

# Wound Care

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C A N A D A

THE OFFICIAL PUBLICATION OF WOUNDS CANADA

Putting the  
Patient at the  
Research Table

QI  
in Home  
Care

CNA Certification  
for  
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Exercise Therapy for  
PAD

The  
Diabetic  
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November 8-11, 2018  
London Convention Centre

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**Editor** Sue Rosenthal

**Art Director** Robert Ketchen  
wccproduction@woundscanada.ca

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Wounds Canada ([www.woundscanada.ca](http://www.woundscanada.ca)) is a non-profit organization of health-care professionals, industry participants, patients and caregivers dedicated to the advancement of wound prevention and care in Canada.

Wounds Canada was formed in 1995 as the Canadian Association of Wound Care. The association's efforts are focused on four key areas: education, research, advocacy and awareness, and partnerships.

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# Wounds Canada News

## Professional Development at Wounds Canada

### First Time's a Charm for Our Spring Conference!

Nearly 300 participants from across Canada attended the Wounds Canada first annual Spring Conference, in Kamloops, BC, in May, titled Exploring Evidence in Wound Care. The four-day event included our popular two-day Changing Practice through Applied Knowledge workshop,



May 10–11, for wound novices, followed by two days of learning and networking at the main conference, May 12–13. The conference featured 19 sessions, oral poster presentations and four corporate-sponsored sessions.

The feedback was positive from attendees, and plans are already well along for our next spring conference, May 11–12, 2018, at the RBC Convention Centre in Winnipeg, MB.

## Coming Up: 2017 Fall Conference

Our **Fall Conference** will be in Mississauga, ON, November 16–19, 2017. The conference is titled **Evolving Over Time: Targeting Best Practice in Canada** and will feature sessions on topics relevant to Canadian wound carers at all levels of expertise, all care settings and all types of practice.



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- keynote speaker and champion Indy car driver James Hinchcliffe, who will share his inspiring story of recovery after being seriously injured in a crash in 2015
- five hands-on workshops to further your practical skills
- blocks of topics organized by care setting
- posters on the latest research, delivered electronically and via interactive oral presentation sessions

### New this year:

- In response to requests and feedback, we will offer burns and first-responders streams as well as single sessions on the most-requested topics.
- We are excited to welcome the International Wound Care Institute to our conference.
- An interactive Sunday will put your wound sleuth skills to work!

### THERE'S AN APP FOR THAT!

Wounds Canada is introducing an exciting new confer-



ence app. This app will allow attendees to easily view all conference information, including an interactive agenda, speaker bios, exhibitor information and more. Users will also be able to interact with each other, faculty and our partners, and, during select sessions, participate with speakers in real time. The app is paperless, user-friendly, interactive and includes real-time polling and games.

#### **CME CREDITS**

This event has been designated as a University of Toronto accredited event. For details on CME credits, please visit the [conference page](#) of the website.

## **Mark Your Calendar for Our 2018 Conferences**

### **Spring Conference in Winnipeg, Manitoba**

May 11–12, 2018, at the RBC Convention Centre

### **Fall Conference in London, Ontario**

November 8–11, 2018, at the London Convention Centre

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## **What's New Online?**

### **Skin and Wounds Research Directory**

In July, Wounds Canada launched an online [Research Directory](#) intended to create a database of researchers, their areas of interest and current projects. This tool will facilitate collaborations among researchers, representatives of industry

and clinicians. As a public directory, it can also be viewed and participated in by any interested individuals. Please add your name and research projects to the directory and encourage your research peers to add theirs as well.

### **Best Practice Recommendations (BPR) News**

It is evident from the number of downloads (more than 35,000) of our first set of BPRs that clinicians across the country and around the world are interested in the easy-to-use format and comprehensive information the BPRs deliver. To continue to provide you with more of this type of resource, we are currently developing burn, venous leg ulcer and arterial ulcer BPRs. Look for these in 2018.

As well, we are in the process of translating the pressure injury BPR into French and are seeking funding to translate the others.

### **Social Media and Website**

Our website visits and social media follows and likes have steadily increased during 2017. Through these channels we will continue to distribute useful information and tools to health-care professionals, the public and other stakeholders with an interest in wound prevention and care. Please encourage your colleagues and patients to connect with Wounds Canada through one or more of our online channels and our [website](#), so they can benefit from what we offer.

## **Stay connected!**

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# Exercise as an Intervention for Peripheral Arterial Disease

By Deirdre O'Sullivan-Drombolis, Physical Therapist, BScPT, MCISc (Wound Healing)

**P**eripheral arterial disease (PAD) occurs when plaques build up in arteries that supply blood to areas other than the heart. These plaques are made up of fat, cholesterol, calcium, fibrous tissue and other substances in the blood. Over time what occurs is atherosclerosis, wherein the plaques harden and narrow the arteries, thereby limiting the flow of oxygen-rich blood to areas such as the lower extremities.

The global burden of PAD is extensive and rising, resulting in substantial morbidity and mortality across all walks of life.<sup>1</sup> Patients living with PAD are at risk for myocardial infarction, ischemic stroke, heart failure, renovascular hypertension and vascular death. More localized

complications include pain (both at rest and with exercise), decreased function and ulceration of the foot and lower leg, potentially leading to amputation.<sup>1</sup>

Patients may present with a range of symptoms, from none at all to atypical and typical symptoms of claudication. Typical claudication is described as calf pain that is relieved by rest. Approximately one-third of patients have typical claudication,<sup>2</sup> which limits function; however, those who experience atypical symptoms also have associated decreased overall functional exercise capacity.<sup>1</sup>

## Why This Matters

Perhaps the most important impacts of PAD for patients are claudication pain, decreased

function and decreased exercise capacity. Patients with PAD have approximately 50% reduction in peak exercise performance when compared with those who are age-matched and healthy.<sup>2</sup>

Exercise limitation correlates with marked impairments in daily physical activity.<sup>3</sup> Patients with PAD have also been shown to have an accelerated functional decline over time that is related to the underlying hemodynamic severity of disease in the leg.<sup>4</sup> Impairment in walking ability has been associated with reduced quality of life, a higher prevalence of depression and overall higher mortality.<sup>5</sup>

## The Role of Exercise Therapy

Based on the above considerations, the primary goals for



patients with PAD should be to decrease cardiovascular risk, decrease pain, improve exercise performance, enable daily functional activity and enhance quality of life. Exercise therapy has the potential to achieve these goals. Regular and intensive walking programs have been shown to improve walking ability in patients with PAD more than usual care.<sup>6</sup>

A considerable body of evidence<sup>7,8,9</sup> supports the clinical benefits of exercise programming to improve claudication, exercise performance and quality of life in patients living with PAD.

While treadmill walking is the most common therapy studied, other studies have investigated alternative exercise training approaches. Arm ergometry

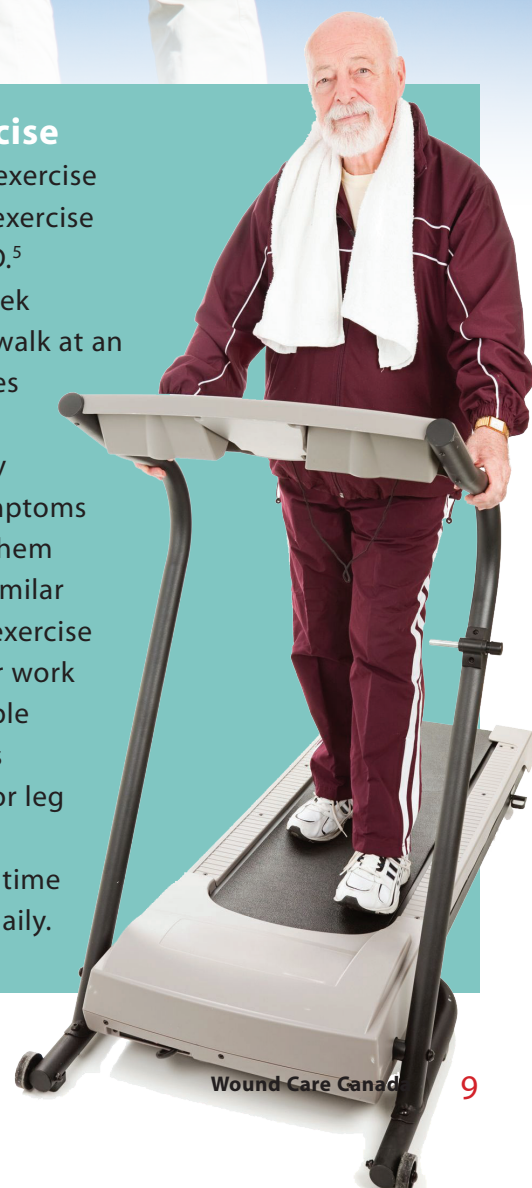
## Prescription for Exercise

The following is an optimal exercise prescription for supervised exercise training in patients with PAD.<sup>5</sup>

**Frequency:** 3–5 days per week

**Intensity:** Have the patient walk at an incline and rate that creates moderate leg symptoms within 3 to 5 minutes. They should then stop until symptoms resolve completely. Have them resume the exercise at a similar intensity, and repeat rest/exercise bouts. Progress to a higher work rate when the patient is able to walk for 8-minute bouts without needing to stop for leg symptoms.

**Duration:** The total exercise time should equal 50 minutes daily.





## Caution!

People with wounds, particularly those with an active arterial wound or at a critical ischemia stage, people with diabetes and loss of protective sensation, and especially those with a history of ulceration need to be extremely cautious when exercising, and weight-bearing activity may be contraindicated. Activities such as recumbent biking or arm ergometry may be safer and more appropriate. These individuals should not be exercising without proper assessment and supervision.

On the other hand, exercise such as walking is encouraged for people with lower extremity wounds due to venous disease or lymphedema, provided they have intact sensation.

In all cases, the full history of the patient should be investigated before initiating this, or any, program to determine if the program is safe.

