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VISION

CHICA-Canada will lead in the promotion of excellence in the practice of infection prevention and control.

MISSION

CHICA-Canada is a national, multidisciplinary, voluntary association of professionals. CHICA-Canada is committed to improving the health of Canadians by promoting excellence in the practice of infection prevention and control by employing evidence-based practice and application of epidemiological principles. This is accomplished through education, communication, standards, research and consumer awareness.

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Pat Piaskowski, RN, HBScN, CIC Clinical Editor. Canadian Journal of Infection Control

Public reporting of healthcare-associated infections (HAIs) and the ICP

nfection control professionals (ICPs) in some provinces in Canada are finding themselves providing infection control surveillance data for certain HAIs for public reporting by their facilities. Whether this is a growing trend in Canada will remain to be seen.

Beyond the immediate and obvious need to provide accurate data what does this mean for the ICP?

For ICPs involved in public reporting their infection control surveillance data is no longer just a matter of discussion or review in their own facility. Typically this data is shared only with the infection prevention and control (IPAC) committee and other key individuals and committees within the facility. Now, with public reporting, this data will be viewed by a much broader audience and potentially, through web-based reports, by the world.

Accountability for this reported data, however, starts at the top. The board and CEO are ultimately accountable for the outcomes. The ICP is one member of the health care team with a very important role. However, the ICP and the IPAC committee cannot affect the rates. without the support and cooperation of the governance and management of their facility. Inadequately resourced IPAC programs and facilities with limited support for other basic

infrastructure such as housekeeping, facilities management, and laboratory will all negatively impact these rates.

With this new role, the ICP is now at the forefront of a trend which may impact their facility and the IPAC program. When reported rates are high there may be increased public and media scrutiny of the facility and their IPAC program.

The APIC/CHICA/CBIC infection prevention, control and epidemiology: professional and practices standards, published in the last issue of CJIC, are now more important than ever in helping ICPs to define their role. All ICPs should become familiar with these standards and measure their own role and performance in light of them. Whether our surveillance data will be public is not what is important. What is important is how we as individual ICPs and as a profession respond to this new challenge.

As stated in the CHICA-Canada mission statement:

"CHICA-Canada is committed to improving the health of Canadians by promoting excellence in the practice of infection prevention and control by employing evidence based practice and application of epidemiological principles. This is accomplished through education, communication, standards, research and consumer awareness." ●

"The ICP is now at the forefront of a trend which may impact their facility and the IPAC program."



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Marion Yetman, RN, BN, MN, CIC President, CHICA-Canada

ealthcare associated infections (HAIs) cause 9,000-12,000 deaths each year in Canadian hospitals. In addition it is estimated that 250,000 persons suffer from HAIs annually in Canada. The infections have serious implications not only in terms of pain and suffering but in relation to the patients' ability to carry on their everyday activities. Consequences of infections can result in significant

HAIs: A call to action

interruptions in the patient's family and work life.

This call to action has been answered by CHICA-Canada. Last year in collaboration with colleagues from the Canadian Foundation for Infectious Diseases (CFID), the Association of Medical Microbiology and Infectious Disease (AMMI) Canada, the Canadian Association for Clinical Microbiology and Infectious Diseases (CACMID), the **International Centre for Infectious** Diseases (ICID) and industry partners, CHICA-Canada participated in a National Infectious Disease Day (NIDD) in Ottawa. On October 23, 2007 this group (the NIDD coalition) met with Members of Parliament (MPs). The purpose was to make MPs aware of the impact of HAIs on Canadians and to solicit their help in getting more funding to address HAIs.

This year the NIDD coalition is working on a different approach to address HAIs in Canada. The coalition is focusing on an awareness campaign which will include press releases and meetings with potential MPs, those running for public office in the next election. The key messages that have been developed are:

- An overview of the problem the impact of HAIs.
- The action that is required there needs to be an investment of \$200 million in funding to address the problem of HAIs.
- Vision this investment would lessen the burden on Canadian both in terms of reduced pain and suffering from HAI and reduced financial burden on Canada's health care system.

CHICA-Canada is requesting your help in bringing these messages to your local federal representative. Details of the initiative can be found on the NIDD website (www.nidd.ca) and on CHICA-Canada's website (www.chica.org). We encourage you to visit these websites and become familiar with the issues and the action

that we are supporting. •

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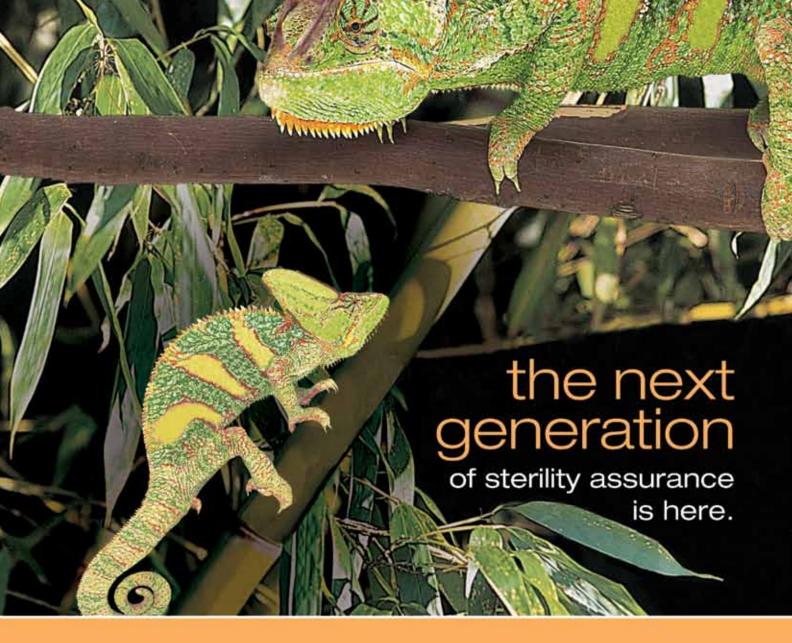
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MESSAGE DE LA PRÉSIDENTE



Marion Yetman, Inf., B. Sc. inf., M. Sc. inc., CIC President CHICA-Canada

es infections directement liées aux soins de santé provoquent de 9 000 à 12 000 décès chaque année dans les hôpitaux canadiens. De plus, on estime que, chaque année, 250 000 personnes contractent de ce genre d'infections au Canada. Les infections ont de graves conséquences, non seulement sur le plan de la douleur et de la souffrance mais aussi sur celui de la capacité des patients à poursuivre leurs activités quotidiennes. Elles peuvent entraîner

Infections dans les soins de santé : appel à l'action

d'importantes perturbations dans la vie professionnelle et familiale des patients.

Cet appel à l'action a trouvé écho au sein de l'Association pour la prévention des infections à l'hôpital et dans la communauté-Canada (CHICA-Canada). L'année dernière, en collaboration avec des collègues de la Fondation canadienne des maladies infectieuses (FCMI), de l'Association pour la microbiologie médicale et l'infectiologie Canada (AMMI-Canada), de l'Association canadienne de microbiologie clinique et des maladies infectieuses, de l'International Centre for Infectious Diseases (ICID) et de partenaires sectoriels, CHICA-Canada a pris part à une Journée nationale des maladies infectieuses (NIDD) à Ottawa. Le 23 octobre 2007, ce groupe (la coalition de la NIDD) a tenu une réunion avec des députés, qui visait à sensibiliser ces derniers à l'incidence des infections dans les soins de santé sur les Canadiens et à

solliciter leur aide pour obtenir davantage de fonds afin de régler ce problème.

Cette année, la coalition de la NIDD s'efforce d'élaborer une approche différente de cette question au Canada. Elle concentre son attention sur une campagne de sensibilisation comprenant des communiqués de presse et des rencontres avec des candidats et candidates à des postes de députés au terme de la campagne électorale en cours. Les principaux messages élaborés sont les suivants :

- un aperçu du problème l'incidence des infections dans les soins de santé;
- les mesures nécessaires la nécessité d'effectuer un investissement de 200 millions \$ afin de régler le problème de ces infections;
- une vision cet investissement réduirait le fardeau des Canadiens tant sur le plan de la diminution de la douleur et de la souffrance dues à ces infections que sur celui du financement du système de soins de santé au Canada.

CHICA-Canada sollicite votre aide pour transmettre ces messages à votre député fédéral local respectif. Vous pourrez trouver davantage de détails sur cette initiative sur le site Web de la NIDD (www.nidd.ca) et celui de CHICA-Canada (www.chica.org). Nous vous encourageons à vous rendre sur ces sites et à vous familiariser avec les enjeux et les mesures qui bénéficient de notre appui. •

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Update: Catheter-related bloodstream infection rates in relation to clinical practice and needleless device type

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ABSTRACT

Catheter-related bloodstream infection (CR-BSI), the third most common healthcare-associated infection (HAI) in the intensive care unit, is a significant issue for infection prevention and control professionals. CR-BSIs result in significant increases in morbidity. mortality, length of hospital stay and financial costs and therefore must be regarded as a failure in patient care. Among the factors affecting CR-BSI rates are the type of needleless access device, access device disinfection methods, compliance with infection prevention and control procedures, clinician training and ongoing education, the number of individuals accessing the device, and patient characteristics. Consistent implementation of institutional infection prevention and control protocols has demonstrated a reduction in CR-BSI incidence. Recent studies in the literature on needleless access devices indicate mechanical valve access devices appear to be associated with an increased BSI rate compared to split septum access devices; however, the reasons have not been completely elucidated. Reduction in CR-BSI rates depends on adherence to best practice in infection prevention; selection of appropriate needleless intravenous (IV) infusion systems; and routine BSI surveillance, with timely dissemination of data within the institution. This article discusses the links amongst CR-BSIs and adherence to aseptic techniques for catheter insertion, access device disinfection and maintenance, and differences in needleless access device technologies. A review of patient-related factors is beyond the scope of this article.

