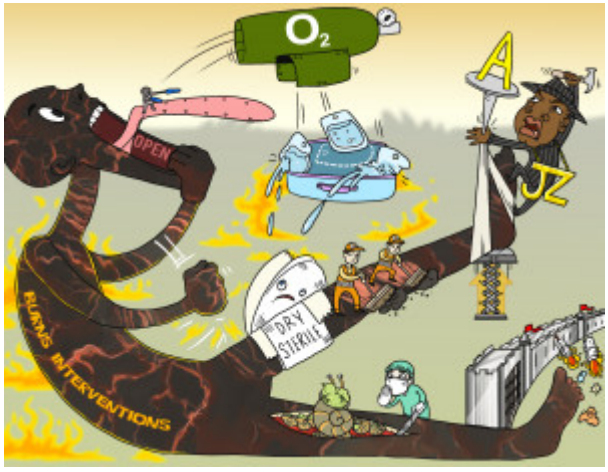
Burns Interventions

Assessment of burn injury is critical for determining appropriate and effective interventions. Ensuring a patent airway and administering oxygen as needed helps maintain tissue perfusion. Wound care including debridement and sterile dressing is important in minimizing the risk of infection and promoting the healing process. Other interventions to address burn injury include IV fluid replacement, elevating burned extremities, administering analgesics, applying silver sulfadiazine, and performing an escharotomy.



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Ensure Airway Patency

Holding Airway Open

Ensuring airway patency is critical while caring for patients with burn injuries. Since the severity of tissue damage may not be visible in patients with inhalation burns, assessing for singed nasal hairs or sooty mucus can help determine respiratory compromise (refer to the Picmonic on "Burns Assessment"). Assistive breathing devices such as endotracheal intubation and mechanical ventilation may be necessary for patients with neck, chest, or large TBSA burns or inhalation injury.

O2

O2-tank

Ensuring adequate oxygenation is critical for the patient with burn injury. Burns cause hemolysis of RBCs and decrease circulating oxygen for tissue perfusion and proper cell function. Supplemental oxygen should be provided as needed. Ventilatory support helps deliver enough oxygen concentrations based on ABG values.

IV Fluid Replacement

IV Fluids

Since burn injury causes significant shifts in fluid balance, at least two large-bore IV access sites must be established to administer large volumes of IV fluid replacement. Crystalloid solutions (lactated Ringer's) and/or colloid solutions (albumin) are often infused. The amount of fluid replacement is determined by assessing the extent of the wound (refer to the Picmonic on "Rule of Nines"). The rate of fluids must be titrated based on vital signs and hourly urine output. During the diuresis phase, the patient may need a urinary catheter. Monitor the patient's hydration status to ensure adequate hydration.

Dry Sterile Dressing

Dry Sterile Dressing

Dry sterile dressing changes with topical antimicrobial ointment are often used in burn wound care. Scheduling adequate time and providing emotional support is essential in establishing a trusting patient relationship. After establishing the burn patient's airway, circulation, and fluid balance, the focus should be on caring for the burn wound to prevent infection. Since infection caused by the patient's own flora may occur, proper burn wound care is critical to avoid further tissue injury. Personal protective equipment (PPE) should be worn while caring for the patient's exposed open burn wounds (refer to the Picmonic on "Standard Precautions").

Debridement

Debris-men

Debridement is the removal of necrotic skin damaged by burn injury. The burn wound may be debrided by healthcare personnel using scissors and forceps. Extensive burn wounds will be debrided in the operating room.

Elevate Burned Limbs

Elevating Burned Limb

Burn injury causes tissue damage and increases capillary permeability. Since extremities may become edematous as fluid enters interstitial spaces, burned limbs should be elevated on pillows to minimize edema.

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Analgesics

A-nail-Jay-Z

Early administration of analgesics will help provide comfort to the patient with burn injury. Intravenous administration provides the fastest onset of pain relief. Oral medications are less effective because of slowed GI function or paralytic ileus. Intramuscular injections will not be absorbed properly in burned areas and pool in the tissue instead of circulating in the body. Opioids are the drug of choice for providing adequate pain relief.

Silver Sulfadiazine

Silver-castle Sulfur-dice

Silver sulfadiazine is a topical medication used to decrease microbial counts on the wound. This ointment helps prevent the development of infection and unlike sulfamylon does not cause pain on application.

Escharotomy

Escargot-escharotomy

Burns may form eschar and compromise circulation. Escharotomy involves surgical incisions along the damaged tissue to release pressure of the swollen tissue to resume adequate blood circulation.

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