

# Prevention and Management of Wounds

## A guide for Alberta with a focus on Indigenous health.



This BPR Brief is an abridged version of the **Best Practice Recommendations for the Prevention and Management of Wounds**. In alignment with a global health-care perspective, Wounds Canada is committed to provide support to patients to help them adapt to and self-manage their condition in the face of social, physical and emotional challenges. This document uses the **Wound Prevention and Management Cycle (WPMC)** (Figure 1) as the basis for clinical decision making. For clinicians, this document is meant as a cue for treatment; it provides non-inclusive examples listed below each recommendation. For policy makers, it highlights (in ***bold italics***) actions and policies that support best practice.

Wounds Canada follows a population health strategy for wound care that enables us to address the entire range of individual and collective factors that determine health, including:

- Better health: health of the general population improved; behavioral, social, economic and environmental determinants addressed; preventative care rewarded
- Better health care: patient-centred, reliable, safe, evidence-based treatment; care managers co-ordinate total health-care delivery; evidence-based treatment with outcome tracking
- Better value: costs and cost improvements monitored; readmissions to hospital reduced; early interventions to reduce per patient cost implemented; unnecessary or duplicate procedures eliminated; information management technologies utilized

For more information on content, levels of evidence or tools related to a particular recommendation, click on the links provided.

We strongly recommend that before using this BPR Brief the user read the full best practice recommendation (BPR) document. To obtain a copy of the full document, go to: [www.woundscanada.ca/docman/public/health-care-professional/bpr-workshop/165-wc-bpr-prevention-and-management-of-wounds/file](http://www.woundscanada.ca/docman/public/health-care-professional/bpr-workshop/165-wc-bpr-prevention-and-management-of-wounds/file).

