Nutrition in Wound Healing

Jeffrey D. Lehrman, DPM, FASPS, MAPWCA

Editorial Advisory Board, WOUNDS
APMA Coding Committee
APMA MACRA Task Force
Expert Panelist, Codingline
Fellow, American Academy of Podiatric Practice Management
Board of Directors, ASPS
Board of Directors, APWCA
Twitter: @DrLehrman
Neuropathic Ulcer
5-Year Mortality Rate

References:
Continuing Research: Healing of Diabetic Foot Ulcers After 4 weeks

Percentage of Patients in Whom the Ulcer Healed During the 12 Week Period

Wounds achieving less than 53% closure at week 4 have minimal chance of healing with conventional therapy

Sheehan et al. Diabetes Care. 2001; 25
During healing need more:

- Calories
- Protein
- Vitamin A
- Vitamin C
- Zinc
Protein

- Meats
- Beans
- Eggs
- Milk
- Soy protein products

- Yogurt (Greek yogurt better)
- Tofu
- Soy
- Nuts
Vitamin A

- Dark green, leafy vegetables
- Orange or yellow vegetables
- Cantaloupe
- Fortified dairy products
- Liver
- Fortified cereals
Vitamin C

- Citrus fruits
- Juices
- Strawberries
- Tomatoes
- Tomato juice
- Cabbage

- Peppers
- Baked potatoes
- Spinach
- Broccoli
- Cauliflower
- Brussels sprouts
Zinc

- Fortified cereals
- Red meats
- Seafood
Labs

- Likely to impact the potential for healing
- HgB, Hct, Iron
- Protein, Albumin, Pre-Albumin
- HgA1c
Diabetes

- Glycosylation of proteins
- Proteins = collagen, fibrin, albumin, and hemoglobin
- Proteins accumulate glycosylation end products which leads to thickening of basement membranes in microcirculation
- Ischemia and impaired wound healing
Hyperglycemia

- Increased diuresis
- Loss of water and electrolytes
- Extracellular and intracellular dehydration
- Decrease oxygenation
- Negative impact on wound healing
Hyperglycemia

- Negative impact on function of:
  - WBC
  - Macrophages
  - Immune function
Hyperglycemia

- Negative impact on:
  - Fibroblast function
  - Angiogenesis
  - Collagen production
Hyperglycemia

Increase production of free radicals

Increases oxidative stress

Tissue damage / Cell death
FIND HEALTHY OPTIONS HERE

AUNTIE ANNE’S PRETZELS E15
BURGER KING E6
DICKEY’S BARBECUE PIT E12, E26
DUNKIN’ DONUTS E6
• 30 to 35 kcal/kg body weight, adjusted based on changes in weight and wound healing

• 1.25 to 1.5 g protein/kg body weight to achieve a positive nitrogen balance

• 30 mL fluid/kg body weight to prevent dehydration

• Encourage a balanced diet that meets the RDA for all vitamins and minerals
Supplements

- May be needed to meet caloric / protein needs
- High-protein/high-calorie shakes
- Specialized commercial formulas
Arginine

- Amino acid
- Stress or illness may require increased amounts of arginine from the diet.
- Consider a 30-day trial period of arginine to promote wound healing
Perfect Bacon Bowl

Cooks to Perfection in the OVEN, TOASTER or MICROWAVE!

Everything Tastes Better in a BACON BOWL!
Thank You!!
References

- Nutrition Guidelines to Improve Wound Healing
  https://my.clevelandclinic.org/health/healthy_living/hic_What_We_Eat_Affects_How_We_Feel/hic_Keeping_Your_Digestive_Tract_Healthy/hic_Nutrition_Guidelines_to_Improve_Wound_Healing

- August 2009 Issue Nutrition and Wound Care Lynn Grieger, RD, CDE, cPT Today’s Dietitian Vol. 11 No. 8 P. 12
References


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