



**RNAO**

Registered Nurses' Association of Ontario  
L'Association des infirmières et infirmiers  
autorisés de l'Ontario

## **Nursing Best Practice Guidelines**

**Closing the Gap Between Research and Practice:  
Moving Beyond Guideline Development to  
Addressing Future Research Initiatives for  
Patient Care Improvement**

**April 8, 2005**

**[www.rnao.org/bestpractices](http://www.rnao.org/bestpractices)**

## PURPOSE

The Registered Nurses Association of Ontario (RNAO) has been leading a program of best practice guideline development, pilot implementation, evaluation and dissemination since 1999. This program is funded by the Government of Ontario Canada. Dozens of clinical best practice guidelines have been developed and further guidelines are continuing to be developed. These guidelines are available at [www.rnao.org/bestpractices](http://www.rnao.org/bestpractices). As guidelines are developed, various gaps in research evidence have been identified. This document presents an inventory of identified research gaps in ten of the guidelines. The guideline development panels have deliberated upon the gaps and proposed priority areas and research approaches. This inventory will be regularly updated as additional guidelines are developed and more research gaps are noted.

It is hoped that this document will be of benefit to researchers, graduate students and research funding organizations as well as other organizations as they plan individual or programs of research in clinical practice. We encourage the wide distribution of this document as well as encourage research to fill these gaps in evidence. Researchers conducting studies to address one or more gaps are requested to kindly inform us by contacting us through our program email address at [bpg@rnao.org](mailto:bpg@rnao.org). Such knowledge will assist the RNAO in keeping abreast with the latest research findings and update guideline recommendations.

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## ***Section 1 - Assessment and Management of Foot Ulcers for People with Diabetes***

### ***1.1 Background***

In industrialized countries, diabetes is the leading cause of non-traumatic, lower extremity amputations (American Diabetes Association -ADA, 1999; Foundation for Accountability, 1996). Approximately 15% of all persons with diabetes will develop a foot ulcer at some time during the course of their disease (ADA, 1999). Eighty-five percent of people with lower extremity amputations are preceded by foot ulcers (Reiber, Boyko & Smith, 1995). Of these, 14% to 24% will proceed to major amputation (Ramsey, Newton, Blough, McCulloch, Sandhu, Reiber et al., 1999). Neuropathy is most commonly associated with the development of diabetic foot ulcers, but the presence or co-existence of peripheral vascular disease and infection can also lead to skin breakdown. It is widely known that diabetic foot ulceration is a significant end-stage complication of diabetes (Boulton, Meneses & Ennis, 1999). Moreover, the risk of amputation increases 10-fold in patients with diabetes and concurrent end stage renal disease (ESRD)(Eggers, Gohdes & Pugh, 1999).

It should be emphasized that the most common offending agent or cause of traumatic foot ulceration is footwear (Birke, Patout Jr. & Foto, 2000; Tyrrell, 2002). The use of ill-fitting shoes is instrumental in the development of blisters, callus and corns that can lead to ulceration in the patients with diabetes. In particular, peripheral neuropathy in people with diabetes leads to a cascade of events resulting in changes to the foot itself. These changes predispose the patient with diabetes to the development of ulceration.

This guideline has been developed to address the question of how to assess and manage patients with established diagnosis of diabetic foot ulcers. It provides direction to practicing nurses (RNs and RPNs) who provide care in all healthcare settings to patients (>15 years old) with type 1 and/or type 2 diabetes who have diabetic foot ulcers. The development panel of this guideline recognize that fewer patients with diabetic foot ulcerations receive optimal wound management; hence, they advocate an interdisciplinary approach to address the complex lifestyle, self-care and multiple treatment demands of patients who have diabetic foot ulcer.