**Table 1:** Physiological Response to Exercise in Patients with PAD\*

Healthy Physiology	PAD Pathophysiology	Functional Consequence	Effect of Exercise
<b>Arterial flow</b>	<ul style="list-style-type: none"> <li>arterial obstruction</li> </ul>	<ul style="list-style-type: none"> <li>reduced blood flow</li> <li>inability to meet metabolic demand of exercise</li> </ul>	<ul style="list-style-type: none"> <li>minimal increase in collateral flow</li> </ul>
<b>Tissue responses to the need for increased blood flow</b>	<ul style="list-style-type: none"> <li>endothelial and microvascular dysfunction</li> </ul>	<ul style="list-style-type: none"> <li>decreased vasodilation</li> <li>increased arterial stiffness</li> <li>impaired hyperemic response</li> <li>impaired arterial remodelling</li> <li>increased inflammatory remodelling</li> </ul>	<ul style="list-style-type: none"> <li>improved nitric-oxide-dependent vasodilation</li> </ul>
<b>Muscle metabolism</b>	<ul style="list-style-type: none"> <li>mitochondrial dysfunction</li> <li>oxidative stress</li> <li>altered muscle composition</li> </ul>	<ul style="list-style-type: none"> <li>impaired energy production</li> <li>impaired oxygen utilization</li> <li>increased reactive oxygen species</li> <li>muscle apoptosis and atrophy</li> <li>fibre type switching</li> <li>fibre denervation</li> <li>reduced skeletal muscle content</li> </ul>	<ul style="list-style-type: none"> <li>increased mitochondrial biogenesis in animal models (increased ATP production)</li> <li>improved glucose and fatty acid metabolism</li> <li>improved peripheral nerve function</li> </ul>
<b>Inflammation</b>	<ul style="list-style-type: none"> <li>inflammatory activation</li> </ul>	<ul style="list-style-type: none"> <li>adverse skeletal muscle remodelling</li> <li>increased atherosclerotic progression</li> </ul>	<ul style="list-style-type: none"> <li>decreased markers of systemic inflammation</li> </ul>

Adapted from Hiatt 2015.<sup>1</sup>

(pedaling on a special machine with arms instead of legs) increases walking performance and decreases pain in patients with claudication and may be an appropriate exercise modality for patients who have difficulty performing treadmill walking or for whom walking may be contraindicated, such as those with lower extremity wounds.<sup>10</sup>


## Physiological Response to Exercise in Patients with PAD

Multiple mechanisms contribute to reduced exercise capacity in PAD, and exercise contributes to physiological processes to positively affect these mechanisms (Table 1).

## Conclusion

As demonstrated by the infor-

mation contained in Table 1, exercise provides multiple benefits through many physiological mechanisms for patients with PAD, including reduction of limb symptoms, improved functional capacity and reduced cardiovascular risk.

The bottom line? Supervised exercise programs should be considered a frontline treatment for patients with PAD. 

### \*Notes:

#### Arterial Flow

Vascular adaptations that enhance distal blood flow could underlie the benefits of exercise therapy in PAD. In animal studies, exercise training augments peripheral artery supply, but this has not translated convincingly to studies of people with PAD.<sup>5</sup> Maximal hyperemic blood flow increased in patients in some<sup>13</sup> studies but not in other exercise training studies.<sup>14</sup> A meta-analysis of seven exercise training studies failed to demonstrate a change in resting ankle-brachial pressure index.<sup>15</sup> An anatomic model of increased blood supply does not account for all of the functional improvements gained with exercise.

#### Endothelial Function

Healthy blood flow relies on patent arteries to get the blood to where it needs to go as well as a vascular system that can regulate flow. A supervised exercise program increased endothelium-dependent, flow-mediated dilation of the brachial artery by 65% in 19 elderly patients with intermittent claudication.<sup>16</sup> In a randomized controlled trial comparing treadmill walking to lower extremity strengthening and to usual care for PAD, treadmill walking produced the greatest flow-mediated dilation, indicating improved endothelial health in the brachial artery.<sup>17</sup> A study of patients with coronary artery disease showed increased endothelial nitric oxide synthase expression and activation, indicating favourable effects on coronary artery endothelial function with exercise rehabilitation.<sup>18</sup> Exercise-induced improvements in vasodilator function may have the potential to reduce cardiovascular risk.

#### Muscle Metabolism

Impairments in metabolism at the level of skeletal muscle combined with compromised blood flow have the potential to amplify physical limitation. In experimental models of ischemia, key regulators of mitochondrial biogenesis increase with exercise. These regulators are also important for capillary growth in skeletal muscle.<sup>5</sup>

#### Inflammation

High levels of inflammation are associated with PAD progression and adverse cardiac and lower extremity outcomes.<sup>5</sup> Inflammation may accelerate functional impairment by favouring plaque growth and inducing skeletal muscle injury. Lower levels of inflammatory markers are found in individuals who participate in regular physical activity. There is an inverse association with C-reactive protein levels and amount of physical activity in patients with PAD. Acute bursts of activity tend to increase inflammatory markers, and chronic exercise training decreases inflammation.<sup>19</sup>

## Supervised or Go-it-alone?

Supervised exercise programs have been shown to deliver greater improvement than unsupervised programs.<sup>11</sup> In the case of patients with PAD, supervised programming may enable better adherence and greater intensity of treadmill exercise compared to normal walking. There is limited supporting symptom-based evidence for simply advising patients to walk more independently,<sup>5</sup> though this may have other health benefits. Unsupervised training does have benefits, and it may be an option for patients without access to supervised programs. It may also work as a viable transition for those who have already undergone a supervised program.<sup>12</sup>



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# Wound Sleuth

By R. Gary Sibbald, BSc, MD, MEd, FRCPC (Med) (Derm), FAAD, MAPWCA, JM and Patricia M. Coutts, RN, IIWCC

**R. Gary Sibbald** works at the University of Toronto as a professor of public health and medicine and has an interprofessional wound and dermatology clinic in Mississauga. **Patricia M. Coutts** works as the clinical wound and research coordinating nurse at the Mississauga clinic.

## Treating Red, Sore, Itchy and Tender Hands and Feet

A 39-year-old female administrative assistant had hand and foot dermatitis that in the previous week had become worse with acute swelling and pain (Figure 1), necessitating an Emergency visit. She was diagnosed with cellulitis and placed on oral ciprofloxacin 500 mg bid and intravenous clindamycin. The patient had stated allergies to cephalosporin antibiotics.

The team in Emergency assessed a secondary infec-



Figure 1



Figure 2

tion based on serous exudate and local pain and treated this with intravenous antibiotics. A slow-release iodine dressing was ordered applied to the affected skin on the hands and covered with gauze, then wrapped with cling (Figure 2). This dressing protocol was followed by the home and community care nursing clinic. The patient reported experiencing considerable pain after the initial dressing application.

**Q** Do you agree with this treatment?

### Things to Consider

The surface of the skin exhibited acute allergic dermatitis. Topical antibacterial creams with neomycin, polymyxin or gramicidin can all act as allergens. The stocking-and-glove distribution to the effect on the hands and feet could also represent a reaction to rubber gloves or protective wrap.

### Changes to the Emergency Treatment Plan

When the patient arrived in our dermatology clinic for a scheduled appointment for another chronic condition, we knew we needed to address this acute reaction in a different way, so we discontinued the slow-re-

fluocinonide 0.05% cream—400 g—has approximately nine times the potency of 1% hydrocortisone cream. TIP: Keeping the cream in the refrigerator will give an additional anti-itch effect.


The patient weighed 60 kilograms, so she was started on oral prednisone at a dose of 0.5 mg per kilogram of body weight, with a rapid taper ( $60 \times 0.5 = 30$  mg, and taper by 5 mg every 5 days).

For itch, we combined cetirizine 20 mg qam (this is a prescription strength, with the over-the-counter strength being 10 mg) with hydroxyzine 25 to 75 mg at night. Also included was hydroxyzine syrup 2.5 to 10 mg prn for the itch, as the syrup can work very quickly, within 10 to 15 minutes.

gloves over her topical corticosteroid cream. After two weeks of extreme discomfort, she could again function.

**Q** How would you test for the potential causative allergen?

**A** Apply various creams and ointments used for normal skin to the inner surface of the forearm. This is referred to as a Repeat Open Application Test (ROAT), as described below:

1. Draw a circle the size of a loonie on the inner forearm just below the elbow crease for each cream or ointment that you are going to test. TIP: Mark the circle with an identifier to correspond to the product being tested, if doing more than one product at a time.
2. Apply the cream or ointment two times per day for up to four days or until the skin becomes red (this is a delayed hypersensitivity test, like a TB skin test). This will confirm a positive allergic response to one of the components of the tested product.
3. A dermatologist or allergist may confirm the diagnosis by following this up with more formalized patch tests to common contact allergens. 



**Figure 3**

lease iodine dressing—which is actually pro-inflammatory and will aggravate acute dermatitis—and ordered a relatively high-potency topical steroid cream to apply bid and prn for the itch on the hands and feet:

### Outcome: 72 Hours Later

Three days later, the hand swelling and crusting were dramatically better, and the pain was significantly reduced (Figure 3). The itch had subsided, and the patient was able to wear cotton

