# Wounds Canada Spring Conference Highlights

*Wounds Canada held its spring conference in Winnipeg, Manitoba, May 11 to 12. A team of local volunteers attended sessions and created the highlights and summaries below.*

## Session 5: Diabetic Foot Management

**Presenters: Gary Sibbald, Marianne Viau, François Harton, Pat MacDonald**

**Topics: Diabetic Foot Neuropathy: Presentation and Mechanisms; Orthopedic Footwear; Foot Care for People with Diabetes**

*By Sarah Brown, BSc, RN, MN, IIWCC*

More than 592 million people in the world have diabetes, and most are living in developing countries. The most important predictor for foot ulceration is neuropathy. Neuropathy is a complex interplay of factors that lead to foot ulceration. These factors include sensory neuropathy, autonomic neuropathy and motor neuropathy (see Figures 1 a.–c.). People with both neuropathy and peripheral arterial disease are at high risk for developing a foot ulcer.

**Figure 1:** Factors Leading to Ulceration


**a.** Sensory Neuropathy


**b.** Autonomic Neuropathy


**c.** Motor Neuropathy

The ultimate goal for persons with diabetes who are at risk for foot complications is preventing amputation. This goal requires a team approach. Early detection of diabetic risk factors and ulcers is critical. Early detection includes using an assessment tool such as Inlow's 60-Second Diabetic Foot Screen. This screening includes a physical examination of the foot: looking at the skin for calluses, fungus, ulcers or history of ulcers, previous amputation; assessing the nails and feet for deformity; looking at the patient's footwear; checking for pulses, temperature of feet, range of motion of feet; and using a monofilament to check sensation of the feet.

Offloading of pressure points and redistribution of weight are the primary objectives of a Canadian Certified Pedorthist (CPP). The CPP fills prescriptions for custom footwear and orthotics, provides footwear modifications, assesses gait biomechanics and lower-limb range of motion, provides education for the person with diabetes and communicates with other health-care providers. Properly fitted footwear can help prevent an amputation. Inappropriate footwear can create problems with bunions, claw and hammer toes, calluses, corns and circulation. It is important to discuss risk factors with the patient to ensure they examine their feet regularly, get an annual check-up from their health-care provider, access professional nail and skin care for their feet, prevent injury to their feet and know when to seek medical attention.

## Session 6: Pressure Injuries

**Presenters: Pamela Houghton, Kris Langlois, Kelly Petryk, Tracy Thiele, Christie Tuttosi, Kim Baessler, Amy Campbell**

**Topics: Pressure Injuries: More Than Just Skin Deep?; Never Events: Preventing Pressure Injuries from the View of the Manitoba Provincial Pressure Injury Working Group; Introduction to Therapeutic Surfaces; Pressure Injuries and Nutrition**

*By Rhonda Heintz, RN, BN, CRN, IIWCC*

Pressure injuries (PIs) have a huge impact on spinal cord injured (SCI) patients. The Rick Hansen Institute "Man in Motion" program raised $291 million in funding for SCI, which was put toward the following:

- co-ordinating efforts for PI care
- helping change practice
- finding active research programs
- improving quality of life for SCI patients with PIs
- developing a Canadian clinical practice guideline (CPG) for PIs in patients with SCI

In Canada, the strategy was to standardize terminology and information collection practices, and to illustrate the burden of PIs. SCI alliance–advocates lobbied to keep issues in the forefront

and were able to obtain millions of dollars in funding.

In Winnipeg, an annual PI study is conducted each November that includes all hospitals, long-term care facilities and 2,500 patients, each of which is assessed for pressure injuries. Long-term care, home care and palliative programs are included in the study, but each type of facility has a slightly different method for collecting data. In recent years, rural areas have been included in this study, making it a provincial initiative.

The goals of this study are as follows:

- to standardize definitions and data collection to align with national databases
- to report to the public
- to identify prevention strategies

Some of the issues uncovered through these studies include limited staff and other resources, and varied levels of discipline across care sites.

A provincial pressure injury measurement working group, based in Manitoba, worked in virtual teams to meet, discuss and collaborate to come up with a provincial education tool kit to meet accreditation standards and collect data. The resulting tool kit included education resources and data collection forms for prevalence and incidence that did automatic calculations with regional support.

On-site teams were developed, and trials were run at one long-term care facility and one acute care facility with the goal of expanding the program to three acute care and three personal care homes by November 2018. So far, the most significant positive outcome of this program is that it has brought skin care and prevention—including staff education—to the forefront.

Support surfaces and nutrition are two factors that can have a huge impact on the management of pressure injuries.