INTRODUCTION

Catheter-related bloodstream infection (CR-BSI) is a significant issue for infection prevention and control professionals (ICPs). After ventilatorassociated pneumonia and catheterrelated urinary tract infection, CR-BSI is the third most common healthcareassociated infection (HAI) reported from intensive care units (ICUs)1. The Centers for Disease Control and Prevention (CDC) estimates approximately 250,000 CR-BSIs occur annually in American hospitals, resulting in a 12 to 25% attributable mortality and a \$25,000 USD marginal cost per episode². Approximately 80,000 episodes occur in ICUs, at a cost of \$34,508 to \$56,000 USD per infection. The number of CR-BSIs occurring in areas outside ICUs is not widely reported. This article discusses impact of clinical practice and type of needleless access device on CR-BSI rates and contamination.

Needleless access devices were developed in the late 1980s to reduce the risk of needlestick injuries to healthcare workers. Before needleless access devices were introduced. healthcare workers administered medications or additional fluids by using a needle to puncture a rubber diaphragm (PRN adapter) integrated into the intravenous (IV) tubing. Needleless access devices allow administration of IV fluids without the use of needles while maintaining a closed system. They may be either a stand-alone device or a device integrated into the IV administration set. Needleless access devices have evolved over the years in an effort to address safety and infection risks. The influence of patient-related factors, such as severity of illness, underlying disease, and immune status, is beyond the scope of this article.

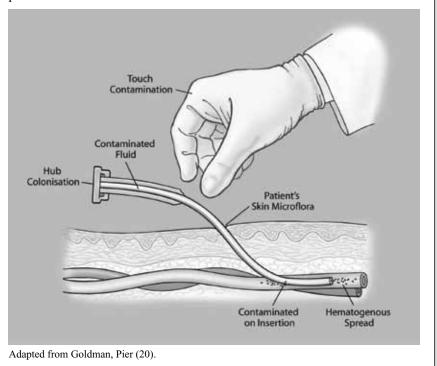
CLINICAL PRACTICE AND BLOODSTREAM INFECTION

Clinical practice factors which contribute to BSI include the CVC insertion site, technique, access and management³. Problems associated with catheter and access site management include improper disinfection, improper flush⁴⁻⁶, improper clamping, frequency of manipulation, failure to replace access devices per institutional protocol, poor catheter site dressing regimen, and urgent catheter placement (Figure 1). The frequency of user compliance with established protocols is unknown.

A variety of protocols and interventions have been developed to reduce BSI incidence by addressing clinical practice factors. The Central Line Bundle is an example of a standardized, research-based set of interventions introduced by the Institute for Health Improvement and the Canadian Patient Safety Institute to address these issues. The key components of the Central Line Bundle consist of hand hygiene; maximal sterile barrier precautions for insertion; 2% chlorhexidine with 70% alcohol skin antisepsis; optimal catheter site selection (in the adult population, the subclavian vein is the preferred site for non-tunnelled catheters); and daily review of line necessity, with prompt removal of unnecessary lines. Documented evidence indicates a reduction in CR-BSI rates when all components of the bundle are implemented^{7, 8}.

Other approaches, following similar principles, have also been shown to be effective. The Pittsburgh Regional Healthcare Initiative (PRHI), in collaboration with the CDC, developed a hospital-based initiative to prevent CR-BSIs in ICUs in South-western Pennsylvania⁹. Over a four-year period, the PRHI achieved a 68% decrease in BSI rates per 1000 catheter days, from 4.31 to 1.36 (p < .001). Key components of the initiative included promotion of education about CR-BSIs and preventive strategies, evidence-based catheter insertion techniques, a standardized list of contents for catheter insertion kits to support recommended techniques, standardized tools for recording adherence to recommended techniques, measurement of CR-BSI rates, and confidential

Figure 1. Pathogenesis of bloodstream infection: possible sources of bacterial contamination.



distribution of data to participating institutions.

In 2002, a surgical ICU in Baltimore used a similar intervention to reduce CR-BSIs. The rate decreased from 11.3 per 1000 catheter days during the first quarter of 1998 to 0 per 1000 in the fourth quarter of 2002. Promoted infection prevention strategies were not new, but the data demonstrate the effectiveness of consistency and coordination in infection prevention and control practices to reduce catheter-associated events, including BSIs³.

ACCESS DEVICES AND BLOODSTREAM INFECTION

In addition to clinical practice issues, needleless access device-related factors may be important contributors to BSIs^{10-12, 18}. Access device-related factors include the type of catheter (tunnelled or non-tunnelled) and the securement method (Table 1). Access devices with a gap around the plunger may allow bacterial colonization; an opaque housing hides incomplete flushing of mediabased fluids; and internal mechanisms can obscure the fluid path (Figure 2). In several institutions, an increase in

BSI rates has been linked temporally to changes in needleless access devices from split septum (SS) to mechanical valve (MV) devices¹⁰⁻¹².

In June 2002, Hall et al reported a 61% increase in the primary HAI BSI rate per 1000 catheter days from analyzed data¹³. The rate increased significantly from 2.2 (January-May 2002) to 3.5 per 1000 catheter days (June-December 2002) (p = .00003). This increase was temporally associated with the hospital-wide introduction of a new MV needleless infusion system in late May 2002. Organisms identified included both common skin flora and pathogenic strains. Retrospective analysis identified both contamination rates and true BSI rates before and during the outbreak. Contamination was defined as isolation of a common skin organism from only one of two or more sets of blood cultures taken from different sites over a five-hour period. Any other positive cultures were classified as true BSIs. Contamination rates for CVC cultures increased from 1.7 to 6.5% (p $<10^{-7}$), and positive cultures increased from 6.1 to 11.6% (p $< 10^{-7}$). Hall et al concluded the increased

Table 1. Clinical practice and access device-related factors affecting the incidence of catheter-related bloodstream infections.

Clinical practice factors (3-6)

Protocols: non-adherence

Insertion site: selection, preparation and management

Catheter and access management: improper disinfection, flushing and clamping of extension set

Asepsis: poor hand hygiene; inadequate skin antisepsis; poor catheter site dressing regimen

Access device use: urgent placement; failure to replace access device per protocol; unnecessary line; frequency and numbers of individuals accessing device

Access device-related factors (10-12, 18)

Presence of biofilms: organism survival

Hub: design, contamination, difficulty disinfecting, gap around plunger Catheter: tunnelled vs non-tunnelled, catheter securement device

Opaque housing: obscured fluid path

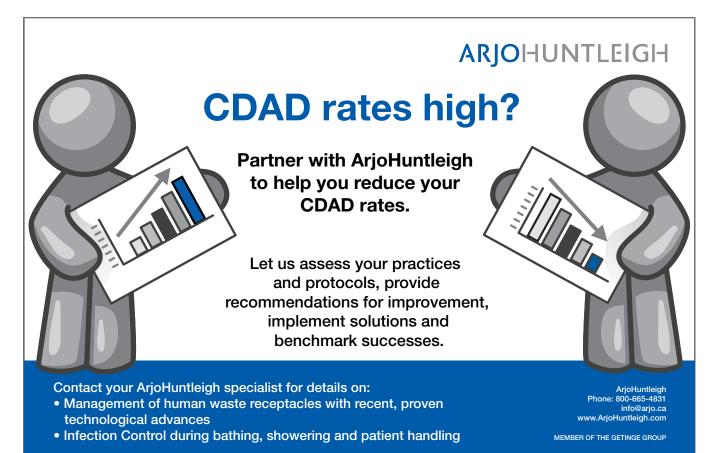
CVC contamination rate coincided with implementation of the MV needleless access device, which might be more apt to become colonized with bacteria¹³.

In September 2003 Karchmer et al found a significant (p = .02) increase in ICU BSIs and evaluated various factors in the search for a cause. Neither

CVC insertion techniques nor care and maintenance could explain the observed increase. A nursing practice survey found 31% of nurses did not disinfect the valve device before accessing the system. Documented improvements in technique did not resolve the issue. Quantitative cultures were performed

using blood samples drawn from the normally discarded initial syringe pull back. Microbiological culturing of 226 blood samples from 83 patients identified a 17% positive culture rate. Of patients with a positive sample, 12% had a BSI with the same organism. Further investigation determined the institution had switched to a new valved needleless access device coincident with the time the increase in BSIs began. Karchmer et al concluded the BSI rate increase was likely due to both true and pseudo-bacteremia related to the access device design and use¹⁴.

In 2004 in a long-term acute-care hospital, Salgado et al compared infection rates during the 24-month period after introduction of a needleless MV access device to rates in the preceding 24-month period, when an SS access device was used¹⁵. During the study period, protocols for CVC care were unchanged; the surface of the MV needleless access device was disinfected with 70% isopropyl alcohol by rubbing vigorously for 3 to 5 seconds; and the IV tubing and needleless access device were changed

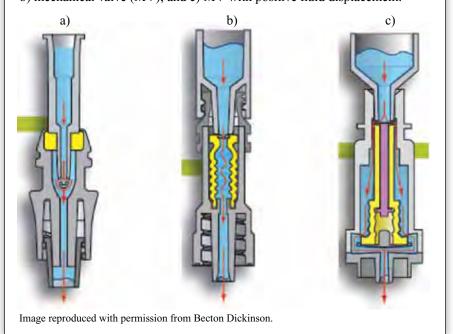


every 96 hours. The tubing was changed daily if a blood product or parenteral nutrition was administered. Salgado et al found a sustained and significantly increased BSI rate (5.95/1000 catheter days, p < .001) associated with the use of the MV access device, compared with the period during which the SS access device was in use (1.79/1000 catheter days). Repeated education for nurses on correct MV use did not lower the rate. Based on their data and other literature reports, Salgado et al concluded MV needleless access device design, recommended disinfection protocols, or both, may be inadequate for safe use in some patient populations.

In 2005, in response to a perceived increase in BSI rate coincident with conversion from an SS to an MV access device, Field et al conducted an audit of CR-BSI rates in an Australian haematology/oncology unit. The retrospective audit included all patients who had Hickman catheters placed during hospitalization in the hematology/oncology unit between July 1, 2004 and June 30, 2005. Of the 32 confirmed CR-BSIs during the study period, 20 occurred during the MV period (November 1, 2004 until March 31, 2005) and 12 during the SS period (before and after MV period). Rates were consistent across patient disease site subgroups and catheter types. Analysis found a BSI rate of 2.6/1000 catheter days during the SS period and 5.8 during the MV period (p = .031). After the study period, continued monitoring found a BSI rate of 2.3/1000 catheter days (July 31-December 31), similar to the rate during the SS study period. No additional clusters of BSI cases were noted. Consistent with other reports, the findings of this study suggest colonization of MV connectors may be associated with increased CR-BSI rates¹⁰.