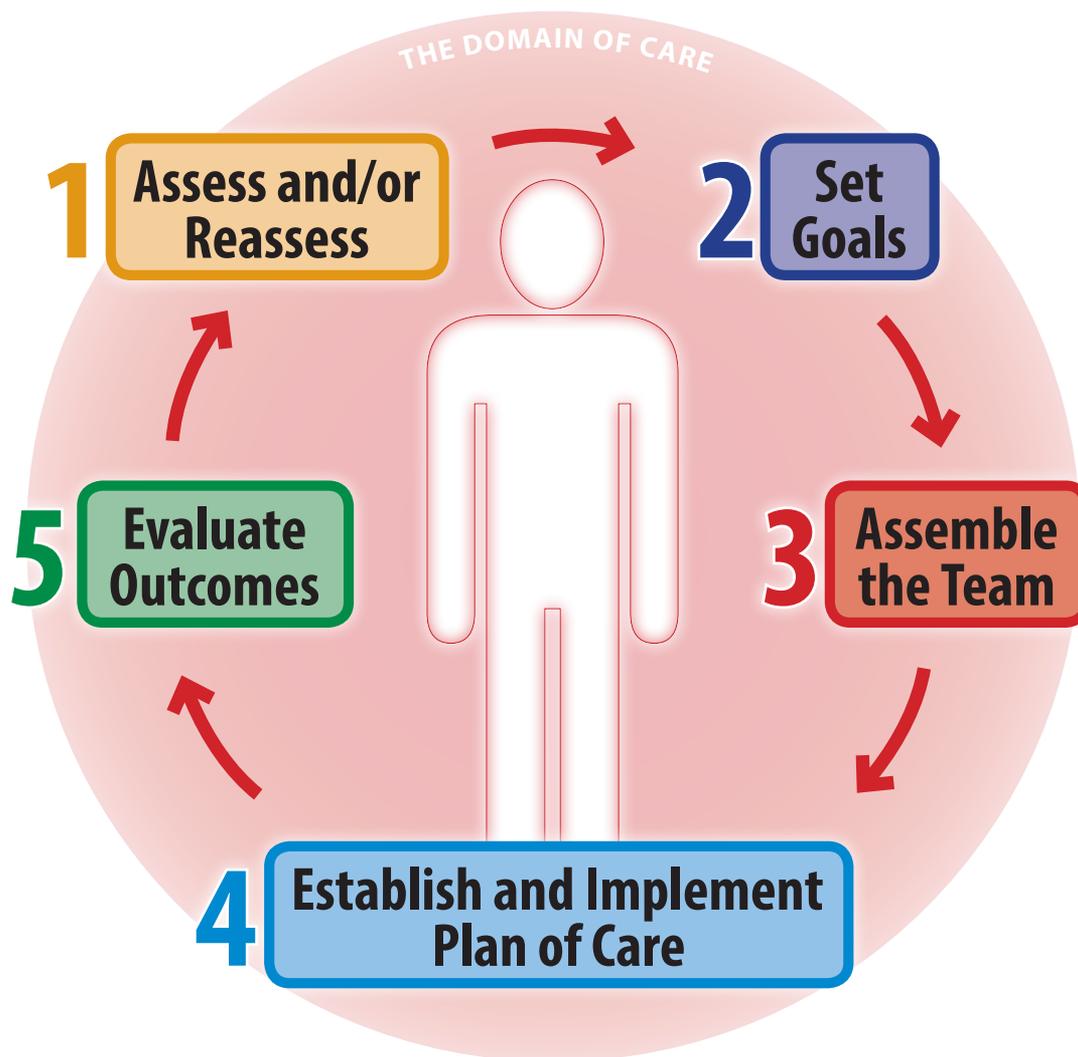
## Introduction

Wound prevention and management can be challenging, particularly when the patient is living with complicating factors that may increase the risk of new wounds or prolong the healing of existing wounds. The following three guiding principles can support optimal prevention and management of skin breakdown:

- Use of a logical and systematic approach, regardless of the specifics, to prevent and manage skin breakdown
- Constant, accurate and multidirectional flow of meaningful information with the team and across care settings
- It is important to remember that skin and wound care is to be collaborative, using a patient-centred approach based on respect, dignity, empathy, compassion, cultural appropriateness and shared decision making.

**Disclaimer:** This document provides a clinical enabler for the recommendations outlined in the Best Practice Recommendations (BPRs) for the Prevention and Management of Wounds and provides the foundation for other wound specific BPRs. It is not meant to provide comprehensive information on the given topic. For more information on a particular recommendation or to read the full document go to: [www.woundscanada.ca/docman/public/health-care-professional/bpr-workshop/165-wc-bpr-prevention-and-management-of-wounds/file](http://www.woundscanada.ca/docman/public/health-care-professional/bpr-workshop/165-wc-bpr-prevention-and-management-of-wounds/file).

Figure 1: Wound Prevention and Management Cycle (WPMC)



## 1 Assess and/or Reassess

- Assess the patient, the wound (if applicable), as well as environmental and system challenges.
- Identify risk and causative factors that may impact skin integrity and wound healing.

**Assessment** must occur to determine the causes and factors that may impact skin integrity and wound healing. Patient assessment includes history and current health status; skin status (and wound status, if applicable); environmental factors and system factors. If, after the WPMC has been completed, goals of care have not been fully met, reassessment must take place, followed by the rest of the recommendations in the WPMC. **Assessment tools need to be available and in use in all care settings, supported by staff education and policy.**

### 1.1 Select and use validated patient assessment tools.

Tools need to be selected based on patient need—for example, the Braden Scale for Predicting Pressure Ulcer (Injury) Risk, Braden Q Scale for pediatric patients, International Skin Tear Advisory Panel (ISTAP) Risk Assessment Tool, Inlow's 60-Second Diabetic Foot Screen, Vancouver Burn Scar Assessment Scale, Wong-Baker FACES Pain Scale, Cardiff Wound Impact Schedule, Canadian Nutrition Screening Tool, Bates Jensen Wound Assessment Tool.

Let assessment  
guide  
intervention.