## ***Section 1 - Assessment and Management of Foot Ulcers for People with Diabetes***

### ***1.2 Research Gaps***

The guideline development panel found that there is little research to support:

- Establishment of standardized assessment and document tools for diabetic foot ulcers
- Dressing choices for local wound care
- Effectiveness of adjunctive therapies to promote wound healing
- Effectiveness of various devices utilized for pressure redistribution/offloading
- Health delivery issues (government support and funding of programs and treatment for diabetic foot ulcer management, cultural beliefs, high risk patient populations)
- Impact of sharp/surgical debridement on wound healing
- Impact of education on healthcare provider and specific patient outcomes (ulcer healing/reoccurrence)
- Pharmacoeconomics of secondary and tertiary prevention strategies

The above list, although in no way exhaustive, is an attempt to identify and prioritize the enormous amount of research that is needed in this area. Some of the recommendations in the guideline are based on evidence gained from quantitative and qualitative research. Other recommendations are based on consensus or expert opinion. Further substantive research is required to validate expert opinion. Further research can impact knowledge that will lead to improved practice and outcomes for patients who experience diabetic foot ulcers.

## ***Section 2 – Care and Maintenance to Reduce Vascular Access Complications***

### ***2.1 Background***

Vascular Access Devices (VADs) are a common and important part of clinical practice for the administration of parenteral fluids, nutrients, medications, and blood products. In addition, VADs provide a route to monitor the hemodynamic status of a client. Over the last two decades vascular access device technology has advanced and new treatment regimens have emerged. These changes bring with them the desire to support best practice to provide more effective vascular access care. The desired clinical goal is positive client outcomes as evidenced by completion of therapy, absence of complications and client satisfaction with care delivery.

This guideline focuses on assisting all nurses who provide care to clients requiring vascular access in diverse settings, both institutional and community. It incorporates best practices related to the care and maintenance of vascular access devices applicable to all adult clients requiring this kind of care. The main focus of the guideline is the care and maintenance of central venous access devices (CVAD); however, where care and maintenance strategies can be used for both CVAD and peripheral venous access devices (PVAD), this has been articulated in the specific recommendations.

## **Section 2 – Care and Maintenance to Reduce Vascular Access Complications**

### **2.2 Research Gaps**

There is limited Canadian clinical research in terms of randomized controlled trials and/or cohort studies to support current practices regarding vascular access care and maintenance. Information is not consolidated in one area or guideline and the panel experienced difficulty gathering current relevant information for development of this guideline.

The Panel, in reviewing the evidence for the development of this guideline, has identified several gaps in the research literature related to VAD care and maintenance. In considering these gaps, the following research priorities were identified that would benefit client outcomes:

- Effectiveness of various cleansing solutions for reducing VAD complications
  - Which solutions are most effective for which VAD?
  - Which solutions are most effective for clients with factors that predispose them to VAD complications?
- Effectiveness of various types of dressings on reducing VAD complications.
- Effectiveness of various securement methods for preventing VAD migration.
- Effectiveness of scheduled thrombolysis treatments to reduce CVAD thrombolytic occlusions in clients with hypercoagulation
- Effectiveness of various flushing techniques and solutions and their impact on VAD complications.
- Effectiveness of heparin vs. 0.9% normal saline for locking.
- Effectiveness of changing IV administration sets every 96 hours vs. every 72 hours.

## **Section 3 – Interventions for Postpartum Depression**

### **3.1 Background**

The postpartum period is considered a time of increased risk for the onset of mood disorders. Research has shown that a woman is significantly more likely to be admitted to a psychiatric hospital within the first 4 weeks postpartum than at any other time in her life (Brockington, Cernik, Schofield, Downing, Francis & Keelan, 1981; Kendell, Chambers & Platz, 1987; Paffenbarger, 1982) and up to 12.5% of all psychiatric hospital admissions of women occur during the postpartum period (Duffy, 1983).

Postpartum depression is a major health issue for many women (Affonso, De, Horowitz & Mayberry, 2000). A meta-analysis of 59 studies suggests that approximately 13% of women experience postpartum depression (O'Hara & Swain, 1996) with the inception rate greatest in the first 12 weeks postpartum (Goodman, 2004); these rates do not differ between primiparous and multiparous mothers. While up to 20% of women with postpartum blues will continue to develop postpartum depression (Campbell, Cohn, Flanagan, Popper, & Meyers, 1992; O'Hara, Schlechte, Lewis, & Wright, 1991), other women enjoy a period of well-being after delivery followed by a gradual onset of depressive symptoms. Untreated postpartum depression can cause impaired maternal-infant interactions (Murray, Fiori-Cowley, Hooper & Cooper, 1996) and negative perceptions of infant behaviour (Mayberry & Affonso, 1993) which have been linked to attachment insecurity (Hipwell, Goossens, Melhuish & Kumar, 2000; Murray, 1992), and emotional developmental delay (Cogill, Caplan, Alexandra, Robson & Kumar, 1986; Cummings & Davies, 1994; Hipwell, Goossens, Melhuish & Kumar, 2000; Murray, Sinclair, Cooper, Ducournau, Turner & Stein, 1999; Whiffen & Gotlib, 1989). Marital stress resulting in separation or divorce (Boyce, 1994; Holden, 1991) is also a reported outcome.