Jarvis et al convened peer meetings in June and October 2004 to discuss BSI rate increases associated with the switch from SS to MV needleless access devices, to identify contributing factors, and to gain a better understanding of the problem¹⁶. ICPs shared data gathered from five hospitals with documented BSI increases. Reasons for switching to MVs included safety (reducing needle-

Figure 2. Cross-sections of needleless access devices: a) split-septum (SS); b) mechanical valve (MV); and c) MV with positive fluid displacement.



stick injuries), change in IV systems, concerns about future availability of SS access devices, a desire for neutral- or positive-pressure access devices, the potential to reduce intravascular access device occlusion, and better visibility of the hub area with some MVs.

The increase in BSI rate (Figure 3) continued despite staff re-education about aseptic technique and use of

other appropriate infection prevention and control practices. Intensive educational efforts regarding the use and care of needleless access devices may not reduce BSI rates associated with MVs. At the three hospitals that discontinued MV use, the BSI rate decreased to pre-MV levels. The BSI rate did not, however, return to baseline at the two hospitals where MV use continued.



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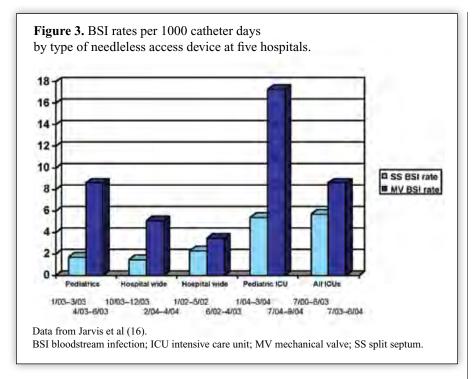
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FINDINGS

ICPs have voiced concerns about serious outcomes potentially associated with needleless access devices for several years. Despite various recent claims, the dominance of any needleless access device design has not been conclusively proven¹⁹. Current studies vary widely in scope; design, duration, and limitations; and scientific rigor. Long-term outcomes have not been discussed. Until more evidence is offered regarding design impact on risk of infection, none of the currently available needleless access devices can truly assert dominance. In reality, the 2002 **Healthcare Infection Control Practices** Advisory Committee (HICPAC) Guidelines for the Prevention of Intravascular Catheter-Related Infections maintain when the entire needleless intravascular catheter system is used according to manufacturer' recommendations, it does not substantially affect CR-BSI incidence². All data supporting this statement, which was published in 2002, were published not later than 2000; more current data have been discussed in this article.

Newer access devices may be associated with reduced infection rates and ease of use. With no internal moving parts, SS needleless access devices have

a structure similar to proven traditional injection sites and allow needleless access with a blunt cannula. In 2005, Adams et al evaluated (in vitro) an SS needleless access device to determine its potential for microbial contamination. The study compared needleless access devices that had been activated up to 70 times. The outer surfaces of 50 SS devices were inoculated with Staphylococcus epidermidis. The compression seals were disinfected by firm application of 70% isopropyl alcohol swabs and rotation through 360° five times. The needless access devices were then flushed with 0.9% sterile saline. Finally, the flush solutions were cultured. Ninety-six percent (48/50) of the flush solutions remained sterile. An additional 25 SS devices were challenged using 0.9% sterile saline-filled syringes whose external luer tips had been inoculated with S. epidermidis. The needleless access devices were flushed, and the flush effluents were cultured. Microorganisms were detected on both the syringe tip and the outer surface of the SS devices, but no microorganisms passed through the access septum. Adams et al concluded the access device septum prevented any microorganisms on the external luer surface of the syringe from entering the fluid pathway¹⁷. Additional studies to evaluate the efficacy of SS devices against other microorganisms and its effectiveness in reducing CR-BSIs would be clinically beneficial.

CONCLUSION: SURVEILLANCE AND CLINICAL PRACTICE

CR-BSIs significantly increase morbidity and mortality and must be regarded as a failure in patient care. Many factors affect CR-BSI rates, including, but not limited to, the type of needleless access device used, the patient characteristics, the method of access device disinfection, adherence to institutional infection prevention and control protocols, clinician competence, and the number of individuals accessing the device.

The association of CR-BSIs with increased morbidity, mortality, length of hospital stay, and associated costs highlights the importance of BSI surveillance. This includes monitoring long-term trends, assessing the impact of any IV system changes, and monitoring adherence to protocols by clinicians. Furthermore, an increase in BSI rates should prompt an evaluation of potential causes.

There are available data on BSI rates associated with changes in needleless IV access devices. As existing reports are primarily from the ICU setting, information from other high-use areas in acute care hospitals, long-term care facilities, home health care and from multicentre investigations would also be beneficial. Longterm outcomes should be assessed. The current design and/or recommended protocols for disinfection of needleless access devices may not be adequate for clinical use in some populations¹⁵. Research comparing the effect on patient outcome of MV technologies with other closed-system technologies, including SS access devices, is needed¹².

Needleless access devices present both advantages and disadvantages, and will only be as safe and reliable as the person using them. Pending definitive evidence highlighting the domination of one device type over others, health care workers must continue to moni-

Continued on page 162

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(2) The Reduction of Vascular Surgical Site Infections with the Use of Antimicrobial Gauze Dressing; Robert G.Penn, MD. Sandra K Vyhlidal, RN, MSN, CIC, Sylvia Roberts, RN, Susan Miller, RN, BSN, CIC. Dept. of Epidemiology, Nebraska Methodist Hospital, Omaha, NE, USA. Observation of Nosocomial Surgical-Site Infection rates with Utilization of Antimicrobial Gauze Dressing in an Acute Care Setting: Mary Jo Beneke, RN BS, CWOCN: Josephine Doner, RN BSN MA CIC. Yuma Regional Medical Center, Yuma AZ. (3) Observation of Nosocomial Surgical-Site Infection Rates with Utilization of Antimicrobial Gauze Dressing in an Acute Care Setting Mary Jo Beneke, RN, BS, CWOCN; Josephine Doner, RN, BSN, MA, CIC Yuma Regional Medical Center, Yuma, AZ



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tor needleless access devices, evaluate outcomes and CR-BSI rates, and attempt to better address potential for user error within all practice settings.

Additional research may help to resolve many unanswered questions, including the following: Why are MV needleless access devices associated with higher infection and contamination rates? Are all MV needleless access devices associated with a similar risk of BSI? Are simple access devices more resistant to infection than complex access devices if adherence to aseptic technique is imperfect?

The keys to improvement in CR-BSI rates include adherence to best practices in infection prevention and control; selection of appropriate needleless access devices; and routine surveillance, including timely dissemination of data, both within the institution and to other ICPs. Finally, it is important for healthcare facilities to be aware of the possible association between any new technology and HAI.

PRACTICE POINTS

- 1. It is desirable to perform ongoing BSI surveillance and monitor adherence to aseptic technique.
- 2. When changing access devices, it is important to monitor the impact of such changes on BSI rates.
- Ongoing education on best practices and monitoring of adherence is recommended for all clinicians who access the needleless IV system.

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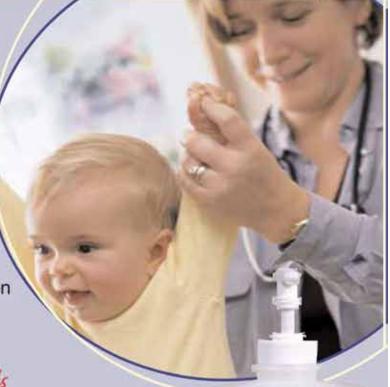
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Gram Positive Bacteria	Seconds	acconda	Seconda	second
E faecalis	>99.99	>6.18	99 99	>4.83
E. faecium (VRE)	>99.99	>4.59	>99.99	>5.45
Listeria monocytogenes	>99.99	>4.11	>99.99	>6.04
Micrococcus luteus	>99.99	>4.40	>99.99	>4.38
Staph aureus	99.96	3.46	>99.99	>3.96
Staph aureus (MRSA)	99.96	3.36	>99.94	>3.19
Staph epidermidis	99.97	3.48	99.96	3.46
Staph haemolyticus	99.93	3.16	>99.96	>3.40
Strep pneumoniae	>99.99	4.36	>99.99	>6.1
Strep pyogenes	>99.95	>3.34	>99.99	>4.3
Gram Negative Bacteria	1000000	20101	-	-
Bacteroides fragilis	99.90	2.99	99.97	3.4
Escherichia coli	>99.99	>6.04	>99.99	>6.1
Haemophilus influenzae	>99.99	>5.79	>99.99	>5.70
Klebsiella pneumoniae	99.85	2.82	>99.97	>3.5
Proteus mirabilis	>99.99	>5.29	>99.99	>6.1
Pseudomonas aeruginosa	>99.99	>6.53	>99.99	>6.5
Salmonella choleraesuis	11.000.000	1.000		10010
serotype enteritidis	>99.99	>6.04	>99.99	>6.2
Salmonella typhinimurium	>99.97	>3.58	>99.99	>6.3
Serratia marcescens	>99.99	>5.83	>99.99	>6.2
Shigella dysenteriae	>99.99	>6.71	>99.99	>6.6
Anaerobic Bacteria				1
C. Difficile	>99.68	>2.49	>99.98	>3.6
ungi	1		1	1
Candida albicans	99.97	3.52	>99.99	>4.3
/iruses	1	/	1	
Herpes Simplex Type I	>99.999	5.3	>99,999	5.
Herpes Simplex Type II	>99.9	3.7	>99.9	/ 3.
Rotavirus	>99.9	3.9	99.9/	3.1





Infection prevention and control learning preferences of nurses sampled at a teaching hospital

Note: This study was based out of the Toronto General Hospital site of the University Health Network in Toronto, Ontario.

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ABSTRACT

A pilot study was conducted within the medical-surgical intensive care unit (MSICU) of the Toronto General Hospital site of the University Health Network during the winter/spring (March-June) of 1999 to examine nurses' learning preferences relevant to infection prevention and control (IPAC).

