CANADIAN OPERATING ROOM NURSING JOURNAL
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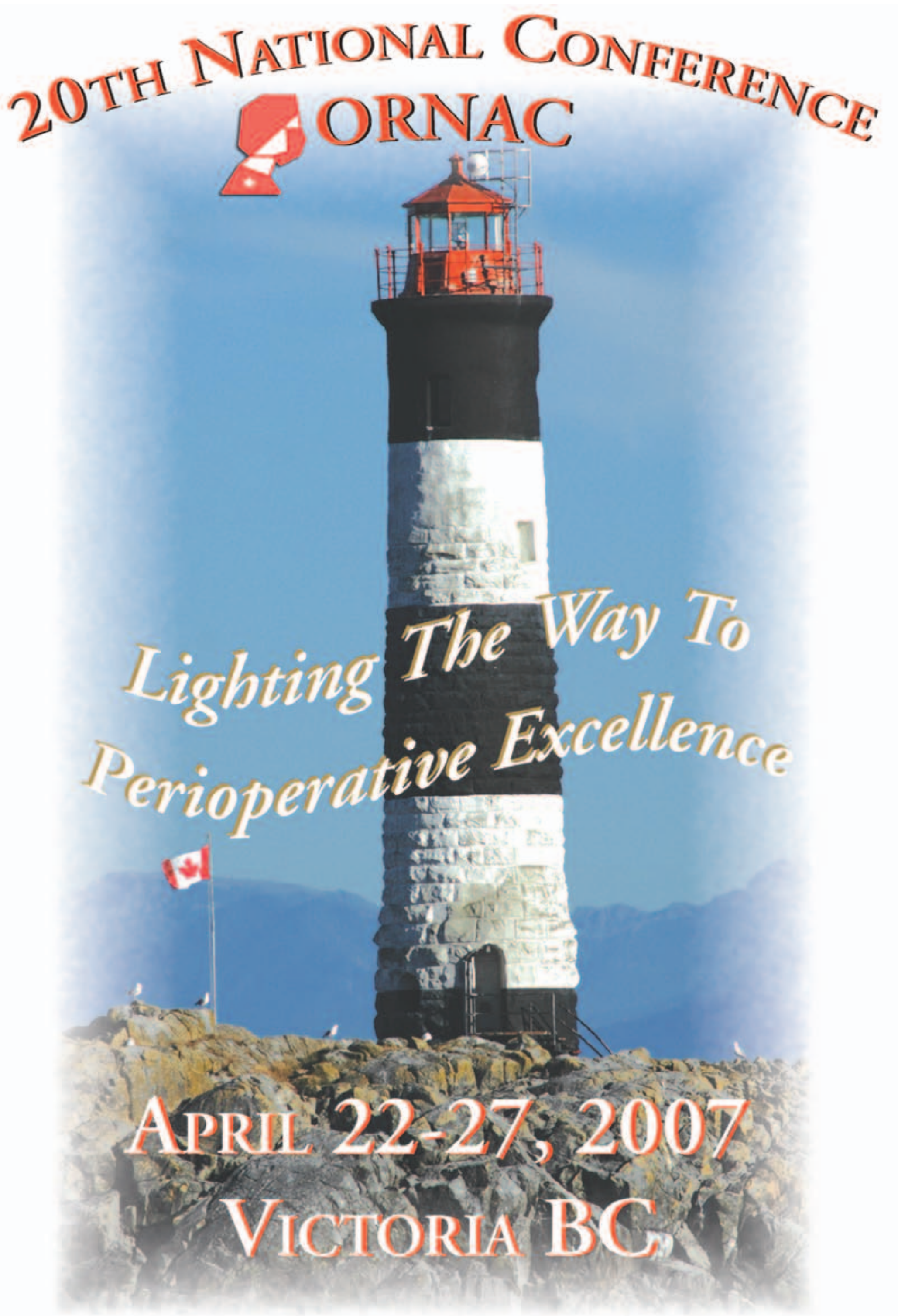

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President's Message

Spring has arrived here in Victoria, BC! I trust you all had a safe winter and are looking forward to the fresh start each spring brings. Here in Victoria the final touches are being put in place for next month's 20th National ORNAC Conference. It is a very exciting, and exhausting, time for everyone involved.

ORNAC thrives because of the strength of its volunteers and the enthusiasm they bring to every project. Thank you again to everyone who has contributed to this conference and to ORNAC conferences in the past. We couldn't do it without you.

The 20th National promises to be an interesting conference that showcases many new ideas and features many firsts! It is the first time that the International Federation of Perioperative Nurses (IFPN) will be participating in an ORNAC conference and holding their board meeting in conjunction with the event. ORNAC will welcome visitors from England, Wales, USA, Australia, New Zealand, Papua, New Guinea, and more!

ORNAC has been continuing to work toward the incorporation of the association. It also continues to build strong relationships with a wide range of groups including the Canadian Nursing Association, Canadian Council on Hospital Services Accreditation, Canadian OR Leaders, the Registered Nurse First Assistant Network of Canada, and various industry partners.

The support that our organization receives from its industry partners is a vital part of this organization's ability to grow, and gives our members advantages such as bursaries, grants, and awards. We also have special projects in the works, that involve our industry partners, such as translations services and upcoming special editions of our Journal. Further details will follow in future issues of this journal and on the ORNAC website.

In order for ORNAC to continue to grow and succeed we must carefully evaluate the way we do business and look to our plans for the future. We are now working with various consultants to assist us with the business of ORNAC. In the coming months, and at the National Conference, we will share developments on the new journey that we are embarking on.

I cannot stress enough the importance of belonging to an organization like ORNAC. The Registered Nurse in today's perioperative environment needs to be involved in his/her professional organization. If we do not take charge of our own profession, and help shape our own practice, then someone else will!

My involvement with this association has opened my eyes to the possibilities that exist. As a group we have everything we need to make a difference in nursing. We can impact on so many facets of our practice. So, the question remains for all of us to ask ourselves: Do we want to lead, or do we want to be lead by others?

There is a leader hiding in all of us, and I encourage you to get to know that person! Be a leader for yourself, and for others, in your pursuit of excellence in patient care and in perioperative registered nursing practice. You can make a difference in your patients' lives. These are exciting times in perioperative nursing. I am honoured to have been a part of it.

Marcy McKay, RN CPN(C), is President of the Operating Room Nurses Association of Canada. She is a staff nurse at Victoria, General Hospital, Victoria BC, and is currently the Conference Co-Chair for ORNAC National 2007 in Victoria, BC.

Message de la présidente

Le printemps est arrivé ici à Victoria en Colombie-Britannique! J'espère que vous avez tous passé un bel hiver et que vous attendez avec impatience le nouveau début que nous offre toujours le printemps. Ici à Victoria, nous mettons la dernière main aux plans pour la 20e Conférence nationale de L'AIISOC. C'est une période très excitante, et épuisante, pour tout le monde qui y est impliqué.

Le succès de l'AIISOC repose sur le travail de ses bénévoles et sur l'enthousiasme qu'ils apportent à chaque projet. Merci encore une fois à tout et chacun qui a contribué à l'organisation de cette conférence et aux conférences précédentes. Nous ne pourrions pas le faire sans vous.

La 20e Conférence nationale s'annonce très intéressante car elle mettra en vedette plusieurs nouvelles idées et offrira plusieurs premières! Non seulement sera-il la première fois que la *International Federation of Perioperative Nurses* (IFPN) participera à une conférence de l'AIISOC, mais la IFPN y tiendra également sa réunion du conseil d'administration. L'AIISOC accueillera des visiteurs d'Angleterre, de Galles, des États-Unis, d'Australie, de Nouvelle-Zélande, de Papouasie-Nouvelle-Guinée, et plus encore!

L'AIISOC oeuvre toujours pour constituer l'association en personne morale. Nous continuons également à forger des liens avec un groupe divers d'organismes tels l'Association des infirmières et infirmiers du Canada, le Conseil canadien d'agrément des services de la santé, le *Canadian Operating Room Leadership Network*, le *Registered Nurse First Assistant Network of Canada* et plusieurs autres partenaires dans l'industrie.

L'appui financier que reçoit notre association de nos partenaires industriels contribue de façon importante à l'épanouissement de notre organisme tout en offrant à nos membres la possibilité de profiter de plusieurs bourses, subventions et prix. Grâce à l'aide de nos partenaires, nous mettons également sur pied de nouveaux projets tels des services de traduction et des numéros spéciaux de notre journal. Davantage de détails sur ces projets seront communiqués dans le Journal et sur le site Web de l'AIISOC.

Pour que l'AIISOC puisse continuer à s'épanouir et à connaître le succès, nous devons soigneusement évaluer notre façon de faire affaires et viser nos plans futurs. Nous travaillons maintenant avec divers experts-conseils pour nous guider. Dans les mois qui viennent ainsi qu'à la conférence, nous partagerons les derniers développements de cette nouvelle aventure.

Il est difficile de trop insister sur l'importance de faire partie d'un organisme comme l'AIISOC. Les infirmières autorisées et infirmiers autorisés travaillant dans l'environnement périopératoire d'aujourd'hui doivent s'impliquer dans des organismes professionnels. Si nous ne prenons pas en main notre propre profession et ne façonnons pas notre propre pratique, quelqu'un d'autre le fera à notre place!

Mon rôle dans cette association m'a ouvert les yeux sur les occasions qui se présentent. Notre groupe a tout ce dont il a besoin pour faire une différence dans les soins infirmiers. Nous pouvons influencer un grand nombre d'aspects de notre pratique. Alors la question qu'il faut se poser, c'est la suivante : Voulons-nous mener, ou être mené par les autres?

Un leader se cache à l'intérieur de chacun d'entre nous, et je vous encourage à le connaître! Soyez un leader pour votre bien et pour le bien des autres et recherchez l'excellence en soins des patients et dans votre pratique de soins périopératoires. Vous pouvez faire une différence dans la vie de vos patients. Nous vivons un moment très intéressant dans le domaine des soins périopératoires. Je suis honorée d'en faire partie.