This guideline focuses on the identification, prevention, and treatment of mothers with depressive symptoms in the first postpartum year. This guideline was developed for community, family practice and hospital-based nurses as well as other health professionals caring for postpartum women.



## **Section 3– Interventions for Postpartum Depression**

### **3. 2 Research Gaps**

This best practice guideline has three clinical questions to structure the reviewed literature. In each of these three areas, prevention, treatment and the confirmation of depressive symptoms, research gaps were identified. Further research in each of the following areas would assist in guiding the care of mothers with postpartum depression.

#### **Prevention Interventions**

As a means to assess the effectiveness of preventive postpartum depression (PPD) interventions, large randomized controlled trials are required. Replication of previous trials such as MacArthur, Winter, Bick, Knowles, Lilford, Henderson et al. (2002) may be beneficial to determine if the results are generalizable in a Canadian context. General research questions include:

- Are interventions that are initiated antenatally more effective than those initiated postnatally?
- Are interventions that target at-risk mothers more effective than those provided to a general maternal population?
- Are supportive interventions more effective if they are provided by a health professional than a lay individual?
- What are mothers' perceptions of preventative interventions?

#### **Confirming Depressive Symptoms**

Further research is required to examine the psychometric properties of the Edinburgh Postnatal Depression Scale (EPDS) in a Canadian context among mothers from diverse cultures. Potential research questions are as follows:

- Is there an optimal time for the administration of the EPDS to reliably identify women with depressive symptoms?
- Is the reliability and validity of the EPDS influenced by repeated administrations?

#### **Treatment Interventions**

Further research is required regarding the effectiveness of treatment interventions and options for Canadian mothers experiencing PPD. Potential research questions include:

- What are the benefits and risks of psychotropic medications in the management of depressive symptoms?
- What is the effect of enhanced partner support in the treatment of PPD?
- Which factors promote and hinder the utilization of available treatment options?
- What are mothers' perceptions of treatment interventions?
- What is the effect of peer support groups mediated by nurses among mothers experiencing PPD?

The intervention of non-directive counselling is worth further exploration in view of promising findings. Potential research questions for this treatment intervention are as follows:

- What is the optimal timing of the intervention? In the studies examined, the intervention often did not begin until 6-8 weeks postpartum. Research is needed to determine whether the intervention would be just as effective if offered earlier or later in the postpartum period.
- What is the duration of the intervention? The three trials administered the intervention for approximately 6 to 10 weeks, and it is unknown whether offering the intervention for a shorter or longer duration would be as effective and/or cost-effective.
- What is the frequency of the intervention? All three trials described offered the intervention on a weekly basis. It is currently unknown whether administering the intervention less frequently (e.g., biweekly), as may be necessary due to limited resources and/or a rural or remote setting, will be equally effective. Conversely, it is foreseeable that some women could benefit from a more frequent intervention. No research examining the potential benefits of more frequent home visits is available.
- What is the effect of location of the intervention? In two of the three trials of non-directive counselling, the intervention was home-based. In the third trial, the intervention was provided either at the participant's home or in a clinic and no comparisons in outcomes were made between participants who received the intervention at each site. Therefore, it is unknown if the intervention is as effective when provided in a clinic setting. Other methods of administering the intervention should also be explored, e.g., via telephone.

### **General Interventions**

#### **Potential Research Questions:**

- What self-care practices are effective in alleviating depressive symptoms in the postpartum period?
- Are the self-care practices of mothers with depressive symptoms different than mothers without depressive symptoms?
- What role does fatigue play in the postpartum period?
- What complimentary therapies are effective as an adjunct to PPD treatment?