### 1.2 Identify risk and causative factors that may impact skin integrity and wound healing.

Key **risk factors** for skin breakdown, interfere with healing and/or impair immunity should be identified. These might include diabetes mellitus, advanced age, peripheral arterial disease, obesity, collagen vascular diseases, organ transplant, cancer, chemotherapy and/or therapeutic radiation. Any **causative factors**, such as trauma and thermal injury, that resulted in the injury must be removed from the wound environment.

#### 1.2.1 Patient: Physical, emotional and lifestyle

It is essential to assess the patient's health history, general health and specific issues related to the skin condition, including relevant surgical history, active infections, current medical conditions, current prescription and non-prescription medications, allergies, nutrition and hydration, cognitive/mental status, lifestyle, psychosocial issues, pain, functional status and use of adaptive aides. This also includes a review of blood work and a focused physical exam (e.g., height, weight, blood pressure, pulse, temperature).

#### 1.2.2 Environment: Socio-economic, care setting, potential for self-management

Assessment of socio-economic determinants includes income, employment and working conditions, food security, environment and housing, early childhood development, education and literacy, social supports and connectedness, health behaviours and access to health care and services. It is critical to provide a culturally sensitive environment for care.

#### 1.2.3 System: Health-care support and communication

This involves assessment of access to funding, availability of services and wound-related products, diagnostic services, service delivery personnel and co-ordination of care.

### 1.3 Complete a wound assessment, if applicable.

The wound needs to be examined using a standardized tool that identifies the anatomic location, shape, size, depth, edges, undermining, tissue type and amount, exudate type and amount, periwound tissue and degree of bacterial burden should be documented (Figure 2).

**Figure 2:** Wound showing progressive improvement over time, with decreased slough and redness (as well as edema management, as shown in the photos)



## 2 Set Goals

- |              |  |   |
|--------------|--|---|
| • prevention | • healing<br>• non-healing<br>• non-healable | • quality of life<br>and symptom<br>control |
|--------------|--|---|

Goals of care need to revolve around the patient. Achieving goals will depend on the interplay of the patient's health status and lifestyle, the availability of resources and the knowledge and ability of care partners to provide optimal interventions. If these factors are not taken into consideration the goals of care may be unrealistic and unrealizable. The team should aim to set goals according to the **SMART principle**: **S**pecific, **M**easurable, **A**ttainable, **R**elevant and **T**imely.

### 2.1 Set goals for prevention, healing, non-healing and non-healable wounds.

Goals are not static and can often transition with various conditions over time. Goals must be adjusted accordingly. For example, a wound may start healing and then become non-healing.

#### 2.1.1 Identify goals based on prevention or healability of wound

- For intact skin, goals should be developed based on risk to prevent skin breakdown.
  - E.g., putting pressure reduction surfaces in place within 3 days
- For healing wounds, goals should be developed to address wound closure.
  - E.g., achieving wound closure within 2 weeks by optimizing the wound environment
- For non-healing wounds, goals should be developed to enable any wound healing potential and to prevent further deterioration of the wound.
  - E.g., pain controlled within 1 day
- For non-healable wounds, goals should be developed to manage symptoms and prevent deterioration of the wound.
  - E.g., infection prevention plan in place within 1 day

#### 2.1.2 Identify quality-of-life and symptom-control goals

Address goals that impact a patient's daily life, such as returning to normal routines, improving emotional well-being, controlling symptoms and decreasing the number of dressing changes.

### 3 Assemble the Team

- Select membership based on patient need.

**An integrated team is necessary for case management to implement, adjust and sustain a plan to meet the patient-specific goals.** The team should include the relevant health-care professionals and other service providers as required as well as the patient, family and their support system.

#### 3.1 Identify appropriate health-care professionals and service providers.

Selection of team members is based on the patient assessment and needs analysis. Health-care professionals on the team may include chiropodists/podiatrists, diabetes educators, dietitians, nurses, occupational therapists, orthotists/pedorthists, pharmacists, physicians (specialists and generalists), physiotherapists, psychologists, recreational therapists, social workers, spiritual care providers, surgeons. Service providers on the team may include garment fitters, homemakers, meal delivery services, shoe fitters, transportation providers, and others, depending on the needs of the patient.