### Key Lesson

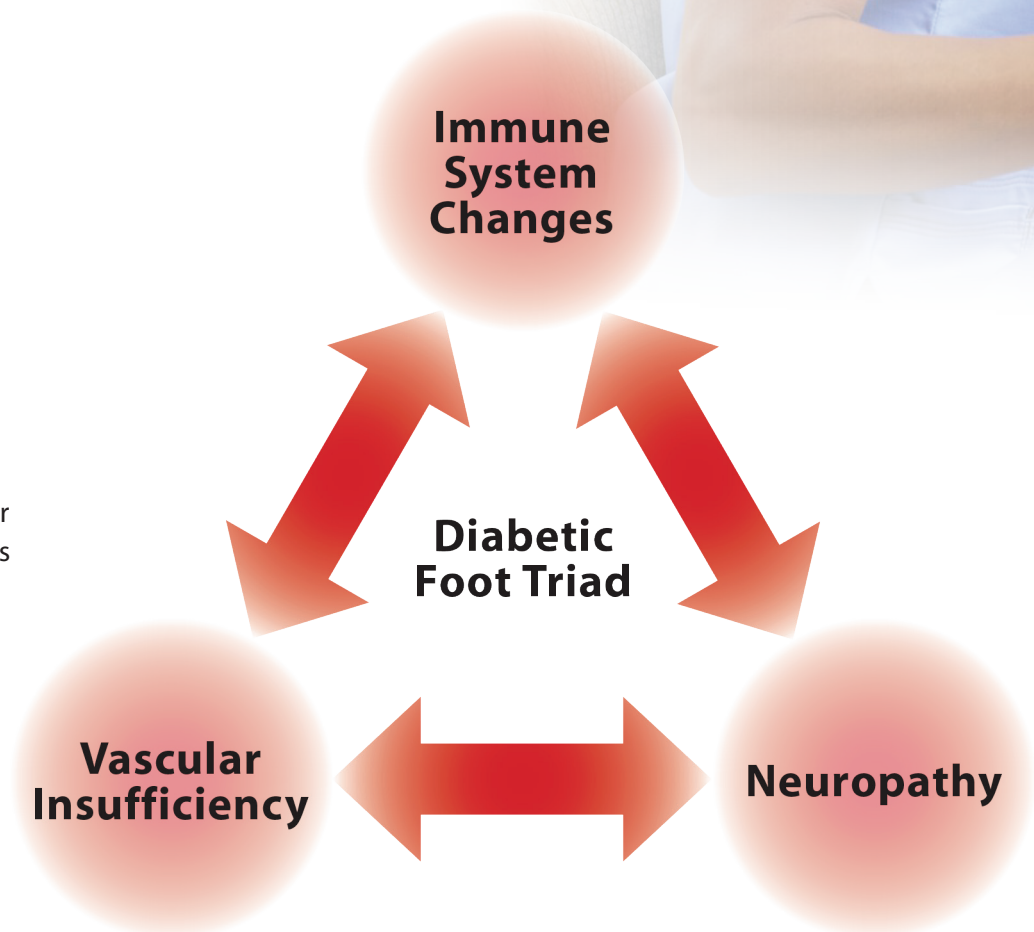
Most inflammatory skin lesions that are not ulcers do not respond well to wound dressings, especially if the substance applied is pro-inflammatory.

# The Diabetic Foot Triad as a Catalyst for Behaviour Change

By Mariam Botros, DCh, IIWCC; Janet L. Kuhnke, RN, BA, BScN, MSc, ET Nurse and Devon Jahnke, DCh, IIWCC, CDE

**D**iabetic foot is characterized by a triad of key risk factors: neuropathy, immunopathy and vascular insufficiency. Each can cause problems for the patient, but together they can lead to a cascade of serious complications, sometimes progressing to amputation.<sup>1</sup>

Every day patients come to clinical practices to seek help for their diabetes-related foot ulcers and for complications such as Charcot foot. As clinicians, part of our job is to help them recognize key risk factors and outline strategies for reducing the impact of these. A simple and effective strategy for guiding discussions is the Diabetic Foot Triad.





The three key elements of the triad are as follows:

- Immune System Changes
- Vascular Insufficiency
- Neuropathy

This last element is especially important, because many patients ask, “How can this be serious, when I cannot feel the injury?” The triad concept, once understood, becomes a necessary bridge between patients’ lack of sensation and the reality of treating their diabetic foot-related complications.

### **Education and Discussion**

In clinical settings, it is always worth examining the patient information tools we have available to initiate and reinforce discussions about the Diabetic Foot Triad. Patients and their families need and expect information from credible sources, and it is our job to screen all information we pass along to ensure it is current and evidence-informed. Any information discussed with patients and family members verbally should be reinforced with appropriate written or

online materials patients can refer to once they have left the clinical setting.

An important consideration for clinicians is that not all patients are willing or able to receive clinical information. For some it can be overwhelming and lead to frustration and even feelings of shame. Despite this, the importance of repeatedly exposing patients to the Diabetic Foot Triad cannot be overstated. We know that, in reality, it takes consistent dialogue with patients to help them fully understand the risk of foot and lower leg compli-

cations with diabetes mellitus. When patients are aware of the risk factors, they are better able to work with the rest of their team to prevent or minimize the complications.

It is common for patients to receive multiple individual messages from clinicians about their condition, risks and potential outcomes. As a tool, however, the Diabetic Foot Triad pulls together the top three risk factors, allowing patients and clinicians to develop a more complete picture of what is happening, why it is happening and what can be done about it.

As always, clinicians are advised to customize their approach to meet each patient's need and, as well, to identify and explain the corresponding risk classification category according to the International Working Group on the Diabetic Foot (IWGDF).<sup>2</sup>

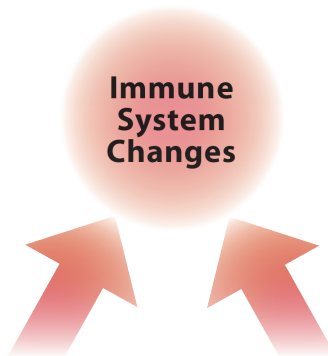
## How to Communicate with Patients using the Diabetic Foot Triad

Below are the key points, using plain language, to be communicated to the patient when discussing the Diabetic Foot Triad, along with preventative behaviours that can help patients avoid complications that may arise when elements in the triad are ignored. Before beginning your discussions, it may be helpful to review the OARS micro-skills outlined in Table 1.

## Immune System Changes

### WHAT HAPPENS?

High blood glucose levels can affect the immune system. White blood cells may become compromised, which may mean the patient has less ability to fight infection. When this happens, even a small break in the skin,



such as a minor cut or scrape, is at risk for infection, which can lead to devastating complications in a person with diabetes.

### WHAT CAN BE DONE?

#### Clinician

- Discuss with the patient the relationship between the immune system and diabetes-related foot complications.
- Connect your patient with local community resources that support blood glucose management, such as diabetes clinics and support groups.
- Since adherence to medication regimens can be challenging for patients, make time to discuss with them how well they are managing to take their meds (oral and injectable), and have them identify challenges they may be facing in this area. Work with them to find solutions to overcome any barriers.

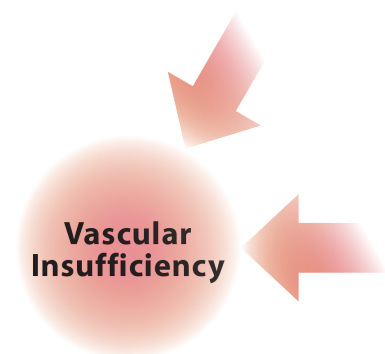
### Patient

- Keep your blood sugar levels under control to allow your immune system to attack any infection and improve your white blood cells' ability to engulf bacteria more effectively.
- Practise basic hygiene skills, such as daily foot washing and wearing clean socks, which are important in reducing the chances of infections. Often people forget that what they do or don't do in terms of hygiene affects the largest organ in the immune system—their skin.

## Vascular Insufficiency

### WHAT HAPPENS?

Blood is pumped through the body to provide tissues with the oxygen and nutrients they need to survive. Arteries are the vessels that move blood from the heart through the body. In people with diabetes, the ability to pump blood effectively is often reduced because of a weakened heart or narrowing of the arteries. This can lead to poor blood circulation to their feet, which can result in an increased risk for skin breakdown or, when the skin





is already broken open, poor wound healing.

While not technically part of the vascular system, the lymphatic system also has a role to play in the circulation process. A healthy lymphatic system removes waste products of metabolism and all excess tissue fluid, making it critical in the modulation of the inflammatory response.

#### WHAT CAN BE DONE?

##### **Clinician**

- Assess the patient's vascular status by screening for coronary artery disease, dyslipidemia, and support improvement through management of blood pressure and referrals as necessary.<sup>3</sup>
- Ensure vascular assessment and referral for potential revascularization
- Work with the patient and your interdisciplinary team to help the patient accomplish the following:
  - Manage blood pressure.
  - Manage cholesterol through beneficial nutritional choices.

- If they are not already active, help them find an activity type and level of exercise appropriate to their risk status and capability.
- Manage weight.
- Ensure mental wellness through self-care strategies and diabetes distress help resources.<sup>4</sup>

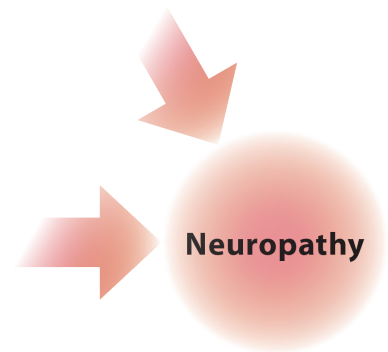
##### **Patient**

- Keep active. Physical activity is one of the key elements to support vascular health.<sup>3</sup>
- Watch what you eat. Work with a registered dietitian so you make healthy food choices.<sup>4</sup>
- Make daily choices that will support healthy weight and blood glucose (sugar) levels.<sup>3</sup>
- Quit smoking. It's a risk factor for poor circulation, which increases your chances for getting a wound and for poor healing.
- Don't hesitate to get help from a mental health professional if you need to, or take advantage of online resources such as the Canadian Psychology Association's "Psychology Works" Fact Sheet: Diabetes.<sup>5</sup>

## Neuropathy

### WHAT HAPPENS?

A common result of diabetes is a gradual loss of sensation, usually in the legs and feet and sometimes the arms, hands and fingers. This is called neuropathy, or nerve damage. Neuropathy in people with diabetes is usually the result of long-term uncontrolled blood glucose levels.<sup>5</sup>



Because feet are in constant contact with outside forces, they can easily be structurally altered or damaged. Trauma from ill-fitting shoes, callus build-up and physical injury can cause skin to break down or the foot to be damaged structurally. A person with neuropathy may not feel

the pain that would signal a problem. As a result, the person may not notice anything has happened and therefore won't seek the support of a health-care professional.

