

Nutrition for Wound Prevention and Healing

A guide for home care in Alberta with a focus on Indigenous health.

This Professional Guide contains information to be used as a cue for action when determining the role of nutrition support in wound prevention and healing. It is important to remember that nutrition care is to be collaborative, using a patient-centred approach based on respect, dignity, empathy, compassion, cultural appropriateness and shared decision making.

Introduction

Good nutrition is an essential component of skin health—to prevent skin breakdown and support wound healing—yet is an often overlooked component in the prevention and treatment of wounds.

Patients of all ages need a consistent supply of nutrients and fluids to maintain and heal skin.¹ Nutrients such as energy (calories), protein and fluid, and micronutrients such as iron, zinc, copper and vitamins A, C and D are important in supporting skin health and wound healing.^{2,3}

The process of wound healing includes coagulation, inflammation, proliferation of new cells and remodelling. For this to occur, adequate food and fluids are required as body tissues grow and repair. Eating well and staying hydrated while living with a wound will help the patient's wound heal and prevent complications such as slow healing, prolonged inflammation, and infection. During this time, a person's effort at weight loss should be discouraged. As well, for persons with diabetes mellitus nutrition is linked to managing blood glucose levels that in turn will help support skin integrity and wound healing.

Foundational to skin maintenance, prevention and healing of wounds is the completion of a validated nutritional screening tool, which can be completed by any trained member of the health-care team.^{4,5} Once interventions are determined, family and community members can assist with the provision of nutrition through seasonally available and culturally relevant foods and fluids. The health-care team includes the patient, family, registered dietitian (RD), health-care personnel, primary care providers, speech-language specialists (for swallowing assessment), and staff that prepare food in institutional settings. ***Leaders and policy makers should have nutrition screening and assessment built into standard interdisciplinary practice, policy and outcome measurements for persons across the lifespan.***⁶

Malnutrition, also called undernutrition, is a common risk factor that contributes to the development and prolonged healing of wounds, in addition to other health concerns. The Canadian Malnutrition Task Force describes malnutrition as “both the deficiency and excess (or imbalance) of energy, protein and other nutrients. . . . Undernutrition affects body tissues, functional ability and overall health.”⁶ They go on to state that in patients with conditions that cause loss of appetite, providing for their increased nutritional needs can be especially challenging.⁶

Step 1: Conduct a comprehensive patient nutrition assessment as part of an overall patient assessment.

Screening for risk of nutritional compromise is part of this baseline data collection and should be conducted using validated tools. See [Foundations of Best Practice for Skin and Wound Management: Best Practice](#)

Recommendations for the Prevention and Management of Wounds for information on conducting a holistic patient assessment. Depending on the patient, the screening tool used may vary. In Table 1: Nutrition Screen Tools, Mackay⁴ has listed a number of tools available for use for different populations.

Table 1: Nutrition Screening Tools⁴

Screening Tool	Population
Mini Nutrition Assessment SF (MNA [®] -SF)	Identifies adults 65 years or older, living in long-term care or community dwelling, who are malnourished or at risk of malnutrition
Self-Mini Nutritional Assessment (Self-MNA)	Identifies adults over 65 years of age who are at risk of nutritional compromise
Malnutrition Universal Screening Tool (MUST)	Identifies adults who are underweight and at risk of malnutrition (acute, long-term care or community)
Malnutrition Screening Tool (MST)	Identifies adult patients in acute or ambulatory care who are at risk of malnutrition
Canadian Nutrition Screening Tool (CNST)	Identifies adult patients in acute care at risk of malnutrition
Short Nutritional Assessment Questionnaire (SNAQ)	Identifies adults who are underweight and at risk of malnutrition (acute)
Short Nutritional Assessment Questionnaire 65+ (SNAQ 65+)	Identifies adults over 65+ in the community who may be at risk of malnutrition
Short Nutritional Assessment Questionnaire for Residential Care (SNAQ-RC)	Identifies adults over 65+ in residential care who may be at risk of malnutrition
Nutri-eSCREEN (online)	Used for self-screening eating habits for adults aged 50 and over

