



Burns



► Nutrition Therapy in Burns ◀

Nutritional support is a key component of burn care and it must also accommodate the surgical and medical needs of the patient. The primary goal of nutrition support following severe burn injury is to meet the distinctive demands placed upon the body by hyper-metabolism.

Objectives of nutritional management:

- Provide nutrition via enteral route within 6 - 18 hours post burn injury
- Maintain weight within 5 % - 10 % of pre-burn weight
 - Prevent signs and symptoms of micronutrient deficiency
 - Minimize hyperglycemia
 - Minimize hypertriglyceridemia

► Minor burns ◀

- No need of IV fluid resuscitation
- Maintain on high energy, high protein diet.

► Moderate to major burns ◀

- Enteral nutrition should begin as soon as possible 8-48 hours after burn occurs.
- PN can supplement enteral nutrition if caloric requirements cannot be met.

► Energy and macronutrient requirements ◀

for adults, 25 kcal/kg plus 40 kcal per each percent of burn area; for children, 1,800 kcal plus 2,200 calories per m2 of burn area.



High-carbohydrate, low-fat diets for these patients result in less proteolysis and more improvement in lean body mass when compared with a high-fat regimen. Protein and fluid needs must also be considered carefully. Protein oxidation rates are 50% higher in burn patients, and protein needs are about 1.5-2 g/kg and Children need 2/5-4 g/kg/day. Water loss can be as much as 4 L/m2/day and a range of 30-50 mL/hour is given depending on the size of the burn, degree of hypernatremia, and urine output.

► Micronutrient supplements ◀

- Levels of the fat-soluble vitamins A and E and carotenoids fall below normal in burn injury patients.
- Vitamin C, zinc, and copper help burns heal.
 - Vitamin E, vitamin C, and selenium are antioxidants. They help to reduce the body's stress response after an injury.
 - Vitamin C, vitamin D, and zinc help to prevent and treat infections.

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They don't blister but are painful, dry, red, and blanch with pressure.

▶ **Second-degree (partial thickness) burns:** They involve the epidermis and part of the dermis layer of skin. Second-degree burns Symptoms are red-painful skin, blisters and Swelling. They are characterized as either superficial or deep.

▶ Burn Definition ◀

Burns are one of the most common household injuries that they are characterized by severe skin damage that causes the affected skin cells to die. Most people can recover from burns without serious health consequences, depending on the cause and degree of injury. More serious burns require immediate emergency medical care to prevent complications and death.

- ▶ Burns Causes
- ▶ Thermal burns
- ▶ Radiation burns
- ▶ Chemical burns
- ▶ Electrical burns

▶ Burns Classifications ◀

▶ **First-degree (superficial) burns:** Superficial or epidermal burns involve only the epidermal layer of skin.



▶ **Superficial partial thickness:** These burns characteristically form blisters within 24 hours between the epidermis and dermis.

▶ **Deep partial thickness:** These burns extend into the deeper dermis and are characteristically different from superficial partial-thickness burns. These types can damage hair follicles and glandular tissue.

▶ **Third-degree (full thickness) burns:** They destroy the epidermis and dermis. Skin appearance can vary from waxy white to leathery gray to charred and black. These types may be painful but could be numb.

▶ **Fourth-degree (Extension to deep tissues) burns:** These burns are deep and potentially life-threatening injuries that extend through the skin into underlying soft tissue and can involve muscle and bone.