Marcy McKay, infirmière autorisée, CPN(C), est la présidente de l'Association des infirmières et infirmiers de salle d'opération du Canada. Elle est infirmière de soins généraux au Victoria General Hospital, Victoria, C.-B., et est actuellement Co-présidente de la 20ième Conférence nationale.

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Editorial Contents

10 Perioperative Nursing Education in Canada: Current and Future Perspectives
By: Karin Page-Cutrara

20 The Effects of Intravenous Fluids Temperature on Perioperative Hemodynamic Situation, Post-Operative Shivering, and Recovery in Orthopaedic Surgery
By: H. Hasankhani, E. Mohammedi, F. Mozzami, M. Mokhtari, and M.M. Naghgizadh.

30 Facilitating Nursing Research: A Professional Mandate for Perioperative Nurses
By: Rene Michael

ORNAC National 2007

INDUSTRY HAPPENINGS

28 ORNAC National Conference Schedule

37 ORNAC in a Nutshell / AIISOC en bref

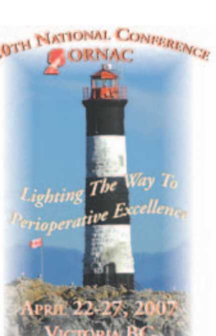
In the December 2006 issue of CORNJ an error appeared in the article "Infection Control Circle of Safety" on page 23. The statement made relating to the efficacy of shoe covers in the prevention of infection should have read:
"By contrast, shoe covers have not been proven to prevent surgical site infections. If, however, they are used properly, and changed frequently, on footwear that is clean and in good repair, these covers may protect surgical team members from exposure to blood and other body fluids."
Our apologies for the error and for any confusion caused.

Operating Room Nurses Association of Canada (ORNAC)

20TH NATIONAL CONFERENCE

Victoria, BC – April 22 to 27, 2007

CONFERENCE SCHEDULE



EDUCATIONAL TOPICS INCLUDE:

Speakers from IFPN;
Endoscopic Vascular Aortic Resection;
Bariatric Surgery;
CORL Leadership Sessions;
RNFA Sessions; and
Care for the Caregiver.

SOCIAL EVENTS INCLUDE:

Sunday: Welcoming Reception
Monday: A Night at the Royal British Columbia Museum
Tuesday: The ORNAC Pep Rally!!!
Wednesday: Free Night to explore Victoria
Thursday: Comedy and Pub Night

Contact: **Marcy McKay**, *Conference Co-Chair*, NationalConference@ORNAC.ca
Marlene Weeks, *Registration Chair*, Registration@ORNAC.ca

For Full Details visit www.ornac.ca

L'Association des infirmières et infirmiers de salle d'opération du Canada

20IEME CONFERENCE NATIONALE

Victoria (C-B) 22 au 27 avril 2007

PROGRAMME DE LA CONFERENCE

SESSIONS:

Conférenciers de la IFPN
Résection endoscopique vasculaire aortique
Chirurgie bariatrique
Leadership (CORL)
RNFA
Soigner le soignant

ÉVENEMENTS SOCIAUX :

Dimanche : Réception de bienvenue
Lundi : Une soirée au Royal British Columbia Museum
Mardi : Célébrons l'AIISOC!
Mercredi : Soirée libre pour visiter la ville de Victoria
Jeudi : Soirée de comédie

Personnes-contact :
Marcy McKay, *Co-présidente de la Conférence nationale*, NationalConference@ORNAC.ca

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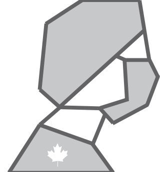

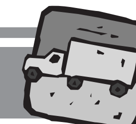

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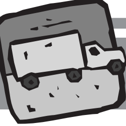

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LA FORMATION EN SOINS PERIOPERATOIRES AU CANADA : PERSPECTIVES ACTUELLES ET FUTURES

***Auteure :** Karin Page-Cutrara, infirmière autorisée, baccalauréat en sciences infirmières, MN, enseigne actuellement à l'école de soins infirmiers à la York University. Au moment de la rédaction de cet article, elle était inscrite au programme de maîtrise en soins infirmiers à la Athabasca University et travaillait en tant qu'infirmière périopératoire dans la région de Toronto. Veuillez la contacter à klpcons1@rogers.com.*

RESUME :

Les réalités que connaissent le domaine des soins infirmiers, telles la pénurie d'infirmières, la modification de la formation des infirmières et les réductions budgétaires, ne sont pas sans conséquence pour la formation en soins périopératoires. L'objectif de cet article est d'examiner des techniques pouvant réduire l'impact négatif de ces réalités sur la formation en soins périopératoires au Canada. La manière de fournir cette formation spécialisée doit être réexaminée afin de déterminer si elle intègre pleinement les obstacles auxquels font face le domaine entier des soins infirmiers. Il faut soigneusement analyser l'impact négatif de ceux-ci sur le recrutement et le taux d'attrition dans les programmes de formation périopératoires, sur la formation de généralistes et de spécialistes et sur les niveaux de financement pour pouvoir proposer des solutions positives. Identifier les meilleures façons de contourner ces obstacles exige un dialogue ouvert sur les techniques de formation en soins périopératoires.

PERIOPERATIVE NURSING EDUCATION IN CANADA: CURRENT AND FUTURE PERSPECTIVES

Author: Karin Page-Cutrara RN, BNSc, MN is teaching at York University's School of Nursing. At the time this article was written, she was enrolled in the Master of Nursing program at Athabasca University, and was working as a perioperative nurse in the Toronto area. She can be reached at klpcons1@rogers.com.

ABSTRACT

Current nursing issues such as the nursing shortage, recent changes to basic nursing education, and ongoing fiscal restraints have had consequences for operating room nursing education. The purpose of this article is to discuss approaches for lessening the negative effects that current nursing issues may have on perioperative nursing education in Canada. The delivery of this specialty education should be reviewed to determine if it is fully addressing the issues facing the nursing profession as a whole. The resulting negative impact on recruitment and retention in perioperative programs, on generalist and specialty training, and on funding levels require careful examination and supportive solutions. Establishing the best responses to these challenges will require further discussion of perioperative nursing education delivery.

Perioperative nursing education is influenced by some of the same issues affecting the broader discipline of nursing. The current nursing shortage, recent changes to basic nursing education and fiscal restraints in health care can be considered major factors affecting Canadian nursing, and subsequently, the specialty education of operating room (OR) nurses. The purpose of this article is to discuss approaches for lessening the negative effects that current nursing issues may have on perioperative nursing education in Canada.

WHY LOOK AT PERIOPERATIVE NURSING EDUCATION?

First, nursing education should be continually assessed to ensure relevance in the constantly changing health care environment. Educational program structures and new innovations should respond to ongoing challenges.

Second, perioperative program availability varies across the country as indicated by fewer programs in Eastern Canada, with a higher concentration of programs in Ontario and the western provinces[1]. In addition, although general content is standardized, program structures differ in length and institutional affiliation. Programs may be primarily associated with either a college or hospital. These variances are not well explained.

Third, there is limited recent literature on Canadian operating room training programs. Although Christensen[2] documented a local program's approach to some issues, few Canadian authors compare programs in terms of the successes and the struggles. This makes it difficult for educators to assess their own programs in relation to others.

A proactive examination of OR nursing education could therefore be useful in establishing educators' response to current issues or points of debate in nursing. Delivery of perioperative nursing education for registered nurses should be explored to determine if it is fully addressing the current issues facing the nursing profession as a whole. Some current issues will be briefly reviewed along with their impact on perioperative nursing education. Potential solutions for lessening these effects on education, as well as the implications of the various solutions, will be presented.

CURRENT ISSUES FACING CANADIAN NURSING

General Nursing Shortage

The phenomenon of the Canadian nursing shortage has been well documented. A severe and urgent crisis has been predicted to worsen in the next few years, hastened by an onslaught of expected retirements[3]. Provinces are competing with each other for nurses. This is reflective of a global shortage[4].

The current shortage also affects perioperative nursing services. British Columbia and Ontario are especially challenged by a shortage of OR nurses[5, 6]. General nursing shortages have been attributed to stressful work environments, an aging workforce, increasing job opportunities for women in other sectors, poor image, unattractive salaries, an increased demand for specialized nursing services, and decreased nursing school enrolments[7]. These factors are evident in the perioperative nursing environment as well.

The Entry to Practice Mandate: Changes to Basic Education

Canadian nursing has recently seen a change in its minimum educational requirements, from the college diploma to a baccalaureate degree as the entry-to-practice standard. Since 1982, Canadian nursing groups have been in agreement with this standard. As a result, most new nurses will hold a degree. The benefits of this education include a broad-based foundation for safe, interdisciplinary practice in working with individuals, families, groups, communities and populations in diverse settings. Evidence has shown that degree preparation is the safest, most ethical, and most cost-effective way to provide quality care for Canadians[8].

From a perioperative nursing education perspective, however, baccalaureate education is an issue with challenges that need to be acknowledged. Broad nursing preparation means decreased exposure to the OR specialty and a potential for lack of student interest. Students spending a longer period in basic education carry a heavier debt-load and as a result, may delay their pursuit of specialty education. However, recognizing the higher level of education, and compensating the degree-holding nurses with increased pay, would be a major cost driver.

Fiscal Restraints in Health Care and Education

Funding for Canada's universally accessible health system has long been an issue with which all health professionals and governments have had to contend. Romanow's report acknowledged that federal funding has sharply decreased, health care will continue to place increasing demands on provincial budgets, and costs are likely to climb. Romanow also proposed that training of more nurses, over the next decade, will be crucial[9]. Provinces continue to look for a balance that takes into account the limited access to funding and the need for adequate nursing resources.

Educational program directors have been struggling with funding issues as well. Nursing programs that do not possess adequate monies may be required to turn away qualified applicants, further contributing to the nursing shortage. Increases in government funding recently received

by Ontario post-secondary institutions to increase student enrolment and faculty levels[10], may be only indirectly supporting the smaller OR programs. In addition, financial aid available to perioperative nursing students is limited. This may lead to a reduction in student enrolment.

All these issues can affect OR nursing education and how it is received (Figure 1).