Standard mattresses do not treat or prevent pressure injuries. To ensure patients are using the appropriate surfaces, clinicians need to:

- understand support surface specifications
- use a risk assessment tool
- perform a thorough assessment

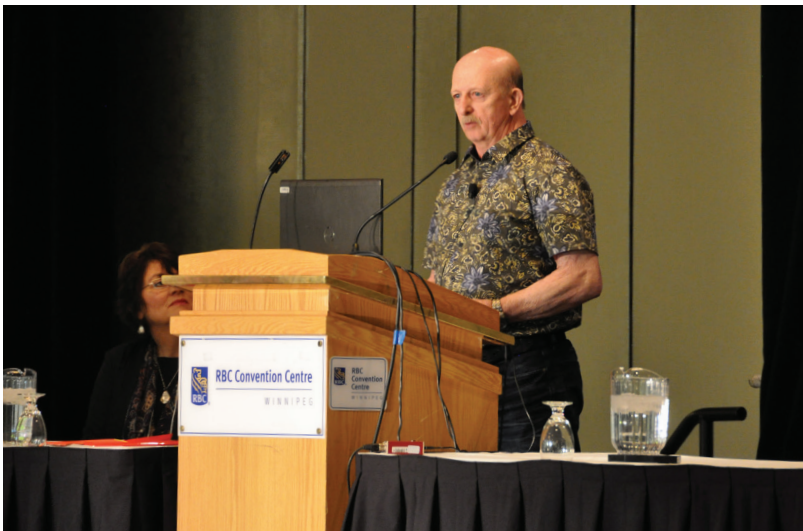
It is important to understand the terminology used to describe support surfaces. These are some of the common terms used when describing support surfaces:

- *Reactive*: constant low pressure
- *Active*: alternating air
- *Pressure redistribution surface*: decreases the force of pressure
- *Immersion*: spreads out the pressure, but can decrease a patient's bed mobility
- *Envelopment:* used to describe a reactive surface that conforms to the curves of the body (e.g., a gel mattress)
- *Microclimate*: manages the skin temperature and humidity
- *High specification foam*: three layers of open cell foam, through which gases can pass

An appropriately chosen advanced support surface can decrease forces of pressure and shear, and can impact microclimate.

Patient assessment should consider transferring methods, body type, goal of care (prevention or treatment), smoking status (smoke can clog powered mattresses), number of hours spent in the bed and whether the patient will tolerate the noise of a mattress pump. Clinicians should use an active support surface for high-risk patients but will still need to turn the patient on these surfaces. Clinicians must work toward heel injury prevention no matter which surface the patient is on. Note: Clinicians must always treat the cause of the pressure injury by offloading: the mattress is not going to resolve it.

Nutrition screening and assessment should occur on admission, when there is a change in the patient's condition and/or when no healing



is occurring. One useful tool is the Canadian Nutrition Screening Tool, which consists of two yes/no questions: "have you lost weight in the last six months," and "are you eating less than usual in the last week?" If the patient answers "yes" to both questions, the clinician should consult a dietitian.

Risk factors for developing pressure injuries can be assessed using a tool such as the Braden Scale for Predicting Pressure Sore Risk or Pressure Ulcer Risk Score (PURS). Nutritional risk factors include the following:

- unintentional weight loss (5% in one month or 10% in the past six months)
- protracted wound healing
- inability to eat independently
- malnutrition

Nutrition for preventing and treating PIs needs to consider calorie intake compared with body weight, fluid intake, vitamin and mineral intake, protein intake and glycemic control. Med Pass is a provision of 60 ml three times per day and a 2 kcal liquid formula that provides additional calories and protein for the malnourished patient or for a patient with a pressure injury. Current literature states there is no need for vitamin C or zinc unless there is a deficiency. Clinicians should be careful not to over-supplement with zinc.

## Session 7: Venous Leg Ulcers

**Presenters: Robyn Evans, Janet Kuhnke, Jane McSwiggan**

**Topics: Differentiating Lower Leg Ulcers; Managing Venous Leg Ulcers**

*By Lori McKenzie, RN, IIWCC*

This presentation focused on how to differentiate a venous leg ulcer from other skin conditions wound care clinicians encounter in their practices.

The presenters began with an explanation of the pathophysiology that contributes to the development of a venous leg ulcer, including venous reflux, and the importance of an effective calf-muscle pump (also known as the second heart). Other factors include venous obstruction (such as a blood clot) and genetic conditions.


Using a case study approach, signs and symptoms of venous disease and their negative effects on the patient were discussed. As always, the person with a venous leg ulcer, or at risk for developing one, should guide the plan of care. The care plan is created after completing a thorough history and only once the results of appropriate assessments are reviewed.