Foot deformity is a change in the normal shape of the foot. Because of changes in foot sensation (neuropathy), patients with diabetes may have wasting of the muscles, stiffening of the joints or collapse of the joints (Charcot). Surgery, amputations, bone infections and improper shoe fit can also contribute to foot deformity.<sup>6</sup>

#### WHAT CAN BE DONE?

##### Clinician

###### Assess the Feet

- Test for loss of protective sensation (LOPS) using a 10-gram Semmes–Weinstein Monofilament.<sup>7</sup> The monofilament test should be part of a comprehensive foot assessment. (See the [Wounds Canada website](#) for foot screening tools, of which the monofilament test is part.)
- Discuss the importance and the score of the LOPS test with the patient and outline the dangers they should be aware of and how to counteract them (e.g., daily foot inspection, shoe quality and fit, activities).
- If possible, have the patient or caregiver learn to self-assess their LOPS by practising on themselves with their eyes open, so they can perform the test regularly at home.
- Arrange follow-up appoint-

ments with appropriate foot specialists as indicated by the patient's foot assessment.

###### Ensure Proper Choice and Use of Footwear

- Demonstrate the features of a proper-fitting shoe to guide the patient in making future purchases.

Dry well, especially between your toes. Apply a moisturizer to your feet but not between your toes.

- Do not soak your feet.
- If you are unable to reach your toes or do not have feeling in your feet, have a health-care professional trim your toenails for you.

*“Skillful reflection with a patient builds trust and rapport and demonstrates empathy.”*

- Have the patient bring in all their footwear to fully assess what they are wearing (e.g., workboots, steel-toed shoes, sandals, running shoes). This is an opportunity to show the patient how to make good choices about footwear and open up the door to other discussions that will build mutual trust.

##### Patient

###### Assess the Feet

- Each day, look for signs of redness or blisters on your feet. Any changes in the skin condition could be an indication that your shoes are not fitting properly and are causing trauma to your feet.
- Wash your feet daily.

###### Ensure Proper Choice and Use of Footwear

- Have your shoes professionally fitted by a footwear specialist.
- Buy shoes late in the day, as feet tend to swell as the day goes on.
- Buy shoes with closed toes,

#### Key Message

Using the **Diabetic Foot Triad** to communicate to patients in a clear, concise and timely fashion is **one of the best ways** to engage them in discussions about their health and motivate positive behavioural choices.

as they protect your feet from injury.

- Wear shoes at all times, both indoors and out.
- Shake out your shoes before you put them on to make sure there are no unwanted objects inside them. Wear light-coloured or white socks (to allow you to observe any bleeding).
- Change your socks daily.

## Conclusion

Education remains an essential cornerstone that supports the prevention of diabetic complications. The Diabetic Foot Triad provides clinicians with a focused framework to initiate and guide discussions with patients about the three most important factors—neuropathy,

immune system changes and vascular insufficiency—to consider in the prevention of diabetic foot complications. 🩹

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## Clinician Communication Review

As clinicians, it is our role to provide information to our patients in a clear, explicit manner that will help them make the best decisions to support their health. We must be prepared to use different approaches as required. Keep in mind that the patient’s perspective is the foundation of any future self-management activities. If patients cannot recognize risk factors and ways to address them *from their own point of view*, they will be less likely to take ownership of their diabetic foot disease and practise appropriate self-care.

A great deal of research has been done on effective methods of clinician–patient communication. One is the OARS Model, which has a heavy focus on patient engagement. The OARS Model is a skill-based approach that guides clinicians while using motivational interviewing techniques.<sup>8</sup> “OARS” stands for four microskills that can facilitate effective communication: **O**pen-ended Questions, **A**ffirmations, **R**eflecting and **S**ummarizing. The table below outlines how a clinician working with patients living with diabetes and diabetes-related complications might use the OARS Model.<sup>9</sup>

**Table 1:** The OARS Model<sup>8,9</sup>

OARS Microskill	Rationale	Examples
<b>Open-ended Questions</b> An open-ended question cannot be answered with a simple “yes” or “no” but will instead elicit a more detailed response.	Use open-ended questions to assess what the patient already knows about their diabetes and how it affects their feet and what their concerns are.  Ask them what they already know about the Diabetic Foot Triad because of its importance in the prevention of foot complications.  Often patients may know a lot about one area of the triad and very little about another. Having this conversation will allow you to identify priority areas for information exchange.	<ul style="list-style-type: none"> <li>• What brings you to the clinic today?</li> <li>• What has been the biggest challenge managing your new footwear?</li> <li>• What is the biggest challenge for you in managing your medications and insulin?</li> </ul>
<b>Affirmations</b> Affirmations provide confirmation and positive commentary to the patient.	Affirming and commenting on the positive aspects of the patient’s qualities, strengths and efforts to manage their disease and its complications are crucial to the patient–clinician relationship. Affirmations encourage the patient to continue to make positive choices and reinforce optimism and hope when it may be needed most.	<ul style="list-style-type: none"> <li>• Walking three times a week is very good. Well done!</li> <li>• Your wound is smaller in size. What have you been doing?</li> <li>• I am glad you are taking your medication. How is that going for you?</li> <li>• You are really taking care of yourself when you ...</li> </ul>
<b>Reflecting</b> Reflective, or active, listening involves truly listening to what the other person has to say, taking it in and responding meaningfully to the discussion.	Reflecting is a gift and skill, and it is often the most challenging part of OARS for clinicians.  Skillful reflection with a patient builds trust and rapport and demonstrates empathy. <sup>9</sup>  Reflective listening and responding back to the patient is essential when building meaningful, affirming statements.	
<b>Summarizing</b> An effective summary provides the patient with key information.	Summarizing allows the clinician to pull together all the key points discussed in the conversation and rephrase them in a way that is clear, concise and patient-centred (that is, reflects the patient’s point of view).  The summary must be an accurate reflection of what the patient said, not what the clinician wants to think they said.	

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# Setting a Leadership Standard for Wound, Ostomy and Continence Care: The Importance of the CETN(C) Title as Certification for Specialized Registered Nurses

By Dawn Christensen, MHSc(N), RN, CETN(C); Corey Heerschap, RN, BScN, MScCH (WPC), CETN(C); Rosemary Hill, RN, BScN, CETN(C); Kimberly LeBlanc, MN, RN, CETN(C), PhD(cand); Virginia McNaughton, RN, BA, MPA, CETN(C); Christine Murphy, RN, CETN(C), BSc (Hons), MCIScWH, PhD; Kathy Mutch, BN, RN, CETN(C); and Laureen Sommerey, RN, BScN, MSN, CETN(C)

**W**ound, ostomy and continence tri-specialty care is a challenging yet rewarding field of practice. Individuals receiving care, however, may be confused by the specific role and academic preparation of any individual nurse. It becomes even more difficult to sort out the role and competency of the different providers as they increase over episodes of care. Professional colleges are responsible for identifying a nurse's specific scope of practice; however, members of the public may not have the resources or interest to review each health-care provider's licensing standards.

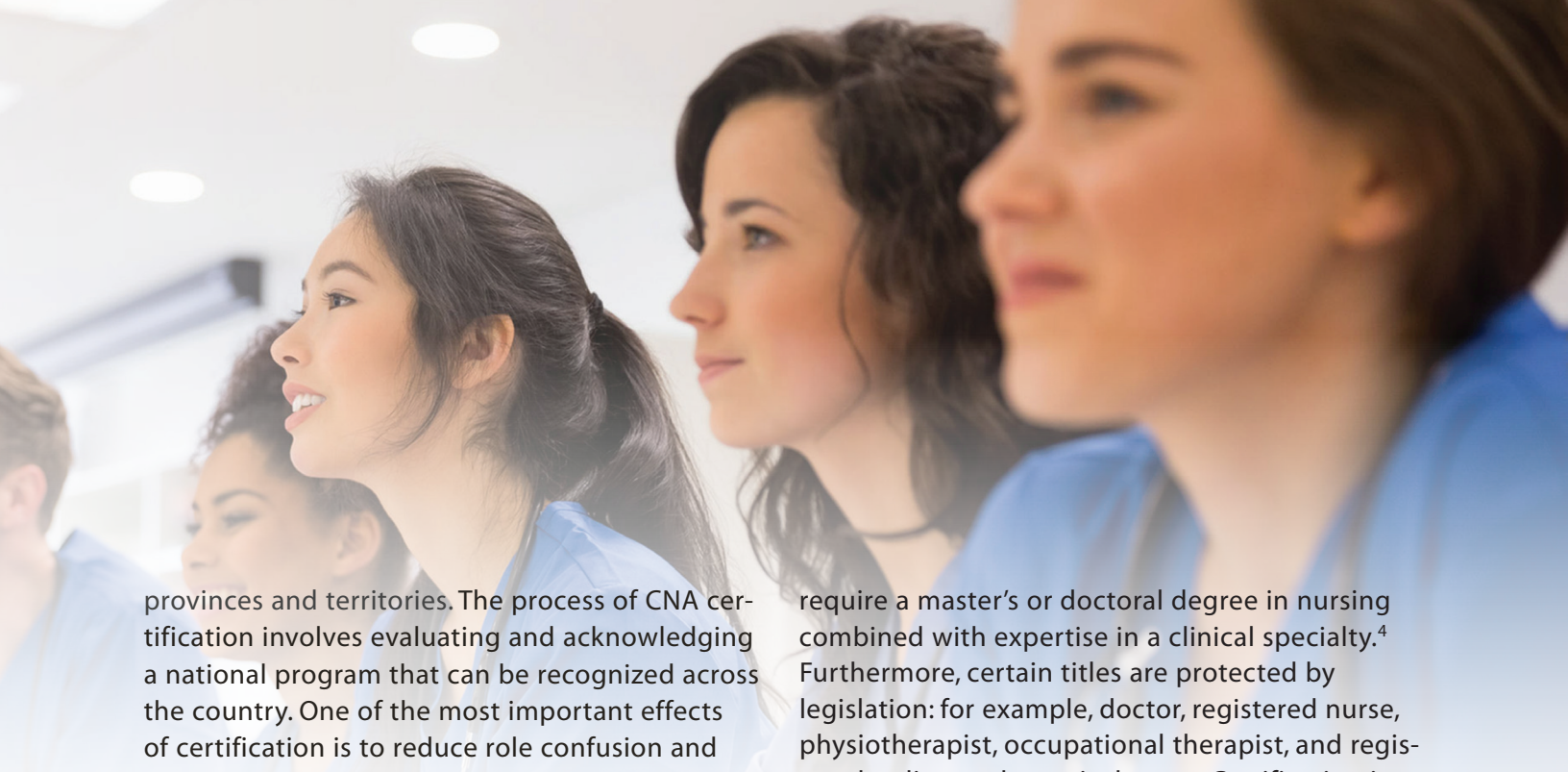
The educational preparation of clinicians involved in wound, ostomy and continence care is differentiated into continuing education, post-graduate courses, workshops and foundational knowledge obtained during each program. It is foundational education that forms the basis of any particular professional licence. Scope of practice is defined by regulatory bodies, which differ in regions and countries. Though extended education may be considered by regulatory bodies in some regions in special circumstances, this is not universal, and clinicians should consult

with their own regulatory body to determine any effect of educational advancement on their scope of practice.