### **Education/Organization**

Limited research is available concerning the role of educators and organizations in the care of mothers experiencing postpartum depression. The majority of the evidence for these recommendations is Level IV evidence and as such further research is required. Potential research questions include:

- Do postpartum care pathways improve decision-making in nurses?
- Do postpartum care pathways significantly improve timely access to PPD treatment?
- What are the essential nursing education components in providing care for women identified with postpartum depressive symptoms?
- What are the organizational, educational and practice structures required to promote the transfer of knowledge to practice?

## ***Section 4 - Nursing Care of Dyspnea: The 6th Vital Sign in Individuals with Chronic Obstructive Pulmonary Disease (COPD)***

### **4.1 Background**

In Canada, 3.9% of Canadians aged 35 years or more (466, 812 adults) have probable COPD (Canadian Institute for Health Information, Canadian Lung Association, Health Canada & Statistics Canada, 2001). These figures likely underestimate the true prevalence of COPD because a diagnosis is often not made until the patient is over 55 years of age and has advanced changes in the lung tissue. In 1999 in Canada, COPD was the fourth leading cause of death in men (5544 deaths) and the fifth in women (3974 deaths) (Canadian Institute for Health Information, Canadian Lung Association, Health Canada & Statistics Canada, 2001). In Canada in 2000/2001, COPD was the seventh most common cause of hospitalization for men and the eighth most common cause of hospitalization for women. Risk of rehospitalization is approximately 40% among patients with COPD (Canadian Institute for Health Information, Canadian Lung Association, Health Canada & Statistics Canada, 2001).

The economic burden for COPD in Canada is enormous. In 1998, \$467 million was spent on hospital care and drugs for COPD. Direct costs (premature mortality, long and short term disability) were estimated at \$1.2 billion, with total cost, therefore estimated at \$ 1.67 billion. It is suggested that this figure significantly underestimates the true costs because it does not include physician costs or costs related to community based health services (Canadian Institute for Health Information, Canadian Lung Association, Health Canada, & Statistics Canada, 2001).

Dyspnea, is the subjective experience of breathlessness (Gift, 1990, 1993; GOLD Scientific Committee, 2003, 2004), is the most disabling symptom of COPD. People living with COPD experience dyspnea on a daily basis. As the disease progresses individuals have an ever-increasing number of acute exacerbation episodes of their illness, averaging 2-3 per year. These episodes involve a sudden or sustained worsening of dyspnea, cough or sputum production and increased use in maintenance medications. These events are the most frequent reason for hospital visits and mortality.

This guideline was developed for nurses and it addresses the nursing assessment and management of stable, unstable and acute dyspnea related to COPD.

## ***Section 4 - Nursing Care of Dyspnea: The 6th Vital Sign in Individuals with Chronic Obstructive Pulmonary Disease (COPD)***

### **4.2 Research Gaps**

The guideline development panel found that additional research evidence is needed in the following areas:

- Teaching of breathing retraining techniques: pursed lip breathing, diaphragmatic breathing, controlled breathing
- Activities of daily living (ADLs)
- Experience of dyspnea in acute and chronic situations
- Dyspnea in relation to rehabilitation and disability
- Interdisciplinary research in management of dyspnea in COPD
- End-of-life and dyspnea
- Oxygen criteria
- Assessment tools related to dyspnea
- Dyspnea anxiety related to the cycle of disease process
- Impact of dyspnea on individual and family
- Dyspnea and the nurse interaction with individuals
- Understanding of dyspnea and COPD from patient, nurses and family perspectives

The above list, although in no way exhaustive, is an attempt to identify and prioritize the enormous amount of research that is needed in this area. While some of the recommendations in the guideline are based on evidence gained from experimental research, other recommendations are supported by an increasing body of research in the qualitative paradigm and consensus of expert opinion. This reality makes clear that there is much research work to be done. In partnership, practitioners and nurse researchers need to expand the empirical work to better understand the experience of dyspnea for individuals living with COPD and enhance the care they provide.