The discussion around treatment options, education topics and any patient concerns highlighted the importance of involving several different allied health professionals to provide comprehensive care.

The presentation concluded with this practice pearl: the care of the person with a venous leg ulcer must focus on ways to empower the patient through mutual trust and respect.

## Session 9: Diabetic Foot Complications

**Presenters: François Harton, John Embil, Mariam Botros, Jane McSwiggan**

**Topics: Charcot Foot: What to Look for and What to Do; Identification and Treatment of Diabetic Foot Infections; Risk Stratification and Guiding the Management of the Diabetic Foot**

*By Kristine Schellenberg RN, MN, GNC(c), IIWCC*

### Charcot Foot: What to Look For and What to Do

The earlier Charcot is identified, the better the outcome for the person. Patients with Charcot foot complications should be non-weight bearing

until the temperature of the affected limb is within 2 degrees Celsius of the other limb. Charcot is often misdiagnosed, but it should be used as the diagnosis until proven otherwise. Acute clinical signs and symptoms of Charcot foot complications include erythema, increased temperature, pain despite lack of sensation, and the foot feeling like a "bag of bones."

### Identification and Treatment of Diabetic Foot Infection

This session reviewed the basics of infection and its diagnosis in the diabetic foot. Health-care professionals should formulate an approach to the infected and non-infected diabetic foot that considers the clinical and lab data and acknowledges the intrinsic pitfalls of diagnosing infection in this patient population. Clinical findings, rather than microbiology alone, should be used to diagnose and classify infection. Clinicians should have a high index of suspicion with regard to osteomyelitis. In these cases, a plain radiograph rather than more sophisticated studies should be used.

### Risk Stratification and Guiding the Management of the Diabetic Foot

Clinicians should ensure a comprehensive assessment that includes a thorough history, screening and lab tests. When dealing with diabetic foot complications, offloading is critical. Since recurrence is common with diabetic foot complications, ongoing patient education is required. Clinicians should share information with their patients continuously, and in a variety of formats. When dealing with diabetic foot complications, consider primary prevention, timely access for treatment of pathologies, and secondary prevention. Never forget the contralateral limb!

## Session 10: Malignant Wounds

**Presenters: Gary Sibbald, Tamara Wells, Amy Campbell**

**Topics: Intro to Melanoma and Soft Tissue Sarcoma; The Palliative Management of Malignant Wounds; Malignant Fungating Wounds: Key Psychosocial Issues; Malignant Wounds and Nutrition**

*By Shannon Thomas, RN, MN, IIWCC*

This session focused on evaluating sarcomas for etiology, clinical presentations and treatment; identifying risk factors for melanoma; recognizing malignant melanoma; and differentiating common pigmented lesions from melanoma.

During the session, participants gained an appreciation for how the palliative lens, along with a better understanding of the complexity and individuality of malignant wound management, guides planning for the management of malignant wounds.

The speakers reviewed the treatment of malignant fungating wounds (MFW), discussed hermeneutic phenomenology and its importance in answering the "why" question, explored qualitative literature on psychosocial issues of MFWs and explored ways to improve the patient-centred concerns during the management of MFWs.

The presenters discussed how decision making is influenced by the principles of palliative care, recognized the nutritional considerations in malignant wound management related to patient needs and the context of their illness, and identified communication strategies for exploring nutrition with patients and families (such as ask–tell–ask).

Key practice tips from this session include the following:

- ABCDE is key to early detection of malignant melanoma.
- Sun precautions should be followed, such as applying SPF 30–60 +A, avoiding excessive exposure between 11 a.m. and 4 p.m., and wearing a 3-inch brim hat and protective clothing.
- Consistent and ongoing communication is key to success.
- Successful malignant wound management includes strong communication, consideration of patient-centred concerns, symptom management, consideration of psychosocial aspects and standardized documentation.
- Practising proactive communication with patients and their family is vital.

## Session 11: Advanced Therapies

**Presenters: Pamela Houghton, Shahriar Sharokhi, Daryl Dyck, Maria Froese, Ivan Garcia, Cara Windle**

**Topics: Implementing Advanced Therapies into Practice; Implementation of an E-Stim Protocol for Wounds in Winnipeg**

*By Dorothea Wicklund, RN, BN, CACE, CVAA(c), IIWCC*

This session discussed skin substitutes and their role in burn care and wound management. There are various types of skin substitutes, all of which are meant to mimic the function of the skin and to promote new tissue growth.

