing Registration No.: _____ Province: _____

Chapter Affiliation (if known): _____

Sponsor's Name: _____
(If applicable)

Please review types of membership noted below and check one (All include GST):

❑ New Member—one year $75.00 ❑ New Member—two years $140.00

❑ Renewal—one year $75.00 ❑ Renewal—two years $140.00

CACCN Number _____

❑ Student Member—one year $50.00

Are you a CNA member? ❑ Yes ❑ No

Signature: _____

Date: _____

Please Note: This application is for both national and chapter membership.

Make cheque or money order payable to:
Canadian Association of Critical Care Nurses (CACCN)
Mail to: CACCN, P.O. Box 25322, London, ON N6C 6B1
Or fax with Visa/MasterCard number, expiry date to: 519-649-1458
Telephone: 519-649-5284; Fax: 519-649-1458; Toll-free: 1-866-477-9077
e-mail: **caccn@caccn.ca**; website: **www.caccn.ca**

Types of Membership

Active Member: Any registered nurse who possesses a current and valid licence or certificate in the province, territory or country in which the registered nurse practises.

Student Member: Any student in an accredited professional nursing program, who is currently not licensed as a registered/graduate nurse.

Associate Member: Any person with an interest in critical care, but who does not meet the requirements for an Active Member.

DYNAMICS
The Official Journal of the Canadian Association of Critical Care Nurses

Information for Authors

Dynamics: The Official Journal of the Canadian Association of Critical Care Nurses (CACCN) is distributed to members of the CACCN, to individuals, and to institutions interested in critical care nursing. The editorial board invites submissions on any of the following: clinical, education, management, research and professional issues in critical care nursing. Critical care encompasses a diverse field of clinical situations, which are characterized by the nursing care of patients and their families with complex, acute and life-threatening biopsychosocial risk. While the patient's problems are primarily physiological in nature, the psychosocial impact of the health problem on the patient and family is of equal and sometimes lasting intensity. Articles on any aspect of critical care nursing are welcome.

The manuscripts are reviewed through a blind, peer review process.

Manuscripts submitted for publication must follow the following format:

1. Title page with the following information:

- Author(s) name and credentials, position
- Place of employment
- If there is more than one author, the names should be listed in the order that they should appear in the published article
- Indicate the primary person to contact and address for correspondence

2. A brief abstract of the article on a separate page.

3. Body of manuscript:

- Length: a maximum of 15 pages including tables, figures, and references
- Format: double spaced, one-inch margins on all sides. Pages should be numbered sequentially including tables, and figures. Prepare the manuscript in the style as outlined in the American Psychological Association's (APA) Publication Manual 6th Edition.
- Tables, figures, illustrations and photographs must be submitted each on a separate page after the references.
- References: the author is responsible for ensuring that the work of other individuals is acknowledged accordingly. Direct or indirect quotes must be acknowledged according to APA guidelines
- Permission to use copyrighted material must be obtained by the author and included as a letter from the original publisher when used in the manuscript

4. Copyright:

- Manuscripts submitted and published in Dynamics become the property of CACCN. Authors submitting to Dynamics are asked to enclose a letter stating that the article has not been previously published and is not under consideration by another journal.

5. Submission:

- Please submit the manuscript electronically as a Word attachment to the editorial office as printed in the journal. Hard copy manuscripts may also be submitted through the national office. Accepted manuscripts are subject to copy editing.

October 2009

Precedex™
(Dexmedetomidine Hydrochloride for Injection)

Prescribing Summary

Patient Selection Criteria

THERAPEUTIC CLASSIFICATION: Alpha$_2$-adrenergic agonist

INDICATIONS AND CLINICAL USE:

Intensive Care Unit Sedation

Precedex™ is indicated for sedation of initially intubated and mechanically ventilated postsurgical patients during treatment in an intensive care setting by continuous intravenous infusion. The Precedex™ infusion must not exceed 24 hours.

Precedex™ has been continuously infused in mechanically ventilated patients prior to extubation, during extubation, and post-extubation. It is not necessary to discontinue Precedex™ prior to extubation. After extubation, the dose of Precedex™ should be reduced by half. The mean time of continued infusion is approximately 6.6 hours.

Conscious Sedation

Precedex™ is indicated for sedation of non-intubated patients prior to and/or during surgical and other procedures by continuous intravenous infusion for the following procedures:

- Monitored Anesthesia Care (MAC) with an adequate nerve block and/or local infiltration; and
- Awake Fiberoptic Intubation (AFI) with adequate topical preparation of the upper airway with local lidocaine formulations.