The Canadian Association for Enterostomal Therapy (CAET) has long recognized that a standardized expectation of knowledge is required for effective wound, ostomy and continence leadership and care provision. Such standardized expertise and knowledge have been found to be beneficial, improving outcomes and reducing costs when an enterostomal therapy nurse (ETN) is involved.<sup>1</sup> Standardization of expertise ensures development of strong local programs and provides consistently high standards of effective care while decreasing patient and provider confusion. The Canadian Nurses Association (CNA) certification process provided a natural vehicle to develop such a standard in partnership with the CAET.

## Certification

In 1990, the CNA, which is currently the only body officially recognizing nursing specialties eligible for certification in Canada, began a process to formalize nursing specialization that would be transferrable across health-care settings, and



provinces and territories. The process of CNA certification involves evaluating and acknowledging a national program that can be recognized across the country. One of the most important effects of certification is to reduce role confusion and clarify terminology related to the expert clinician. Other benefits include recognition of specialized knowledge by colleagues, employers and patients. The completion of the ETN certification has been described as a source of pride for the recognition of knowledge and skills.

Certification is defined by the American Board of Nursing Specialties as “the formal recognition of the specialized knowledge, skills, and experience demonstrated by the achievement of standards identified by a nursing specialty to promote optimal health outcomes.”<sup>2</sup> Notably, *certification* is a separate term from *licensure*, which provides the legal authority for an individual to practise professional nursing. It is also separate from the term *specialty nursing practice*, which concentrates on a specific aspect of clinical nursing. Such specialty nursing focus may be related to age (such as gerontology), a specific issue (such as infection prevention and control), disease process (such as cancer) or a particular practice setting (such as community health).<sup>3</sup>

## Terminology

Importantly, distinction is to be made between nurses working in specialty practice and those who have advanced to clinical nurse specialist. Another title for clinical nurse specialist is advanced practice nurse, and these positions

require a master’s or doctoral degree in nursing combined with expertise in a clinical specialty.<sup>4</sup> Furthermore, certain titles are protected by legislation: for example, doctor, registered nurse, physiotherapist, occupational therapist, and registered or licensed practical nurse. Certification is a separate entity from these terms, providing clear and formal recognition for specialized knowledge, skills and experience beyond licensure.

Note that members of a regulatory college are not generally allowed to call themselves a “specialist” in any area of practice unless this is clearly stated by regulation or policy. The term *specialist* is often confusing for providers and patients alike. Generally specialist titles are used in areas in which a practitioner is registered, and so cannot be used just because the name fits a clinical practice area.<sup>5</sup> Specialty titles must refer to certifications reflective of significant skills and learning accomplished. Certification is earned by the criteria explained on page 26.

With so many terms, it is perhaps not surprising that there is frequent confusion among nurses and administrators on what is required to attain the specialist role. Certification provides a formal recognition process that clearly defines those with expertise. This approach may be especially important in Canada, where nursing licensure is a provincial responsibility that differs across 10 provinces and three territories, each with its own nursing licensing body. To date, these provincial nursing bodies oversee general and extended class nursing licensing but do not provide a means for Canada-wide credentialing or specialized nursing certification.

## Steps Toward CNA Certification

To attain CNA certification, specialty areas must follow this three-step process:

### 1. The group must be recognized by the CNA as a specialty.

CAET members were officially recognized by the CNA for their nursing specialty first in 2007, and then, after reassessment, they achieved a second recognition in spring 2017.

All registered nurses working in specialty practice areas must continue to adhere to the overall licensure, education and practice requirements of their respective provincially or territorially registered nursing regulatory body. Subsequently, the following nine criteria must be met to be defined as a nursing specialty practice area:<sup>3</sup>

**Health-Care System Need and Demand:** There must be a significant and evidence-based Canadian population need and demand for the specialty practice, thus requiring nurses with specific knowledge and skills.

**Specialized Function:** The specialization must represent an identifiable field of nursing practice that requires specific additional knowledge, skills and judgement that is distinct from other clinical nurse practice areas.

**Specialty Association:** The specialty practice is organized and represented by a national Canadian specialty association (who are members of or are eligible to become members of the CNA's Canadian Network of Nursing Specialties).

**National Representation:** There must be nurses from four or more provinces or territories who are members of the specialty association.

**Standards of Practice:** Standards define the specialty nursing practice and aim to foster continuing competence in the specialty as a prerequisite for the delivery of safe, ethical care. The standards aim to inspire excellence in practice and commitment to the ongoing development of that specialty of nursing. These standards are reviewed every two years to reflect current practice.



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**Specialty Core Competencies:** The specialty association has defined specialty nursing competencies, within a Canadian context, associated with the practice standards, which are beyond the expectations of general nursing practice.

**Core Knowledge:** The specialty has a well-derived nursing knowledge base, specific to the practice of the specialty, beyond what is learned in general nursing education and training.

**Education:** Specialty practice advanced knowledge and skills are gained through a Canadian accredited educational program (where available) that is based on the specialty core competencies and knowledge, providing education beyond what is obtained through general nursing education. Likewise, specialized nurses in a practice area are expected to engage in specific continuous learning to maintain their specialty practice competence.<sup>1</sup>

**Advancement of the Nursing Specialty:**

Specialty practice associations strive to advance nursing practice and promote nursing excellence through leadership, advocacy, research and knowledge translation in their respective field. Formal mechanisms are in place to support, review and disseminate research.

**Certification:** Certification is available to acknowledge the specialty practice as an objective and reliable method of affirming a nurse's specialized skills, knowledge and ability to meet the designated Canadian standards and competencies of a given specialty.

**2. A CNA certification exam must be developed from identified subject competencies.**

A competency is an expected level of performance that integrates knowledge, skills, abilities and judgement that can be defined, measured and evaluated.

An exam in ETN in the field of wound, ostomy and continence care was developed. This exam measures a candidate's knowledge and skills against standards set by experts in the specialty of ETN. There is an established process in developing this certification exam by engaging national

experts in ETN from all geographic regions of Canada to develop competencies.

The ETN certification examination questions follow very specific competency-based criteria and were developed by groups of experienced ETNs representing all regions of the country, levels of education (baccalaureate and master's) and fields of practice (adult, pediatrics, wound, ostomy, continence, education, research, clinical, administration). The exams are offered in both official languages and are rigorously validated by subject matter experts from across Canada.

CNA experts trained these experienced ETNs to write examination questions. The ETN Examination Committee developed a blueprint of the number and type of questions and the pass mark. These experts collaborate with testing and measurement consultants, which ensures reflection of the latest evidence-based practices.

The Canadian ETN competencies are available online at the CNA Nurse One website:

<http://nurseone.ca/en/certification/what-is-certification/competencies-per-specialty-area-enterostomal-therapy-nursing>.

**3. It must be determined that the individual is eligible for certification.**

For ETNs to achieve the CETN(C) credential, they must meet the eligibility requirements, and the candidate must then successfully write the exam.

**ETN Certification Today**

After much demanding work, an in-depth program analysis and a criteria review, in 2009, enterostomal therapy nursing became the 19th nursing specialty to be awarded specialty certification from the CNA. This means that the credential CETN(C) or CNA-certified ETN is a protected certification credential reflecting a pre-determined nationally recognized standard. The executive, board and members of the CAET believe that this certification ensures the public and our clinical partners that the holder of this credential has the knowledge and skills to develop programs and care for patients with complex wound, ostomy and continence issues.

The CAET is extremely proud to announce that one-third of their ETN members in Canada have become certified.<sup>7</sup> The future target is that 100% of ETNs will be CNA-certified, to demonstrate their outstanding skills and expertise. The individual's certification is valid for five years, after which recertification is obtained by re-examination or through a CNA points-based system derived from continuing education, program or project development, research, publication, teaching, involvement in professional organizations and academic education. The candidate must continue to be eligible and an RN in good standing.

Today, the CNA ETN certification in the tri-specialty of wound, ostomy and continence provides a national certifying examination based on competencies designed for graduates of World Council of Enterostomal Therapist (WCET) enterostomal therapy educational programs, which include the CAET Academy ETNEP program. Certified ETNs are recognized nationally for their practice, excellence and commitment to lifelong learning. CNA certification is valued by employers because it

demonstrates specialized knowledge that brings many benefits and consistent outcomes to organizations. This credential is widely viewed as having enhanced professional credibility.<sup>6</sup>

For further information on ETN certification, please email the CAET at [office@caet.ca](mailto:office@caet.ca).

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# Diabetic Foot Canada e-Journal

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# UNCOVERING HIDRADENITIS SUPPURATIVA

Dr. Shear, Dr. Tran and Dr. George discuss Hidradenitis Suppurativa.



