

# Best Practice Recommendation Updates 2024: Methodology For Developing Foundations Of Best Practice For Skin and Wound Management

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The *Best Practice Recommendations* are the most popular resource developed by Wounds Canada and are used by frontline clinicians, students and policy makers to inform their practice.

These recommendations have been developed by leading Canadian experts on each individual topic and are based on the latest available research evidence. They are presented using the 'Wound Prevention and Management Cycle,' a process intended to illustrate an easy-to-understand pathway that can be used by care teams in all settings, for all types of patients with wounds or at risk for developing wounds, regardless of the environment and health-care system in which the teams live and work.

The objective is to provide practical practice enablers that help guide frontline clinicians and health-care decision makers through a step-by-step process that addresses the assessments and interventions of various factors that may interfere with skin integrity or affect wound healing and to provide a recognized standard for the delivery of wound care across Canada based on the most current evidence and clinical experience.

The *Best Practice Recommendation Updates 2024* build on the work of previous authors and editorial teams and incorporate expert opinion, clinical experience and the latest available research. It didn't take a village - it took a country - to create and regularly update Wounds Canada's

# Skin Health and Wound Management Best Practice Recommendations 2024

## CHAPTER 1

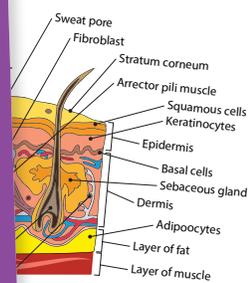


## Skin: Anatomy, Physiology and Wound Healing

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feet.  
The squamous cells are in transition to becoming the stratum corneum and machinery, including the nuclei.  
contains the Langerhans cells, which are derived from bone marrow and immune defence.  
ns keratinocytes, melanocytes and Merkel cells. Skin cells are constantly  
The keratinocytes, from the lowest layer of the epidermis, are continually the production of new cells beneath them. These cells fill with keratin  
of the epidermis. Keratin gives skin protective qualities and makes it  
each the top layer of the skin they are essentially dead flat sacs filled with  
d cells are shed daily, resulting in an entirely new epidermis every 35 -  
wedged between the basal cells and produce melanin, which protects  
Merkel cells are thought to be sensory cells.  
dermis by the basement membrane, a very thin membrane that attaches the  
the dermis.  
rmis and above the subcutaneous tissue. The dermis is 0.3 to 4.0 mm thick and  
r layers.<sup>12</sup> The junction between the epidermis and the dermis has a series of  
at project up from the dermis. Similar structures project down from the epider-  
of contact between the two layers and help to prevent the epidermis from  
present in unborn babies and are almost nonexistent in premature neonates,  
they get smaller and flatter.  
ix (ECM) made of collagen and elastic fibres that provide structure to the skin  
dermis also contains a capillary bed that is fed by the arterioles and drained  
y bed are the lymph capillaries. The hair follicles, sweat glands and sebaceous  
e that leads to the skin's surface and supports the regeneration of the skin  
s) helps to regulate body temperature, and sebum (from the sebaceous  
out.



**Blood** circulates within the capillaries of the dermis to supply nutrients and metabolites to the tissues and to collect waste products produced by the tissues. Without this nourishment and waste removal, tissue health cannot be sustained, and tissue healing cannot occur. This exchange of constituents between the blood and tissues takes place via interstitial fluid (ISF), or tissue fluid.  
Blood is mostly water (90% by volume). It contains dissolved proteins, glucose, mineral ions, hormones, carbon dioxide, platelets and blood cells. Blood cells make up 55% of blood plasma and include red blood cells (erythrocytes), white blood cells (leukocytes):

Drawing licensed from RE123. Adapted.

CHAPTER 1: SKIN: ANATOMY, PHYSIOLOGY AND WOUND HEALING | BEST PRACTICE RECOMMENDATIONS 2024

(formerly, the Canadian Association of Wound Care) *Best Practice Recommendations (BPRs)*. This initiative began in 2000, led by the efforts of Dr. David Keast, Heather Orsted and Sue Rosenthal. Seventeen years later, a total of 71 expert authors and various research, editorial and production teams have been involved in the development and updating of these seminal documents.  
The authors of the latest updates approached the content and process with new eyes - eyes that see the patient, not the wound, as the centre of the care process. This vital shift ensures that clinicians acknowledge and act on the full range of risks and risk-specific interventions required to support positive patient outcomes. A stronger focus on self-management and sustainability

acknowledges the role the patient plays in the prevention, healing and/or palliation process when not under direct care.

*“The authors of the Best Practice Recommendation Updates 2024 approached the content and process with new eyes - eyes that see the **patient**, not the **wound**, as the centre of the care process.”*

**Methodology**  
Best practice recommendations typically rely on

a combination of high-quality evidence, expert consensus, clinical experience and expertise. Following feedback received from previous editions of the *Best Practice Recommendations*, the Expert Panel and editors decided to integrate the GRADE (Grading of Recommendations, Assessment, Development and Evaluation)<sup>1</sup> approach into the 2024 Updates. The GRADE approach is utilized to grade the quality of evidence and strength of recommendations in guidelines.<sup>2</sup> In this new edition, we present best practice recommendations that draw upon high-level evidence and application. They constitute a synthesis of relevant guidelines that utilize the agreed upon method with a strong clinical application process. While we do not strictly adhere to the GRADE methodology in the development of our recommendations, we adopt guidelines that have incorporated GRADE principles into their development processes. This approach ensures that our best practice recommendations provide valuable guidance for health-care professionals and organizations seeking to optimize their clinical practices. By leveraging evidence-based guidelines and principles, we aim to promote effective and informed decision-making in health-care settings.