Due to insufficient safety and efficacy data, Precedex™ is not recommended for use in procedures other than the two listed above.

CONTRAINDICATIONS

Patients who are hypersensitive to this drug or to any ingredient in the formulation or component of the container. For a complete listing, see the Dosage Forms, Composition and Packaging section of the product monograph.

SPECIAL POPULATIONS

Pregnant Women: There are no adequate and well-controlled studies in pregnant women. Precedex™ should be used during pregnancy only if the potential benefits justify the potential risk to the fetus.

Labor and Delivery: The safety of Precedex™ during labor and delivery has not been studied. Therefore, Precedex™ is not recommended during labor and delivery including cesarean section deliveries.

Nursing Women: It is not known whether Precedex™ is excreted in human milk. Radio-labeled Precedex™ administered subcutaneously to lactating female rats was excreted in milk. Because many drugs are excreted in human milk, caution should be exercised when Precedex™ is administered to a nursing woman.

Pediatrics: There have been no clinical studies to establish the safety and efficacy of Precedex™ in pediatric patients below 18 years of age. Therefore, Precedex™ should not be used in this population.

Geriatrics: Precedex™ is known to be substantially excreted by the kidney, and the risk of adverse reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection in elderly patients, and it may be useful to monitor renal function **(see Dosage and Administration).**

Safety Information

WARNINGS AND PRECAUTIONS

General

Precedex™ should be administered only by persons skilled in the management of patients in the intensive care or operating room setting. Due to the known pharmacological effects of Precedex™, patients should be continuously monitored while receiving Precedex™.

Cardiovascular

Hypotension, Bradycardia and Sinus arrest: Clinically significant episodes of bradycardia and sinus arrest have been reported with Precedex™ administration in young, healthy volunteers with high vagal tone or with different routes of administration including rapid intravenous or bolus administration.

Reports of hypotension and bradycardia have been associated with Precedex™ infusion. If medical intervention is required, treatment may include decreasing or stopping the infusion of Precedex™, increasing the rate of intravenous fluid administration, elevation of the lower extremities, and use of pressor agents. Because Precedex™ has the potential to augment bradycardia induced by vagal stimuli; clinicians should be prepared to intervene. The intravenous administration of anticholinergic agents (e.g., glycopyrrolate, atropine) should be considered to modify vagal tone. In clinical trials, glycopyrrolate or atropine were effective in the treatment of most episodes of Precedex™-induced bradycardia. However, in some patients with significant cardiovascular dysfunction, more advanced resuscitative measures were required.

Caution should be exercised when administering Precedex™ to patients with advanced heart block and/or severe ventricular dysfunction. Because Precedex™ decreases sympathetic nervous system activity, hypotension and/or bradycardia may be expected to be more pronounced in patients with hypovolemia, diabetes mellitus, or chronic hypertension and in elderly patients. In situations where other vasodilators or negative chronotropic agents are administered, coadministration of Precedex™ could have an additive pharmacodynamic effect and should be administered with caution.

Transient Hypertension: Transient hypertension has been observed primarily during the loading dose in association with the initial peripheral vasoconstrictive effects of Precedex™.

Treatment of the transient hypertension has generally not been necessary, although reduction of the loading dose infusion rate may be desirable.

Dependence/Tolerance

Precedex™ is not a controlled substance. The dependence potential of Precedex™ has not been studied in humans.

Endocrine and Metabolism

The available evidence is inadequate to confirm if dexmedetomidine is associated with significant adrenocortical suppression. The adequacy of the adrenocortical function should be individually assessed and managed.

Hepatic/Biliary/Pancreatic

Since Precedex™ clearance decreases with severity of hepatic impairment, dose reduction should be considered in patients with impaired hepatic function.

Renal

Precedex™ is known to be substantially excreted by the kidney, and the risk of adverse reactions to this drug may be greater in patients with impaired renal function. **(see Dosage and Administration)**

Peri-Operative Considerations

Arousability: Some patients receiving Precedex™ have been observed to be arousable and alert when stimulated. This alone should not be considered as evidence of lack of efficacy in the absence of other clinical signs and symptoms.