Figure 1

O.R. NURSING EDUCATION

Nursing Shortage

- The global shortage may have weakened the workforce in Canada.
- Provinces are competing with each other for nurses.
- The nationalshortage is evident in the O.R. nursing specialty.

Fiscal Restraint in Health Care/Education

- Health care costs are escalating.
- Training of more nurses is crucial.
- Any funding received by nursing programs may only indirectly support O.R. programs.

Entry-to-Practice Mandate

- Most new Canadian nurses today hold a degree.
- Evidence shows degree preparation is the safest, most ethical, cost-effective way to provide quality nursing care[8].
- The challenge for perioperative nursing lies in managing the effects of decreased O.R. exposure in degree programs.

IMPACT OF ISSUES ON PERIOPERATIVE NURSING EDUCATION

Recruitment and Retention in OR Programs

As a result of the nursing shortage in Canada recruitment and retention of registered nurse (RN) students in the perioperative specialty's educational programs have become critical. Highly structured programs involving internet-based and classroom-based courses, as well as many faculty and hospital affiliations require the largest investment and consequently have the most to lose as a result of decreased enrolment. Poor enrolment and retention result in program cuts and thereby increase the shortage.

Students may also be leaving the programs because of difficulty finding acceptable clinical placements. Although preceptors were originally part of the solution to this problem, many nursing education programs are beginning to experience difficulties in recruiting and retaining preceptors[11]. Nurses already working in an environment of staff shortages may find the demands of teaching and mentoring to be too time-consuming and stressful.

A shortage of nurses has also resulted in a shortage of nursing teachers. The number of qualified faculty will continue to decrease with a rise in retirement rates due to an aging workforce[12]. As a result, the number of perioperative nurses qualified to teach in university programs and continuing education will be in short supply.

Generalist Preparation of New Nursing Graduates

It has been observed that "the increase in knowledge required for practice in every area of nursing has necessitated not only a move to generalist entry-level education, but to a contrasting increase in specialist post-basic requirements"[13]. University education for nurses, providing a broad, general preparation, affects perioperative nursing education in several ways.

A gradual decline of OR clinical experiences in nursing school curricula has been recognized. Wagner, Kee and Gray have identified significant themes contributing to this. Among these was the nurse generalist versus the specialist debate[14]. The movement towards general preparation involved less focus on purely technical tasks, and more on decision-making and interdisciplinary skills, working with a broader range of clients, integrating research and ethics, and increasing the community nursing and health promotion focus. Meeting the broader requirements of the four-year program has meant little time for specialty experiences.

At the same time, factors that drive the need for specialization (such as increasing technology and consumer demands for expert care) have prompted the Canadian Nursing Association (CNA) to support specialty certification programs[12]. Post-basic training has allowed each nurse the flexibility to choose further educational paths based on her/his own interests. This split general/specialty educational process produces a competent clinical practitioner in a particular field.

Without the opportunity to gain pre-graduation experience in context-based skills, new baccalaureate graduates have reported feeling unready for work[15]. Employer expectations that new staff will be able to work in any setting and will have specialized skills[16] have increased new graduates' stress. Although similar to Benner's theory-practice gap, and the advanced novice experience[17], the skills gap can be attributed primarily to lack of specialty education rather than to experience. For the undergraduate student, selected specialty nursing experiences during their basic program may provide the opportunity to focus career options, reinforce nursing skills, and reduce this gap.

INADEQUATE FUNDING

The push to increase the overall funding of nursing education has been focused on producing nursing graduates, not specifically on specialty education. Many OR programs continue to operate using outdated materials. While new technology is driving the increased need for educated perioperative nurses, the technology itself is slow to appear in the training labs due to cost.

In addition, there are few funding options available to students pursuing continuing education. Students often have a low awareness of the financial resources that are available. Mature, perioperative RN students are often working full-time, have family commitments, and are experiencing budget restrictions. Despite the fact that a post-basic course is required in most ORs many nurses do not receive financial compensation from their employer for continuing education. The impact of these issues on OR education requires meaningful solutions.

SOLUTIONS FOR SUPPORTING PERIOPERATIVE NURSING EDUCATION DELIVERY

Solution criteria must be identified to address the issues of recruitment and retention, generalist preparation, and inadequate funding of perioperative nursing education. By increasing the appeal and awareness of OR nursing among basic students, and by appropriately compensating preceptors and nursing, we would take an important step in attracting and retaining perioperative nurses. Demonstrating the relevance of OR nursing skills to the general skill base would aid in the re-introduction of the specialty into the basic curriculum. Solutions that include political action through the Operating Room Nurses' Association of Canada (ORNAC) would increase public and professional awareness of perioperative nursing and help attract funding. The key to any solution should be its ability to be implemented in the current educational system. Re-examining program structures, incorporating OR nursing content in undergraduate curricula, and applying technology in education will all affect education delivery (Figure 2).

OR PROGRAM STRUCTURES

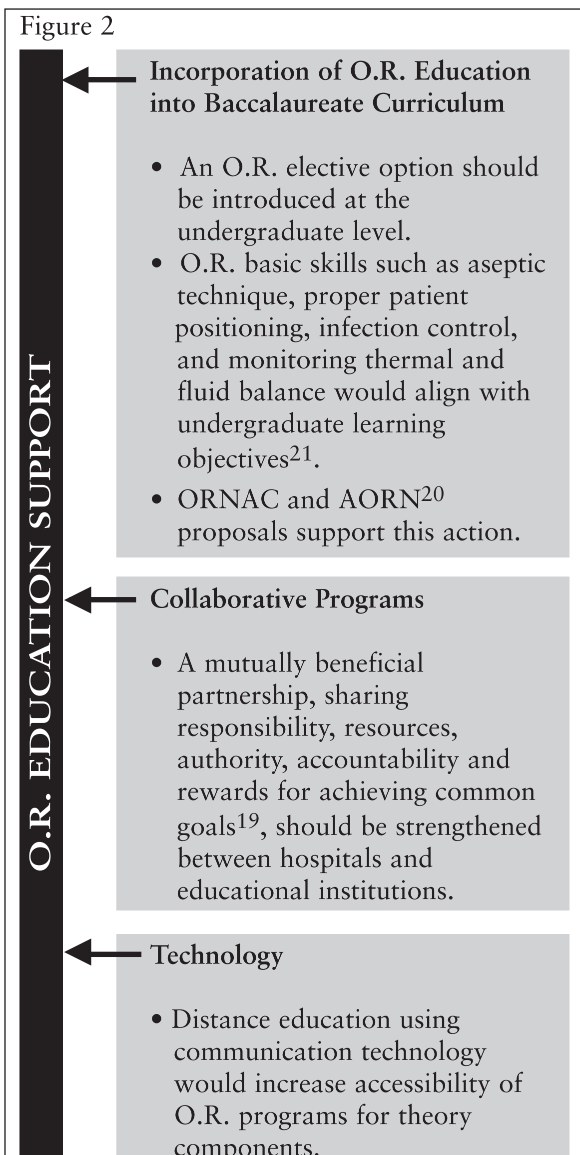
A traditional hospital-based program is often structured as an orientation program and is primarily run by a health care institution. It prepares existing and new RN staff for employment in a particular workplace. Learners in the perioperative setting form a solid relationship between clinical components and didactic course content, such as that suggested by the Operating Room Nurses Association of Canada (ORNAC)[18]. These programs are flexible as they are only run when needed. They provide compensation of employees for training, ensure preceptor availability, and provide job placement. These programs may differ greatly in each locale because they meet specific, institution-centred needs. Nurses from these programs who then move to work in a different hospital may need retraining.

Alternately, educational institution-based programs require more infrastructure and permanence than their hospital-based counterparts but are subject to provincial funding fluctuations. Not specifically affiliated with one hospital, clinical placements can often be arranged closer to the students' home or work area. This accessibility for the student can be hampered if preceptors are in short supply.

The educational institution may allow students to earn credits towards degree programs, which, while highlighting the relevance of OR nursing, also increases professionalism and encourages continued education. This association is strengthened in more collaborative structures.

A collaborative arrangement is a mutually beneficial partnership of two or more programs that share responsibility, resources, authority, accountability, and rewards for attaining common goals[19]. Joint structures between educational institutions and hospitals, for instance, may address problems such as clinical placement and preceptorships, some funding issues, and the need for perioperative nursing recruitment and program enrolment. Other simultaneous approaches could be useful in satisfying these needs.

Figure 2



INCORPORATION OF PERIOPERATIVE EDUCATION INTO BACCALAUREATE CURRICULA

Re-introducing perioperative nursing at the undergraduate level would increase exposure of nursing students to the OR specialty, as well as showing relevance of OR nursing skills to the basic curricula. American and Canadian professional associations have identified this as part of the solution process.

The statement issued by the American-based Association of periOperative Registered Nurses (AORN) in 2001 and the current draft statement on the "Value of Clinical Learning Activities in the Perioperative Setting in Undergraduate Nursing Curricula"[20] demonstrate positive action and support of the relevance of perioperative skills to general nursing education. An OR elective experience would reinforce learning of aseptic technique, proper patient positioning, skin integrity issues, infection control, informed consent, and thermal and fluid balance[21]. These basic concepts are important in providing a broad-based nursing education.

For similar reasons, Canadian perioperative nursing professionals have recommended that the CNA endorse the perioperative experience as an integral part of basic nursing education. ORNAC has emphasized that OR skills, such as multidisciplinary teamwork, using theory in practice, and critical thinking, are beneficial to the basic student[22]. These political statements support perioperative nursing education by increasing the exposure, relevance, and appeal of the specialty to nursing students.

TECHNOLOGICAL APPROACHES IN OR EDUCATION

Access to specialty education can be

Continued on Page 18

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problematic for working RNs. Because of this, distance education has increased in popularity in Canada and elsewhere. Over the last decade, communication technology and opportunities for direct instructor-learner interaction have expanded. Several nursing undergraduate and graduate programs are now offered partially or completely online or through other non-internet communication technologies[23].

While not all components of OR nursing education can be delivered using technology several programs in Canada are offering theory courses via distance education. The hands-on nature of perioperative nursing and learning, the use of traditional teaching methods, and funding issues have slowed the further use of technology.