## **Section 5 - Prevention of Constipation in the Older Population**

### **5.1 Background**

Constipation is a frequent health concern for elderly persons and their care providers across the continuum of healthcare. There is an increasing prevalence of constipation with age, particularly after age 70 (Higgins & Johanson, 2004). Epidemiological data suggests that subjective reports of constipation and habitual laxative use increase with age (Cheskin & Schuster, 1994). It is estimated that anywhere from 30% to 50% of community-dwelling older persons use laxatives regularly and this use increases with institutionalization (Campbell, Busby & Horvath, 1993; Harari, Gurwitz & Minaker, 1993).

The guideline, *Prevention of Constipation in the Older Population*, was originally published in 2002. It has been reviewed and revised in 2005 by a panel of nurses with expertise in the topic area. The purpose of the guideline is to reduce the frequency and severity of constipation among older adults through the use of adequate hydration and dietary fibre, regular consistent toileting and physical activity.

## ***Section 5 - Prevention of Constipation in the Older Population***

### **5.2 Research Gaps**

The revision panel, in reviewing the evidence for the update of this guideline, has identified several gaps in the research literature related to prevention of constipation. In considering these gaps, the panel has identified the following priority research areas:

- The effectiveness of dietary fibre, fluid intake, regular consistent toileting and physical activity/exercise/walking in the prevention of constipation.
- The role of the interdisciplinary team in the prevention of constipation.
- The effect of constipation in the older adult's quality of life.
- The supports required for successful implementation of bowel and training program.

The above list, although in no way exhaustive, is an attempt to identify and prioritize the enormous amount of research that is needed in this area. Some of the recommendations in the guideline are based on evidence gained from experimental research. Other recommendations are based on consensus or expert opinion. Further substantive research is required to validate the expert opinion. Increasing the research can impact knowledge that will lead to improved practice and outcomes for clients who experience constipation.

## ***Section 6 – Prevention of Falls and Fall Injuries in the Older Adult***

### **6.1 Background**

According to the Canadian Institute for Health Information (2000), falls are the primary cause of injury admissions to Canada's acute care hospitals, accounting for 54.4% of all injury hospitalizations and 75.7% of all in-hospital deaths for clients admitted for injuries. In Ontario, falls were responsible for 80% of head injury hospitalizations in people age 65 and older in Ontario in 1998/99 (Canadian Institute for Health Information, 2000). Slipping, tripping or stumbling from the same level were the major reasons. Women were admitted to Ontario hospitals for injuries from falls twice often as men.

This guideline was originally published in 2002. It has been reviewed and revised in 2005 by a panel of nurses and other experts in the topic area. The purpose of the guideline is to increase all nurses' confidence, knowledge, skills and abilities in the identification of adults within healthcare facilities at risk of falling and to define interventions for the prevention of falling. However, this guideline does not include interventions for prevention of falls and fall injuries in older adults living in community settings. Specifically, this guideline will assist nurses to: identify risk factors for falls; decrease the incidence of falls; and decrease the incidence of injurious falls.

## ***Section 6 – Prevention of Falls and Fall Injuries in the Older Adult***

### **6.2 Research Gaps**

Several authors have made suggestions for further research in the area of falls prevention. In a systematic review of the literature on acceptance and compliance with external hip protectors, van Schoor, Deville, Bouter & Lips (2002) has recommended evaluation of compliance of hip guard use. Weigand & Gerson (2001), in a randomized controlled trial of patients seen in emergency departments, recommended evaluating the effectiveness of clinical interventions to identify, counsel and refer emergency patients who are over the age of 65 years who are at high risk for unintentional fall. Verhagen, Immink, van der Muelen & Bierna-Zeinstra (2004) recommended that more randomized controlled trials are required to evaluate the effect of Tai Chi Chaun in the elderly as it relates to the prevention of falls. More research on fall prevention in the hospital setting is recommended related to interventions that are effective in reduction of falls (Vassallo, Vignaraja, Sharma, Hallam, Binns, Briggs et al., 2004); and associated with the frail elderly with impaired cognition (Jensen, Nyberg, Gustafson & Lundin-Olsson, 2003).