Withdrawal

Intensive Care Unit

Precedex™ is indicated only for sedation of initially intubated and mechanically ventilated postoperative patients recovering in a post-operative care unit or an intensive care unit. During the use of Precedex™ in an intensive care setting, the patients must be monitoring continuously, particularly for their cardiovascular safety indicators.

If Precedex™ were to be administered for more than 24 hours and stopped abruptly, withdrawal symptoms similar to those reported for other alpha-2-adrenergic agents may result. These symptoms include nervousness, agitation, and headaches, accompanied or followed by a rapid rise in blood pressure and elevated catecholamine concentrations in the plasma. Precedex™ infusion must not exceed 24 hours.

Conscious Sedation

Withdrawal symptoms were not seen after discontinuation of short term infusion of Precedex™

Patient Counselling Information

Precedex™ is indicated for short-term intravenous sedation. Dosage must be individualized and titrated to the desired clinical effect. Blood pressure, heart rate and oxygen levels will be monitored both continuously during the infusion of Precedex™ and as clinically appropriate after discontinuation.

- When Precedex™ is infused for more than 6 hours, patients should be informed to report nervousness, agitation, and headaches that may occur for up to 48 hours.
- Additionally, patients should be informed to report symptoms that may occur within 48 hours after the administration of Precedex™ such as: weakness, confusion, excessive sweating, weight loss, abdominal pain, salt cravings, diarrhea, constipation, dizziness or lightheadedness.

Intensive Care Unit Sedation

A total of 849 patients in the clinical studies were 65 years of age and over. A total of 242 patients were 75 years of age and over. In patients greater than 65 years of age, a higher incidence of bradycardia and hypotension was observed following administration of Precedex™. Therefore a dose reduction should be considered in patients over 65 years of age **(see Dosage and Administration).**

Conscious Sedation

A total of 131 patients in the clinical studies were 65 years of age and over. A total of 47 patients were 75 years of age and over. Hypotension occurred in a higher incidence in Precedex™-treated patients 65 years or older (72%) and 75 years or older (74%) as compared to patients <65 years (47%). Pre-specified criteria for the vital signs to be reported as adverse reactions are footnoted below Table 3 **(see Adverse Reactions)**. A reduced loading dose of 0.5 mcg/kg given over 10 minutes is recommended and a reduction in the maintenance infusion should be considered for patients greater than 65 years of age **(see Dosage and Administration)**.

ADVERSE REACTIONS

Adverse Drug Reaction Overview

Use of Precedex™ has been associated with the following serious adverse reactions:

- Hypotension, bradycardia and sinus arrest **(see Warnings and Precautions)**,
- Transient hypertension **(see Warnings and Precautions)**.

Most common treatment-emergent adverse reactions, occurring in greater than 2% of patients in both Intensive Care Unit and conscious sedation studies include hypotension, bradycardia and dry mouth.

Intensive Care Unit Sedation

Adverse event information derived from the placebo-controlled, continuous infusion trials of Precedex™ for sedation in the surgical intensive care unit setting in which 387 patients received Precedex™. Overall, the most frequently observed treatment-emergent adverse events included hypotension, hypertension, nausea, bradycardia, fever, vomiting, hypoxia, tachycardia and anemia **(see Table 1).**

Conscious Sedation

Adverse event information is derived from the two trials for conscious sedation in which 318 patients received Precedex™. Treatment-emergent adverse events occurring at an incidence of >2% are provided in **Table 2**. The most frequent adverse events were hypotension, bradycardia, and dry mouth.

Post-Market Adverse Drug Reactions

Hypotension and bradycardia were the most common adverse reactions associated with the use of Precedex™ during post approval use of the drug.

DRUG INTERACTIONS

Drug-Drug Interactions

Anesthetics, sedatives, hypnotics, opioids

Co-administration of Precedex™ with anesthetics, sedatives, hypnotics, and opioids is likely to lead to an enhancement of effects. Specific studies have confirmed these effects with sevoflurane, isoflurane, propofol, alfentanil, and midazolam. No pharmacokinetic interactions between Precedex™ and isoflurane, propofol, alfentanil and midazolam have been demonstrated. However, due to possible pharmacodynamic interactions, when co-administered with Precedex™, a reduction in dosage of Precedex™ or the concomitant anesthetic, sedative, hypnotic or opioid may be required.

Neuromuscular Blockers

In one study of 10 healthy volunteers, administration of Precedex™ for 45 minutes at a plasma concentration of 1 (one) ng/mL resulted in no clinically meaningful increases in the magnitude of neuromuscular blockade associated with rocuronium administration.