IMPLICATIONS OF CURRENT EDUCATIONAL STRATEGIES

ADVANTAGES

Currently, it is difficult to tell if any particular approach, for training OR nurses, is fully addressing the issues faced by the profession. It is possible they are each most effective in their particular region. However, the inter-related aspects of the national nursing issues call for a multi-pronged approach to perioperative education. The advantages of the suggested solutions for supporting Canadian OR nursing education would lie in their combined effects.

The literature shows that collaborative programs between university/college nursing schools and affiliated hospitals have been successful[1,24,25,26,27]. Incorporating OR nursing as an elective option available to undergraduate nursing students and providing accessible continuing education using appropriate technology would strengthen such programs. This approach would address the negative effects of some current issues, narrow the skills gap and improve patient care. Broader implications of these educational improvements and of attracting new OR nurses would mean that hospitals could increase the number of surgeries performed to reduce long wait times[6].

CHALLENGES

The question remains: Should there be more educational programs with these combined qualities? There are several drawbacks to these potential solutions.

Collaborative, OR-friendly programs using technology would have to be demonstrated as beneficial in the context of the Canadian health care system. There is not enough current Canadian evidence to support their ability to affect change. Evaluating the effects of such a program would be a lengthy and expensive process.

Further obstacles to re-setting OR programs would include hiring faculty within collective agreement arrangements, amalgamating curricula, and acquiring funding. These challenges were recently managed by many new diploma and degree program affiliations. Specialty education may be able to follow these examples. Other challenges would be found in evaluating any innovative approaches such as condensed OR education programs[28]. Looking beyond traditional standards may be the greatest challenge of all.

In any case, OR nursing education should be examined to determine optimal delivery of specialty knowledge and skills in all areas of Canada. A comparison of program experiences would add to the literature and benefit the future of Canadian perioperative education. Nursing shortages, changes in education, and funding cuts will continue. Lessening their impact on OR education is essential.

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L'IMPACT DE LA TEMPERATURE DES FLUIDES INTREVEINEUX SUR L'ETAT HEMODYNAMIQUE, LES FRISSONS POST-OPERATOIRES ET LA GUERISON SUIVANT UNE CHIRURGE ORTHOPEDIQUE

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RESUME:

L'hypothermie périopératoire produit du stress physiologique car elle fait monter la pression artérielle, le rythme cardiaque et la concentration de catécholamine du plasma sanguin, lesquels peuvent croître le risque de complications cardiaques, de saignement, d'infection de la plaie ainsi que la durée des soins post-anesthétiques. Cette étude a été conçue afin d'évaluer les effets du réchauffement des fluides intraveineux sur l'état hémodynamique, les frissons post-opératoires et la guérison des patients ayant subi une chirurgie orthopédique.

THE EFFECTS OF INTRAVENOUS FLUIDS TEMPERATURE ON PERIOPERATIVE HEMODYNAMIC SITUATION, POST-OPERATIVE SHIVERING, AND RECOVERY IN ORTHOPAEDIC SURGERY

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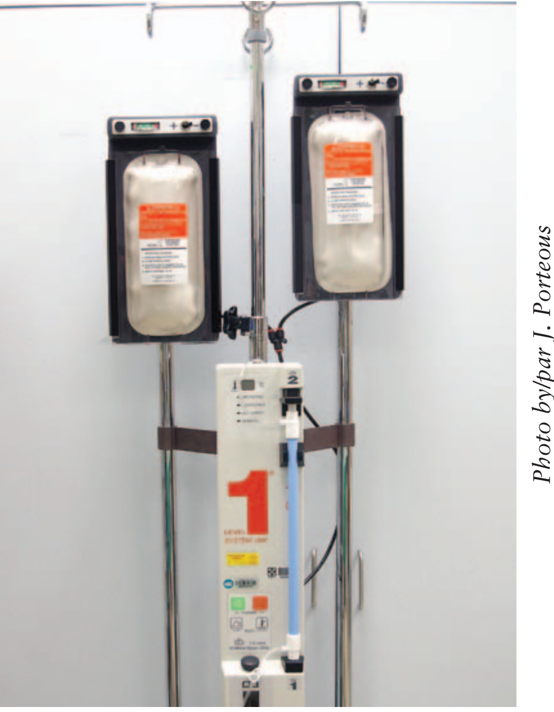
Background: Perioperative hypothermia is physiologically stressful because it elevates blood pressure, heart rate and plasma catecholamine concentration that may increase the risk of cardiac complications, bleeding, wound infection, and post-anaesthesia care unit stay. This study was designed to evaluate the effects of warming intravenous fluids on perioperative hemodynamic situation, post-operative shivering and recovery in orthopaedic surgery patients.

Methods: Perioperative pulse rate, blood pressure, intraoperative esophageal and skin temperature were measured in sixty patients undergoing orthopaedic surgery that were randomly divided into two groups according to intraoperative IV fluids management. In 30 patients (hypothermia group) all IV fluids infused were at room temperature. In the other



Positive pressure fluid warming system

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30 patients (normothermia group) all IV fluids were warmed using a dry IV fluid warmer.

Results: The core and skin temperatures of the hypothermia and normothermia groups decreased significantly between the induction of anesthesia and the end of surgery, but the drop was greater in the hypothermia group ($P<0.005$). Postoperative mean arterial blood pressure (non-invasive) increased significantly more in the hypothermia group versus normothermia group ($p<0.005$). Shivering was observed in 21 of 30 in the hypothermia group and 11 of 30 in the normothermia group ($p<0.005$) and recovery time was significantly lower in the normothermia group (36±5 vs. 26±3 min, $p< 0.005$).

Conclusion: Intraoperative IV fluid warming reduces perioperative changes to the hemodynamic situation, post-operative shivering, and recovery time.

Key words: Intravenous fluids temperature, hemodynamic situation, shivering, recovery, and orthopaedic surgery.

Introduction: Hypothermia may be mild (34-35.9°C, moderate (32-33.9°C) and severe (< 32°C).[1] Mild hypothermia is common after anaesthesia and surgery because of anaesthesia-induced inhibition of the patient's thermoregulatory system and exposure to a cold operative room environment.[2]

Perioperative hypothermia produces an undesirable manifestation of adrenergic responses, including increased norepinephrine release, peripheral vasoconstriction, hypertension, and myocardial ischemia.[3,4] Hypothermia also predisposes patients to shivering with associated increases in metabolic demand and cardiac output,[5] decreased drug metabolism,[6] impaired coagulation[7], and decreased immune response.[8] These adverse physiologic effects may result in morbid cardiac events;[4]; wound infections;[9] increased blood loss and blood transfusion requirements;[10] and delay discharge from the post anaesthesia care unit.[11] The administration of room temperature Intravenous (IV) fluids can cause hypothermia and it has been estimated that 1L of room temperature crystalloid solution decreases the mean body temperature by 0.25°C[6].

The effects of perioperative IV fluid warming have been studied in different surgeries,

Fluid line warming system

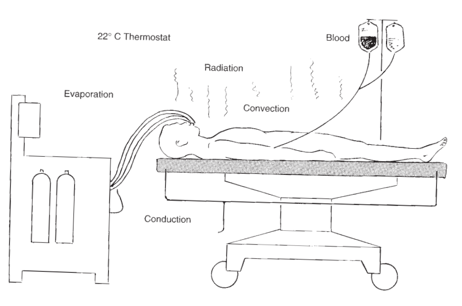
Photo by/par J. Porteous

especially in abdominal surgery, but rarely in orthopaedic surgery.[12,13] Thus the aim of this study was to evaluate the effects of warming intraoperative IV fluids, on the hemodynamic situation, post-operative shivering, and recovery time of patients undergoing orthopaedic surgery. The hemodynamic situation refers to blood circulation, resistance, pressure and hemoglobin concentration so it usually involves monitoring the level of consciousness, body temperature, blood pressure, heart rate, ECG, and urine output.[14] For the purpose of this study only body temperature, blood pressure and heart rate were measured).

Materials and methods: With approval of the Human Research Committee of the Tarbiat Modares University, School Of Medicine (Tehran, Iran) and written informed consent of the subjects, sixty adults undergoing elective orthopaedic surgery were studied. Prerequisites for selection included being ASA 1 (American Society of Anesthsiology physical status 1), and being scheduled for a procedure that would last at least 60 minutes.

Exclusion criteria were pre-operative use of calcium channel blockers, pre-operative sublingual temperature ≥ 38° C or < 35.5° C, history of endocrine disease, obesity, pregnancy, anemia and patients younger than 18 or older than 55 yr.

Patients taking calcium channel blockers were excluded because these agents cause a drug-induced modulation of vascular tone and a clinically important alteration in intraoperative core temperature.[11] All surgeries were done between 8 a.m and 12 p.m. IV fluids were infused through and 18-G cannula inserted into



Heat Loss During Surgery

Table 1

SCORING FOR POSTANAESTHETIC SHIVERING	
Grade	**Clinical signs**
0	No shivering
1	Fasciculation of face and lips
2	Fasciculation of face and neck
3	Visible tremor involving more than one muscle groups
4	Gross muscular activity involving the entire body

antecubital vein. A randomized, controlled clinical trial was used, utilizing content-related validity and test-related reliability for instrumental validity and reliability. Patients were randomly assigned (by the toss of coin) to one of two groups as follows:

Group One: The normothermia group (n=30, "N-Group") received warm intraoperative IV fluids via a dry fluid warmer using a 130 cm extension tube and infusion set. Total tubing length between patient and warmer was 50 cm. Once suitable flow rates and temperature had been determined, IV fluids (Ringers solution) were infused via an infusion pump at different flow rates (400, 600, or 800cc/h) and the temperature was monitored by thermocoupler. The temperature of IV fluids were measured at three sites as follows:

1. IV solution bag ("T-Bag"),
2. just proximal to the IV fluid warmer ("T-Prox"), and
3. at end of the infusion set ("T-End"), and recorded when T-End fluctuated 0.1°C for 3 minutes 3 times every 2 minutes [15].

Group two: hypothermia group (n=30, "H-Group") received IV fluids at room temperature (24.4°C) at 800cc/h flow rate.