The development panel, in reviewing the evidence for the revision of this guideline, has identified additional gaps in the research literature related to reducing falls and fall injuries in the older adult particularly with respect to evidence using randomized approaches. In considering the research gaps, the following research priorities were identified that would benefit client outcomes:

- Explore the psychological effects of falls and/or fear of falling and the impact on clients' confidence to perform daily activities.
- Effectiveness of providing non-pharmacological approaches for clients with impaired cognition and emotional/behavioural care needs in reducing falls and fall injuries.
- Effectiveness of using a transfer plan based on individualized assessment and re-evaluation of the plan as the client's functional status changes.
- Effectiveness of specific forms of exercise to maximize mobility and physical activity in the older adult and prevent the number of falls. In particular, when is the best time to institute exercise/mobility programs and when are they most effective?
- Identify what fall prevention interventions are most effective in client populations with cognitive deficits/dementia.
- Identify strategies for developing individualized evidenced-based multi-factorial interventions based on relationship between risk factors and individualized clinical needs. The goal is to supplement clinical expertise in selecting components of the multi-factorial intervention with knowledge gathered from the scientific literature.
- Effectiveness of risk screening with consideration of specific populations represented among individuals receiving care in various healthcare facilities.



## **Section 7 – Primary Prevention of Childhood Obesity**

### **7.1 Background**

Several prominent reports have identified obesity as a growing public health issue (Government of Ontario, 2004; Institute of Medicine, 2004). Obesity has reached epidemic proportions both locally and globally (Government of Ontario, 2004; Institute of Medicine, 2004; World Health Organization, 2003). The World Health Organization estimates that globally over one billion adults are overweight and at least 300 million of those individuals are clinically obese. In Ontario, almost 50% of adults are overweight or obese (Canadian Population Health Initiative, 2004). In addition, 15-20% of Ontario's youth (12 to 15 years) are overweight or obese, according to the Canadian Community Health Survey (2000). From the years 1985-2000, over 57, 000 deaths in Canada were attributed to overweight and obesity (Katzmarzyk & Ardern, 2004).

There is strong evidence that, among Canadian children, the prevalence of overweight and obesity is rising rapidly (Tremblay & Willms, 2000; Willms, Tremblay & Katzmarzyk, 2003). Between 1981-1996, the prevalence of obesity among Canadian children (aged 7-13 years) tripled. These rising rates are particularly striking in light of the immediate and long-term health consequences associated with childhood obesity.

This guideline was developed to provide direction for nurses who work with children and families across diverse practice settings and population, family, and/or individual levels. Its focus is on the primary prevention of obesity in children from birth to age 18 years.

## **Section 7 – Primary Prevention of Childhood Obesity**

### **7.2 Research Gaps**

Given the gaps identified in existing knowledge related to the primary prevention of obesity in children and youth, further quality research in this area is needed. Nurses can contribute to an increased understanding of and funding for applied, effective, quality prevention strategies. Nurses can provide leadership and participate in conducting nursing and interdisciplinary research related to obesity prevention. Specifically further research in the following areas is warranted: (Lobstein, Baur, Uauy, & IASO International Obesity Task Force, 2004; Thomas, Ciliska, Wilson-Abra, Micucci, Dobbins & Dwyer, 2004)

- Effective primary prevention strategies
- Long-term effectiveness of obesity prevention programs and policies
- Barriers to and facilitators of improving nutrition and physical activity for populations, communities, families, and individuals
- Gender, socioeconomic, and cultural factors associated with obesity
- BMI norms for children according to age, gender, and ethnicity

In order to add to the body of knowledge regarding effective obesity prevention interventions, program and policy evaluations should be undertaken, built into the initial planning phases of program and policy development, continue throughout the project, and involve follow-up post intervention. Such evaluations should involve process and short and long term outcome measures. Further, these evaluations should involve outcome measures that include valid measurement of physical activity, nutritional intake, adiposity, and obesity and overweight.

Nurses, in collaboration with other health professionals are encouraged to lead research activities outlined in the above literature and to explicitly use theoretical frameworks to guide development of prevention programs (Thomas et al., 2004).

In addition to the research gaps identified, the panel also noted a lack of assessment tools for research purposes and for every day practical use. Such tools are greatly needed to support practitioners in practice and should be evidence-based and evaluated to ensure their validity and reliability. Further, surveillance data is needed to assist in the determination of effective interventions at the population level (Raine, 2004).