**DR. NEIL SHEAR**  
Head of Dermatology,  
Sunnybrook Hospital



**DR. VU KIET TRAN**  
ER physician at  
University Health  
Network



**DR. RALPH GEORGE**  
Associate Professor,  
University of Toronto,  
Division of General  
Surgery

## Q. WHAT IS HS?

**A.** Hidradenitis Suppurativa (HS) is a chronic, painful, inflammatory skin disease which affects 1-4% of the general adult population.<sup>1,4</sup> It is characterized by boils usually occurring where certain sweat glands are located, such as under the breasts, buttocks and inner thighs. The boils can develop and connect, forming draining sinuses which discharge foul-smelling pus.<sup>1,2,4</sup>

## Q. WHAT CAUSES HS?

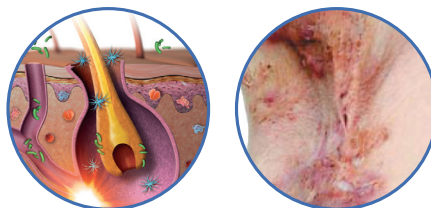
**A.** The cause of HS is unclear. It is thought that certain genetic markers and defects within hair follicles are at the root of the disease.<sup>2</sup> Risk factors include smoking and obesity.<sup>1</sup> About one-third of patients report a family history of HS.<sup>1</sup> HS has been reported to co-occur with several comorbid conditions—mostly, inflammatory bowel disease.<sup>1</sup>

## Q. HOW DOES HS IMPACT QUALITY OF LIFE?

**A.** HS is often undiagnosed or misdiagnosed.<sup>2,3,4</sup> It interferes with social interactions, job performance and intimate relationships—often leading to isolation.<sup>1</sup> It is painful and causes embarrassment.<sup>1</sup>

## Q. DO PEOPLE SUFFERING FROM HS GO TO THE ER FOR TREATMENT?

**A.** People with HS come to the emergency room in severe pain and discomfort requiring assistance with the draining of the boils during a flare-up.<sup>4</sup> It's not unusual for patients to go home undiagnosed.<sup>4</sup>



## Q. IS THERE A CURE FOR HS?

**A.** There is currently no cure for HS.<sup>4,5</sup> Early diagnosis and proper management is important for a patient's quality of life.<sup>1</sup> The first step for those with HS is to speak to their dermatologist to get an accurate diagnosis.<sup>1</sup>

## Q. HOW CAN HS BE TREATED?

**A.** Medical treatments for HS have included antibacterial washes, topical clindamycin, various systemic antibiotics, hormonal therapies, systemic retinoids, laser treatment, intralesional steroid injections and biologics.<sup>3</sup> Surgical de-roofing or wide excision procedures have long been the definitive treatment for severe HS.<sup>3</sup> There is no guarantee that HS will not recur in the previously excised areas.<sup>3</sup>

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# A Wound Care Quality Monitoring and Reporting System for Home Care



By Sarah Brown, BSc, RN, MN, IIWCC and Kathleen Klaasen, RN, MN, GNC(c), IIWCC

**T**he Winnipeg Regional Health Authority (WRHA) Home Care Program provides approximately 800,000 nursing visits to 9500 clients annually. Over 40 per cent of clients received nursing services for wound care.<sup>1</sup> Accreditation Canada established a new Required Organizational Practice (ROP) for home-care services that requires organizations to “monitor the effectiveness of the skin and wound care program by measuring care processes and client outcomes and uses this information to make improvements.”<sup>2</sup>

Prior to 2014, the WRHA Home Care Program was not monitoring and evaluating any wound care quality indicators. The purpose of this quality improvement project was the development of a wound care quality and monitoring program within the WRHA Home Care Program, called the Balanced Score Card. The aim was to describe the impact of targeted interventions on quality indicator results. Results from the initial chart audits and secondary data analysis indicated that many opportunities exist for further wound care

quality improvement within the WRHA Home Care Program. This article will outline the way we undertook this project, the results and next steps.

## Method

A quality indicator improvement team, comprising clinical experts, directors and managers, was formed to review the literature on possible wound care quality indicators and determine the feasibility of collecting and reporting results based on what is captured in regional home-care databases. The team wanted to ensure that the quality indicators were clinically relevant, psychometrically sound, feasible to collect and available over a period of time to enable trending.<sup>3</sup> As a result of this work, a total of 13 wound care quality indicators were selected in the following areas: positive client experience, wound care cost-effectiveness, wound care appropriateness, prevention of pressure injuries and staff knowledge on wound care.

Capturing data for most of these quality indica-



tors required a focused chart audit, because visiting nurses within the WRHA Home Care Program use a paper chart kept in the client's home (except for the WRHA Home Care Community Intravenous Therapy Program [CIVP], where documentation occurs within an electronic medical record). Data for the wound care indicators for staff knowledge and wound care cost-effectiveness were obtained from a proprietary nurse

scheduling software. Data for the pressure injury prevalence and incidence were retrieved from the MDS-RAI software system (a resident assessment tool completed on admission and annually on all long-stay home-care clients).

Chart audits were completed in 2015 and again in 2016 to review the wound care quality data (see Table 1). A convenience sample of 80 clients discharged from home-care nursing during a

**Table 1:** Key information and questions from the chart audit documentation tool

General information: date of admission to home care, discharge from home care, community area, clinic, number of wounds, type of wound, location of wound, date wound first documented and when wound closed

- Was there any documentation specific to the assessment and/or management of wound pain?
- Was the Braden Scale for Pressure Ulcer Risk completed on admission to nursing services?
- For clients deemed at risk for pressure ulcers as identified by the Braden Scale, was a care plan developed and interventions taken to mitigate risks?
- For clients with venous leg ulcers, was compression therapy used?
- Frequency of dressing change on admission/first documentation of wound
- Frequency of dressing change one week prior to wound healing

three-month period who had received wound care nursing services was selected each year. All audits were completed by the home-care clinical nurse specialists (CNS) and nurse educators. Five clients were selected from each of the 12 home-care community areas and two home-care nursing clinics. Fifteen clients were audited from the WRHA Home Care CIVP (both community and infusion clinic clients).

Results from both the documentation audit and the secondary data analysis of those wound care quality indicators available from within both databases were analyzed and then compared to available benchmarks locally or from comparable settings across Canada. The Balanced Score Card (see Table 2) was developed based on the results of the audit.

For the 2015 audit, many of the results fell far below the identified benchmarks, demonstrating that there was opportunity for improvement in wound care quality within the WRHA Home Care

Program. Targeted interventions were developed to help improve wound management between 2015 and 2016. These multifaceted approaches taken to create change included:

- **Wound care education:** advanced wound care education for all registered nurses (RNs). The target was to have 100% of the RNs trained in advanced wound care by the end of 2016. The advanced wound care education was conducted over one full day and focused on pressure injuries (including staging, offloading and specialty mattresses, and nutrition), lower leg ulcers, surgical wounds, burns and advanced wound care case studies.
- **Wound Care Community of Practice:** established by the WRHA Home Care CNSs with the goal to develop the team members' knowledge of wound care and thereby improve client-centred care. Objectives of the Wound Care Community of Practice included the following: attending and giving educational presentations,

**Table 2:** WRHA Home Care Program Balanced Score Card

Outcome	Quality Indicator	2015	2016
<b>Wound Care Cost-Effectiveness</b>	Proportion of clients receiving daily or BID wound care	31%	23%
	% of clients using silver product*	Not assessed	0.25%
<b>Pressure Injury</b>	Pressure injury incidence	2.06%	2.2%
	% of clients with completed Braden Scale	86%	96%
	% of clients at risk of pressure injury that have documented care plan/interventions	29%	40%
	% of clients with PI with documentation offloading	38%	67%
<b>Positive Client Experience</b>	Documentation of wound pain assessment	45%	52%
<b>Wound Care Appropriateness</b>	% of clients with VLU in compression	73%	100%
	% of clients with lower leg ulcer with lower leg assessment completed	18%	33%
	% of clients with lower leg ulcers with current ABPI/Toe Pressure	47%	45%
<b>Staff Knowledge</b>	% of RNs and LPNs with Level 1	45%	59%
	% of RNs with Level 2	Unknown	84%

\*As silver is among the more expensive options, the health region has guidelines relating to when and how to use it. It is monitored to ensure it is used effectively/appropriately.

# Working Together to Improve the Health of Canadian Seniors: An Innovative Product and Partnership



**C**hronic wounds such as venous, diabetic and arterial ulcers can be hard to heal, particularly in older adults, who often have underlying health conditions. If not treated effectively, these types of wounds can lead to infection, reduced mobility and quality of life, and even the loss of a limb.

Recently, Revera, a leading owner and operator in the senior living sector, piloted the use of the geko™ device technology (Master Distributor in Canada, Perfuse Medtec Inc.) as part of Revera's Innovators in Aging Program, an initiative to bring the most promising products, services and technologies to the seniors who need them most. Consenting long-term-care residents who had non-healing wounds in their lower extremities were provided with geko™ devices applied bilaterally to their lower legs for 6 hours per day, 5 days per week.

## What is geko™ Wound Therapy?

The geko™ is a self-adhesive muscle pump activator device designed to help hard-to-heal wounds by enhancing blood circulation and managing edema. The device also provides treatment for ischemia, poor venous blood flow and prevention of DVT.

## What was discovered through Revera's pilot of the product?

This served as the product's international launch in the long-term care sector for chronic, non-healing wounds. Prior to the evaluation, there was an average weekly **increase** of 1.5% in surface area (SA). All residents were adherent with wearing the geko™ device, and nursing staff and cognizant residents could easily adjust the setting. Application and removal were simple. For those who were adherent to best practices such as compression therapy or pressure offloading as well as the geko™ device, there was a 10.9% ( $p=0.00075$ ) weekly decrease in SA for 8 wounds over 14 weeks. It was effective in closing wounds, reducing pain and edema and improving quality of life. Most residents felt engaged with the therapy, "because they felt it working."

## How has this part of the Innovators in Aging initiative led to future collaborations between the two companies?

The positive outcomes motivated Revera to invest \$820,000 (CAD) in the geko™ device to help support its further growth. The opportunity was invaluable in validating the use of this technology with long-term-care residents. Revera was thrilled to see how the device helped the seniors recover and hope to bring it to more older adults in need of help. The company felt that the geko™ device is a great adjunctive solution for many types of lower leg wounds (venous, mixed, diabetic, pressure) when added to best practices in the LTC and retirement home sectors.

## What does this mean to health-care practitioners and their patients/clients/residents in Canada?

Improvement of lower limb venous and arterial volume flow and velocity, and microcirculation to the skin and wound bed have demonstrated statistically significant healing in an aged population with hard-to-heal wounds. Blood flow is essential to health and wound healing; as Canadians start to benefit from use of the geko™ device for chronic wounds, further research and evaluations are underway.