Dr. Shahrokhi outlined types of grafts, costs, risks and benefits and appropriate uses. Photos of various burns and wounds and the healing achieved with skin grafting provided good evidence of the success of these therapies.

Dr. Houghton discussed other types of physical therapies that are used to promote wound healing, including light, sound, electricity, laser, TENS, ultrasound and ultraviolet light. When deciding which therapies to use, she suggested, levels of available evidence should assist in the decision-making process. Dr. Houghton asserted that the use of e-stimulation is well supported by evidence.

The session wrapped up with Daryl Dick, Maria Froese, Ivan Garcia and Cara Windle, who outlined two case studies in which e-stimulation was used to promote wound healing.

## Session 15: Burn Management

**Presenters: Sarvesh Logsetty, Shahriar Shahrokhi, Nancy Coutris**

**Topics: Management of Burns; The Role of Nutrition in Burn Care**

*By Sarah Brown, BSc, RN, MN, IIWCC*

Burns are classified into four broad categories: superficial, superficial partial-thickness, deep partial-thickness and full-thickness. Most burns are a mixture of different burn types and are dynamic, meaning that the burn will progress in the first 48 to 72 hours. Any person with a burn that takes longer than two weeks to heal (or mostly heal) should be referred to a burn unit.

Treatment for burns can include any number of different dressings, but there is no ideal dressing. Full-thickness burns need an antimicrobial dressing. Dressings should be non-adherent to decrease pain. Blisters can be left for one week if there is no break in them, unless the blister impedes function or there is pus or blood in the blister, which increases the risk of infection. Use of the full range of motion should be attempted right away.

Burns result in extensive nutrient losses and rapid tissue breakdown, and cause a hypermetabolic state for the person with the burn. The aim of nutritional support is to promote wound

healing. A healthy, average-size male may require 2,550 kcal and 108 g protein/day, but with a 30% burn, that person would require 3,000 kcal and 190 g protein/day. A burn covering more than 20% of the skin requires a feeding tube, as the patient will not be able to take in the total number of calories and protein required for healing by eating alone. The Subjective Global Assessment tool can be used to determine malnutrition and is used as a baseline assessment. Nutritional status should then be reassessed every two weeks, as a person's classification may change.

## Session 16: Surgical Wounds

**Presenters: Valerie Winberg, Connie Harris**

**Topics: Strategies to Prevent Surgical Site Infections (SSI); Classifications of SSI and SSI Management; Successful Management of Surgical Wounds**

*By Rhonda Heinz, RNBN, CRN, IIWCC*

A surgical site infection (SSI) is an infection of the skin or underlying soft tissues at a surgical site within 30 days of a surgical procedure. These infected wounds become evident after patient discharge and are likely underreported. Most available data are based on in-hospital monitoring between one and seven days post-operation.

The most accurate way to detect an SSI is through direct nurse or surgeon observation. Most monitoring, however, is done retrospectively, through chart reports. When post-discharge surveillance is done, the rate of SSIs is as high as 84%. Currently, there is no standard methodology for post-discharge surveillance.

SSIs affect 2.5% of all Canadian surgical procedures, costing health-care systems money and increasing length of stay, intensive-care unit admissions and readmissions.

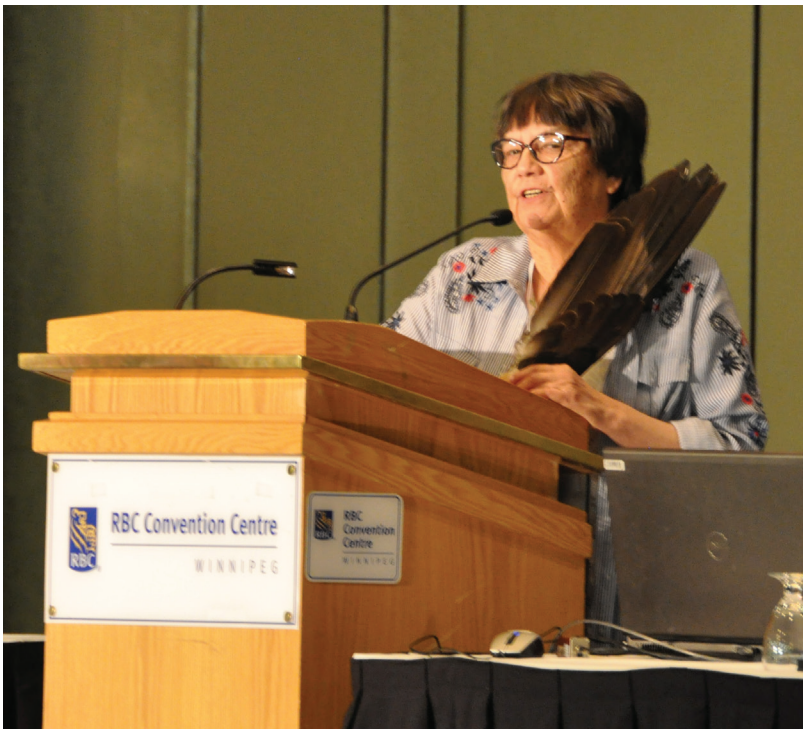
There is a global need to address changes to SSI definitions, to strengthen and validate SSI data quality and to conduct robust SSI economic and burden studies.