During surgery, all patients were covered by cotton blankets and surgical drapes. After surgery, all patients were covered with a cotton blanket by the OR nurse before being transported to the post anesthesia care unit.

The patients were premedicated with Atropine (0.2-0.4 mg). General anaesthesia was induced with Thiopental (5 mg/kg) and Fentanyl (3 ?g/kg). Intubation of the trachea was facilitated by administration of Succinylcholine (5 mg/kg). Inspired gases were not actively warmed. Anaesthesia was subsequently maintained with nitrous oxide (60%) in oxygen, Halothane, and Fentanyl.

Ambient room temperature was measured by a thermocoupler positioned at body level. Sublingual temperature was measured with an electronic thermometer preoperatively. Core body temperature (measured by esophageal probe) and chest skin temperature were measured at 15-minute intervals from the time of intubation until the end of surgery. A sphygmomanometer and finger pulse oximeter probe were used to measure arterial blood pressure and pulse rate preoperatively, intraoperatively, and postoperatively, at 10-minute intervals.

Post-operative data was recorded every 10 minutes beginning with the arrival of the patients in the post anesthesia care unit. The recording nurse was unaware of which patients were in which group. Data consisted of arterial blood pressure, pulse rate, presence or absence of shivering and the intensity of it, and the length of recovery time. Shivering details were determined by visual observation, and were graded on a five-point scale (Table 1).[16]

Post-anaesthesia recovery scores were used to determine PACU stay.[17] Patients were discharged when they were awake and oriented, able to breathe deeply and cough freely with an oxygen saturation>92 % on room air, able to move extremities, stable blood pressure and pulse rate. Data are presented as mean ± SD throughout the article. Comparisons between the demographic, clinical characteristics and clinical out come of two groups were analyzed using student's t-test and chi-square analysis as appropriate.

Repeated-measures analysis of variance (ANOVA) was used to compare means of multiple observations over time. Repeated-measures ANOVA by simple contrast was applied for comparison of arterial blood pressure, pulse rate, and temperature measurements between and within patient groups with respect to time or group.

Multiple regression analysis was used to determine appropriate flow rate and the temperature set-point of the fluid warmer used. Tests of the assumption of normality were applied to standardized residuals of ANOVA models; no models violated the assumption.[18] A P-value of <0.05 was considered significant. (The P-value is the probability of wrongly rejecting the null hypothesis if it is in fact true.)

Results: There were no significance differences in patients' demographic data, pre-operative arterial blood pressure, pulse rate, and sublingual temperature (table 2). All 17 female patients were older than 45 years of age. (This is important because pregnancy and female hormones can affect core body temperature.) Operating room temperature did not differ significantly between and within groups. The temperature set-point of

Table 2

DEMOGRAPHIC CHARACTERISTICS AND CLINICAL DATA OF PATIENTS STUDIED

	P	N.group (n = 30)	H.group (n=30)
Awake PR (beats/min)	0.104	74 ± 4	77± 7
Awake sub lingual T(°C)	0.47	37 ± 0.3	37 ± 0.7
OR T(°C)	0.68	24.2 ± 0.8	24 ± 0.6
Final core T(°C)	0.004	36.4 ± 0.5	35.9 ± 0.5
Final skin T(°C)	0.002	33.8 ± 0.5	33.2 ± 0.4
Shivering (0:1:2:3:4)	0.001	19:9:2:0:0	9:5:9:7:0
Recovery(min)	0.004	28 ± 6	36 ± 9
Age (yr)	P	38 ± 10.2	35 ± 10.6
Sex (M/F)	0.245	18/12	21/9
Weight (kg)	0.94	70 ± 9.2	71 ± 8.2
Height (cm)	0.79	170 ± 5.2	171 ± 6.4
Duration of Surgery (min)	0.81	70 ± 4	73 ± 6
Infused fluids (ml)	0.303	918 ± 118	984 ±173
Awake MAP (mm.Hg)	0.136	96 ± 8.7	96 ± 8.1

Means ± SD ,* p < 0.05 between groups

the fluid warmer used during this study was 39.5°C at a flow rate of 800cc/h. (Figure 1, 2). Five patients were excluded from the study after randomization for the following reasons:

- decision by anesthesiologist to use epidural anaesthesia instead of general anaesthesia (n=3) and
- use of Midazolam as the premedication (n=2).

Some of the value differences were:

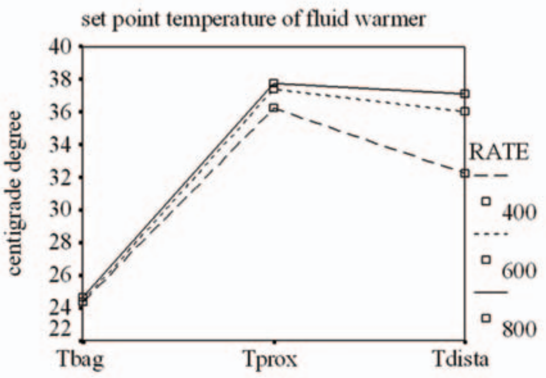
- The intraoperative mean arterial blood pressure and pulse rate values in the two groups decreased significantly compared with the awake values, and they increased significantly in PACU.
- The mean arterial blood pressure of the hypothermia group was significantly higher in PACU than that of the normothermia group
- There were no significant differences in pulse rate between the two groups.
- The recovery time was significantly shorter in normothermia group.
- Post-operative shivering occurred significantly more in the hypothermia group (Table 1).
- Core and skin temperature was lower in hypothermia group.

Discussion: Because maintenance of perioperative normothermia may prevent adverse outcomes, many techniques for minimizing hypothermia have been prescribed (e.g. air heating and humidification, cutaneous warming, and fluid warming).[24]

Inadvertent hypothermia during anaesthesia is by far the most common perioperative thermal disturbance.[19] Heat can be transferred from a patient to the environment four ways:
1. Radiation; 2. Conduction
3. Convective; 4. Evaporation.

Conductive heat loss is proportional to the temperature difference between two adjacent surfaces. Warming IV fluids decreases conductive heat loss by minimizing the temperature difference between the patent and the fluids. Post-operative thermal discomfort is physiologically stressful, because it elevates blood pressure, heart rate, and plasma catecholamine concentrations.[3,19] When human volunteers are cooled to a core temperature

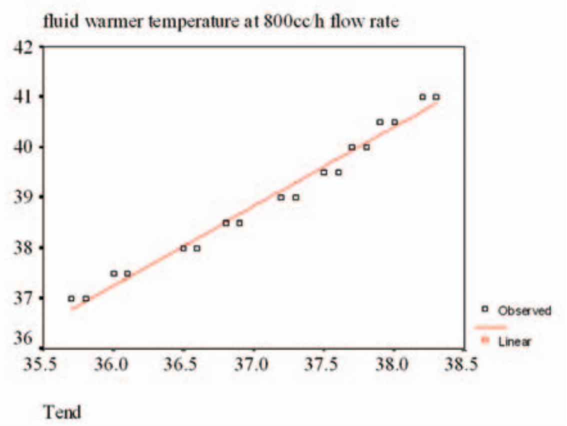
Figure 1



of 35.5 °C, there is a 700% increase in norepinephrine along with increased arterial blood pressure and vasoconstriction.[20] Catecholamine concentrations in plasma decrease significantly after epidural block, and although concentration of epinephrine increases sharply from the baseline in the hypothermic group at the end of surgery, it decreases in the normothermic group.[21]

Steven M. Frank's study of seventy-four elderly patients undergoing abdominal, thoracic, or lower extremity vascular surgical procedures compared patients in the forced-air warming group with patients receiving routine thermal care. The patients receiving the routine care had lower core temperatures, a greater degree of peripheral vasoconstriction, higher norepinephrine concentrations, and higher arterial blood pressures during the early postoperative period.[21] The baroreflex sensivity decreased more in the

Figure 2



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hypothermia group compared with the normothermia group and returned to the base-line values faster in the normothermia group after general anaesthesia.[23]

IV fluid warming is an important method of heat conservation.[23] The present study demonstrated that warming IV fluids during orthopaedic surgery resulted in final core and skin temperatures that were 0.5°C and 0.6°C greater than those of the patients receiving room temperature fluids. (Table 1). The mean arterial blood pressure increased significantly more in the hypothermia group than in the normothermia group after induction of general anesthesia, but pulse rate changes were not significantly different between groups. It should be noted that preoperative anxiety of patients was not assessed, and that it might have affected the results of this study.

A previous study demonstrated that hypothermia after major abdominal surgery was associated with delayed post-anaesthetic recovery time when compared with normothermia.[10] In the present study, recovery time was significantly lower in the normothermia group. It is probable that it was lower due to the fact that in the present study, ambulation prior to discharge from PACU was not required. Postoperative shivering (a serious complication of hypothermia that increases oxygen consumption 200 to 600 percent proportional to intraoperative heat loss) occurred more in the hypothermia group during this present study.

In conclusion our study showed that the hemodynamic situation (core and skin temperature, and mean arterial pressure), shivering, and recovery time was less in the group receiving warm IV fluids versus the group receiving fluids at room temperature.