## ***Section 8 - Promoting Continence Using Prompted Voiding***

### **8.1 Background**

Urinary incontinence has been estimated to affect over 1.5 million Canadians in community and institutional settings (Canadian Continence Foundation, 1998). It can touch individuals at any stage of life but is more common in the elderly, and several studies confirm that over one-half of all nursing home residents are incontinent of urine (Eustice, Paterson & Roe, 1999; Lyons & Specht, 1999; Ouslander, Schnelle, Uman, Fingold, Nigam, Tuico & Jensen, 1995; Schnelle, 1990). Family care providers of incontinent individuals report continence maintenance as burdensome, and urinary incontinence plays an important role in the decision to institutionalize elderly family members. While more elderly women are incontinent, it may be the elderly male who is at greatest risk to develop urinary incontinence (Lyons & Specht, 1999).

Despite its prevalence, and estimated annual cost of more than \$15 billion (U.S.), most incontinent people suffer in silence and do not seek help. It is expected that urinary incontinence will continue to be a significant healthcare problem in the elderly, and will increase as the aging population continues to grow. As direct care providers, nurses are in a unique position to have an impact on the problem of incontinence in the community, acute-care, long-term care and chronic care settings.

This guideline was originally published in 2002. It has been reviewed and revised in 2005 by a panel of nurses with expertise in the topic area. The purpose of the guideline is to provide information on implementing a treatment program of prompted voiding for older adults with urinary incontinence. The goals of prompted voiding are to: reduce the frequency and severity of urinary incontinence episodes; prevent the complications associated with urinary incontinence; and improve quality of life.

## ***Section 8 - Promoting Continence Using Prompted Voiding***

### **8.2 Research Gaps**

The revision panel, in reviewing the evidence for the update of this guideline, has identified several gaps in the research literature related to prompted voiding. In considering these gaps, the panel have identified the following priority research areas:

- The supports required for successful implementation of prompted voiding.
- The role of the healthcare team in continence care.
- The effect of incontinence in the older adult's quality of life.
- The need for refinement of assessment tools for prompted voiding in daily practice.

The above list, although in no way exhaustive, is an attempt to identify and prioritize the enormous amount of research that is needed in this area. Some of the recommendations in the guideline are based on evidence gained from experimental research. Other recommendations are based on consensus or expert opinion. Further substantive research is required to validate expert opinion. Increasing the research can impact knowledge that will lead to improved practice and outcomes for clients with urinary incontinence.

## ***Section 9 – Risk Assessment and Prevention of Pressure Ulcers***

### ***9.1 Background***

Pressure ulcers, also known as pressure sores, bedsores and decubitus ulcers, are areas of localized damage to the skin and underlying tissue as a result of external forces such as pressure, shear and/or friction. Overall, the estimate of the prevalence of pressure ulcers in all healthcare institutions across Canada was 26.2%. This data suggests that pressure ulcers are a significant concern in all healthcare settings in Canada (Woodbury & Houghton, 2004).

Mortality is associated with pressure ulcers – several studies have reported mortality rates as high as 60% for elders with a pressure ulcer within one year of discharge from hospital. The pressure ulcer is not generally the cause of death, but rather it develops after a decline in the health status of the older person (Lyder, 2002).

The burden of pressure ulcers and their treatment impacts on quality of life for the client and family, but also creates significant financial strain from those living with a pressure ulcer, their families, and the healthcare system. The Canadian Association of Wound Care (2004) reported on a study conducted in the late 1990s that estimated the cost of treating an individual with a pressure ulcer within a long-term care facility to be an average of \$24,050 for three months of treatment. Similarly, recent case study (Allen & Houghton, 2004) estimated that total cost for 12 weeks of treatment in the community, including electrical stimulation, to be \$27, 632. These costs, however, do not address the burden of pain and suffering and the impact on the individual’s quality of life.

Early interventions are essential for those at risk of developing pressure ulcers. The principle components of early intervention are: identification of at-risk individuals who need preventive interventions and of the specific factors that place them at risk; protection and promotion of skin integrity; protection against the forces of pressure, friction and shear; and reduction of the incidence or pressure ulcers through educational programs for health professional and clients.

This guideline was originally published in 2002. It has been reviewed and revised by a panel of nurses with expertise in this topic area. The guideline was developed to assist nurses who work in diverse practice settings to identify adults who are at risk of pressure ulcers. It also provides direction to nurses in defining early interventions for pressure ulcer prevention and to manage stage I pressure ulcers.