This methodology outlines a systematic process for developing clinical best practices, ensuring that they are grounded in clinical expertise and robust evidence. These recommendations have been developed by carefully selected experts with direct experience in each specific topic and are based on the latest research. Updates will occur on a regular schedule or when it is determined that significant changes are needed due to new research or treatment approaches.

The methodology used aimed to:

**1. Identify the Clinical Topic:** Select a specific clinical topic for which there is a need to establish best practices. For the *Best Practice Recommendation Updates 2024*, the topics are presented in 12 chapters: Skin Anatomy, Prevention and Management of Wounds, Prevention and Management of Pressure Injuries, Prevention and Management of Skin

Tears, Prevention and Management of Surgical Wounds, Prevention and Management Diabetic Foot Ulcers, Prevention and Management of Burns, Prevention and Management Venous Leg Ulcers, Prevention and Management Peripheral Arterial Ulcers, Prevention and Management Moisture-associated Skin Damage, Prevention and Management of Wounds in Patients with Lymphedema and Nutrition and Wound Healing. The Nutrition and Wound Healing chapter is a new addition to the line-up in 2024.

**2. Review the Literature:** Conduct a review of national and international guidelines that adopt GRADE methodology literature on the chosen clinical topic. Gather and evaluate relevant research studies, systematic reviews, meta-analyses and clinical practice guidelines, knowledge, evidence gaps and areas where best practices are warranted.

**3. Utilize an Expert Panel:** Assemble a national multidisciplinary expert panel consisting of health-care professionals with expertise and experience related to the clinical topic. Highlight the diversity of the wound care provider in terms of clinical settings, geographical locations and professional backgrounds to capture a broad perspective.

**4. Highlight Consensus Building:** Facilitate discussions and deliberations among the expert panel members to reach a consensus on the best practices. Incorporate their clinical expertise, perspectives and judgment into the decision-making process. Encourage open dialogue, critical appraisal of the evidence and the consideration of potential benefits, harms and resource implications. Gain consensus on the changes using a modified Delphi method.<sup>3</sup>

**5. Define Key Questions:** Collaboratively develop a set of key clinical questions that the best practices will address. These questions should be focused, specific and relevant to the clinical topic under consideration. They will serve as a guide for the subsequent application steps of the methodology, with the goal of integrating the recommendations into the new five-step format of the 'Wound Prevention and Management Cycle'.

**6. Evaluate the Evidence:** Conduct a thorough search of published research studies, systematic reviews and meta-analyses related to wound prevention and management. Evaluate the quality of the guidelines evidence and identify knowledge gaps using a validated grading system.

**7. Develop Best Practice ‘Statements’:** Based on the evidence evaluation and consensus reached, draft clear and actionable best practice statements for each key question. Each statement should be practical, feasible and based on the highest quality evidence available. Consider using a standardized format, such as PICO (Population, Intervention, Comparison, Outcome), to structure the statements. Base statements on the ‘Wound Prevention and Management Cycle’.

**8. Implement External Review:** Seek external peer review from additional experts, patients and care partners (e.g., caregivers in the field) to validate the recommendations and ensure their accuracy, clarity and applicability. Incorporate feedback to refine and improve the recommendations. Revise the best practice statements based on the external review feedback. Finalize the document, ensuring clarity, coherence and consistency. More than 60 reviewers were involved in this thorough process.

**9. Facilitate Dissemination and Implementation:** Disseminate the finalized clinical best practices through a comprehensive strategy that makes them easily accessible to health-care professionals, patients and caregivers through online platforms, educational resources and supporting partner societies. Develop supporting materials, such as algorithms, decision aids and educational resources, to facilitate the implementation of the best practices into individual practices and institutions.

**10. Periodically Review and Update:** Recognize that clinical best practices are dynamic and subject to evolving evidence. Establish a process for regular review based on a 3-5 year cycle and update specific recommendations if and when significant changes are needed due to new research, approaches, etc., to ensure their continued relevance and alignment with the latest

research findings. Regularly monitor emerging evidence, feedback from users and changes in clinical practice to inform future revisions of the best practices.

The *Best Practice Recommendation Updates 2024* will be launched online in the first quarter of 2024. They will be available on the Wounds Canada website at [www.woundscanada.ca](http://www.woundscanada.ca). 

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### References

1. Schünemann HJ, Best D, Vist G, Oxman AD, The GRADE Working Group. CMAJ. 2003;169 (7): 677-680. Available at <https://www.cmaj.ca/content/169/7/677.long>.
2. McMaster University. About GRADE. 2023. Available at <https://cebgrade.mcmaster.ca/aboutgrade.html>
3. Nasa P, Jain R, Juneja D. Delphi methodology in healthcare research: How to decide its appropriateness. World J Methodol [Internet]. 2021;11(4): 116–129. DOI: 10.5662/wjm.v11.i4.116