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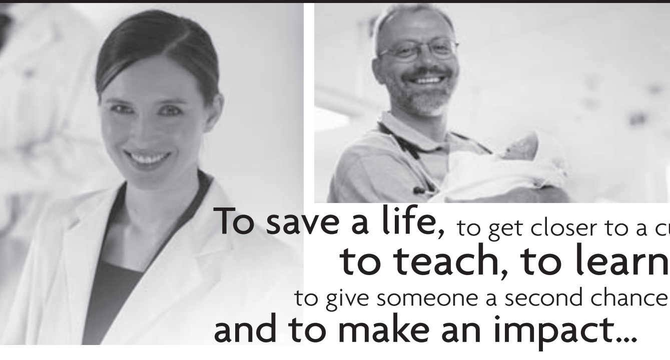

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MONDAY, APRIL 23

0800 – 1000 Opening Ceremonies at the Royal Theatre - 2 blocks from conference centre

1015 – 1130 Val Shirreff Memorial Lecture – Sister Carol Taylor, Georgetown University, Washington, DC. Sponsored by Johnson & Johnson MedicalProducts

1300 – 1400 IFPN Speaker
Kim Hepper, Australia – *Preventing Swab Counting Errors*

1400 – 1500 IFPN Speaker
Betty Shultz & Mary Jo Steiert, USA – *Correct Site Surgery*

1515 – 1615 IFPN Speaker
James Harrison, President IFPN – *Workplace Harassment, an Australian Perspective to an International Problem*

TUESDAY, APRIL 24

0830 – 0930 Concurrent Sessions

1. CORL Speakers Kelly Campbell, Terri Kitowski, Fran Riley, & Denise McLaughlin – *Safey and Quality Makes a Difference in the Perioperative Setting*
2. Dr. Shafique Prani – *Clubfoot Project*
3. Linda Socha - Regulation for Donation & *Transplantation*

1000 – 1100 Concurrent Sessions

1. IFPN Speaker, Lesley Fudge, UK – *Migration and Ethical Recruitment*
2. Monica Sager – *Tumour Tissue Repository*
3. Presentations from *Call for Abstracts*

1500 – 1600 Concurrent Sessions

1. CORL Speaker, Loretta Morrison – *Chicken Soup for the Manager's Soul*
2. Leslie Slater – *Monitoring the pulse of the courtroom: Recent developments in medical malpractice law*
3. Presentations from *Call for Abstracts*

SOCIAL EVENTS

SUNDAY
- Welcoming Reception

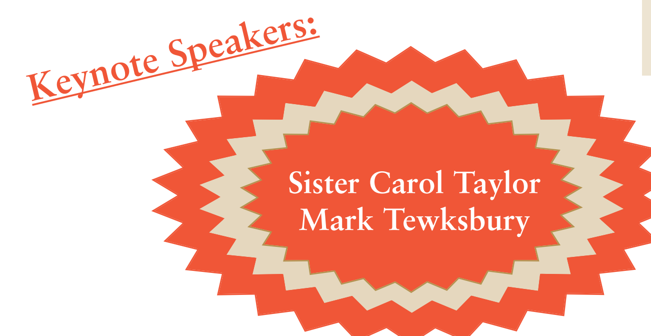
MONDAY
- J&J Medical Products Print Reception
- A Night at the Royal British Columbia Museum

TUESDAY
- Breakfast sponsored by Medline Canada
- Aerobics sponsored by Getinge Canada Ltd.
- ORNAC Pep Rally, featuring the Timebenders, sponsored by TYCO Healthcare Canada

WEDNESDAY
- Breast Cancer Awareness Breakfast, sponsored by Medline Canada. Guest Speaker: Dr. Marla Shapiro
- Aerobics sponsored by Getinge Canada Ltd.

THURSDAY
- Breakfast Session sponsored by Medline Canada
- Breakfast Session sponsored by Arizant Healthcare Inc.
- Aerobics sponsored by Getinge Canada Ltd.
- Pub Party featuring "*Leave it to Cleavage*"

ALL WEEK
- Internet Café sponsored by McKesson Canada



WEDNESDAY, APRIL 25

0900 – 1000 Concurrent Sessions

1. CORL Speakers, Valerie Zellermeyer & Team – *Waitlist Management*
2. Dr. Patrick McLeod – *Fish & Chips: Hereditary Factors Influencing Perioperative Excellence*
3. Dr. Hamza Khan - *Quality Assurance in the Ophthalmology OR*

1400 – 1530 Concurrent Sessions

1. CORL Speakers, Dr. Susan Kleinbeck & Monique Perazzelli – *PNDS*
2. RNFA Panel Discussion
3. Presentations from *Call for Abstracts*

FRIDAY, APRIL 27

0800 – 1015 CORL – Tim Porter O'Grady – *Leadership – Creating an Empowered System Igniting the Light for the Future*

1030 – 1200 Keynote Speaker – Mark Tewksbury. Sponsored by TYCO Healthcare Canada

1200 – 1230 Closing Ceremonies

THURSDAY, APRIL 26

0830 – 0930 Concurrent Sessions

1. CORL Speakers, Dr. Susan Kleinbeck & Monique Perazzelli – *Applying PNDS to Practice*
2. Dr. Eike Kluge – *Bioethics*
3. Dr. Jim Dooner - EVAR - Endovascular aneurysm repair

1000 – 1100 Concurrent Sessions

1. IFPN Speaker, Jane Reid, UK – *Global Workforce Solutions*
2. Barb Bolding – *Sterilization Topic*
3. Dr. H.P. Marshall – *Bariatric Patient Related Endocrinology*

1400 – 1500 Concurrent Sessions

1. CORL Speakers, Pat Pocock & Muriel Shewchuk – *Emerging Issues for Leadership in Perioperative Care*
2. Lynn Walters – *Care for the Caregivers*
3. Dr. Ken Smith – *Bariatric Surgery - Plastic Repair*

1515 – 1615 Concurrent Sessions

1. Dr. Khan – *Health Care Quality Improvement*
2. Dr. Mike Van der Wal – *Bariatric Surgery, Anaesthesia Considerations*
3. Presentations from *Call for Abstracts*

Keynote Speakers:

Sister Carol Taylor
Mark Tewksbury

Please note the above schedule is subject to change

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FACILITER LA RECHERCHE EN SOINS INFIRMIERS : UN MANDAT PROFESSIONNEL POUR LES INFIRMIERES ET INFIRMIERS PERIOPERATOIRES

Auteur : Rene Michael, Professeur agrégé, Directeur d'études supérieures, Curtin University of Technology à Perth, WA.

RESUME :

Les soins de la santé et les technologies qui y sont associées deviennent de plus en plus complexes et le domaine s'étend à un rythme alarmant. Afin de prospérer dans ce milieu, le domaine des soins infirmiers doit faire beaucoup plus que ne pas tomber derrière, il doit jouer un rôle directeur dans l'avenir des soins de la santé. Les infirmières et les infirmiers sont constamment demandés d'élargir leurs zones de confort en développant de nouvelles approches et de nouvelles techniques innovatrices qui font une différence pour la santé des patients et pour la communauté en général. Face à ce défi, il faut poser cette question : Comment est-ce que nous, en tant qu'infirmières et infirmiers périopératoires, pouvons demeurer compétent au niveau technique, démontrer une capacité de jugement et de prise de décision indépendante et qualifiée tout en gardant à jour nos connaissances et notre pratique? La réponse, c'est la recherche.

Cet article a premièrement paru dans le Australian College of Operating Room Nurses (ACORN) Journal, volume 19, numéro 1, pages 18 à 22. Réimprimé avec la permission de l'auteur et de l'ACORN.

FACILITATING NURSING RESEARCH: A PROFESSIONAL MANDATE FOR PERIOPERATIVE NURSES

Author: Associate Professor Rene Michael, Director of Postgraduate Studies, Curtin University of Technology, Perth, WA.

Author: Rene Michael

Health care and health care technology are becoming increasingly complex and expanding at an unprecedented pace. To thrive within this milieu, nursing as a profession must not only keep up with the pace but also set the pace for the future of health care. Nurses are constantly challenged to expand their 'comfort zone' by presenting creative approaches to health care, and developing new and innovative interventions that make a difference to the health status of patients and the community as a whole. As a consequence of this challenge, the question is raised: How do we as perioperative nurses expect to be competent technically, demonstrate independent judgement and skilled decision-making, and keep our knowledge base and practice current? The answer is through research.

The ultimate importance of research is found in its definition. Research generates knowledge. Nursing research provides a specialised scientific base that empowers the profession to anticipate and meet these constantly shifting challenges, and maintain our societal relevance. This in turn allows us to make better-informed decisions and validates existing practices built through tradition, intuition and personal experience. Research can examine tried and true practices and make them more efficient, less expensive, less complicated[1]or debunk them!

The introduction of evidence-based practice in Australia is perhaps the most powerful influence in promoting the utilisation of research in clinical practice and impacting on how nurses think about and use research. Evidence-based nursing is clinical activity that is based on the premise that the best available current scientific evidence should inform decisions about the delivery of care to patients. This means nurses adopt effective practices by questioning whether there is a scientific basis for the care that they deliver, in order to provide quality care for their patients and their families. However, to provide evidence-based practice nurses must participate in research including reading, understanding and applying the available research literature to promote positive patient outcomes[1]. In essence, we need to be scholars who know and use research principles in clinical practice[2]

SIGNIFICANCE OF RESEARCH TO PERIOPERATIVE NURSING

Toda, more than ever before, perioperative nurses are required to be accountable for the quality of the patient care they deliver. In an era of consumerism where the quality of health care and high health care costs are questioned, consumers, health care employers and governments are asking health professionals to document the effectiveness of their care. What they seek is the justification of our practises by asking, "How does this care make a difference?" This is the case in perioperative nursing, where technicians are threatening to erode our role. The message can hardly be clearer; how consumers and employers perceive the value of nurses' contributions will determine the profession's role in any future health care delivery system. Health care agencies in both the public and private sectors require accountability for services provided.

To ensure the survival and continued growth of the perioperative nursing specialty, research and research utilisation are essential; indeed, it is a professional mandate for all perioperative nurses. This professional mandate is directed towards understanding the care of individuals and groups, and the biological, behavioural and environmental influences on health, and ensuring these inform nursing practice. Through research perioperative nurses develop knowledge about health and health promotion related to the care of those with health problems, disabilities or dysfunctions, and interventions that can help individuals to respond effectively to actual or potential health problems[3,4]. Moreover, research utilisation should increase the quality and efficiency of patient care, as well as result in personal and professional growth for nurses.

Research is required for perioperative nursing to maintain its identity as a discipline founded on professional practice and whose philosophical underpinnings encompass a systematic, research-based body of scientific knowledge[4, 5]. To make certain that this goal is sustained a perioperative nurse must be a knowledgeable research consumer, one who can critique research and use existing standards to determine the merit and utility of research for clinical practice. Therefore, skills of critical thinking and reasoning are necessary. According to Anne Thomson[6] (p.2), "Critical thinking and reasoning is (sic) centrally concerned with analysing and evaluating one's own and other people's reasoning, as well as devising and constructing better reasoning. Common to these activities are certain distinct skills, for example, recognising reasons and conclusions, recognising unstated assumptions, drawing conclusions, appraising evidence, evaluating statements, and judging whether conclusions are warranted". The importance of critical thinking and reasoning skills for perioperative nurses are reflected further when they work together with other health care professionals to conduct and utilise relevant research, and collaborate on efforts that improve patient care through evidence-based practice[4,5,7].