The majority of the nurses sampled indicated a preference for face-toface infection prevention and control education (seminars). Such seminars were preferred on an annual basis by most respondents. Common preferences for paper-based learning formats were observed to be portable flash cards, packages with text and pictures and reference manuals. Such paper-based modalities could be considered in concert with infection control seminars; possibly to serve as easily accessible reminders within hospital units. Although not observed in this study, exploring differences in learning preferences across various demographic characteristics of nurses (e.g. years of experience) could be valuable.

It is important to assess the specific IPAC learning needs of nurses before designing educational interventions. Assessing the effectiveness of learning modalities in improving infection control practices is advised. The practicality of nurse participation in various educational initiatives also must be considered, as barriers to nurse participation in continuing education have been noted. Furthermore, organizational commitment to infection prevention/safety should be reinforced through future training opportunities for health care workers (HCWs).

Challenges with the application of new technology to educational modalities have been cited, which bears relevance to these findings. These observations are presented in order to inform infection control training of nurses in the post-SARS milieu of health care provision in Canada

INTRODUCTION

The importance of preventing hospital/healthcare-associated infections has been particularly emphasized within the post-Severe Acute Respiratory Syndrome (SARS) environment of health care provision in Canada. Heightened attention and commitment towards patient safety has also emerged as an important component of Canadian health care¹. Adverse events (AEs) are an accepted indicator of patient safety and are defined as "unintended injuries or complications that are caused by health care management" and include hospital-acquired infections1. AEs can lead to death, disability (at time of discharge) or extended hospitalization¹. Approximately 7.5 per cent of adult hospital admissions in Canada (excluding obstetrics or psychiatric admissions) in 2000 were linked to one or more AEs1. Furthermore, over one-third of those patients were deemed to have a "highly preventable" AE¹.

Hospital-acquired infections were among the most frequent type of AE examined within a 2007 report². In two different surveys conducted in 2005 and 2006, nurses and primary care physicians reported that patients were more likely to acquire an infection while in a health care setting, than to receive an incorrect medication or dose (Statistics Canada, 2005 and The Commonwealth Fund, 2006²). Between 8,000 and 12,000 deaths of Canadians each year are attributed to healthcare-associated infections³.

Significant recommendations about the prevention of hospital-acquired infections were made in response to the SARS crisis in Ontario. The SARS Commission identified a significant "lack of awareness within the health system of worker safety best practices and principles"4. The Walker Report⁵ noted a need for "tailored infection control training for all workers across every sector of the healthcare system," and recommended provincial infection control standards.

Employee education is a key aspect of infection control initiatives within hospitals⁶, even though it is only one component of a comprehensive infection prevention and control system. Accreditation Canada (formerly the Canadian Council on Health Services Accreditation) requires health service organizations to provide education and staff training on handwashing/hygiene7. Given the importance of infection prevention and control education training, thought and con-

sideration should go into the design of educational programs for health care workers in the health care setting. One consideration is the learning modality to be delivered to workers. This study examines the learning preferences of nurses specifically related to infection prevention and control (IPAC). An exploratory pilot-study was implemented within the medical-surgical intensive care unit (MSICU) at the Toronto General Hospital site of the University Health Network (UHN), a three-site tertiary care teaching hospital in downtown Toronto.

METHODS

A questionnaire comprised of both closed and open-ended questions was administered to nursing staff on the MSICU using convenience sampling

through intercept interviews, between March and June of 1999. The survey included questions on nursing demographic features (years of experience and nursing status) and learning preferences related to infection prevention and control. A selection of learning modalities were presented for nurses to choose from: seminars, reading materials/reference manual, flashcards, videos, intranet, posters, pictures, combination of text and pictures, and CD-ROM. The nursing staff on MSICU was

comprised of 140 nurses; including full-time, part-time and casual staff, in day, night, and rotating shift capacities. 72 of the 140 nurses were sampled.

Analysis of the data was carried out using SPSS 9.08. Descriptive analyses were undertaken, including frequency counts to identify preferred learning methods among nurses sampled. Cross tabulations were further employed to illustrate learning preferences among subsets of nurses sampled.

Figure 1: Nurses Years of Experience

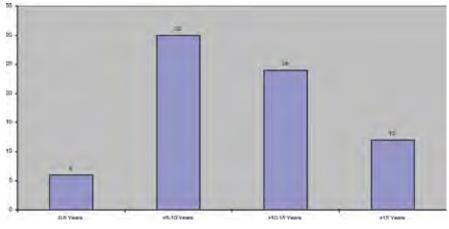
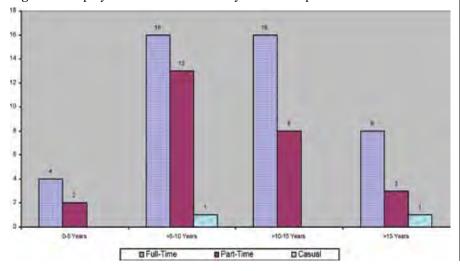


Figure 2: Employment Status of Nurses by Years of Experience



RESULTS

Demographic analyses

Figure 1 illustrates the distribution of the nurses' years of experience. The mean length of experience among nurses sampled was 11.4 years (standard deviation of 4.83); ranging from one year of experience to 25 years.

Employment status of nurses

44 of 72 of nurses were full-time (day, night or rotating); 26 of the remainder were part-time (day, night or rotating) and the rest (2 of 72) were casual staff (day, night or rotating).

Figure 2 demonstrates that the proportion of full-time in comparison to part-time or casual nurse status was fairly consistent across all ranges of years of experience.

Preferred learning modality of nurses

Figure 3 illustrates that seminars (38 of 72 nurses) were the most commonly cited modality of nurses' infection control learning preferences, followed by reading materials (11 of 72) and videos (9 of 72).

Continued on page 168

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Four nurses cited "other" preferred modalities; three of which specified the use of a communications book. Communication books serve as a paper-based journal for nurses to communicate to each other about issues of importance on the nursing unit (e.g. patient care, hospital/corporate directives etc.).

The one "other" respondent specified a "multi-media approach" as a preferred learning modality.

Nurse preference for infection control seminar frequency

Figure 4 illustrates that the majority (56 of 72) of nurses indicated a preference to attend infection control seminars annually (once per year).

Ten respondents indicate a range of responses from twice a year to once every five years. The remaining six respondents indicated "other" preferences: never (n=1); once in a lifetime (n=2); the remaining three respondents did not indicate a frequency preference.

Nurse preference for a paper-based infection control learning modality

Of the three paper-based learning modality types offered as choices in the survey, portable flash card (22 of 72), package with text and pictures (18 of 72) and a reference manual (17 of 72) were the most common types identified by the nurses

Figure 3: Infection Control Learning Modality Preference of Nurses

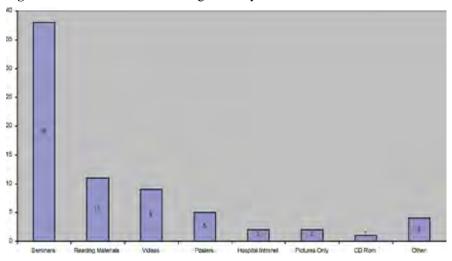
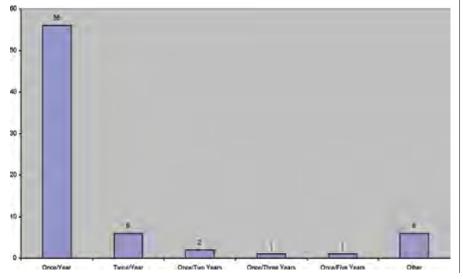


Figure 4: Nurse Preference for Infection Control Seminar Frequency



surveyed (Figure 5). Of the three nurses that cited "other" paper-based options: two emphasized the use of a communications book. The one "other" respondent specified a "portable flash card on the door".

Learning preferences by years of experience

It was observed that nurses from all categories of experience (0-5 years, >5-10 years, >10-15 years and >15years) most commonly cited a preference for seminars as a learning modality: 3 of 6, 20 of 30, 9 of 24 and 6 of 12, respectively (Figure 6). Reading materials and videos were the other most commonly cited modalities among all experience categories. In Figure 3, of all 72 respondents, five indicated a preference for posters. These five are comprised of nurses within the >10-15 years of experience category.

Preferred frequency of infection control seminars

It was observed that the majority of nurses in each category of experience preferred an **annual** frequency of infection control seminars: 4 of 6 for the 0-5 years experience category; 22 of 30 for >5-10 years experience category; 20 of 24 for >10-15 years experience category, and 10 of 12 for nurses with greater than 15 years experience (Figure 7).

Preference of paper-based learning formats of nurses by years of experience

It was observed that portable flash cards, package with text and pictures and a reference manual were the top three preferences for paper-based infection control learning modalities among nurses from all experience categories. For the 0-5 years of experience and over 15 years of experience category of nurses, reference manuals were the most cited: three of six and five of 12, respectively. Portable flash cards as a learning modality received the highest number of counts for the >5-10 years experience and >10-15 years experience categories: 11 of 30 and 8 of 24, respectively (Figure 8).

DISCUSSION

Given a range of options of educational formats for infection prevention and control (IPAC) in 1999, our pilot study found that the majority of the nurses sampled indicated a preference for face-toface infection prevention and control education. This may align with the theories and principles of andragogy. Further, when given a choice, the nurses sampled indicated a frequency for such engagements on an annual basis. This was observed in every category of years of experience. Given the challenges that exist for nurses participating in continuing education, including scheduling problems⁹ this is an important finding and should help to inform the development of IPAC training programs for HCW (The Canadian Nurses Association, 1997)¹⁰. Despite today's advances in technology, which can assist to increase access to education on patient floors for HCW, these findings of 1999 may still hold true.

The learning preferences of paperbased learning formats was further explored in our study, and it was found that, among those sampled, portable flash cards, packages with text and pictures, and reference manuals were the most preferred options. These preferred choices might suggest a need to have easily accessible infection control reference materials on patient care floors. The desire for portable flash cards may suggest a need for a mobile reference source for nurses on the floor. With today's move toward enhanced technology, access to infection prevention and control materials on PDAs may be a consideration. These learning formats could be explored in concert with infection control seminars.