#### 3.2 Enlist the patient and their family and caregivers as part of the team.

The patient and possibly family members and care partners support an integrated, patient-focused approach to care and essential in communication between patients and the health-care professionals and care delivery.

#### 3.3 Ensure organizational and system support.

**Wounds Canada's resources and education align with a population health management model. This model encourages the proactive management of a total population at risk for adverse outcomes through a variety of individual, organizational and cultural interventions to improve patient, clinical and financial outcomes. The interventions are based on a risk-stratified needs assessment of the population, supported by a comprehensive governance infrastructure.**

**A successful wound prevention and management program involves collaboration with practice leaders, educators, policy makers and administrators at a local, regional and national level. These relationships can support the education of staff, policy development, product availability, services and resource allocation. To support this model and secure successful outcomes, decision makers must:**

- **Use globally recognized risk classifications to identify risk, support prevention and develop management strategies by allocating appropriate resources such as patient education and clinical visits**
- **Develop policies (federal, provincial/territorial, regional and institutional) based on current evidence that acknowledge and designate human, material and financial resources to support the team in the development of a wound management program.**
- **Establish a pathway for referral of people with or at risk for wounds to a multidisciplinary skin and wound care service.**
- **Work with community and other partners to develop a process to facilitate patient referral and access to local resources and health professionals with specialized knowledge in wound management.**
- **Work with community and other partners to advocate for strategies and funding for all aspects of preventative skin care.**
- **Ensure care services and programs exist for the assessment and continuing surveillance of those defined as being at increased risk in order to prevent wounds, and to support management in their health-care or community setting.**

- **Establish, train and support an integrated team composed of interested, skilled and knowledgeable persons to address and monitor quality improvements in the prevention and management of wounds.**
- **Establish and sustain a communication network between the person with wounds and the necessary healthcare and community systems.**
- **Audit all aspects of the service to ensure that local practice meets accepted national and international standards of care**

**In order to achieve these steps and improve patient outcomes, establish or adopt a system-wide care pathway.**

## 4 Establish and Implement a Plan of Care

- Establish and implement a plan of care that addresses:
  - the environment and system
  - the patient
  - the wound (if applicable)
- Ensure meaningful communication among all members of the team.
- Ensure consistent and sustainable implementation of the plan of care.

### Provide Local Skin/Wound Care (if applicable)

#### Cleansing/ debridement:

- Remove debris and necrotic or indolent tissue, if healable.

#### Bacterial balance:

- Rule out or treat superficial/spreading/systemic infection.

#### Moisture balance:

- Ensure adequate hydration.

### Select appropriate dressing and/or advanced therapy

Ensure that care addresses the goals and considers patient needs, factors relating to the skin and wound (if applicable), as well as the environment and the system in which the patient and team are situated.

### 4.1 Identify and implement an evidence-informed plan to correct the causes or co-factors that affect skin integrity, including patient needs (physical, emotional and social), the wound (if applicable) and environmental/system challenges.

Address causes, co-factors and comorbid conditions, as well as identified risk factors, that affect the health of skin and/or its ability to heal. Consider interventions to address the patient's level of activity, nutrition, moisture control, mental health and lifestyle choices.

For the complete version of Best Practice Recommendations for the Prevention and Management of Wounds, visit [here](#).

## 4.2 Optimize the local wound environment: Cleansing, debriding, managing bacterial balance and managing moisture balance.

Local wound management interventions should be part of the plan of care and fit within the context of the overall goals of care. These include:

**4.2.1 Wound cleansing:** The wound should be **cleansed** with solutions that are nontoxic, hypoallergenic, readily available, cost-effective and easy to use. They should be used at body temperature. See Wounds Canada's Product Pickers, below, for more information.

**4.2.2 Debridement:** **Debridement** may be required to remove of devitalized tissue, infected tissue, hyperkeratosis, slough, pus, hematomas, foreign bodies, debris or bone fragments from a wound. Debridement may be selective (biological [biosurgical], hydrosurgical, autolytic, enzymatic, surgical and conservative sharp) or non-selective (mechanical and chemical). See Wounds Canada's Product Pickers, below, for more information.