- Assess the patient's body weight as it is a key measure to help guide energy and protein requirements for wound healing.
- Discuss food choices, access to food, shopping patterns, finances and meal planning and preparation with the patient and family. This includes access to a kitchen, meal services available in the community (e.g., with a fee or not) and social activities where food is included.
- Determine if the patient has been referred to dietitian services in the past or present.
- Assess the patients' appetite and food preferences.
- Assess for food allergies, sensitivities and intolerances.
- Determine if the patient is following any potentially restrictive diet (such as a weight-loss diet, low-carbohydrate diet, periods of fasting).
- Assess for barriers to food intake, including chewing or swallowing difficulties, nausea, pain, taste changes or shortness of breath.
- Assess for additional fluid and nutrition losses through diarrhea, vomiting, fever, heavily draining wounds or high output ostomies.
- Determine use of nutritional supplements such as oral nutrition supplement drinks, modular/powdered

- protein supplements, or vitamins or minerals tablets.
- Assess glucose management (for example capillary blood glucose results or A1c).
- Document findings as per policy.
- Discuss any concerns with the team (including the patient and family).

Screening Resources

- Alberta Health Services: [Nutrition Screening Pathway for Home Living Clients](#)
- Alberta Health Services: [Nutrition Screening Pathway for Home Care Clients](#)

Step 2: Set the stage

- Refer the patient to the RD.
- Discuss with the patient and support person(s) the importance of food and nutrition in skin health and wound healing.
- Outline the importance of energy (calories), protein and fluid intake.⁷
- Discourage efforts at weight loss at this time.
- In consultation with the RD, set goals for desired outcomes such as regular meals and snacks, fluid intake in 24 hours or intake of protein-rich foods. The RD may suggest liberalizing restrictive diet patterns or plans.
- Review strategies to address food intake barriers.
- Review glucose management targets. Visit [Individualizing Your Patient's A1c Target](#) from Diabetes Canada for more.
- In consultation with the RD determine if the patient qualifies for nutritional products to support wound healing. See the Non-Insured Health Benefits (NIHB) Drug Benefit List's [Appendix I: Nutritional Products Formulary](#).

Step 3: Assemble resources and implement a plan of care

- Provide education to the patient and family using credible resources. Consider accessing Alberta Health Services' [Nutrition Education: Find nutrition information that is right for you](#).
- Communicate to the support person(s) how they can be of assistance in achieving the goals.
- Engage diabetes educators or physicians for glucose management, as needed.
- Support the patient in attending web-based appointments related to nutrition and skin health/wound healing.

Nutrition Resources for the Patient and Family

- Alberta Health Services: [Eating Well for Wound Healing](#)
- Wounds Canada: [Eating Well for Wound Healing: A Patient Resource](#)

Nutrition and Malnutrition Resources for Health-care Providers

- Alberta Health Services: [Nutrition Resource](#) (detailed nutrition and malnutritional tools for health care providers)
- Alberta Health Services: [Nutrition Guideline: Pressure Injuries: Prevention and Management](#)
- Wounds Canada: [Feeding the Foot: Nutrition and Diabetic Foot Ulcers](#)
- Wounds Canada: [Nutrition and Pressure Injury Healing: Updated Recommendations](#)
- Wounds Canada: [Malnutrition and Wound Healing](#)
- Wounds Canada: [Healing with Hydration](#)
- Wounds Canada: [The Power of Protein in Wound Healing](#)

Step 4: Evaluate nutrition-related outcomes

On a regular basis and in discussion with the patient, family and health-care team determine if the goals set are being achieved or require adjustment. For example:

- Is the patient hydrated?
- Is the patient achieving and maintaining their food-related nutrition goals?
- Have the barriers to eating being successfully removed?
- Is the wound healing?
- Is the patient maintaining or gaining weight, as appropriate?
- Are the recommended nutrition supplements tolerated?