The operating suite milieu continues to become more technologically challenging and one in which perioperative nurses must combine the use of new technology with knowledgeable and safe care, so patients do not experience complications. Within this environment there is increasing pressure from patients and their relatives to expect nurses to incorporate research findings into their every day practice. The International Council of Nursing requires that nursing practice be evidenced based[8], supporting this premise. In many countries around the world, including Australia, rapid changes in the discipline and practice of nursing have resulted in changes to skills and job requirements. In the past 10 years, Australian nurses have become increasingly aware of the need for high quality research promoting the body of knowledge and skills within their

Continued on Page 40

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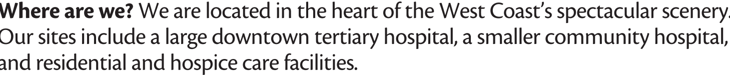

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Affiliate: CORL	Toronto, ON	May 5-6, 2008

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20th National	Victoria, BC	April 23-27, 2007
21st National	St. John's, NL	June 7-12, 2009

INTERNATIONAL CONFERENCES

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AFPP (www.afpp.org.uk)	Harrogate, UK	October 9-11, 2007
World Conference on Surgical Patient Care	Seoul, S. Korea	October 1-2, 2007

November 11-17, 2007 is National Perioperative Nurses' Week

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ORNAC in a Nutshell — Fall 2006

Author: *Lynn Anderson, ORNAC Secretary 2005-2007*

The ORNAC Executive & Board met for its biannual meeting in Toronto Nov 1st, 4th, and 5th, 2006.

❖ ORNAC President Marcy McKay welcomed new board members Donna Fallis, MB; Kelly Kuz, AB; Corenia Price, NL; and Marlene Weeks, BC.

❖ A farewell, and big thank you, was expressed to Ray Larkins (Treasurer 2003-2006). Ray has been instrumental in computerizing the financial and business affairs of ORNAC. Ray has been an asset in switching the association to a computerized accounting system, ensuring the executive and several committee chairs have laptops to enable them to expedite the business of ORNAC, and spearheading the idea of creating a virtual office via ORNAC's website.

❖ ORNAC's Auditor, Mr. Delorme, attended the Board meeting, reviewed the finances, and gave some insight and suggestions for its financial future.

❖ ORNAC has had a long relationship with the Canadian Standards Association (CSA). A representative from CSA, Mr Glen Tubrett visited the Executive meeting and met with the Chair of the ORNAC Standards Committee, Kim Reese. We had a healthy discussion around our history with the CSA and our own ORNAC Standards development & review process. We discussed production, inventory, and sales and will develop a business plan for the future.

❖ ORNAC sponsored a two-day Strategic Planning workshop for the Board & Executive. Catherine Harley of Global Healthcare Projects Inc. facilitated the seminar. It was an extremely busy two days with Catherine helping ORNAC focus on its strengths and weaknesses and to develop a Strategic Plan for the future. The outcomes of this Strategic Plan, when implemented, will mean re-structuring for ORNAC. We will be shifting our focus in a more business direction and focusing more on Perioperative Education, Public Awareness, National Conference Planning and Marketing. Several committees have already suggested ways to get started. We currently have nine committees and some will be combined and restructured. We will also be reviewing Terms of Reference (defining the mandate of each committee) and developing plans for the future.

❖ The Awards Committee has developed criteria for several new awards that will be presented at the 2007 National Conference. See www.ornac.ca for details.

❖ Congratulations to Glenda Tapp, Clinical Educator in St John's, NL, recipient of the 2006 Cardinal Health Research Grant. Glenda's area of research is Preoperative Skin Preparation. Research Chair Karen Frenette awarded the grant at the 2006 Newfoundland and Labrador provincial conference.

❖ ORNAC members can now change their address online at www.ORNAC.ca. In order to ensure you receive membership renewal information and the *Canadian Operating Room Nursing Journal* please update your address as soon as you move.

❖ President Elect Linda Socha has been working diligently to obtain Federal Incorporation for ORNAC. This has been a long and involved process involving a complete review of ORNAC Bylaws and the Rules & Regulations governing the Association. The process is almost complete – watch for the announcement soon.

❖ Ray Larkins has agreed to take over the position of Webmaster and oversee a restructuring of the Website. He will be working with Keynote Networks to ensure the site is effective for ORNAC and easier for members to use.

L'AIISOC en Bref — Printemps 2006 (cont.)

- ORNAC is involved with a number of Initiatives. We have a number of current and former Board members representing ORNAC with various groups. They include Canadian Patient Safety Institute (CPSI), Canadian Standards Association (CSA), Canadian Council on Hospital Accreditation (CCHSA), Canadian Council on Donation and Transplantation (CCDT), Canadian Anesthesia Society (CAS), Canadian Nurses Association Certification (CNA) and Safer Healthcare Now, just to name a few. Reports of these activities can be found on the website.

- The Standards Committee has continued its work and an updated version of Module Two is now for sale through CSA. The review and revision process for Module One will begin early in 2007. For details visit the ORNAC website and select Standards. ❧

L'AIISOC en Bref — Automne 2006

***Auteure :** Lynn Anderson, secrétaire de l'AIISOC, 2005-2007*

Les conseils administratifs et exécutifs se sont rencontrés le 1er, 4 et 5 novembre 2006, à Toronto, pour leur réunion semestrielle.

- La présidente de l'AIISOC, Marcy McKay, a accueilli les nouveaux membres du conseil Donna Fallis du Manitoba, Kelly Kuz de l'Alberta, Corenia Price de Terre-Neuve et Marlene Weeks de la Colombie-Britannique.

- Le conseil a dit au revoir et a offert ses remerciements à Ray Larkins (trésorier 2003-2006). Ray a joué un rôle clé dans l'informatisation des affaires financières et commerciales de l'AIISOC en facilitant l'adoption d'un système de comptabilité informatisé, en procurant des ordinateurs portables pour les membres du conseil exécutif et les présidents de plusieurs comités pour faciliter leur travail pour l'AIISOC et en étant le fer de lance de la création d'un bureau virtuel à partir du site de l'AIISOC.

- Le vérificateur de l'AIISOC, M. Delorme, a assisté à la réunion du conseil, a examiné l'état des finances a offert ses commentaires et ses suggestions relatifs à l'avenir financier de notre association.

- Depuis longtemps l'AIISOC maintient une relation avec l'Association canadienne de normalisation (CSA). Un représentant de celle-ci, M. Glen Tubrett, a assisté à la réunion du conseil exécutif et s'est entretenu avec la présidente du comité des normes de l'AIISOC, Kim Reese. Nous avons discuté en détail de notre histoire avec la CSA ainsi que du processus d'élaboration et d'analyse de nos propres normes. Nous avons discuté de la production, de l'inventaire et des ventes et nous nous sommes engagés à développer un plan d'affaires pour l'avenir.

- L'AIISOC a offert aux membres des conseils exécutifs et administratifs un séminaire de planification stratégique de deux jours. Catherine Harley de Global Healthcare Projects Inc. a animé la session. Pendant ces deux jours très occupés, Catherine a aidé les participants à mettre au point les forces et les faiblesses de l'AIISOC tout en élaborant un plan stratégique pour l'avenir. L'application du plan stratégique découlant de cette session exigera la restructuration de l'AIISOC. Nous insisterons davantage sur le côté commercial et sur la formation périopératoire, la sensibilisation du public, la planification de la conférence nationale et le marketing. Plusieurs comités ont déjà proposé de premières pistes. Il existe actuellement neuf comités, certains desquels seront combinés ou restructurés. Nous réviserons également les mandats de chaque comité et élaborerons des plans pour l'avenir.

- Le comité des prix a établi des critères pour plusieurs nouveaux prix qui seront décernés à la Conférence nationale de 2007. Veuillez visiter www.ornac.ca pour plus de détails.

- Félicitations à Glenda Tapp, formatrice clinique à St. John à Terre-Neuve, récipiendaire de la Bourse Cardinal Health Research Grant de 2006. Le domaine de recherche de Glenda est la préparation préopératoire de la peau. La présidente du comité de recherche, Karen Frenette, a présenté le prix à la conférence provinciale 2006 de Terre-Neuve et Labrador.

- Tout membre de l'AIISOC peut maintenant changer son adresse en ligne à www.ORNAC.ca. Afin d'assurer l'envoi des demandes de renouvellement de votre abonnement et de la revue de l'AIISOC à la bonne adresse suivant un déménagement, veuillez mettre à jour votre adresse aussitôt que possible.

- La présidente désignée, Linda Socha, travaille assidûment à la constitution en personne morale de l'AIISOC. Ce processus s'est avéré long et complexe exigeant un examen détaillé des règlements gouvernant l'AIISOC. Le processus s'achève - gardez l'oeil ouvert pour l'annonce qui arrivera bientôt.

- Ray Larkins a accepté de prendre en main les responsabilités de webmestre et de surveiller la restructuration du site Web. Il travaillera de pair avec Keynote Networks pour assurer que nos membres trouveront notre site plus efficace et plus facile d'utilisation.

- L'AIISOC participe actuellement à plusieurs initiatives en raison du nombre de membres du conseil, anciens et actuels, qui sont aussi membres de plusieurs groupes tels l'Institut canadien pour la sécurité des patients (ICSP), l'Association canadienne de la normalisation (CSA), le Conseil canadien d'agrément des services de santé (CCASS), le Conseil canadien pour le don et la transplantation (CCDT), la Société canadienne des anesthésiologistes (CSA), l'Association des infirmières et infirmiers du Canada (AIIC) et Des soins de santé plus sécuritaires maintenant, pour n'en nommer que quelques-uns. Pour des comptes-rendus sur les activités de ces organismes, veuillez consulter notre site Web.

