



Nutrition Best Practice for Preventing and Managing Pressure Injuries

NUTRITION CONNECTION

How nutrition plays a role in the prevention and management of pressure injuries

During the COVID-19 pandemic crisis we saw professional organizations and groups such as the National Pressure Injury Advisory Panel and the European Pressure Ulcer Advisory Panel provide guidance and resources to assist in managing increased risks for pressure injuries (PIs). Risks related to the use of personal protective equipment (PPE) along with COVID-19 heightened the need for awareness and facility implementation of credible practice.

Pressure injuries are one of the most common and costly harms experienced by patients, with acute care hospitals treating 2.5 million pressure injuries each year. Patients with hospital-acquired pressure injuries (HAPIs) have a median excess length of stay of 4.31 days. An estimated 60,000 patients die annually as a direct result of pressure injuries. There are about 17,000

pressure injury lawsuits each year and they are the second most common claim after wrongful death.

The Centers for Medicare & Medicaid Services (CMS) continues to mandate that surveyors investigate skin integrity and pressure ulcers. F-Tag 686 in the State Operations Manual states that based on the comprehensive assessment of a resident, the facility must ensure that a resident receives care, consistent with professional standards of practice, to prevent pressure ulcers and does not develop pressure ulcers unless the individual's clinical condition demonstrates that they were unavoidable. In addition, a resident with pressure ulcer(s) receives necessary treatment and services, consistent with professional standards of practice, to promote healing, prevent infection, and prevent new ulcers from developing.



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We have now seen that one unintended consequence of battling COVID-19 has been a greater incidence of pressure injuries as the healthcare industry remains focused on the pandemic; however, the importance of providing “best practice” nutritional care to prevent and manage pressure injuries continues to be evident. As we keep learning about COVID-19 we will learn even more about pressure injury prevention and management, and we must keep current on best practices.

This article provides an overview of current evidence-based nutrition recommendations as a review to allow reassessment of our protocols, systems, and processes.

NUTRITION GUIDELINES

Nutrition plays a significant role in the prevention and management of pressure injuries. In 2019 the European Pressure Ulcer Advisory Panel (EPUAP), National Pressure Injury Advisory Panel (NPIAP), and the Pan Pacific Pressure Injury Alliance (PPPIA) published collaborative international guidelines and recommendations based on updated reviews of the current research literature.

Embedded within the *Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline*—

The International Guideline 2019 is the ongoing message that nutrition plays a key role. Macronutrients and micronutrients are required by each organ system in specific amounts to promote the growth, development, maintenance, and repair of body tissues. These guidelines offer health professionals “best practice” nutrition-related recommendations to prevent and treat PIs.

Meeting the body’s nutrition requirements is essential to promote health and well-being, however the point at which inadequate nutrition



intake affects skin integrity has not been defined. Research has demonstrated that decreased acceptance of food and fluids are associated with PIs. In addition, insufficient nutrient intake and low body weight are both linked with impaired wound healing. Chronic disease and multiple comorbidities contribute to an increased risk of PIs, and nutritional management plays an integral role. These factors must be considered and use of

a collaborative healthcare team is needed for effective care planning and PI management.

Nutritional screening using a validated nutritional screening tool is recommended for individuals at risk or with PIs. These individuals should be referred to a registered dietitian nutritionist (RDN) or other qualified professional for a nutrition assessment. This should be part of the collaborative interprofessional team that includes the patient to determine a patient-centered nutrition plan.