View a [webinar](#) featuring Dr. Keith Harding speaking on the geko™ device.

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providing examples of case studies that members can work through together, and working on wound care policies, procedures, protocols, documentation and care plans to improve quality delivery of wound care. Any visiting nurses within the Home Care Program who had an interest in wound care were invited to attend the quarterly meetings.

- **Client care reviews:** meetings between CNSs and visiting nurses where the visiting nurses could discuss their client caseload. The CNS listens to the assessment of the client and wound, current wound management and frequency of dressing changes. The CNS makes suggestions on how the wound might be better managed and if one or more frequent daily dressing changes is actually warranted. This practice was started with the hope of decreasing the proportion of clients receiving daily or more frequent wound care nursing visits from 31% per cent in 2015 to the Canadian benchmark of < 20% as well as providing higher quality client-centred wound management.

Figure 1 provides an illustrated summary of the method outlined above.

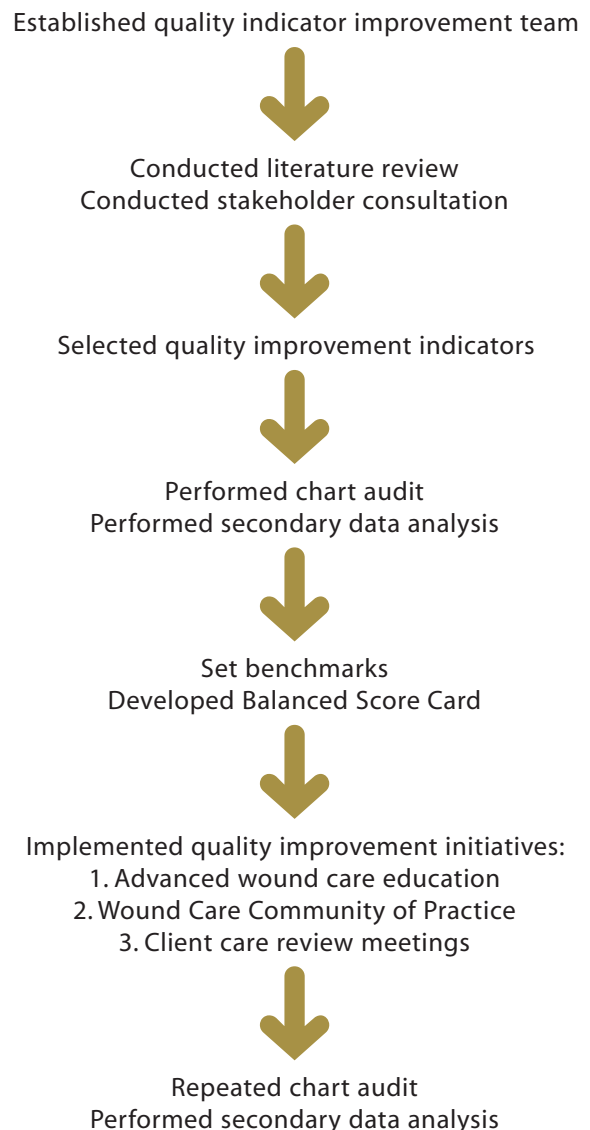
## Results

Overall there was an improvement in the wound care quality indicators in the Balanced Score Card from 2015 to 2016, most notably in wound care cost-effectiveness (decreased number of clients receiving daily or more frequent wound care nursing visits [with each one-hour nursing visit costing approximately \$50]) and wound care appropriateness (particularly the percentage of clients with venous leg ulcers in compression therapy).

Incorporating a review of wound care frequency into client care review processes facilitated by the CNSs helped lower the number of once daily or more frequent wound care from 31% to 23%; closer to the < 20% found in other Canadian jurisdictions.<sup>4</sup> Nurses felt the one-on-one sessions to review their client caseloads were extremely helpful. Many nurses commented “I didn’t realize I could do that!” and the sessions facilitated an

understanding of why one would do daily versus less frequent dressing changes. Many of the nurses did not know that they could use more absorptive products to decrease frequency of dressing changes. As well, every percentage decrease in the proportion of clients receiving wound care is equal to reducing the number of nursing visits by 8000 annually, saving the WRHA Home Care Program approximately \$800,000 per year. Client care reviews will continue to be facilitated by the CNSs to ensure that all or most of the nurses have a chance to review their client caseloads and have discussions around wound assessment and management.

**Figure 1:** Summary of Method



## Key Lessons Learned

<b>The Power of Measurement</b>	Numerous stakeholders commented on the clinical relevance and usefulness of the presented data to drive practice change. While many noted they had subjective “gut instinct” feelings that there was room to improve wound care services, the Balanced Score Card made this “feeling” measurable and concrete.
<b>So Many Dressing Changes</b>	It was interesting to note that during the client case reviews for the “disadvantaged” areas of the city, daily wound care was provided not necessarily based on the amount of drainage from the wound but because they needed to schedule a client for daily visits because the client would frequently cancel. Thus, the visiting nurses would actually only see the client once or twice per week. However, in the electronic system, there is no way to adjust the data to include the reasons why the visits are daily. Another reason for frequent dressing changes was that the client was non-adherent to the wound management plan. For example, the client declined compression therapy and thus needs more frequent dressing changes, because their venous leg wounds are draining heavily. As well, it is not uncommon for the prescriber to order daily dressing changes of wet-to-dry gauze for wounds. In advanced wound care education, nurses are encouraged to decide if more absorptive products would benefit the client, thus decreasing dressing change frequency.

As well, advanced wound care education emphasizes the need for nurses to use compression therapy for venous leg ulcers and to use their professional judgment to determine how frequently a dressing should be changed. By spring 2016, 84% of RNs had completed the advanced wound care education. Educating the registered nurses on advanced wound care by mandating that they attend these full-day sessions was important to achieve a 100% target rate. Advanced wound care education will continue with regional education sessions, as well as

the addition of “voice-over” presentations that the nurses can access online at any time.

The development of a Wound Care Community of Practice team enabled the nurses to continue with their wound care education through the review of case studies and presentations, as well as become more involved with wound care documentation, policies and protocols to ensure high-quality client-centred wound care. The addition of wound pain to the wound assessment flow sheet will help the nurses remember to ask the client about pain, a concern that should not



be neglected. As well, this team is currently making changes to the Braden Scale for Predicting Pressure Ulcers form to embed targeted interventions and prompt the use of a standardized care plan and client education tools.

## Limitations

The sample size of 80 discharged clients from the community and clinic limits the data to clients who have their home-care file closed. This sample mostly consists of healable surgical wounds, although there are some lower leg venous ulcers and pressure injuries. Many clients on the WRHA Home Care Program have chronic, complex wounds and, as a result, are not discharged from the program but receive wound care for many years. Few to no clients with these chronic wounds were in this convenience sample of discharged clients. It may be helpful for future audits to include clients that are still on service to get more of a sense of what interventions and quality of wound care they are receiving. This would also provide a larger sample size.

Another limitation was that all the reported wound care indicators relied on the accuracy of what was documented in the client's in-home file or what was entered into the electronic databases. Difficulties with documentation eliminated the ability to accurately report wound healing outcomes according to type of wound and identified our need to revisit how we document wound-related services within the WRHA Home Care Program.

As well, client feedback was not included as part of this quality improvement project. A survey of clients on what constitutes high-quality wound care may be appropriate.

## Conclusion

Ongoing wound care quality indicator monitoring and reporting via the Balance Score Card will be done annually using the chart audit tool to measure change based on improvement initiatives. Some indicators are still well below the 100% target, but with the new initiatives underway



in wound care documentation, there should be an improvement in some of the indicators, most notably in documentation of wound pain assessment, lower leg ulcer assessment and targeted interventions that aim to address risk factors of pressure injuries and implement offloading measures. RNs with advanced wound care education were close to 100% at the end of 2016, and there has been an increase in Licensed Practical Nurses (LPNs) participating in the education sessions as well.

The Balanced Score Card may be useful for any home-care program wishing to improve wound care quality monitoring and identify opportunities for enhancing wound care services. The targeted interventions identified can be adapted within any home-care program to aid in improving quality indicators on the Balance Score Card. 🇨🇦

**Sarah Brown and Kathleen Klaasen** work in the Winnipeg Regional Health Authority (WRHA) Home Care Program in Winnipeg, Manitoba.

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# A Call to Action to All Canadian Communities: Establish Diabetic Foot Care Pathways

*This is a brief summary of a presentation given at the spring conference of Wounds Canada, in Kamloops, British Columbia, May 12, 2017. It has been produced with the financial support of Medtronic. The presenters were Petra O'Connell, BSc, MHA, Senior Provincial Director, Diabetes, Obesity and Nutrition Strategic Clinical Network, Alberta Health Services and Edie Attrell, RN, BN, ET, IIWCC, Clinical Nurse Educator, Alberta Health Services.*

In Alberta, the landscape of diabetic foot complications leading to amputation, like the rest of Canada, has been discouraging. Diabetes prevalence rates in Alberta are high (6.89–8.51/100 people) and continue to climb. The number of lower limb amputations increases each year, with 60% resulting from diabetic foot ulcers. With the same five-year mortality rates in patients post-amputation (50%) as the rest of the country, and lifetime risk for a foot ulcer in persons with diabetes at 15–25%, the result is significant financial impact on the health-care system and personal cost to patients and their families.

Diabetic foot ulcers can undergo rapid deterioration as a result of their complex nature and because of the lack of sensation in the feet of persons with neuropathy. In many cases, patients and health-care professionals do not realize the seriousness and urgency of the situation, and without prompt and appropriate interventions, amputation may be the result.

However, given that up to 85% of these amputations could be prevented, we knew it was possible to make positive change in our province if the Diabetes Obesity Nutrition Strategic Clinic Network identified and recognized the opportunity to implement a process for ensuring patients received the right interventions at the right time.

## The Project

In spring 2014 we initiated a project to develop a diabetic foot-care pathway that promoted foot screening in

primary care settings for all Albertans with diabetes to support earlier intervention to prevent unnecessary amputations.

During the barrier identification stage of the project it was determined that:

- Tremendous variation of diabetes-related foot-care services existed in the province. There were no standards in terms of screening processes.