SSIs are classified as being one of the following: a superficial incisional infection, a deep incisional infection or an organ space infection. Factors that affect risk of SSIs and rate of healing can be classified as

- non-modifiable risk factors: age and gender
- modifiable risk factors: presence of diabetes, smoking status, past surgical history, surgical site and procedure complexity

To minimize the risk of developing an SSI, clinicians can consider the pre-operative body wash, the timing of the IV, and can work to minimize tissue damage in the operating room, keep the patient warm and prevent access of micro-organisms post-operatively through dressing selection and use. When dealing with SSIs, it is important to know your scope of practice: the surgeon is legally responsible for this wound until it heals.

When assessing for SSIs, it is vital that the health-care provider use validated patient assessment tools and inspect the site for stitch abscess, fluid collection, dehiscence, infection, sinus tracts and fistulas. Documentation of the wound and the assessment should include qualitative and quantitative data. Goals should be set with the patient and focus on improving their health and healing the wound. Caring for SSIs is a team effort,



so the patient and family members and/or caregivers must be included. The patient needs to know the team members and the role each plays in carrying out the plan of care. To care for SSIs, clinicians should establish and implement a plan of care that corrects causes and/or co-factors that affect the skin's integrity, optimize the local wound environment and select appropriate dressings and/or advanced therapies.

Surgical wound management should include irrigation with 7 to 15 PSI. When using this treatment, clinicians should remember the following:

- Never force the solution into a tunnel or undermined area, and ensure they are getting the same amount out as they are putting in.
- Consider using pour solutions on healing wounds without debris or infections, as these give less than 8 PSI and protect granulating tissue.
- If using tap water, consider the quality of the water, the severity of the wounds and the patient's overall condition (including any comorbidities).

A 2006 Cochrane review on dressing selection did not promote one specific type of dressing over another, but it did state that foams, alginates and hydrocolloids are superior to gauze in pain reduction, patient satisfaction and decreased nursing time.

Specific care considerations should be based on the type of wound (e.g., C-section, hernia repair [mesh], incision and drainage, vascular, skin graft). Clinicians should never initiate packing to hips or new arthroplasty incisions without the orthopedic surgeon's order, and should consider using pouching for fistulas or highly exudating wounds.

Clinicians should frequently evaluate outcomes, asking, "Have the goals of care been met?" It is important to reassess the patient and the wound environment to ensure the best quality of care.

Awareness of the risks of SSIs will help healthcare providers implement effective prevention strategies. Patient and caregiver education is important in meeting goals of care.

## Session 24: Debridement

**Presenters: Connie Harris, Sarvesh Logsetty**

**Topics: Continuum of Debridement Methods; Surgical Sharp Wound Debridement; Conservative Sharp Wound Debridement**

*By Dorothea Wicklund, RN, BN, CACE, CVAA(c), IIWCC*

Dr. Sarvesh Logsetty began the session with a review of surgical sharp debridement methods. He discussed the advantages and disadvantages of surgical debridement, reviewed the various methods, including use of a curette, scalpel, electrocautery and hydrodissection, and described the risks and benefits of each method.

Connie Harris discussed debridement methods, the use of which begins with first determining the healability of the wound. This entails a thorough review of all comorbidities and correcting what is correctable so that debridement can be successful. She identified the reasons to debride and the conditions where debridement is not helpful, including non-healable wounds and certain inflammatory conditions. Debridement methods, including autolytic, mechanical, biologic, hydrosurgical, enzymatic, ultrasonic and surgical, were reviewed.

Connie Harris went on to discuss conservative sharp wound debridement and referred participants to The Canadian Association for Enterostomal Therapy (CAET) Conservative Sharp Wound Debridement (CSWD) Evidence-Based Recommendations, which were developed to advance clinical nursing practice to improve the provision of care to patients through the development of an open-source guide. These recommendations provide a comprehensive overview of CSWD and can guide practitioners in developing the skills required to safely practise CSWD.