**4.2.3 Managing bacterial burden:** **Bacterial balance** can be achieved by addressing the interaction between the individual and the infecting pathogen (**local, spreading or systemic infection [IWII]**) through the optimization of the host's response, reducing the number or virulence of micro-organisms in the wound and optimizing the wound environment. See Wounds Canada's Product Pickers, below, for more information.

**4.2.4 Managing moisture balance:** The wound should retain enough **moisture** to stimulate healing but not cause maceration or irritation to the surrounding tissues. Some advantages of moist wound healing include decreased dehydration and cell death, increased angiogenesis, enhanced autolytic debridement, increased re-epithelialization and decreased pain. See Wounds Canada's Product Pickers, below, for more information.

## 4.3 Select the appropriate dressings and/or advanced therapy

The selection of the appropriate **dressing** or **advanced therapy** needs to consider the goal of treatment, wound characteristics, phase of healing, product indications and contraindications, patient choice, risk factors, lifestyle and comfort, product availability and the availability and skill of the care partner, safety and effectiveness, ease of use and cost-effectiveness. See Wounds Canada's Product Pickers, below, for more information.

## 4.4 Engage the team to ensure consistent implementation of the plan of care.

Ensure that all team members have well-defined roles, are making contributions and are actively connected to and communicating with the larger team. The team needs to show continuous progress toward the goal(s) of the plan of care and provide regular feedback to all team members.

### Wounds Canada's Product Pickers

- **Wound Dressing Formulary:** describes common wound dressings in generic categories and lists usage considerations.
- **Wound Dressing Selection Guide:** helps users choose appropriate primary and secondary dressings based on common clinical situations and wound care goals.
- **Control of Venous Leg Edema:** helps users choose the appropriate compression system for the reduction of venous leg edema.
- **Skin and Wound Clean-up:** helps users choose appropriate skin and wound cleansers as well as irrigating solutions.
- **Offloading:** helps users choose the most appropriate offloading device for patients with plantar diabetic foot ulcers based on the needs of the patient, their wound and environmental and system factors.

## 5 Evaluate Outcomes

### Goals Met:

- Ensure sustainability.
- ✓ Cycle is completed

### Goals Partially Met or Not Met:

- reassess

Evaluation of the plan of care should be routine and ongoing to identify whether the plan is effective in meeting the goal(s). If, after the cycle has been completed, goals of care have not been fully met, reassessment (Step 1) must take place, followed by the rest of the Wound Prevention and Management Cycle steps. ***The plan of care needs to be revisited at discharge to ensure that self-management strategies are in place to support the patient in sustaining the achieved outcomes after discharge.***

### 5.1 Determine if the outcomes have met the goals of care

The use of validated and responsive tools as well as patient feedback assist in determining if the goals of care have been met.

### 5.2 Reassess patient, wound, environment and system if goals are partially met or unmet.

When goals of care are not met, the team should go back to Step 1 of the Wound Prevention and Management Cycle. Reassessment needs to consider gaps in care and the person's ability to adapt to their condition and engage in self-management.

If the plan of care is appropriate and the wound is not improving, consider a biopsy to rule out skin disorders or a malignancy.

### 5.3 Ensure sustainability to support prevention and reduce risk of recurrence

***Ensure appropriate discharge planning, including educational materials for patients and their care partners, is in place. The plan of care needs to be revisited at discharge to ensure that self-management strategies are in place to support the patient to sustain the outcomes achieved after discharge.***

For additional Wounds Canada resources including monofilaments and brochures, go to: [www.woundscanada.ca/health-care-professional/resources-health-care-pros/boutique](http://www.woundscanada.ca/health-care-professional/resources-health-care-pros/boutique)