- Le comité des normes continue son travail et une version mise à jour du deuxième modèle est maintenant en vente par le biais de la CSA. Le processus d'analyse et de mise à jour du premier module sera entamé tôt en 2007. Pour de plus amples détails, visitez le site Web de l'AIISOC et choisissez la rubrique Standards (en anglais seulement). ❧

Prix de redaction de l'AIISOC/J&J Medical Products Drake-Thompson Writing Award

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(*disponible en anglais seulement*)

profession[4]. However, attempts to promote research participation and utilisation by nurses have had mixed success.

In Australia, there are some nurse clinicians who still require convincing about the relevance of conducting research or using research findings to inform practice[9]. At times I, too, have found this when I have been invited to speak to clinical nurses regarding research and its importance to their professional development. On commencing these sessions the first thing I do is to pose a series of questions, such as: What image comes to mind when you think of the word 'research'? Is research important to nursing? Who should do or use research? In response, there are those who have a basic understanding of what research is but are unsure how it can become part of the day-to-day practice of nursing. Some think only intellectual types are attracted to research. Some never thought of research as part of their responsibilities. Others worry about understanding and making sense of it all. Most agree that research has a place in nursing, but think someone else should be doing or using it and that their time could be better spent on other pursuits. Then there are others who are excited and curious about research but somewhat anxious about getting started. These diverse reactions have been compounded further by the reported barriers to the active utilisation and participation of nurses in research[1].

BARRIERS TO RESEARCH UTILISATION AND PARTICIPATION

There are many barriers to the use and practise of research in nursing. These barriers include: resistance to change, heavy workloads giving neither the time nor energy to do research-related activities, insufficient resources to implement changes to practice, lack of supportive infrastructure, lack of research skills including an inability to critique research articles, lack of professional autonomy to effect change, and inability to access and engage with research findings[1,10,11,12,13]. These factors are also reported within the perioperative nursing arena, and are compounded by administrative requirements to improve efficiency and decrease long waiting lists, which pressure the surgical team to treat more patients. Acute procedures and lack of personal resources increase nurses' workload and inhibit the time for research involvement[14]. However, there are published reports indicating that perioperative nurses do have time to read research reports at work, but they place higher priority on other activities such as cleaning the theatre, decontaminating instruments, and reading non-scientific journals[14,15,16]. It is further suggested that 'lack of time' can be an excuse for lack of interest or competence to assess research reports. Other studies have shown that most perioperative nurses are women who have off–duty priorities such as families, and who do not want or do not have spare time to read nursing literature[7,15,16]. This lack of desire to become involved in research has also been reported amongst clinicians in other settings within Australia[4].

A recent study conducted by Hommelstad and Ruland[14], examined 159 perioperative nurses' perceptions of barriers and facilitators to the use of research findings in nursing practice. The findings, which were consistent with those reported by previous researchers [10,11,12,13,14,17], indicated that the major barriers included:

- insufficient time for research activities, such as reading research articles and implementing research findings into practice,
- lack of authority and autonomy to administer their time at work to allow them to initiate research,
- difficulties in locating research literature and findings about perioperative nursing,
- lack of understanding of statistical analyses, and lack of competence and confidence in the research process to critically evaluate research findings,
- lack of interest and personal resources.

Although there are recognised barriers, which impede the utilisation by, and participation of, nurses in research, there are many perioperative nurses who exhibit positive attitudes towards research. The latter recognise the need to analyse research data and use research findings to fulfil their role as competent perioperative nurses[14]. In order to promote research utilisation and participation amongst perioperative nurses and develop positive attitudes, strategies need to be established. In so doing, this will reduce the barriers perceived to hinder involvement and, form assistance and support in facilitating utilisation and participation[5,7,18,19,20,21].

STRATEGIES TO ENHANCE RESEARCH UTILISATION AND PARTICIPATION

The utilisation and participation in research to improve practice is a shared responsibility. That is, to play a role in promoting research-based care, commitment and collaboration is required of perioperative nurses at all levels, including clinicians, educators, administrators, and researchers. Strategies therefore need to be created that encourage nurses to participate in research activities to enable them to develop a familiarity with the process, which will hopefully lead to more research utilisation. Such strategies would range along a continuum from informal sharing of research information with colleagues to formal models of planned research and could include but not be limited to the following.

SUPPORT

Finding a support infrastructure is necessary to sustain research and for those who are carrying out a project. As lack of time has been identified to be the major barrier, support through providing time for research activities is essential. In most cases perioperative nurses have no authority to administer their time at work, and the possibility of finding time for research activities in practice depends on nurse administrators. Roberts and Taylor[22] suggest nursing administration at the institutional level could offer research scholarships for a staff member to work with a researcher within the hospital for one day a week. Administrators could also organise for perioperative nurses to have time on-duty to take part in and implement research activities.

Nurse administrators should set institutional goals that include the use of research findings to promote excellence in practice. Management can support the efforts of perioperative nurses to work to accomplish such goals by rewarding research utilisation efforts in tangible ways, such as incorporating research activity and utilisation into promotion criteria, extra days off, financial stipends, employment honour rolls, and celebrations to recognise staff efforts[22]. These incentives would assist in removing some of the barriers.

EDUCATION

It is expected that nurses base their practice on evidence, that is, on research findings. However, before it is possible to utilise and implement research findings, nurses must learn to read and critique research. Nurse administrators could assist to promote research literacy by encouraging perioperative nurses to:

- read research, for example by suggesting they take out subscriptions to relevant journals, such as ACORN, or promoting staff to go to the library during less busy periods in the operating suite,
- attend education programs that would provide guidance for those who lack the competence to critically evaluate research findings or to search online bibliographic databases,
- attend conferences where research is presented,
- present research results at operating suite in-service sessions, and
- provide study leave, which would give staff an opportunity to read literature and search databases at work[1,14,23].

The possible negative consequences of these strategies are increased workload and pressure on the other perioperative nurses, which will need addressing. By giving perioperative nurses study leave however, nurse administrators express the value and importance of research activities in nursing practice[14].

Staff development nurses also have a significant part to play by role-modelling utilisation of research in their unit-based teaching of perioperative nursing and processes. Staff development nurses, nurse educators and clinical nurse educators could post weekly research articles on an information board to encourage staff to synthesise research in an area of interest and, for example, develop a protocol

for implementation into practice. They should engage staff in reflective practice and critical appraisal of the research literature by providing research information to staff and discussing its relevance to perioperative nursing practice. This could occur via a journal club, or through the periodic use of regular in-service time.

RESEARCH LITERATURE ACCESSIBILITY

Research literature should be available in the operating suite to facilitate research use. For easy access to information the computer revolution is in full bloom and has spawned the Internet. The 'information highway' can instantly link us to people and resources around the world and we can tap into the latest information available about almost any subject imaginable[1]. Therefore, having a computer available within the operating suite on which nurses could access scientific journals is important, to promote awareness of research findings, and subscriptions to online journals can improve availability.

RESEARCH PERIOPERATIVE NURSING CONSULTANTS

Setting up research nursing consultants through joint appointments between hospitals and universities is part of collaborative practice occurring today. The appointment of a research perioperative nursing consultant would be closely related to other clinical nurse-researchers in the operating suite and the institution. Such appointees have the potential to provide powerful role models to increase the utilisation of research in perioperative nursing. According to Roberts and Taylor[23], "... the actual presence of the researcher in the clinical area and resultant dialogue with clinicians is a key factor for making nursing research relevant. These individuals have the responsibility for conducting clinical research that is relevant to the area and for promoting research utilisation as a part of improving practice. They can also give seminars, in-service programs and workshops. They can involve the clinicians at every stage of the research projects and the clinicians can feel some ownership of the findings" (p. 519).

Learning about and participating in research is an excellent way to socialise perioperative nurses to the contemporary nurse scholar role and to improve nurses' clinical decision-making. It can be used by all perioperative nurses at all educational levels and at all stages in their careers to do their jobs more effectively. This means that one can use research right now to improve the care given to patients in the clinical setting[1].

If you believe nursing research is important to your professional practice but for various reasons are having trouble getting started, you are not alone. Remember the experienced researcher will always emphasise that clinical settings are the best place to generate research questions; therefore as a clinician, your contribution is essential. Advice to novice researchers or those interested in getting started[1,24] include the following:

- Develop personal characteristics (for example, discipline and intellectual curiosity) that enhance your research skills.
- Keep a log of ideas for potential studies.
- Develop or maintain ties with library resources.
- Assess your clinical area and identify a topic or area of research that you love (for example, a specific patient population, or a particular theory, such as stress theory).
- Get experience as a research assistant.
- Think small, that is narrow your ideas so that you do not try to do too much in one study.
- Network with other perioperative nurses who work in other settings and get them involved.
- Develop collegial relationships with other nurses or members of the health team, who are conducting research in the perioperative field.
- Find a mentor.
- Conduct research that is meaningful, that is it has meaning for patients and for their carers/providers

We can conduct meaningful research that describes patient or nursing outcomes, such as the studies reported in the ACORN Journal on promoting family centred care in the post anaesthetic are unit[26] and the traumatic experiences of perioperative nurses[27, 28,29]. We

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can be good research consumers by reading research articles and reviews, and applying findings in our practice settings. Research collaboration is also possible between perioperative nurses, nurse researchers, other health care researchers and researchers from other disciplines. It may take time, energy, opportunities and organisational skills before projects get under way, but the rewards can be many for nursing and for the other people with whom nurses collaborate[23].

The utilisation and participation in research by perioperative nurses should be an integral part of their role to improve outcomes for their patients and themselves through the knowledge of best practice in health[4,5,6]. This is supported by the ACORN Standards for Perioperative Nursing, Position Statement (PS) 3 Nursing Research (2004). It is acknowledged that not all of us are capable of conducting quantitative or qualitative studies, but we can facilitate such research by being data collectors or participating in some other way, and/or by being consumers of research. If we want to preserve our professional status and guard against encroachment of our practice by other occupational groups, we need more clinical research. If you have not embraced the importance of nursing research, what will be the deciding factor for you to do so?

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