## ***Section 9 – Risk Assessment and Prevention of Pressure Ulcers***

### **9.2 Research Gaps**

The revision panel, in reviewing the evidence for the updating of this guideline, has identified several gaps in the research literature related to pressure ulcer prevention. In considering these gaps, they have identified the following priority research areas:

- The optimum frequency and effectiveness of positioning schedules.
- The effectiveness of positioning schedules for those individuals receiving care on pressure relieving surfaces.
- The effectiveness of pressure relieving interventions for pressure-related ulcers to the heels.
- The most effective surface for prevention of pressure ulcers during the intra-operative period.
- The impact of pain on pressure ulcer development and healing.

The above list, although in no way exhaustive, is an attempt to identify and prioritize the research gaps in this area. Some of the recommendations in this guideline are based on evidence gained from qualitative or quantitative research, while others are based on consensus or expert opinion. Further substantive research is required in some areas to validate the expert opinion and impact knowledge that will lead to improved practice and outcomes for those at risk of developing pressure ulcers.

## **Section 10 - Woman Abuse: Screening, Identification and Initial Response**

### **10.1 Background**

The physical and emotional health consequences of violence against women are profound and enduring. Women who have experienced violence suffer a multitude of adverse physical and psychological health outcomes. Abused women have more physical symptoms, are more frequent users of healthcare services, and are more likely to suffer chronic pain, have increased rates of depression, anxiety, low self-esteem and attempted suicide and experience abuse during pregnancy and have increased pregnancy-related complications (Malecha, 2003). Women who experience abuse are also more likely to report their physical and mental health as fair to poor (Coker, Bethea, Smith, Fadden & Brandt, 2002).

The economic costs related to violence against women are staggering and place a tremendous burden on society, both with respect to lost productivity and increased demands on health and social services. In a report published by Health Canada (2002), it was estimated that the measurable health-related costs of violence against women in Canada exceed \$1.5 billion a year. These costs include short-term medical and dental treatments for injuries, long-term physical and psychological care, lost time at work, and use of transition homes and crisis centres. This figure is consistent with the report prepared by the Centre for Research on Violence Against Women and Children that estimated the health costs of woman abuse at \$1.54 billion per year (Day, 1995).

This guideline was developed with an overall purpose to facilitate routine universal screening for woman abuse by nurses in all practice settings. The intended outcome is increased opportunity for disclosure, which will promote health, well-being, and safety for women. Using evidence-based approaches and recommendations, this guideline offers nurses a repertoire of strategies that can be adapted to various practice environments. The scope of this guideline is on screening women for intimate partner abuse. While it is recognized that men may also be victims of intimate partner abuse, the incidence, nature and impact of that abuse is more severe for women.

## **Section 10- Woman Abuse: Screening, Identification and Initial Response**

### **10.2 Research Gaps**

The panel, in reviewing the evidence for the development of this guideline, has identified several gaps in the research literature related to screening for and initial response to woman abuse. Consistent with our belief in the importance of different types of knowledge, need for research that includes a variety of approaches including quantitative and qualitative methods has been identified. Further, the panel believes research will have the largest impact when conducted by research teams comprised of community and academic partners. In considering the research gaps, the following research priorities were identified to benefit client outcomes:

#### **Screening approaches (different approaches):**

What is the most effective way to screen for and respond to abuse for diverse populations including:

- Same sex partners
- Senior/elders
- Teen women (12-16)
- Women with disabilities (physical and mental)
- Immigrants/newcomers
- Ethnically diverse
- Aboriginals
- Women in rural/isolated communities.

What methods of screening are most effective?

- Interviews
- Standardized tools
- Self administered questionnaires
- What is the impact of repeated screening on women?

#### **Education:**

- What strategies need to be in place to sustain screening practices in organizational settings once initial education is complete?
- What strategies are most effective in educating nursing students to ensure they incorporate screening into their practice?

#### **Outcomes of Screening:**

What are the long and short term outcomes of screening for and responding to abuse on the:

- Woman
- Nurse



- Health care system
- Community agency
- Broader community.

**Impact on Children:**

What is the impact on children when women disclose abuse in the context of screening?

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