NUTRITION FOR WOUND HEALING

THE BASICS OF NUTRITION FOR WOUND HEALING

Nutrition plays a crucial role in wound healing by providing the necessary nutrients to support tissue repair and immune function. Adequate protein intake is vital for collagen synthesis and tissue regeneration. Calories supply the energy needed for healing processes. Vitamins and minerals, such as vitamin C, zinc, and vitamin A, are essential for collagen formation, immune response, and cell growth. Proper hydration ensures optimal skin integrity and nutrient delivery to the wound site. Overall, balanced nutrition accelerates healing and reduces the risk of complications. A lack of nutrition will inhibit wound healing.

PRESSURE INJURY STAGE + NUTRITION

1 & 2	30-35 Calories and 1.2-1.5 grams of protein per kilogram body weight. Ensure adequate fluids. If reccurrent or non-healing wound, consider additional supplementation.
3 & 4	35-40 calories and 1.5-2.0 grams of protein per kilogram body weight daily. Increase fluids to ensure adequacy. Evaluate for oral nutritional supplements. Consider Vitamin A, Zinc, Arginine, and Vitamin C supplementation if diet and supplements are not meeting needs.

TO CONSIDER

MALNUTRITION	Malnutrition impairs the healing of pressure injuries by depriving the body of essential nutrients needed for tissue repair and immune function. It weakens skin integrity and delays recovery.
KIDNEY DISEASE	Kidney disease complicates wound healing due to impaired nutrient absorption, fluid imbalances, and compromised immune function. Toxins that build up in the blood can hinder tissue repair.
DIABETES	Diabetes impairs wound healing due to poor blood circulation, nerve damage, and elevated blood glucose levels. These factors increase the risk of pressure injuries and slow the healing process.

GUIDELINES FOR WOUND HEALING

1. Assess the patient for malnutrition. Anyone with malnutrition can be considered at risk for pressure injuries. Use the Mini-Nutritional Assessment (MNA) for older adults, especially in Long Term Care.
2. Perform a full nutrition assessment on any individual that is considered a high risk nutrition status.
3. For individuals at high risk of malnutrition or malnourished, consider increasing protein and calories to reduce risk.
4. Protein intake should be 1.0-1.5 grams per kilogram body weight for older adults. Protein intake for older adults with acute or chronic diseases can be adjusted to 1.2-1.5 gm/kg BW.
5. Assess renal function prior to protein initiation.
6. Older adults with pressure injuries or at moderate to high risk can have calories of 30-35 kilocalories per kilogram body weight.
    a. Note all protein and calorie recommendations need to be individualized based on health conditions, diagnosis, as well care planning with the healthcare team, patient, and goals of care considered.
7. Diets should be liberalized where it is safe to do so.
8. Offer high calorie high protein nutritional supplements to aid in meeting needs. This should be offered between meals. Look for formulas containing 1.5-2.4 kcal/mL, and contains arginine, zinc, and antioxidants.
9. Evidence suggests that supplements should be offered for a minimum of 4 weeks to see promising results, upwards of 8-12 weeks until the wound has fully healed.

VITAMIN & MINERAL SUPPLEMENTATION

ARGININE	ZINC	VITAMINS
While there is good evidence to support the roles that Arginine plays in wound healing, it is still mixed. Currently the NPIAP recommends a dosage of 4.5 g/day - 9 g/day. There was no difference in wound healing outcomes between the two doses.	Currently the NPIAP does not have a Zinc dosage recommendation, but research in small trials has shown that a ONS containing Zinc with 18-20 mg daily for 4 weeks aided in wound healing. Research is still pending on exact recommendations.	Research continues to be mixed with regards to whether to supplement. But Vitamin A and Vitamin C have been shown to be beneficial in wound healing. If a suspected deficiency, or cannot meet with diet, consider supplementation.

Information referenced from the NPIAP Manual (C) 2019. Note all information is general guidelines and is not considered personal medical advice. Always seek a healthcare professionals advice.