Cytochrome P450

In vitro studies in human liver microsomes demonstrated no evidence of cytochrome P450 mediated drug interactions that are likely to be of clinical relevance.

REPORTING SUSPECTED SIDE EFFECTS

Toll-free telephone: 1-866-234-2345 • Toll-free fax: 1-866-678-6789
Online at: www.healthcanada.gc.ca/medeffect
Regular Mail: Canada Vigilance Program, Health Canada
Postal Locator 0701C, Ottawa, ON K1A 0K9

Administration

Dosing Considerations

- Precedex™ should be used in only facilities adequately staffed and equipped for anesthesia, resuscitation, and cardiovascular monitoring.
- Precedex™ dosing should be individualized and titrated to the desired clinical response.
- Precedex™ is not indicated for infusions lasting longer than 24 hours.
- Precedex™ should be administered using a controlled infusion device with adequate precision.

Recommended Dose and Dosage Adjustment

Intensive Care Unit Sedation

- Precedex™ is indicated for post-surgical patients in an intensive care setting, e.g. in Post Anesthesia Care Unit or Intensive Care Unit.
- An assessment of the level of sedation and the need for Precedex™ should precede the initiation of Precedex™.
- Another intravenous sedative (e.g. midazolam or propofol) may be added if Precedex™ provides inadequate sedation at the highest recommended dose level.
- The need for Precedex™ continuous infusion post-extubation must be assessed individually.

If the continuous infusion is needed post-extubation, the infusion speed should be reduced by half. The mean time of continued infusion is approximately 6.6 hours.

- Precedex™ use should not exceed 24 hours in an ICU setting.

A dose reduction for both the loading and maintenance infusions should be considered in patients with impaired hepatic or renal function and in patients over 65 years of age.

Initiation: For adult patients, Precedex™ is generally initiated with a loading infusion of up to one mcg/kg over 10 to 20 minutes, if needed. For patients being converted from alternate sedative therapy a loading dose may not be required.

Maintenance: Adult patients will generally require a maintenance infusion of 0.2 to 0.7 mcg/kg/hr. The rate of the maintenance infusion should be adjusted to achieve the desired level of sedation.

Conscious Sedation

- Based on the Ramsay and Observer's Assessment of Alertness/Sedation Scales, the loading infusion provides clinically effective onset of sedation 10 to 15 minutes after start of infusion.
- For use in Monitored Anesthesia Care, an adequate nerve block and/or local infiltration should be used.
- For Awake Fiberoptic Intubation, the upper airway should be topicalized with proper lidocaine formulations.

Initiation: For adult patients, Precedex™ is generally initiated with a loading infusion of one mcg/kg over 10 minutes. For patients over 65 years of age or those undergoing less invasive procedures such as ophthalmic surgery, a loading infusion of 0.5 mcg/kg over 10 minutes may be suitable.

Maintenance: The maintenance infusion of Precedex™ is generally initiated at 0.6 mcg/kg/hr and titrated to achieve desired clinical effect with doses ranging from 0.2 to 1 mcg/kg/hr. The rate of the maintenance infusion should be adjusted to achieve the targeted level of sedation. Following the load in awake fiberoptic intubation, a fixed maintenance dose of 0.7 mcg/kg/hr is recommended until the endotracheal tube is secured.

Dosage Adjustment: Due to possible pharmacodynamic interactions, a reduction in dosage of Precedex™ or other concomitant anesthetics, sedatives, hypnotics or opioids may be required when coadministered. A dose reduction for both the loading and maintenance infusions should be considered in patients with impaired hepatic or renal function and in patients over 65 years of age.

Administration

Precedex™ must be diluted in 0.9% sodium chloride solution to achieve required concentration (4 mcg/mL) prior to administration. Preparation of solutions is the same, whether for the loading dose or maintenance infusion.

Strict aseptic technique must always be maintained during handling of Precedex™.

To prepare the infusion, withdraw 2 mL of Precedex™ and add to 48 mL of 0.9% sodium chloride injection to a total of 50 mL. Shake gently to mix well. Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration, whenever solution and container permit.

Study References

1. PrPRECEDEX™ (Dexmedetomidine Hydrochloride for Injection) Product Monograph, December 8, 2009, Hospira Healthcare Corporation.

