



## NUTRITION AND WOUND CARE

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### ABSTRACT

Nutrition is one of the most basic of medical issues and is often ignored as a problem in the management of wound patients. Inadequate dietary intake and poor nutritional status have been identified as key risk factors for protracted wound healing. Suboptimal nutrition can alter immune function, collagen synthesis and wound tensile strength, all of which are essential in the wound healing process. Not all wounds are equal, but nutrition is a common denominator for all wound patients. Similarly wound care also plays important role in faster wound healing. All wound patients need care but especially it is given for bedridden patients with compromised skin integrity in order to prevent pressure ulcers. Wound care is a multidisciplinary specialty requiring many physiologic and immunologic processes as well as physical, social and societal factors to achieve successful wound closure. In *Ayurveda Acharya Sushruta* had given more importance to *Vrana* and had dedicated so many chapters for diagnosis and treatment of *Vrana*. By understanding these concepts and by asking the patients to follow this will have good results in proper wound healing.

**KEYWORDS:** Nutrition, wound, Pressure Ulcers, *Vrana*, *Susrutha*.

### INTRODUCTION

Good Nutrition is needed for proper wound healing. Along with that proper care will provide better fast healing. In *Sutrasthana* 18th chapter *Acharya Sushruta* had mentioned about how to do bandaging its benefits, indications and contraindications. Next chapter he had explained about how to take care of wounds and also about do's and don't's for wound patient. Followed by that he had mentioned about the *Pathya*<sup>[1]</sup> and *Apathya*<sup>[2]</sup> *Aahara* and *Vihara* which are to be followed by the *Vranita*. Following these will give complete cure from *Sadhya Vrana*.

### OBJECTIVES

- To Determine the effect of *Pathya-Apathya*<sup>[1]</sup> in the management of *Vrana*.
- To Determine the effect of nutrition in the management of *Vrana*.

### BACKGROUND<sup>[3]</sup>

In the 20th century, extensive research on the metabolic response to injury increased our interest in the relationship of nutrition and wound healing. In the

1930s, Cuthbertson defined the concept of peripheral to visceral redistribution of metabolic substrates as part of the adaptive mechanism to heal wounds in our critically ill trauma patients.

With this concept the carcass of the body provides substrate, especially amino acids, for the healing wound in an injured patient who is unable to eat. As the metabolic reserves dwindled, these patients suffered from general protein calorie under nutrition. Parenteral nutrition stimulated the interest of surgeons in nutrition and wound healing. In *Ayurveda Acharya Sushruta* had given more importance to *Vrana* and had dedicated so many chapters for diagnosis and treatment of *Vrana* which will be explained further.

#### ***Hitahara* and *Vihara* mentioned if followed properly will give good result in faster healing.**

<i>Purana Shashtika Sali</i>	<i>Mudga Vilepi</i>
<i>Jangala Mamsa</i>	<i>Srutha Jala</i>
<i>Jeevanthi Shaka</i>	<i>Purana sarpi</i>
<i>Patola</i>	<i>Sainthava Lavana</i>
<i>Karavellaka</i>	<i>Varthaka</i>
<i>Dadima</i>	<i>Bala Mulaka</i>
<i>Grithabhruستا Amalaki</i>	<i>Vasthuka</i>

**Dietary Recommendations**

- ✓ Provide a high protein diet
- ✓ Provide kcal at ~25-35 kcal/kg CURRENT weight
- ✓ Tube feed or parentally feed if necessary
- ✓ Small frequent feedings if intake is poor
- ✓ Supplement with MVI, Vit A, Vit C, thiamin, and zinc

**Specific nutrient effects**

- ❖ Protein- tensile strength.
- ❖ Vitamin C- collagen formation.
- ❖ Copper- cross linking of collagen fibers.
- ❖ Iron- immune function.
- ❖ Arginine- collagen precursor, stimulates insulin and GH secretion, enhances collagen accumulation.
- ❖ Vitamin A- antioxidant, counteracts steroids.
- ❖ Vitamin C- increases collagen synthesis.
- ❖ Zinc- immune function, increases healing only if there's a deficiency in the first place.
- ❖ Vitamin E- clinical relevance not yet established.
- ❖ B Vitamins- collagen production and cross linking.
- ❖ Omega-3 fatty acids- cause weaker wounds by interfering with spatial orientation of fiber.

- Murthy, Chaukhambha Publishers, Edition  
*Suthrasthana* 19/16, 2012; 1: 138-139-656.  
 3. NCBI –Nutrition in wound care.

**DISCUSSION**

*Pathya Ahara* that which mentioned above if followed Properly and *Apathya ahara* as mentioned in *ayurveda* (Diet not to be consumed) *Nava dhanya* (newly harvested grain/cereals), *Masha* (blackgram), *Tila* (sesum oil), *Vishama bhojana* (intake of food at inappropriate time), *Ati-bhojana* (excessive eating), *Anista bhojana* (undesirable food), *Upavasa* (fasting), *Viruddha bhojana* (incompatible food), *Adhyashana* (eating when previous meal is not digested), *Kulattha* (horsegram), *Nishpava* (variety of pea), *Amla-lavanakatu rasa* (sour- salty & pungent foods), *Vallura mamsa* (dried meat), *Shushka shaaka* (dried vegetables), *Vasaa* (animal fat), *Sheetodaka* (cold water *Madya* (variety of alcohols) *Asuri* (mustard seeds), *Mulaka* (radish, which is not tender one) are *pooyavardhaka* (suppurative) and *Doshajanaka* (increases tridosha/humour). So these are to be avoided during the wound healing time as it will hasten it.

**CONCLUSION**

- ✓ Optimizing nutrition is important to best practice care in wound management.
- ✓ This can be achieved by providing the individual with adequate calories and nutrients, preventing protein- energy malnutrition and promoting wound healing.

**BIBLIOGRAPHY**

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2. *Acharya Sushruta, Sushruta Samhitha*, English Translation, Translator Prof. K. R. Srikantha