Furthermore, the authors have observed, even though the data findings date to 1999, that the learning preferences of HCW have not changed substantively, despite the introduction of information technology on patient care floors. Although technology has started

to change the context of infection prevention and control education for nurses, web-based education among nurses remains under-utilized11. Insufficient computer proficiency has been shown to prohibit nurses from participating in internet-based courses11. Technology is not the panacea for infection prevention and control education, despite its many benefits. There are many emerging learning modalities being offered to health care workers that focus on patient safety today. One example of these new modalities is the Infection Prevention and Control Core Competency Education program for health care providers in Ontario¹². The first three modules

for acute-care professionals were launched in June 2007 via CD-ROM (computer based). These modules are not mandatory to complete, but could fulfill Accreditation Canada's (or other requirements) for providing education and staff training on handwashing/hygiene. Furthermore, the Ontario Ministry of Health and Long-Term Care¹³ also launched a self-directed online handwashing resource (*Just Clean your Hands*). Assessing the effectiveness and nurse uptake/reception of such modalities will be key to monitor.

It is interesting to note that the most commonly cited preferred learning modalities were the same for each category of years of nursing

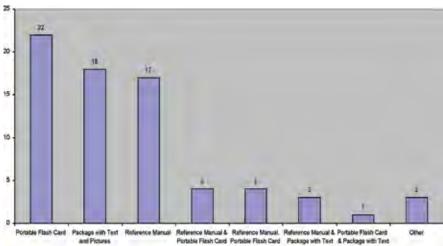
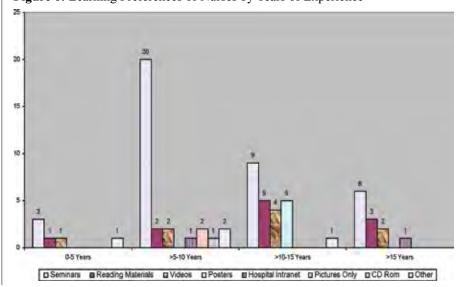


Figure 5: Nurse Preference of Paper Based Infection Control Learning Formats

Figure 6: Learning Preferences of Nurses by Years of Experience



experience. The authors assumed that younger nurses would have indicated a preference for more technology-oriented learning modalities compared to those with more years of experience. This was not observed. This observation may help to inform infection control practitioners when developing educational programs. However, the sample size for this subgroup (up to five years of experience) was very small (n=6).

Despite the relevance and importance of IPAC training, it must exist alongside organizational

support¹⁴. It has been noted that individual HCW factors (knowledge, attitudes) are less important to focus upon within health care training than communicating clear organizational policies, procedures and expectations and support for infection control/safety¹⁴. Furthermore, an improvement in infection control practices and a corresponding reduction in nosocomial infection rates can be attributed to modifying the organizational culture (e.g. clear management buy-in, encouragement among colleagues and formal safety training)¹⁵.

Figure 7: Preferred Frequency of Infection Control Seminars of Nurses by Years of Experience

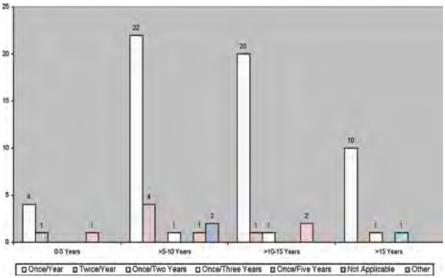
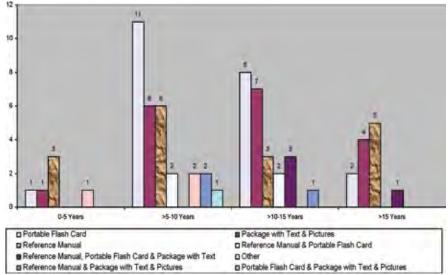


Figure 8: Preference of Paper-Based Learning Formats of Nurses by Years of Experience



SUMMARY

The post-SARS health care system landscape has created significant impetus for health care organizations to strengthen their commitment to infection control and safety. This organizational commitment should be reinforced through future training opportunities for HCWs. Although the nurses surveyed in this study indicated a preference for attending infection control seminars annually, it is important to assess the effectiveness of specific needs/preferences of HCWs before designing educational interventions. The practicality of nurse participation in various educational initiatives also must be considered within the context of their busy work environments¹⁶.

With recent developments in Ontario (e.g., commitment to address the health care human resource needs and the introduction of technology to the patient floors), strengthened focus on patient safety will assist in enhancing the capacity of infection control training amongst health care providers. While findings may not be generalizable, this study does provide valuable insight on this understudied area, and does encourage future investigation given the new norm in infection prevention and control. Acute care settings are advised to accurately assess the IPAC learning needs of nurses, the effectiveness of these preferred learning modalities in improving IPAC practices, and to explore differences relative to different nursing characteristics (e.g. years of experience).

ACKNOWLEDGEMENTS

The support of Maude Foss (Clinical Director, University Health Network; former MSICU Nurse Manager) and staff of the Medical-Surgical Intensive Care Unit (MSICU) of Toronto General Hospital, University Health Network was instrumental to the authors surveying nurses within the MSICU during work shifts.

Dr. John Conly (Professor and Head of the Department of Medicine at the University of Calgary and the Calgary Health Region) provided oversight of the research in his former role as Director of the Infection
Prevention and Control Unit of the
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Yasuko Enosawa (Legislative Archivist, Legislative Assembly of Ontario) conducted literature searches.

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Dr. Bryn Greer-Wootten (Associate Director – Institute for Social Research and Professor Emeritus in Environmental Studies and Geography, York University) provided consultative support with respect to data analysis and interpretation.

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- 3. Use of the CHICA-Canada *Clostridium difficile* Research Fund will be restricted to members of CHICA-Canada in good standing for membership year 2008.
- 4. A maximum of \$50,000 CDN is available for research awards. Distribution of those funds will be based on the number of successful applicants and the merit of the proposals received.
- 5. Funds are granted for research studies to be completed within two (2) years. A progress report will be required to be submitted to the director of programs and projects at the end of the first year.

- 6. A letter of support from the agency where the research will take place should accompany the proposal.
- 7. A notice of approval from a research ethics board and/or animal care committee should accompany the proposal, if applicable. f the notice of approval is not available at the time of submission, the approval must be submitted to the CHICA-Canada board before any funding is released.
- 8. The applications deadline is **November 1, 2008** (must arrive by midnight on November 1). Submit completed applications to CHICA-Canada *Clostridium difficile* Research Fund, c/o CHICA-Canada, PO Box 46125, RPO Westdale, Winnipeg MB R3R 3S3, or by courier to: 67 Bergman Crescent, Winnipeg MB R3R 1Y9. Please submit three (3) paper copies and an electronic version to be forwarded to chicacanada@mts.net
- 9. The director of programs and projects will appoint a committee to review all applications. The principal investigator (or co-investigator) will be given two weeks to respond to questions on the grant submission from the review committee. Responses to questions may be forwarded by electronic or paper mail. A final decision on funding a project will be made by the CHICA-Canada board. Successful applicants will be notified through a letter from the director of programs and projects by December 15, 2008.

- As per the decision of the board, a part or none of the funds might be distributed.
- 10. Should the lead investigator or co-investigator of a project be a current CHICA-Canada board member, that member will declare their conflict of interest on the application form and will not participate in any evaluation, discussion or decision-making regarding the allocation of research grants.
- 11. Successful applicants are required to submit a report to the CHICA board on completion of the project and to submit an abstract on the results to the CHICA-Canada 2009 national conference. It is an expectation that the results will be published in a peer review journal, such as the *Canadian Journal of Infection Control*.
- 12. Applicants must prepare a written proposal that includes the following sections. Proposals should be a maximum of 10 pages (typed and double spaced, using a minimum 12 point font), excluding references and résumés and appendices.
- 13. In the event that funding is awarded, progress and final reports should be sent to:
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 CHICA-Canada Programs & Projects Committee PO Box 46125 RPO Westdale
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Background and Significance:

Describe the current state of knowledge and significance of the topic. State concisely the importance and relevance of the research described in this application by relating the specific aims and objectives.

Objectives:

List the broad, long-term objectives of this work and the specific aims of this project. Be clear in the specific aims and state what the specific research proposed in this application is intended to accomplish.

Research Design and Methods:

Describe the research design and procedures to be used to accomplish the specific aims of the project. Include study design, target population and sample, instruments and data collection tools, procedures for collecting and managing data and data analysis and interpretation.

Timeline:

Present and outline of the sequence of planned research tasks along with an estimated duration for each task. Give proposed start date and completion date for the project.

Budget:

Provide a realistic budget, including cost estimates for supplies, services and other direct costs. Describe the rationale for why funding support is needed from this source. Mention any constraints in obtaining this support from other sources. If the project will be partially funded by another grant or by the institution, this should be specified.

References:

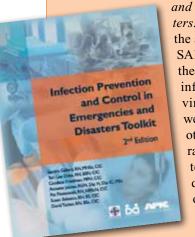
All references listed should be sited in the body of the research plan.

Résumés:

Résumés of the principal and co-investigators should be included. Maximum two (2) pages for each person.

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Abstracts for presentation at the 2009 National Education Conference will be accepted until **5:00 pm Pacific Standard Time**, **February 27, 2009**. The Abstract Committee reserves the right to select papers for presentation on the basis of relevance and interest, and to choose the types of presentation. Oral paper presenters will be provided with a 15-minute session (10-minute presentation; 5-minutes Q&A). Poster session presenters will be provided with a 45-minute opportunity to answer questions while at their poster. Presenters will be notified of acceptance by the end of March 2009 and will be advised of the date and time of their presentation.

Abstract Preparation and Guidelines for Acceptance

A. Content

- Abstracts must be submitted online using the template provided. The template will be provided after the author has registered online. Make sure all sections are completed.
- 2. Abstracts should be based on results that have not or will not be published or presented before the meeting date.
- 3. The potential significance of the observations, as well as the scientific and/or educational quality of the work will influence which abstracts are accepted. Where possible, the author(s) should emphasize the features of the project that are new or different.
- 4. Abstracts must present scientific research and not direct promotion of a specific product(s).
- 5. All concepts and abbreviations must be defined at first use in the body of the abstract.
- 6. Any corporate assistance must be acknowledged.
- 7. Any sources of funding must be acknowledged.
- 8. Text must not exceed 250 words or must fit within the online template with a minimum of a 10-pt font.