Supplemental Product Information

Clinical Trial Adverse Drug Reactions: *Because clinical trials are conducted under very specific conditions, the adverse reaction rates observed in the clinical trials may not reflect the rates observed in practice and should not be compared to the rates in the clinical trials of another drug. Adverse drug reaction information from clinical trials is useful for identifying drug-related adverse events and for approximating rates.* **Intensive Care Unit Sedation** Adverse event information derived from the placebo-controlled, continuous infusion trials of Precedex™ for sedation in the surgical intensive care unit setting in which 387 patients received Precedex™. In these studies, the mean total dose was 7.06 mcg/kg (SD = 2.86), mean dose per hour was 0.51 mcg/kg/hr (SD = 0.39) and the mean duration of infusion of 15.6 hours (range: 0.17 to 29.08). Midazolam or propofol was used as the rescue medication for patients on Precedex™ or placebo. The population was between 19 to 83 years of age, 43% > 65 years of age, 73% male and 97% Caucasian. Treatment-emergent adverse events occurring at an incidence of >1% are provided in Table 1.

Table 1: Treatment-Emergent Adverse Events Occurring in >1% Of All Dexmedetomidine-Treated Patients in the Randomized Placebo-controlled Continuous Infusion Short-Term Intensive Care Unit Sedation Studies

Adverse Event	Randomized Dexmedetomidine*	Placebo with Midazolam Rescue	Placebo with Propofol Rescue
	(N=387)	(N=181)	(N=198)
Hypotension	28%	15%	10%
Hypertension	16%	13%	23%
Nausea	11%	9%	10%
Bradycardia	7%	3%	2%
Fever	5%	6%	4%
Vomiting	4%	6%	6%
Atrial Fibrillation	4%	4%	3%
Hypoxia	4%	5%	3%
Tachycardia	3%	7%	3%
Hemorrhage	3%	6%	4%
Anemia	3%	4%	1%
Dry Mouth	3%	2%	<1%
Rigors	2%	3%	4%
Agitation	2%	3%	3%
Hyperpyrexia	2%	3%	2%
Pain	2%	3%	1%
Hyperglycemia	2%	3%	1%
Acidosis	2%	<1%	3%
Pleural Effusion	2%	<1%	2%
Oliguria	2%	1%	<1%
Thirst	2%	<1%	<1%

*Data combined from studies conducted in post-surgical patients recovering in an ICU setting.

Conscious Sedation event information is derived from the two trials for conscious sedation in which 318 patients received Precedex™. Midazolam was used as the rescue medication for patients on Precedex™ or placebo. The mean total dose was 1.6 mcg/kg (range: 0.5 to 6.7), mean dose per hour was 1.3 mcg/kg/hr (range: 0.3 to 6.1) and the mean duration of infusion of 1.5 hours (range: 0.1 to 6.2). The population was between 18 to 93 years of age, 30% > 65 years of age, 52% male and 61% Caucasian. Treatment-emergent adverse events occurring at an incidence of >2% are provided in Table 2. Pre-specified criteria for the vital signs to be reported as adverse reactions are footnoted below the table. The decrease in respiratory rate and hypoxia was similar between Precedex™ and comparator groups in both studies.

Table 2: Adverse Events with an Incidence >2% – Conscious Sedation Population

Body System/Adverse Event	Precedex™ N = 318 n (%)	Placebo N = 113 n (%)
Vascular disorders		
Hypotension[1]	173 (54%)	34 (30%)
Hypertension[2]	41 (13%)	34 (30%)
Respiratory, thoracic and mediastinal disorders		
Respiratory depression[5]	117 (37%)	36 (32%)
Hypoxia[6]	7 (2%)	3 (3%)
Bradypnea	5 (2%)	5 (4%)
Cardiac disorders		
Bradycardia[3]	45 (14%)	4 (4%)
Tachycardia[4]	17 (5%)	19 (17%)
Gastrointestinal disorders		
Nausea	10 (3%)	2 (2%)
Dry mouth	8 (3%)	1 (1%)