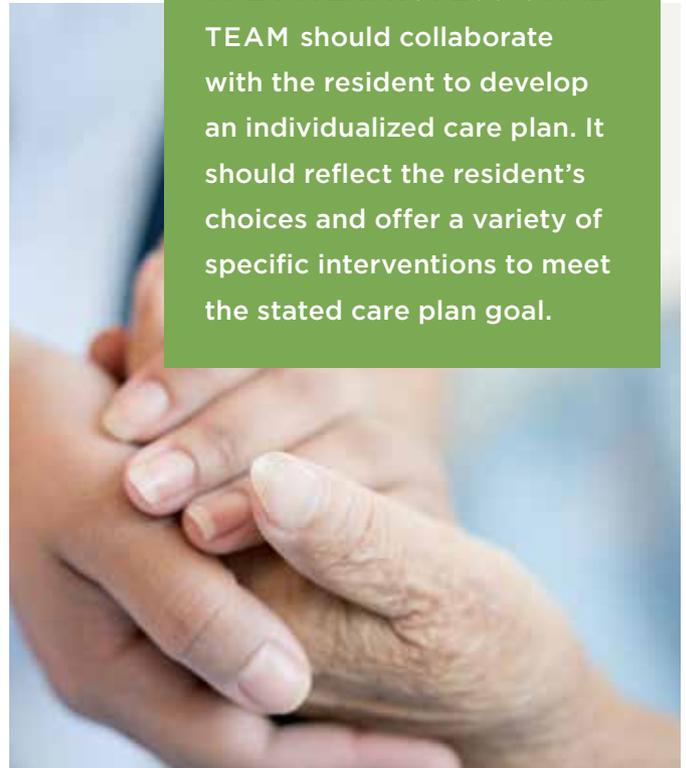
Clinical Practice Guidelines/Recommendations for Nutrition include:

- Providing 30-35 kcal/kg of body weight per day for adults with a PI who are malnourished or at risk of malnutrition. Adequate kilocalories support collagen and nitrogen synthesis, thus promoting anabolism by sparing protein from being used as an energy source.

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NUTRITION SCREENING using a validated nutritional screening tool is recommended for individuals at risk or with pressure injuries.

THE INTERPROFESSIONAL TEAM should collaborate with the resident to develop an individualized care plan. It should reflect the resident's choices and offer a variety of specific interventions to meet the stated care plan goal.



- Protein recommendation is 1.25 to 1.5 g/kg of body weight per day for adults with a PI who are malnourished or at risk for malnutrition. Protein is vital for growth and maintenance of cells, fluid balance, and blood clotting.
- Adequate energy and protein intake should be optimized for the individual based on their overall nutritional status. *Note:* Carbohydrates also are important as they are the body's main fuel source. If energy from carbohydrates and fat fails to meet the individual's needs, the liver and kidneys synthesize glucose from noncarbohydrate sources, such as protein.
- Fluid/water serves as the major transport medium for moving nutrients to the cells and removing waste products. The recommendation is to encourage fluid intake and cannot be more specific as there is not research that supports the optimal formula for calculating fluid requirements for individuals with PIs. Commonly used is 1 mL fluid/kcal and additional fluids need to be considered for individuals having draining wounds, emesis, diarrhea, elevated temperature, or increased perspiration.
- Micronutrients (vitamins and minerals) play a role in the PI healing process and are key components of a healthy diet. The 2019 Guidelines Committee did not review micronutrients because of a lack of evidence-based research on the validity of their use. While inadequate intake puts a patient at risk for deficiencies in micronutrients, research is varied on the benefit of specific micronutrient supplementation above the RDA to promote wound healing.
- Oral intake should be considered with a focus on improved intake prior to use or in addition to use of nutrition supplements. Some comprehensive approaches for improving oral intake include:
 - > Nutrition counseling
 - > Modifying food, such as with fortified foods
 - > Revising/modifying or liberalizing diet restrictions that result in decreased intake
 - > Offering assistance with eating
 - > Honoring cultural/religious food preferences
 - > Providing a pleasant eating environment
- Nutrition supplements: When a positive energy and protein balance cannot be met through oral intake alone, and when oral feeding is safe, the use of oral nutritional supplements (ONSs) can be an effective strategy to help meet protein and calorie requirements.

