

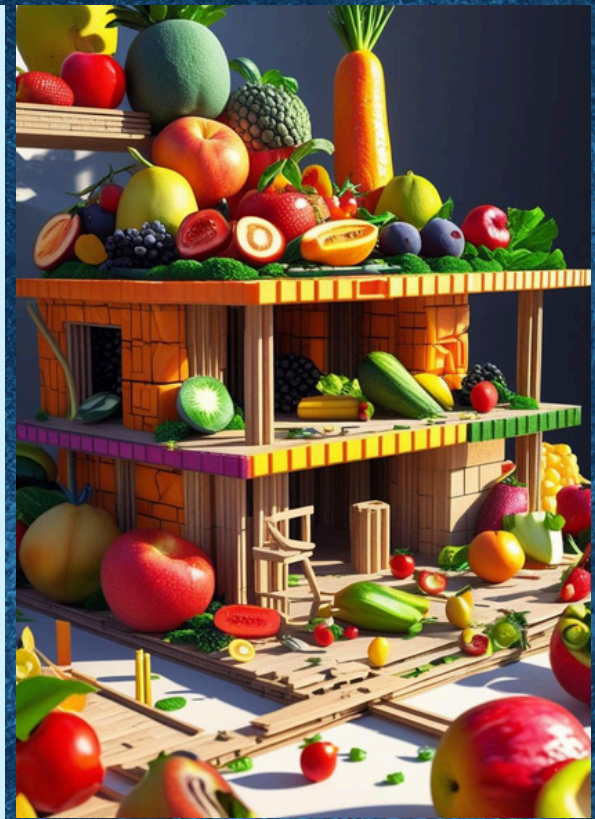


THE HEALING ADVANTAGE NEWSLETTER

Nutrition for Wound Healing

Nutrition's Role in Wound Healing and Prevention

Think of your body as a construction site—when a wound occurs, it's like damage that needs urgent repair. But without the right materials, progress stalls. That's where nutrition steps in. Protein is like the building blocks that are needed to create new tissue. Zinc and vitamin C are other key components needed for collagen synthesis. Adequate hydration keeps everything running smoothly by allowing cells to function optimally. High blood sugar causes delays in repairing the damage—it prevents the crew (your cells) from doing their job efficiently, leaving wounds struggling to heal properly. Nutrition isn't only important for healing an active wound, it is equally important for wound prevention. To maintain healthy tissues and prevent deterioration, the body requires sufficient calories, protein, fluids, vitamins, and minerals. According to the 2025 National Pressure Injury Advisory Panel (NPIAP) Guidelines, a valid, reliable screening tool, like the Mini Nutritional Assessment (MNA), should be used when a patient is admitted to a hospital or Long-Term Care (LTC) to guide referral to a registered dietitian for a more detailed nutritional assessment and recommendations. Scan the QR code to download a PDF of the MNA!



Scan here for
the MNA



Protein



"Protein" comes from the Greek word "protos," which means "first" or "primary," reflecting the body's fundamental need for this nutrient. Amino acids, the fundamental building blocks of protein, play a vital role in a variety of essential bodily functions. Arginine is a conditionally essential amino acid that is critical for wound healing.⁶ During the proliferative phase of wound healing, protein is needed for deposition of collagen to create new tissue. According to European Society for Clinical Nutrition and Metabolism (ESPEN) 2018 guidelines, a rate of 1.2–1.5 g/kg body weight/day is recommended for protein supplementation during wound healing for those who are malnourished or at risk for malnutrition.³ Examples of foods that include protein are beef, poultry, fish, lentils, beans, chickpeas, and tofu.⁸

Vitamin C and Zinc

Vitamin C and zinc play crucial roles in wound healing by supporting tissue repair and immune function. Vitamin C is essential for collagen synthesis, which helps strengthen new tissue and improves skin integrity. It also acts as an antioxidant, protecting cells from damage and reducing inflammation.¹ Zinc, on the other hand, is vital for cell growth, immune response, and enzyme function, all of which contribute to faster recovery.⁵ Deficiencies in either nutrient can lead to delayed healing and increased risk of infection, making adequate intake essential for optimal wound care.



Hydration

Proper hydration is essential for effective wound healing, as water plays a crucial role in maintaining skin integrity, circulation, and cellular repair. Dehydration can slow the healing process, reducing oxygen and nutrient delivery to the affected area and impairing tissue regeneration. Hydration also supports the body's ability to flush out toxins, regulate inflammation, and promote collagen production—key factors in wound recovery. Ensuring adequate fluid intake can help prevent complications, such as delayed healing or increased risk of infection, making it a vital component of overall wound care management.⁷



Blood Sugar

Managing blood sugar is essential for optimal healing, helping wounds close faster and reducing complications. Hyperglycemia significantly impairs wound healing by restricting nutrient and oxygenated blood flow due to atherosclerosis and disrupting endothelial cell function. It also interferes with re-epithelialization by inhibiting the synthesis, migration, and proliferation of keratinocytes and fibroblasts, while reducing the expression of key proteins needed for skin regeneration. Additionally, hyperglycemia contributes to oxidative stress by lowering antioxidant enzyme activity and increasing reactive oxygen species (ROS), which damages blood supply and nerve function. These combined effects slow healing, increase infection risk, and accelerate skin aging. Managing blood sugar levels is crucial for effective wound recovery.² Blood sugar can be adequately managed by monitoring intake of dietary sugar (specifically limiting food with “added sugar”), regular exercise, and adherence to prescribed medications or insulin therapy for diabetic individuals.



Conclusion

In conclusion, nutrition serves as the cornerstone of effective wound healing and prevention. From the structural foundation provided by protein and the regenerative support of vitamin C and zinc to the vital roles of hydration and blood sugar regulation, each nutritional element contributes to a well-coordinated repair process. Without these building blocks, the body's ability to restore damaged tissue and resist new injury is compromised. Prioritizing nutritional screening and individualized dietary support—especially in clinical settings—empowers care teams to promote optimal healing outcomes and improve overall patient health.

Proper nutrition can help support strong skin and muscles, which can help prevent pressure injuries and promote healing if a pressure injury occurs.

Quality nutrition is comprised of:



Calories

Adequate calories help maintain muscle mass and weight.



Protein

Protein repairs and maintains tissue and muscle, which can help pressure injuries heal.



Amino Acids

Arginine is a conditionally essential amino acid that is critical for wound healing.



Water

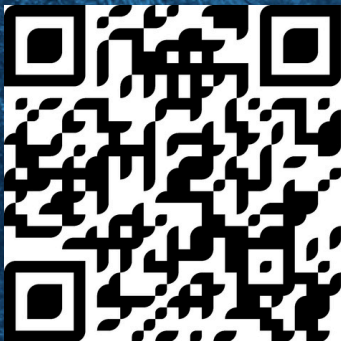
Proper hydration carries nutrients throughout the body.



Vitamins & Minerals

Many vitamins and minerals are associated with healing.

Images Courtesy of the NPIAP



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