1 Hypotension was defined in absolute and relative terms as Systolic blood pressure of <80 mmHg or <30% lower than pre-study drug infusion value, or Diastolic blood pressure of <50 mmHg. **2** Hypertension was defined in absolute and relative terms as Systolic blood pressure >180 mmHg or >30% higher than pre-study drug infusion value or Diastolic blood pressure of >100 mmHg. **3** Bradycardia was defined in absolute and relative terms as <40 bpm or <30% lower than pre-study drug infusion value. **4** Tachycardia was defined in absolute and relative terms as >120 bpm or >30% greater than pre-study drug infusion value. **5** Respiratory Depression was defined in absolute and relative terms as respiratory rate (RR) <8 bpm or >25% decrease from baseline. **6** Hypoxia was defined in absolute and relative terms as SpO_2 < 90% or 10% decrease from baseline

Post-Market Adverse Drug Reactions *The following adverse reactions have been identified during post approval use of Precedex™. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.*

Table 3: Adverse Events Experienced During Post approval Use of Precedex™

Body System	Preferred Term
Body as a Whole	Fever, hyperpyrexia, hypovolemia, light anesthesia, pain, rigors
Cardiovascular Disorders, General	Blood pressure fluctuation, heart disorder, hypertension, hypotension, myocardial infarction
Central and Peripheral Nervous System Disorders	Dizziness, headache, neuralgia, neuritis, speech disorder, convulsion
Gastrointestinal System Disorders	Abdominal pain, diarrhea, vomiting, nausea
Heart Rate and Rhythm Disorders	Arrhythmia, ventricular arrhythmia, bradycardia, hypoxia, atrioventricular block, cardiac arrest, extrasystoles, atrial fibrillation, heart block, t wave inversion, tachycardia, supraventricular tachycardia, ventricular tachycardia
Metabolic and Nutritional Disorders	Acidosis, respiratory acidosis, hyperkalemia, increased alkaline phosphatase, thirst, hypoglycemia
Psychiatric Disorders	Agitation, confusion, delirium, hallucination, illusion
Red Blood Cell Disorders	Anemia
Renal disorders	Blood urea nitrogen increased, oliguria
Respiratory System Disorders	Apnea, bronchospasm, dyspnea, hypercapnia, hypoventilation, hypoxia, pulmonary congestion
Skin and Appendages Disorders	Increased sweating
Vascular disorders	Hemorrhage
Vision Disorders	Photopsia, abnormal vision

Compatibility with Other Fluids Precedex™ has been shown to be compatible when administered with the following intravenous fluids: Lactated Ringers, 5% Glucose in Water, 0.9% Sodium Chloride in Water, 20% Mannitol in Water. Dexmedetomidine has been found to be compatible with water solutions of the following drugs when administered via Y-site injections: thiopental sodium, vecuronium bromide, pancuronium bromide, glycopyrrolate bromide, phenylephrine hydrochloride. **Compatibility with Natural Rubber** Compatibility studies have demonstrated the potential for absorption of Precedex™ to some types of natural rubber. Although Precedex™ is dosed to effect, it is advisable to use administration components made with synthetic or coated natural rubber gaskets. **Incompatibilities** Precedex™ infusion should not be co-administered through the same IV catheter with blood, serum, or plasma because physical compatibility has not been established. Precedex™ has been shown to be incompatible when administered with the following drugs: amphotericin B, diazepam. **OVERDOSAGE** The tolerability of Precedex™ was studied in one study in which healthy subjects were administered doses at and above the recommended dose of 0.2 to 0.7 mcg/kg/hr. The maximum blood concentration achieved in this study was approximately 13 times the upper boundary of the therapeutic range. The most notable effects observed in two subjects who achieved the highest doses were first degree atrioventricular block and second degree heart block. No hemodynamic compromise was noted with the atrioventricular block and the heart block resolved spontaneously within one minute. Five patients received an overdose of Precedex™ in the intensive care unit sedation studies. Two of these patients had no symptoms reported; one patient received a 2 mcg/kg loading dose over 10 minutes (twice the recommended loading dose) and one patient received a maintenance infusion of 0.8 mcg/kg/hr. Two other patients who received a 2 mcg/kg loading dose over 10 minutes, experienced bradycardia and/or hypotension. One patient who received a loading bolus dose of undiluted Precedex™ (19.4 mcg/kg), had cardiac arrest from which he was successfully resuscitated. **STORAGE AND STABILITY** Store at controlled room temperature, 25°C (77°F) with excursions allowed from 15 to 30°C (59 to 86°F). [See USP.] **DOSAGE FORMS, COMPOSITION AND PACKAGING** Precedex™ (dexmedetomidine hydrochloride for Injection) is a sterile, nonpyrogenic solution suitable for intravenous infusion following dilution. Each 1 mL of Precedex™ contains 118 mcg of dexmedetomidine hydrochloride equivalent to 100 mcg dexmedetomidine and 9 mg of sodium chloride in water. The solution is preservative-free and contains no additives or chemical stabilizers. Precedex™ (Dexmedetomidine Hydrochloride for Injection), 100 mcg/mL as the base is available in 2 mL clear glass vials (200 mcg/2 mL). Vials are intended for single use only.