Evaluation of the care plan should be routine and ongoing to identify whether the plan is effective in meeting the goal(s). If, after the steps above have been completed, and the nutrition goals have not been fully met, go back to the assessment step and then repeat the rest of the steps incorporating any new information you have discovered during the assessment step. Remember to discuss findings with the RD, patient, family and health-care team as there may be additional steps that can be taken to support the patient.

Additional Resources

The following resources provide additional information about keeping skin healthy and supporting wound healing through nutritional choices.

Education (Indigenous Teaching Resources)

- Using an individual and group-community approach, consider traditional foods that support health and wellbeing and incorporate the individual's and family preferences of food choices. This should be based on household food security (insecurity) and past and current experiences accessing food (funds, hunting, fishing, harvesting).
- Teach the patient and family using patient-centred education materials about the importance of food and fluid intake to prevent bladder infections and constipation, weight management (if overweight or obese) and underlying health issues such as lung capacity (smoking, second-hand smoke), diabetes and cardiovascular disease.
- Teach using the appropriate [Eating Well with Canada's Food Guide, in English, Inuktitut, Ojibwe, Plains Cree or Woods Cree](#).
 - Consider accessing the prepared presentation slides describing Canada's Food Guide. (Government of Canada. [Ready-to-use Presentation for nutrition educators on eating well with Canada's Food Guide – First Nations, Inuit and Metis.](#))
- Teach using Indigenous terminology as appropriate:
 - [Cree Medical Dictionary](#)
 - [University of Alberta. Medical Dictionaries and Glossaries \(sign-in is required\)](#)
- Consider [recipes and tips for food harvesting, canning, and storing foods](#).
- [Alberta Health Services. IHP Learning series: Traditional foods \(YouTube\)](#)
- [National Collaborating Centre for Aboriginal Health. Traditional Aboriginal Diets and Health](#)
- [Government of Canada. Eating Well with Canada's Food Guide – First Nations, Inuit and Métis](#)
- [Yellowhead Tribal Council](#)

Education (General Teaching Resources)

- Alberta Health Services: Nutrition Education: Find Nutrition Information that Is Right for You

Policy

- Alberta Health Services: Food, Nutrition and Indigenous Peoples in Alberta: A report to inform Alberta health services planning
- First Nations Health Authority (British Columbia). Healthy Food Guidelines

Wound Healing

- Alberta Health Services: Eating Well for Wound Healing

References

1. Orsted HL, Keast DH, Forest-Lalande L, Kuhnke JL, O'Sullivan-Drombolis D, Jin S, et al. *Best Practice Recommendations for the Prevention and Management of Wounds*. In: Foundations of Best Practice for Skin and Wound Management. A supplement of Wound Care Canada; 2017.
2. Orsted HL, Keast DH, Forest-Lalande L, Kuhnke JL, O'Sullivan-Drombolis D, Jin S, et al. *Skin: Anatomy, Physiology and Wound Healing*. In: Foundations of Best Practice for Skin and Wound Management. A supplement of Wound Care Canada. 2017.
3. Mackay E. *Feeding the Foot: Nutrition and Diabetic Foot Ulcer*. Wound Care Canada. 2021;18(3):40–6.
4. Mackay E. *Malnutrition and Wound Healing*. Wound Care Canada. 2019;17(3):32–6.
5. Meuller C, Compher C, Druyan ME, and the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board of Directors. *A.S.P.E.N. Clinical Guidelines*. JPEN. 2011;35(1):16-24.
6. Canadian Malnutrition Task Force. *Malnutrition Overview*.
7. Alberta Health Services. *Nutrition Guideline: Pressure Injuries Prevention and Management*. 2018.

Funding for this resource provided by FNIHB ISC - Alberta Region.



Indigenous Services
Canada

Services aux
Autochtones Canada