B. Format

Abstracts should be submitted in one of the following formats:

Format 1: This format is intended for abstracts involving the presentation of scientific research findings, such as randomized clinical trials, case-control, observational or descriptive studies, or outbreak investigations where appropriate comparisons or analyses of data have been performed. *Note:* The abstract should disclose primary findings and

Note: The abstract should disclose primary findings and not include statements such as "experiment in progress" or "results will be discussed."

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C. Setting (choose one)

- Acute Care
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D. Subject Categories (select only one)

The author(s) should select the one subject category that best categorizes the submissions. This will assist conference planners in organizing the program.

- Antimicrobial Resistance
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E. Preferred Method of Presentation if Abstract Selected (choose one only)

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You, Me and Them - Understanding Generational Differences In The Workplace

Linda Duxbury, MASc (Chem Eng), PhD is a professor at the Sprott School of Business, Carleton University. Dr. Duxbury teaches masters and PhD courses in managing change as well as the masters course in organizational behaviour. In the past decade she has studied issues surrounding balancing work and family, the organizational and individual impacts of communication technology, and generational differences in work values. It is the latter area that will be the focus of the 2009 keynote speech.

Dr. Duxbury held the Imperial Life Chair in Women and Management from 1992 to 1996 and was director of Carleton Centre for Research on Education on Women and Work from 1996 to 1999. Acknowledgement of her teaching and speaking excellence has been bestowed upon her many times, including the Canadian Workplace Wellness Pioneer Award (2002) for her "pioneering efforts, creativity,

innovation and leadership" in the field of organizational health; the Carleton University Students' Association 2002-2003 Teaching Excellence Award for her "ability to convey enthusiasm, responsibility in teaching practices, approachability and communication skills"; and the Toastmasters International Communication and Leadership Award by District 61 (2007) for her "outstanding personal contribution to our community as a powerful communicator and a dedicated leader."

CLOSING SPEAKER, Thursday, May 14

Michael Borg, MD, M.Sc. (Lond), DLSHTM, MMCPath President, International Federation of Infection Control

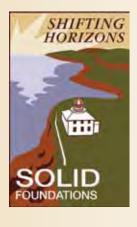
Overcoming Limited IP&C Resources

How IP&C is established and sustained when resources are limited – a global view.

Michael A. Borg was appointed microbiologist with the Health Department of Malta in 1991 and subsequently consultant in hospital infection control. He chairs both the Infection Control Committee of St. Luke's Hospital, a 900-bed tertiary care facility, and the Antibiotic Team at the same institution. He is also strongly involved in infection control and antibiotic initiatives on a national level where he chairs the Malta National Antibiotic Committee.

He has been invited to participate as an expert in several European meetings including the Intergovernmental workshop on the Prevention of Hospital-acquired Infection in Member States of the Council of Europe and is a permanent member of the EU working group on the prudent use of antimicrobial agents in human medicine.

A lecturer with the University of Malta, his research concerns focus predominantly on the prevention and control of healthcare associated infections and appropriate antibiotic use, about which he has published in both local and international journals. He is particularly interested on the epidemiology of antimicrobial resistance and its drivers (infection control and antibiotic consumption) in developing countries. To this end, he has been the driving force and project leader for ARMed (www.slh.gov.mt), an EU-funded study evaluating these issues in the southern and eastern Mediterranean region.





New CHICA-Canada Industry Membership

A new structure for an Industry Corporate Membership has been established. This structure replaces the current CHICA-Canada Patron Membership.

Industry membership in CHICA-Canada is intended to serve the following purposes:

- 1. To promote education, research and collaboration through continuous professional development and research in infection prevention and control and related fields.
- 2. To increase all CHICA-Canada members' contribution and participation in their respective chapters and promote interactions among members at the annual conference.
- 3. To follow the rules concerning maintenance of certification by professional colleges and societies (e.g. Royal College of Physicians and Surgeons of Canada, Canadian Nursing Association, etc.).

4. To build a long lasting and mutually beneficial partnership between supporting industry members and CHICA-Canada.

Membership categories and benefits

CHICA-Canada has established the four categories of industry membership with associated benefits. Entry to Industry Membership is a minimum Bronze level. All industry memberships are for one calendar year. Renewal of an industry membership must be made by March 31 for the following calendar year. The level of membership will include all membership fees and donations made to CHICA-Canada for that calendar year. Donations do not include those made to the chapters but this continues to be an important source of networking and promotion for industry as well as support for CHICA-Canada chapters and its members.

Benefits	Platinum	Gold	Silver	Bronze (Entry Level)
Complimentary Chapter Membership(s) for designated representative(s)	4	3	2	1
Complimentary/discount exhibit booths, maximum 2 representatives per booth;	2	1	50% Discount	10% Discount
Discount on rental of exhibit booths beyond complimentary limit	50%	25%	10%	0%
Choice of exhibit location. Final allocation is at the discretion of the conference planner after discussion with the Industry Member.	1st choice	2nd choice	3rd choice	4th choice
Industry members will be acknowledged, with their approval, as sponsors of the following speaking events during the conference in the printed and web published programs and by signage at the meeting (see more details below). Additional sponsorship may be discussed with the conference planner. Final sponsorship allocation is dependent on the content of the scientific program. Should the described sponsorship benefits not be available, the conference planner will make every attempt to provide satisfactory placement of sponsorship acknowledgement.	Keynote speaker, and one other plenary session on day one of conference	One plenary session on day two of confer- ence, and one of the oral con- current sessions	One of the oral concurrent sessions	
Opportunity to host an educational symposium program.	*	*		
Opportunity to conduct industry sponsored meeting social activities	*	*	*	
Complimentary conference registration for representatives	All representatives	All representatives	2 representatives	2 representatives
Number of closing special event tickets	5	4	3	2
Electronic mailing list of current CHICA- Canada members for mailings during the year of membership. The database will include the member mailing address only.	4 mailings	3 mailings	2 mailings	1 mailing

Benefits	Platinum	Gold	Silver	Bronze (Entry Level)
Electronic mailing list of attendees pre and post conference for mailing during the year of membership. The database will include				
the member mailing address and email address.	4 mailings	3 mailings	2 mailings	1 mailing
Complimentary CHICA-Canada Member and Source Guides (number of copies as indicated)	4	3	2	1
Web link on CHICA-Canada Industry Member web page	Extra Large Link	Large Link	Medium Link	Small Link
Discount on advertising in the Industry Update page of the website.	50%	25%	10%	10%
Discount on advertising space in 4 issues (one year) of Canadian Journal of Infection Control (CJIC)	15%	15%	10%	10%
Discount on advertising space in that year's CHICA-Canada directory	15%	15%	10%	10%
One associate membership in CHICA-Canada (non-voting)	*	*	*	*
A subscription to the Canadian Journal of Infection Control	*	*	*	*
Acknowledgement in the Canadian Journal of Infection Control of your membership and its level	*	*	*	*
Acknowledgement of Industry Memberships by signage and verbally at the opening ceremonies of the conference	*	*	*	*
On-site booth signage acknowledging your Industry Membership Level	*	*	*	*
Acknowledgement of Industry Membership Level on correspondence related to meeting and meeting materials	*	*	*	*

Industry relations committee

The Community and Hospital Infection Control Association – Canada (CHICA-Canada) is pleased to announce the launch of its Industry Relations Committee.

The Industry Relations Committee (IRC) will work closely with the board and administration of CHICA-Canada in efforts of mutual benefit that will ultimately advance the practice of infection prevention and control. The IRC is comprised of:

- CHICA-Canada Physician Director (Chair)
- CHICA-Canada Secretary/Membership Director
- CHICA-Canada Executive Administrator/Conference Planner (ex officio)
- 10 Industry members of CHICA-Canada

At the official launch of the IRC on June 3, 2008, the following industry members of CHICA-Canada were elected to the committee:

For 3-year term expiring 2011	For 2-year term expiring 2010	For 1-year term expiring 2009
Steris Canada Inc.	BD Canada	Virox Technologies
Covidien	Deb Canada	Maxill Inc.
Ecolab Healthcare	LauraLine Skincare	3M Canada
Les enterprises Solumed		

The Industry Relations Committee will meet in person during the annual conference and via conference call throughout the year. See the new Industry Relations Committee webpage (www.chica.org).





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"Bug a Doc!"

They have a specialty – infectious disease, microbiology, epidemiology – that enhances the practice of infection prevention and control.

They should be part of CHICA-Canada.

If you have a 'Doc' in your department who is not yet a CHICA-Canada member, encourage your 'Doc' to join CHICA. Their immediate benefit is an expansion of their professional resources and networking opportunities. Go to our website and see the many benefits available to membership so you will have the information on hand when the discussion comes up!

Send us the name of your 'Doc' when he or she joins CHICA. You and your Doc could each win a free 2010 membership (value \$125).

"Bug a Doc"	contest	closes	March	1, 2009.
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CHICA-Canada Member_____Address