- Wound clinics tended to see only patients with wounds and not people at risk of developing a wound.
- In tertiary and rural settings where there were no wound clinics people with foot problems tended to go to emergency/hospitals; but by that time it was often too late to be treated effectively.
- There was a lack of communication and co-ordination between acute care and primary care. Follow-up after an ER visit or an acute care admission and discharge was similar.
- The footwear benefits program from government posed significant barriers and costs to patients.

*continued . . .*

Based on the identified gaps and barriers in services the goals of the project became clear:

- Improved access to foot screens for all Albertans with diabetes
- Earlier detection of foot problems
- Timely treatment to address complications and risks for ulceration, with the overarching goal of reducing the development of diabetic foot ulcers and amputations.

### Beyond Blood Work

As we were developing the process we worked with a number of patients from pilot sites to determine the factors that led to amputation. In the year prior to and in the year of their amputation, over 33% had blood sugars in the normal range. Key learning: Don't rely just on blood work; do a proper physical assessment that includes foot screening.

Once the gaps were identified, we deconstructed all the components and began to develop a pathway that involved broad engagement of all stakeholders, including frontline clinicians, patients, pharmacists and diabetes educators.

### A Pathway for Prevention

Diabetic foot-care pathways have been utilized successfully in several developed countries. Many components are universal and can be incorporated into any health system. The Diabetic Foot Care Clinical Pathway was developed in conjunction with best practices and has been piloted in Alberta. The key components include:

- Screening, assessment and treatment standards along with patient referral/transition processes
- Tools and educational resources for patients and primary care providers
- Support for patient self-management
- Support and education by a clinical practice lead in foot and wound assessment and management for primary care networks
- Support for integrated care by fostering engagement with community-based high-risk foot teams to encourage acceptance of referrals from primary care networks that have completed foot screens and identified feet at risk in persons who do not have a wound
- Access and timely use of diagnostic technologies, revascularization procedures and advanced wound care

This comprehensive modification of the current system is expected to have many benefits, and early indications are promising. For example, one of our pilot sites is now screening 100% of their patients with diabetes. Preliminary data are also showing that ulcer and amputation rates are starting to decrease.

Overall, the anticipated outcomes include improved patient self management, more consistent and timely screening in primary care, earlier and more appropriate care of moderate- and high-risk diabetic foot problems in triage and care, fewer referrals to acute care and increased patient and health provider satisfaction.

Ultimately, we expect to see the fulfillment of the primary goal for this project: reduced rates of foot ulcers and amputations.

### Did you know?

In Canada, only 51% of adults with diabetes reported receiving an annual foot screen.<sup>1</sup> (CIHI 2013)

For more information view previous Medtronic Presentation Digests:

- Amputation: Avoidable or Not? – <https://www.woundscanada.ca/docman/public/wound-care-canada-magazine/2015-13-no3/72-amputation-avoidable-or-not/file>
- Canadian Limb Salvage: A Call to Action – <https://www.woundscanada.ca/docman/public/wound-care-canada-magazine/2016-14-no3/ads-3/133-wcc-winter-2016-v14n3-medtronic-pd/file>

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# When Experts Meet for Better Treatment: Putting the Patient at the Research Table

By Maryse Beaumier, RN, PhD(c)

**W**ounds Canada's Best Practice Recommendations documents are clear regarding the patient role in the prevention and management of wounds: "Assessments must identify all relevant factors, while interventions must acknowledge and align with a patient's culture and values. This approach, which treats patients as experts in their own lives, assists in developing attainable goals of care and supports self-management once the patient leaves the care setting."<sup>1</sup> As well, "clinicians must let the patient tell their story to help identify what put them at risk for wounds or how their wound developed. Clinicians should always listen to the patient's perception of what is happening and how it is affecting their quality of life."<sup>1</sup> This reality must also be reflected in the field of research.

## Why Patients?

Patients can enhance collective expertise in health care because they are savvy about their own experience and how their condition affects them and their families on both a day-to-day and longer-term basis. Yet the notion of patients being experts might disturb those few who equate expertise with knowledge sanctioned



by advanced education, diplomas and degrees.<sup>2</sup> It is important to note, however, that an expert is defined as a person who has “acquired great ability and knowhow in a profession or a discipline, derived from extensive experience in the field.”<sup>3</sup> So who better than patients to help us understand their perspectives as partners in research in their own “patient discipline”?

Over the last 30 years we have witnessed a strong mobilization of patient associations, as well as a recognition of their expertise, which gives them a legitimate voice in their dealings with governments and health-care professionals.<sup>4,5</sup> This is coupled with the emergence of translational research where patients are the closest collaborators. This type of research was the missing link between discoveries in biomedical research and its impact on patients at the clinical level—in



other words, the transition between the “laboratory” and the “patient’s bedside.”<sup>5,6</sup>

Though it has been a long time coming, it seems obvious now that the beneficiaries of research results should be active partners in the whole research process: orientation, conception, financing and implementation. Despite billions of dollars in research funding and considerable laboratory productivity, only a fraction of promising basic science discoveries result in applied clinical practices and health gains.<sup>7</sup> As a result, large research budgets, a wealth of scientific knowledge and significant public health benefits are lost.<sup>5</sup>

### Finding the Linkages

It is therefore essential to make research results available and useful to the people most concerned, while at the same time getting their perspective on its pertinence. The lifelong experiences of patients with chronic illnesses are but one example. Over and above therapeutic promises, the notions of quality of life must be taken into account. The effects of research must be guided by the global (physical, physiological, social, economical and psychic) nature of the person on the receiving end. Moreover, patients’ views of the ethical aspects of research, which may be different from those of researchers, should be considered.

### Realistic Expectations

Caution must be exercised, however. Though patients may be experiential experts, they do not have the same knowledge base as researchers. The role of the expert patient must be limited to offering untutored competence, in order to question professional practices, to participate in defining the clinical processes in health care.<sup>5,8</sup> That said, it will be important to find ways to recognize and validate the acquisition of patients’ knowledge and competence,<sup>2</sup> such as having them participate in evaluation committees.

Patients should be encouraged to sit at the table and participate in the decision-making process concerning research programs, in the

## Making the Most of the Patient Experience in Framing Research Questions: A Case Study

By combining the voices of patients, clinicians and researchers, a more complete representation of reality can emerge. Let's take the example of a patient with a venous ulcer who has difficulty wearing compression bandages during the summer. The use of compression has been well documented as the cornerstone of effective treatment for this type of wound. Some clinicians might think lack of adherence to the care plan is related to discomfort due to heat or for esthetic reasons.

As a group, however, patients have clearly expressed that the issues relate to more frequent outings in the summer and inadequate access to points of service for the application of their compression. If clinicians don't listen to their patients, they will never know the true reasons for lack of adherence to the care plan.

Once clinicians are aware of their patients' concerns, they can work together on a plan to develop and achieve appropriate goals of care. In this case, the goal would still be compression to heal the ulcer. But knowledge gained from listening to patients might lead to a new research question: How can services be organized to respond to patients whose care settings change in certain contexts, such as summer vacation, to be sure that essential treatment will be maintained?



context of both non-profit organizations and government-funded bodies such as the Canadian Institutes of Health Research (CIHR) or the Natural Sciences and Engineering Research Council of Canada (NSERC).

### The Need for Increased Funding

Research funding is increasingly more difficult to obtain as well as to grant. Chang et al.<sup>9</sup> concluded, in their scoping review of the literature, that more funding, whether government or private, should be made available to ensure that effectiveness is translated to health-care delivery, and delivery translated to population health research.

In addition, the tremendous challenges of driving translational research in older, vulnerable and diverse populations include inadequate financial support, financial disincentives and the intricacies involved in progressing from an acute-care paradigm to a multifaceted, patient-centred and chronic-care model.<sup>10,11,12</sup> According to Kessler and Glasgow,<sup>11</sup> this latter shift would include

greater focus on the needs of practitioners, patients, payers and policymakers and generate more relevant evidence. Funding priorities would change to include increased focus on patients in community settings with complex multi-morbidities, such as chronic wounds.

Changes would be made in grant review criteria, and review sections would require reviewers with new methodological skills and experience in pragmatic studies and contextual factors.<sup>11</sup> But a paradigm change is a long way away . . . and each of us, in our fields of expertise, both in research and in clinic, must work to fill the gap for the future.

### Conclusion

Researchers can use a qualitative approach to help apply translational research to action research, participative research and all other kinds. Understanding the patient's view helps researchers to upgrade the interventions or treatment investigated by randomized controlled trials

(RCTs) and to complete the continuum of translational research.<sup>11</sup>

According to Desroche,<sup>13</sup> there are two possible paths for action research: stepping out of action to plan fundamental research, or moving from research to action, which is fundamental to the clinic.<sup>14</sup> In both cases, the patient is involved.

Generally speaking, the researcher's mindset is "knowledge," and the patient's is "well-being." In the end, isn't the best solution to mesh knowledge and well-being to best serve the needs of the patient? 📌

**Maryse Beaumier** is a Professor at the Université du Québec à Trois-Rivières.

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# Wounds Canada Website

## Canada's hub for wound resources

The screenshot shows the Wounds Canada website homepage. At the top is the logo and navigation menu with links for Home, About, Contact, Login, and Become a Member. Below the navigation is a dropdown menu for 'I'm a ...' with options for Patient or Caregiver, Health-care Professional, Leader and Change Maker, Member of the Media, and Industry Partner. The main content area features a 'New to Wound Care?' section with a call to action for a two-day course in November. Below this is a 'Message' banner in French. The middle section contains four featured articles: 'Read it today!' for the latest magazine issue, 'Best Practices' for a new series of articles, 'Fall Conference' for an event in November 2017, and '#Research' for a community of researchers. To the right is a 'Twitter' feed showing a tweet from Wounds Canada about peripheral arterial disease. At the bottom of the main content area is an email sign-up section with a 'SIGN UP NOW' button. The footer is a dark grey area with navigation links for About, Patients and Caregivers, Health-care Professionals, Leaders and Change Makers, Members of the Media, and Industry Partners. It also includes the Wounds Canada logo, social media icons, and a 'TOP' button.