- > It is advised to review nutritional labeling on ONSs to determine appropriate usage based on their macronutrients and micronutrients as a part of the individual's nutrition treatment plan, up to complete healing. Studies have supported the importance of extra energy and protein, but also the positive effect of adding arginine and micronutrients (zinc and antioxidants).
- > The use of ONSs duration of intervention should be at least four weeks and reasonably up to healing.
- Nutrition support for PI intervention and treatments through use of artificial nutrition and hydration has limited evidence for support; however, the interprofessional team should discuss the risks and benefits of enteral (EN, tube feeding) or parenteral nutrition (PN, feeding through a vein) with individuals who cannot meet their nutrition requirements through oral intake despite previous intervention. Individual patient-centered goals take precedence over nutrition goals.
- Palliative care and hospice patients should be involved in discussions about the benefits and harms of enteral or parenteral nutrition. The guiding principles of palliative care for PI management focus on relieving pain and providing comfort for the patient. Treatment goals should be individualized, respecting each person's unique values and personal decisions.

CARE PLANNING/MONITORING AND EVALUATION

The interprofessional team including the certified dietary manager, certified food protection professional (CDM, CFPP),

registered dietitian nutritionist (RDN), wound care nurse, nursing, therapists, and physician should collaborate with the resident to develop an individualized care plan. It should reflect the resident's choices and offer a variety of specific interventions to meet the stated care plan goal.

The care plan should include education provided to the resident/caregiver on the benefits of the suggested interventions that has specific time frames for completion or review of the care plan. Routine or periodic monitoring of the care plan is needed to adjust interventions if there is a change in condition or if the desired progress is not occurring. All of this should be documented in the medical record.

CONCLUSION

After shifting resources and focusing on battling the COVID-19 pandemic, healthcare providers are now at a point of refocusing on the role of nutrition for effective prevention and management of pressure injuries. Healthcare providers

must work collaboratively to continually reassess their systems and processes related to food, nutrition, and dining to achieve positive outcomes. **E**

REFERENCES

- *The National Pressure Injury Advisory Panel Guidelines* <https://npiap.com/page/guidelines>
- *The Role of Nutrition For Pressure Injury Prevention And Healing: The 2019 International Clinical Practice Guideline Recommendations* https://cdn.ymaws.com/npiap.com/resource/resmgr/the_role_of_nutrition_for_pr.pdf
- *The National Pressure Injury Advisory Panel Website:* <https://npiap.com/>
- *Centers For Medicare & Medicaid Services (CMS), State Operations Manual Appendix PP - Guidance to Surveyors for Long Term Care Facilities Table Of Contents (Rev. 173, 11-22-17)*



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- Pressure injuries are one of the most costly and common harms experienced by patients, with acute care hospitals treating more than _____ million pressure injuries each year.
 - 2
 - 2.5
 - 5
- There are more than _____ pressure injury lawsuits a year.
 - 10,000
 - 14,000
 - 17,000
- The 2019 International Pressure Ulcer/Injury Prevention and Treatment Clinical Practice Guideline included collaboration from the following professional organizations:
 - European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel, Pan Pacific Pressure Injury Alliance
 - National Pressure Injury Advisory Panel, Pan Pacific Pressure Injury Alliance, World Healthcare Organization
 - National Pressure Injury Advisory Panel, Pan Pacific Pressure Injury Alliance, NATO
- Provide _____ kcal/kg of body weight for adults with a pressure injury who are malnourished or at risk for malnutrition.
 - 15-20
 - 20-25
 - 30-35
- Protein recommendation is _____ g/kg of body weight for adults with a PI who are malnourished or at risk for malnutrition.
 - .8 to 1.0
 - 1.25 to 1.5
 - 1.5 to 2.0
- _____ intake should be considered with a focus on improved intake prior to the use or addition of nutrition supplements.
 - Oral
 - Consistency
 - Food group
- When a positive energy and protein balance cannot be met through oral intake alone, and when oral feeding is safe, the use of oral nutritional _____ can be an effective strategy to help meet protein and calorie requirements.
 - Micronutrients
 - Supplements
 - Macronutrients

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