#### Care at Home Series:

- Caring for Your Wound at Home: Changing a Dressing
- Caring for Your Swollen Legs at Home: Preventing and Managing Venous Leg Ulcers
- Caring for Pressure Injuries at Home: Preventing and Managing Pressure Injuries
- Caring for Your Feet: Safe Foot Care if You Have Diabetes
- Caring for Yourself After Surgery: Preventing Surgical Site Infections
- Diabetic Foot Complications: When is it an emergency?
- Caring for Easily Damaged Skin: Preventing and Managing Moisture-associated Skin Damage
- Preventing and Managing Skin Injuries: Minor Cuts (Cuts, Scrapes and Bruises)
- Burns: Preventing and Managing Skin Injuries

Download the appropriate wound-specific BPR Brief based on wound type: [www.woundscanada.ca/health-care-professional/publications/dfc-2](http://www.woundscanada.ca/health-care-professional/publications/dfc-2).

## Additional Resources

The following resources provide additional information about the prevention and management of wounds, and clinics. In smaller centres, fistula, ostomy and wound care may be at the same clinic.

### Clinician Information

Alberta Health Services: Skin, Wound Care and Ostomy

Wound Care Canada: Wounds Canada 2020 virtual conference: Alberta Day. Stories, Partnerships and Strategies for Wound Prevention and Management.

### Patient Information

Care at Home Series: Prevention and Caring for Your Wounds at Home

- Caring for Your Wound at Home: Changing a Dressing
- Preventing and Managing Skin Injuries: Minor Trauma (Cuts, Scrapes, and Bruises)
- Caring for Your Swollen Legs at Home: Preventing and Managing Venous Leg Ulcers
- Caring for Easily Injured Skin: Preventing and Managing Moisture-Associated Skin Damage (MASD)
- Caring for Pressure Injuries at Home: Preventing and Managing Pressure Injuries
- Caring for Yourself After Surgery: Preventing Surgical Site Infections
- Caring for Your Feet: Safe Foot Care if You Have Diabetes
- Diabetic Foot Complications: When is it an emergency?
- Burns: Preventing and Managing Skin Injuries
- Keeping Your Home Safe: Preventing Skin Injuries for the Whole Family

Do-it-Yourself Series: Wound Prevention and Treatment: Do It Yourself (DIY) or Call in a Pro?

- For All Wound Types
- Arterial Foot or Leg Ulcer
- Neuropathic/Diabetic Foot Ulcer
- Incontinence-associated Dermatitis (IAD)
- Intertrigo
- Pressure Injury
- Skin Tear
- Venous Leg Ulcer

### Skin and Wound Clinics

- Accelerated Cast Clinic & Limb Preservation Centre (Edmonton)
- The Calgary Foot and Ulcer Care Clinic/Dr. Nesbitt's Foot and Ulcer Care Clinic (Calgary)
- Central Alberta Orthopedics – Diabetic Foot Clinic (Red Deer)
- Covenant Health Misericordia Community Hospital (previously known as Misericordia Community Hospital Wound Clinic) (Edmonton)
- Royal Alexandra Hospital (Edmonton)
- Sheldon M. Chumir Wound Clinic (Calgary)
- Slave Lake Health Care Centre (Slave Lake)
- West View Health Clinic (Stony Plain)
- Zivot Limb Preservation Centre (in the Peter Lougheed Centre, Calgary)

### Hyperbaric Oxygen Therapy Units

- Covenant Health Hyperbaric Unit at the Misericordia Community Hospital (Edmonton)
- Foothills Medical Centre, Hyperbaric Oxygen Therapy Clinic (Calgary)

### Pain Clinics

- Pain Clinics in Alberta (pp. 99–103 List of pain services)
- Chronic Pain Clinic – Misericordia Community Hospital
- My Health Alberta Pain Management Clinic
- University of Alberta Multidisciplinary Pain Clinic

### Pain Programs

- Calgary Pain Program (Calgary Zone)
- LifeMark Chronic Pain Program

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Canada

Services aux  
Autochtones Canada

For the complete version of Best Practice Recommendations for the Prevention and Management of Wounds, visit [here](#).