Product Monograph available upon request at 1-866-488-6088 or at www.hospira.ca

This leaflet was prepared by Hospira Healthcare Corporation. December 8, 2009
Hospira Healthcare Corporation
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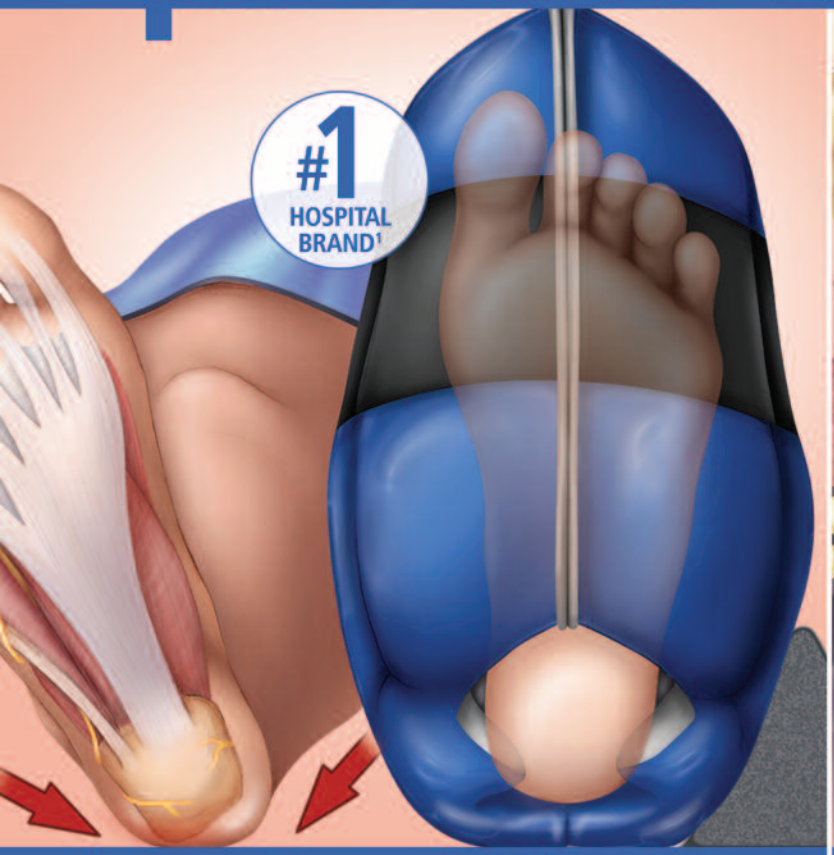