Telephone _____

Email

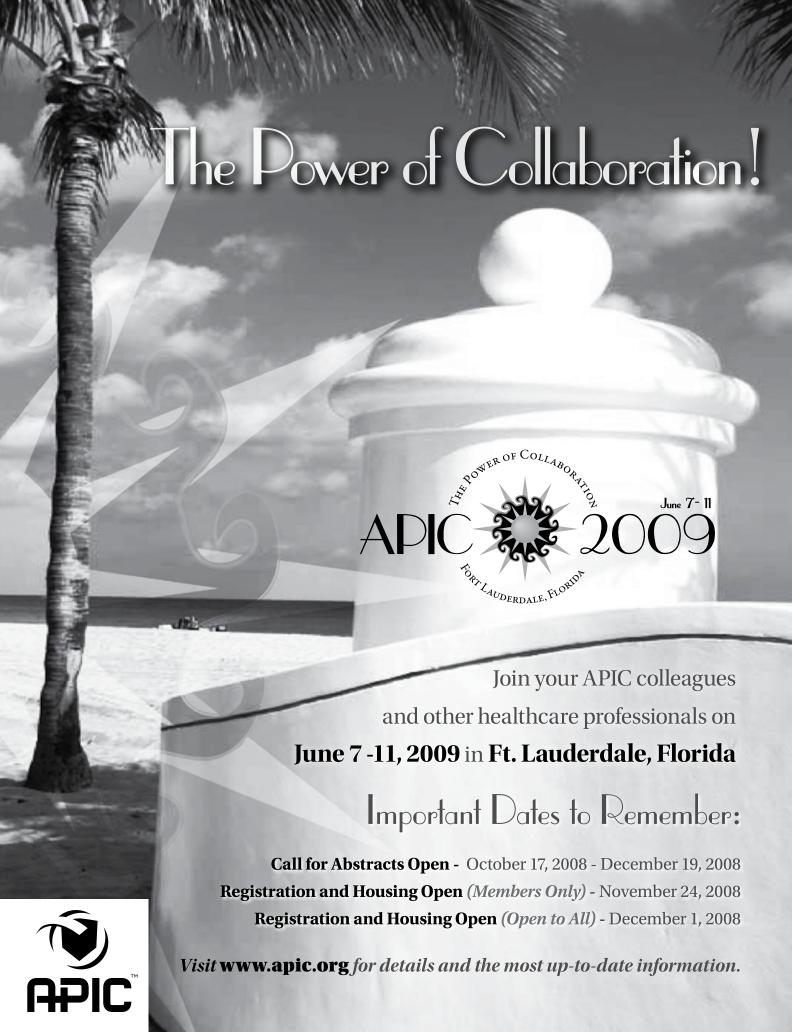
New 'Doc' Member _____

Address _____

Telephone ______
Email

Forward to CHICA-Canada, Fax 1-204-895-9595 or email chicacanada@mts.net

THE SIE



3M Canada **Infection Prevention Research Grant**

As part of an ongoing initiative to promote innovative infection control and prevention practices in Canadian healthcare, 3M Canada has created a research grant through its Infection Prevention Platform. The research grant is targeted to individual members of the Community and Hospital Infection Control Association - Canada (CHICA-Canada) for use in research studies. The research grant will be a one-time payment offered on an annual basis.

One research grant of \$6,000 to the Principal Investigator of the successful application will be presented at the 2009 CHICA-Canada National Education Conference in St. John's, Newfoundland Labrador, May 9-14, 2009. Travel, accommodations and meals will be provided by 3M Canada Company for the successful recipient.

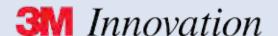
An application form is available at www.chica.org. Deadline date for applications: March 1, 2009. •

Applications must be sent to:

Secretary/Membership Director CHICA-Canada, PO Box 46125 RPO Westdale Winnipeg MB R3R 3S3

Or courier to:

Secretary/Membership Director CHICA-Canada, 67 Bergman Crescent Winnipeg MB R3R 1Y9





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Safety Syringe



CHICA-CANADA PRODUCTS

CHICA-Canada Infection Control Audit Toolkit

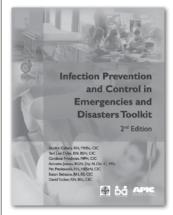
Available from CHICA-Canada through the CHICA-Canada Programs and Projects Committee, this series of infection control audit templates will assist you in your practice of infection prevention and control in a variety of health care settings. Topics include:

- Dental Audit
- Endoscopy Audit
- Haemodialysis Unit Audit
- · High Level Disinfection Outside SPD Audit
- Infection Prevention and Control Risk Assessment Guide
- Hospital-wide Infection Control and Prevention Audit and Template
- Opthalmology O.R. Cluster Investigation and Procedure Assessment
- O.R. Audit
- Patient/Resident Service Units Audit
- · Renal Unit Infection Control Audit
- Respiratory Outbreaks in Long Term Care Facilities Audit

Enhanced Teleclass Recordings on CD

Available exclusively from CHICA-Canada in partnership with Webber Training Inc. Topics include: Disinfecting Patient Care Equipment; Exploring CDC Hand Hygiene Guidelines; Airborne Spread of Human Pathogens; Disinfectants in Infection Control; Hands and the Spread of Human Pathogens; Current Best Practices in Hand Hygiene; Hand Sanitizers and their Effect on Viruses; Innovations in Hand Hygiene; Influenza Pandemic on the Doorstep; Controlling MRSA and VRE; Scientific Solutions to the Norovirus Problem; Strategies for Norovirus Infection Control on Cruise Ships; Relative Impact of Hand Hygiene on Healthcare-Associated Infections; Evidence Behind Control Measures for MRSA and VRE; Environmental Infection Control in Healthcare Facilities; Hand Hygiene – Different Approaches; Antiseptic Practice and Procedure; Glutaraldehyde Toxicology and Management of Risk; New WHO Hand Hygiene Guidelines; Respiratory and GI Outbreaks in LTC; Biofilms in our Environment; Infection Control in Day Care Facilities; Disease Transmission in the Home; Hands and Viral Infections; Infection Control in Long Term Care; Innovations in Hand Hygiene; Preventing MRSA and VRE: Advances in Global Infection Control: Bedside Hand Hygiene Products; C.difficile and Environmental Cleaning; Preventing Ventilator Associated Pneumonia - Applying the Science; C.difficile: Environmental Survival; The Toilet Bowl-Blues; Surface Disinfectants and Environmental Impact; The Spectre of a Flu Pandemic: Is it Inevitable?

ESBL TOOLKIT



Best Infection Control Practices for Patients with Extended Spectrum Beta Lactamase Enterobacteriacae – An infection control toolkit developed by the International Infection Control Council (APIC, CHICA-Canada, ICNA (UK, Ireland)).

"Just Wash 'Em "Lavez les"

A 7 minute video directed to Elementary School aged children.



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video aimed at school-aged children. Great for school projects, seminars and demonstrations.

The Infection Control Toolkit: Infection Control in Emergencies and Disasters

evised 2007 (formerly: Infection Control Toolkit: Strategies for Pandemics and Disasters

The only disaster planning document that presents information specific to the key issues of infection control. Includes all the tools and materials necessary for surveillance, education, communication, laboratory, and management of personnel and patients are included. Handy forms, references, fact sheets, flowcharts, checklists, and samples provide the framework to interface with health-care facilities and local public health preparedness plans. No other disaster planning document presents information specific to the key issues of infection control.

ARO VIDEO

A 15 minute educational video covering topics related to AROs (epidemiology, surveillance and control). Produced in cooperation with Wyeth, with assistance from CHICA-Canada members.

CHICA-CANADA Product Order Form

No returns except in the case of defective products when defectice product will be exchanged for corrected product.

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Just Wash 'Em DVD© – no workbook			38.95	43.95	
Just Wash 'Em DVD© With workbook			48.95	53.95	
10% Discount on 3 or more!					
Lavez les! VHS Video© – no workbook			34.95	39.95	
Lavez les! VHS Video© with workbook			44.95	49.95	
Lavez les! DVD© – no workbook			38.95	43.95	
Lavez les! DVD© with workbook			48.95	53.95	
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Le MRA© – Dans tout le spectre des soins			20.00	25.00	
Infection Control Audit Toolkit			120.00	150.00	
Infection Control in Emergencies and Disasters Toolkit			120.00	150.00	
ESBL Toolkit			120.00	150.00	
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CHICA/AIPI 2008 - CD/MP3 ORDER FORM

Novice Practitioner Day

NP1(F) The ABC's of Infection Control

NP2 - Core Competencies For ICPs

NP3 - Core Competencies For Healthcare Workers

NP4 - Critical Thinking - Moving From Black to White to Grey

NP5 - Internet Resources 101

NP6(F) - Overview of the Audit Process

NP7(F) - Audit Tools

NP8(F) - Sharing Results to Implement Changes

PLENARY SESSIONS

P1 - Keynote - Dr. Samantha Nutt

P2 - MRSA - International Lessons Learned

P3 - C. difficile Consensus Conference Recommendations

P4 - Leadership Moving From Attitude To Implementation

P5 - Professional Practice Standards - Newly Revised

P6 - The Challenge of the New IP&C Accreditation Standard

P7 - Efforts in Dealing With Hospital Cross-Infection

P8 - Team Building

P9 - IP&C Vignettes - Questions That Caused a Pause

CONCURRENT SESSIONS

STERILIZATION AND DISINFECTION

C1 - Third Party Reprocessing

COMMUNITY ISSUES

C2 - Jurisdiction and Authority...First Nations Reserves

C3 - Meeting The Challenge Of Implementing IP&C

LONG TERM CARE

C4 - Guidelines for Pet Therapy

C5 - How Do You Spell Help? ORIENTATION!

CLINICAL MICROBIOLOGY

C6(F) - From Lab to Clinic

C7 - Specimen Procurement and Handling

ADVANCED PRACTITIONER DAY

AP1(F) - Communication Strategies: Getting...Point Across

AP2 - Costing and Preparation of a Business Case

AP3 - Project Evaluation in Infection Prevention and Control

AP4(F) - The ABCs of Infection Control

AP5 - Empowering and Advancing Your Career

PRE CONFERENCE DAY

PC1 - The Role of the Environment in Transmission

PC2 - ...From Conference Room to Bedside

PC3(F) - Hygiene and Sanitation - Towards New Horizons

PC4 - Quebec Reference Centre for Sterilization

PC5 - Mini-Symposium

PC6 - Benchmarking

PC7 - Real Time Surveillance

PC8 - Surveillance Programs Across Canada

PC9 - Who Are We?

PC10 - What Are The Challenges?

PC11 - Providing Patient Care With Optimal IP&C Practices

PC12 - PHC an Important Part of the Healthcare Mosaic?

PC13 - PreHospital...Important Pt. Healthcare Mosaic/ Q & A

PREPARING FOR THE PANDEMIC

C8 - Risky Business: Risk Assessment In Rountine Practices

PEDIATRICS

C10 - Evolution Of IP&C in Pediatrics

C11 - Toy Management - It's Not Child's Play!

C12(F) - MRSA OutBreak Management in Neonatal ICU

ORAL PRESENTATIONS

O1 - Space and Design

O2 - Risk Factors For Infection

O3 - Education Strategies For ICPs

O4 - Planning and Teamwork

O5 - Education Across The Continuum

O6 - Hand Hygiene

O7 - Surveillance and Screening

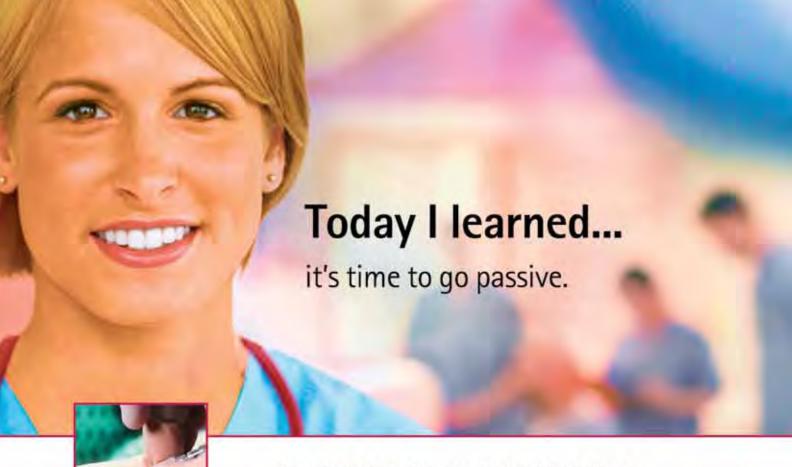
O8 - Environment in IP&C

* All Sessions are in English Unless Marked (F) for French

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Perg lant. International Healthcare Worker Safety Center. "Preventing Sharps Injuries: Where Dr. We Scand in 2007?" Presented at B. Braum Mericus, Orlando, 7L. Feb. 22, 2007. 2003 EPNet data: Of Injuries from safety devoces, 44% occurred after use and before disposal (potentially preventable of passive or if safety feature activated).

Mendelian MH, Un Chen RT. Finkstrein-Bland et al. Study of Introcum safety IV eatherer III. Braun Medical Inc. I for the prevention of persultaneous injuries in healthcare workers (abstract). Presented at: 13th Annual Meeting of the Society for Healthcare Epidemiology of America (Adington, VA), 2003.

Timuma Y, Igawa J, Takenina M, et al. Pavive salety deviers are more affective at reducing needlessick injuries (little). J Hosp Infect 2006 (Doc J: 61 (4): 380-1.

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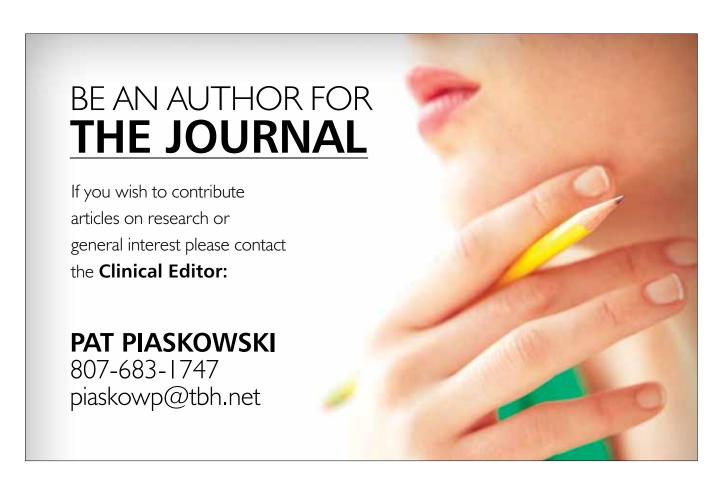


How to submit an article to the Journal

The Canadian Journal of Infection Control publishes member-supplied articles as feature technical article or as "News from the Field". All material submitted is reviewed by an editorial board consisting of CHICA-Canada members. If you are not sure about your writing skills, get your ideas down and ask a colleague or member of the editorial board for help. Full requirements for technical articles can be found at

http://www.chica.org/inside_cjic_journal.html, but here are some tips for getting started:

- 1) The author of the content must be clearly identified by name, title and organization and both a telephone number and email address must be supplied for contact purposes.
- 2) The subject of the material must be relevant to the interests of infection control practitioners.
- 3) The material should be submitted electronically via email as a Word document.
- 4) Length of submitted material is to be limited to a maximum of 1,500 words.
- 5) No part of the submitted material is to include what can be construed as sales-oriented promotion of specific individuals, companies, products or services.
- 6) Any photographic images to be included with the material must be free and clear of any copyright and must be submitted electronically as JPGs or TIFFs that are high resolution (at least 300 dpi) and a minimum of 6" x 9" in size. Image files should be sent separately, not embedded in the Word document.
- 7) In the event that the material is accepted for publication in *CJIC*, the author agrees that the first publication rights for the material belong to *CJIC* magazine and that any subsequent publishing of the material can only be done after the author or publisher is granted reprint approval in writing from CHICA-Canada and *CJIC* magazine.



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The Registered Nurses' Foundation of Ontario Molson Canada SARS Memorial Fund providing grants to ICPs

The SARS Memorial Fund for Infection Control Practitioners is a tuition/certification/professional development reimbursement program funded by Molson Canada SARS Concert (2003) and supported by the Ontario Ministry of Health and Long Term Care.

RNFOO manages the SARS Memorial Fund, initiated in January 2005. The fund provides grants to Infection Control Practitioners **from any discipline** to support them in advancing their knowledge to lead infection control practices within their healthcare settings. Grants can be applied to continuing education, certification/re-certification and professional development.

The fund of \$175,000 is to be administered over three years, allowing for the allocation of approximately \$58,000 per year in support of individual pursuing formal education and certification in the area of infection control. •

See www.rnfoo.org for details.





3M[™] Avagard[™] CHG Surgical and Healthcare Personnel Hand Antiseptic with Moisturizers

(Chlorhexidine Gluconate 1% Solution and Ethyl Alcohol 61% w/w)



Persistence

am made to last

Chlorhexidine

I contain two active ingredients

Alcohol

I'm not just another alcohol

Evidence Based

I'm clinically proven

PIDAC states "Perform surgical hand antisepsis using ...an alcohol-based hand rub, with a product ensuring sustained activity..." AORN agrees that for surgical hand antisepsis ".. the antiseptic agent should be broad spectrum, fast acting, and have a persistent effect."2

According to WHO and CDC guidelines, "Chlorhexidine has substantial residual activity. Addition of low concentrations (0.5% - 1.0%) of chlorhexidine to alcohol-based preparations results in greater residual activity than alcohol alone."3,4

It is well established that alcohol alone has no persistent effect. Both the WHO and the CDC state: "Alcohols are rapidly germicidal when applied to the skin, but they have no appreciable persistent (i.e., residual) activity."3.4

3M™ Avagard™ CHG has clinical studies demonstrating its fast, effective, persistent, and cumulative activity.36,7,8 This product has been issued the Drug Identification Number (DIN: 02246888) for the use as a Waterless Surgical Scrub.

How does your surgical scrub compare?

Health Care 3M Canada Company

Post Office Box 5757 London, Ontario N6A 4T1 Canada

1 800-364-3577 www.3M.com/ca/healthcare

Health Care

3M Centre, Building 275-4W-02 St. Paul, MN 55144-1000 U.S.A.

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Why choose MediClip?

Clippers can help you avoid nicking or cutting the patient's skin during preoperative hair removal, helping to reduce the patient's risk for surgical site infections.

Other reasons to try MediClip

- User instructions are right on the handle for ease of use
- Ergonomic handle design provides a comfortable grip
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Get up to 10 clippers and five cases of blades FREE!*

Sign up online at www.medline.ca/special/MediClip-Trial.asp or call 1-800-396-6996

* This offer is good from 10/15/2008 to 12/15/2008. It applies to new customers only and is good for up to 10 MediClip Clippers and up to five cases of MediClip blades.



INDUSTRY NEWS



PURELL® Sanitizing Hand Wipes

An easy, safe and affordable way for patients, residents or visitors to clean and sanitize their hands.

- · Removes light soils and dirt from hands
- Individually wrapped can be delivered with meal trays, or left at bedside
- · Helps prevent the spread of germs

PURELL Sanitizing Hand Wipes are part of a complete line of gentle and effective hand hygiene products from GOJO Industries. For more information, call **800-321-9647** or visit **healthcare.gojo.com**.

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VanishPoint® IV Catheter

The VanishPoint® IV catheter, from Retractable Technologies, Inc., utilizes patented automated retraction technology. It is easy to use and allows for one-handed venipuncture. It contains an integrated safety mechanism that, when activated, quickly retracts the introducer needle, which remains safely retracted inside the housing until disposal, substantially reducing the risk of a needlestick injury. Unlike other IV catheters, VanishPoint® catheters do not require additional components such as sliding sheaths, metal clips, or activation buttons. VanishPoint® catheters are available in a variety of sizes, each color-coded according to international standards to indicate the catheter gauge.

Sizes currently available are 24G x 3/4", 22G x 1", 20G x 1-1/4", and 18G x 1-1/4". Other sizes will be available soon.

ASSOCIATION NEWS

2009 Virox Techologies Partners Scholarship

Through the financial support of the Virox Technologies Partnerships, 10 CHICA-Canada members were awarded scholarships to attend the 2008 CHICA/AIPI Education Conference in Montreal. CHICA-Canada and its members thank Virox Technologies and their partners Deb Canada, Johnson Diversey, Steris Corporation, Virox Technologies, and Webber Training for their initiative to make the national education conference accessible to those who may not have otherwise been able to attend.

The Virox Technologies Partnership will again provide a scholarship to assist CHICA-Canada members with attending the 2009 Education Conference in St. John's, Newfoundland Labrador. The 2009 Virox Technologies Partnership Scholarship application is available on www.chica.org.

The deadline date for applications is January 31, 2009.







Clean is just the beginning













ARAMARK
Healthcare



With ever increasing speed, infections from all parts of the globe can be on our doorstep. Today, healthcare is about global solutions; the need for uncovering and sharing international best practices through the work of industry and professional associations. The upcoming 2008 CHICA – Canada Education Conference event is an ideal forum for professional out-reach, to create relationships that build stronger partnerships. ARAMARK Healthcare salutes this learning opportunity in Montreal.

Every day in over 550 hospitals and healthcare facilities across North America, ARAMARK's Environmental Services teams work in partnership with Infection Prevention & Control to implement effective infection prevention and control measures. It's about partnership, working together to protect and improve the health of the people we serve. For ARAMARK, Best Care means Best Environments ... It's all connected.

ARAMARK delivers comprehensive non-clinical services in the areas of: patient food services, retail food services, environmental services, facility operations management, laundry & linen management, central transportation, clinical technology services, office services and call centers.

Best Care, Best Environments

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