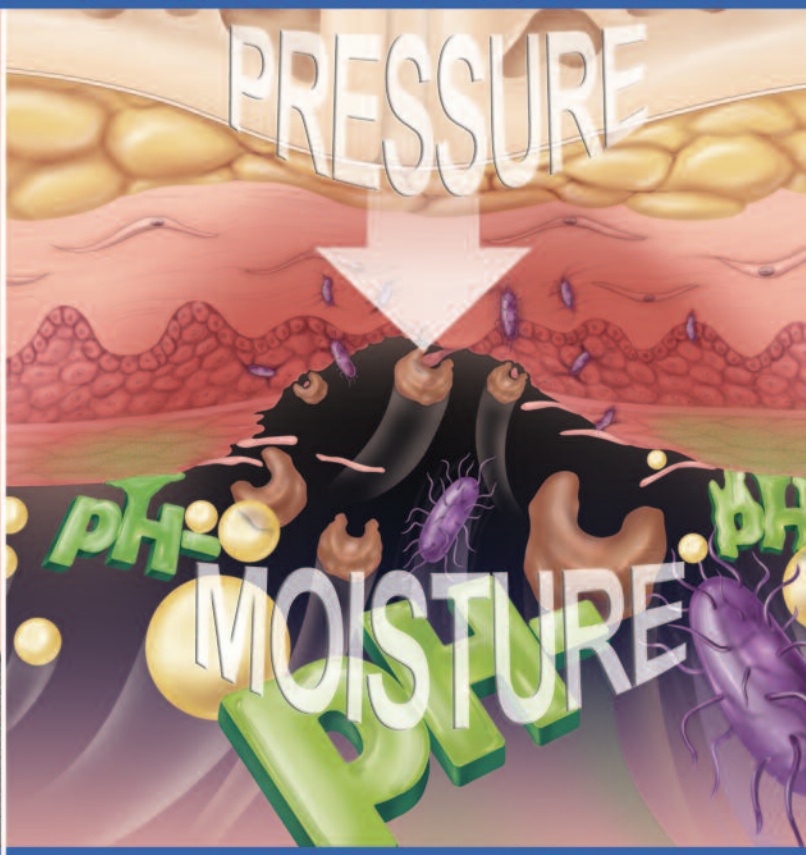

before | after[2]

before | after[4]

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1. GHX Trend Report (Dollars), 4th Quarter, 2009 Hospital. **2.** Garrett D, Intervention with a new heel protection device and silver alginate dressing to prevent amputation of lower leg due to stage IV ulcer of the heel and malleolus, Salem Village Nursing and Rehabilitation Center, 2006. **3.** Meyers T, et al., Successful prevention of heel pressure ulcers and foot drop in the high risk ventilation patient population. Poster presented at 3rd Congress of the World Union of Wound Healing Societies, Toronto, Canada, June 2008. **4.** Sluser S, Consistency the key for treating severe perineal dermatitis due to incontinence, ASWC, 2005. **5.** Wolfmann, A. It's easy: preventing incontinence-associated dermatitis and early stage pressure injury, 3rd Congress of the World Union of Wound Healing Societies, 2008.

Precedex™–*Now available in Canada*

[Pr]**Precedex™ (dexmedetomidine hydrochloride for injection) is indicated for sedation of initially intubated** and mechanically ventilated postsurgical patients during treatment in an intensive care setting by continuous intravenous infusion. The Precedex™ infusion must not exceed 24 hours.

Precedex™ has been continuously infused in mechanically ventilated patients prior to extubation, during extubation, and post-extubation. It is not necessary to discontinue Precedex™ prior to extubation. After extubation, the dose of Precedex™ should be reduced by half. The mean time of continued infusion is approximately 6.6 hours. **Precedex™ is indicated for sedation of non-intubated** patients prior to and/or during surgical and other procedures by continuous intravenous infusion for the following procedures:

- Monitored Anesthesia Care (MAC) with an adequate nerve block and/or local infiltration and
- Awake Fiberoptic Intubation (AFI) with adequate topical preparation of the upper airway with local lidocaine formulations.

Due to insufficient safety and efficacy data, Precedex™ is not recommended for use in procedures other than the two listed above.

Patients should be continuously monitored while receiving Precedex™. Caution should be exercised when administering Precedex™ to patients with advanced heart block and/or severe ventricular dysfunction. Because Precedex™ decreases sympathetic nervous system activity, hypotension and/or bradycardia may be expected to be more pronounced in patients with hypovolemia, diabetes mellitus, or chronic hypertension and in elderly patients. In situations where other vasodilators or negative chronotropic agents are administered, coadministration of Precedex™ could have an additive pharmacodynamic effect and should be administered with caution. Because Precedex™ has the potential to augment bradycardia induced by vagal stimuli; clinicians should be prepared to intervene. Precedex™ is known to be substantially excreted by the kidney, and the risk of adverse reactions to this drug may be greater in patients with impaired renal function. Precedex™ is indicated only for sedation of initially intubated and mechanically ventilated postoperative patients recovering in a post-operative care unit or an intensive care unit. During the use of Precedex™ in an intensive care setting, the patients must be monitored continuously, particularly for their cardiovascular safety indicators. If Precedex™ were to be administered for more than 24 hours and stopped abruptly, withdrawal symptoms similar to those reported for other alpha-2-adrenergic agents may result. These symptoms include nervousness, agitation, and headaches, accompanied or followed by a rapid rise in blood pressure and elevated catecholamine concentrations in the plasma. Precedex™ infusion must not exceed 24 hours.

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www.hospira.ca
For more information, please call
Hospira Clinical Support at 1-866-488-6088, Option 4

[Pr] Precedex™
(Dexmedetomidine Hydrochloride for Injection)
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See prescribing summary on page 53