BURNS

DEFINITION

❖ Cell destruction of the layers of the skin and the resultant depletion of fluid and electrolytes.

CLASSIFICATION OF BURNS:

❖ **SIZE**

- **Localized Burns**
  - ✓ Body's response is **localized or contained** to the injured area.
- **Extensive Burns**
  - ✓ 25 % or more of the total body surface area (TBSA).
  - ✓ Body's response to injury is systematic.
  - ✓ Affect all major systems of the body.

❖ **BURN DEPTH**

1. **First Degree (Superficial-Partial Thickness)**
   - Epidermis, possibly a portion of dermis.
   - Tingling, hyperesthesia
   - Pain soothed by cooling.
   - Reddened, blanches with pressure.
   - Dry, minimal or no edema, possible blisters; complete recovery within a week, no scarring, peeling.

2. **Second Degree (Deep-Partial Thickness)**
   - Epidermis, upper dermis, portion of deeper dermis.
   - Pain, hyperesthesia.
   - Sensitive to cold air.
   - Blistered.
   - Mottled red base.
   - Weeping surface, edema
   - Recovery 2 to 4 weeks
   - Some scarring and depigmentation.
   - Contractures, infection may convert it to full thickness.

3. **Third Degree (Full-Thickness)**
   - Epidermis, entire dermis and sometimes subcutaneous tissue.
   - May involve connective tissue, muscle and bone.
   - Pain-free/Insensate
   - Shock, hematuria and hemolysis.
   - Possible entrance and exit wounds (Electrical burn)
   - Dry, pale white, leathery or charred, broken skin with fat exposed.
   - Edema
   - Eschar sloughs, grafting necessary.
   - Scarring and loss of contour and function, contractures.

❖ **EXTENT OF BURN INJURY**

1. **Minor Burn Injury**
   - Second- degree burns of < 15 % total body surface area (TBSA) in adults or < 10 % in children.
   - Third degree burn of < 2 % TBSA not involving care areas.
   - Excludes electrical injury, inhalation injury, or concurrent trauma and all poor- risk patients.

2. **Moderate, Uncomplicated Injury**
   - Second degree burns of 15- 25 % TBSA in adults or 10- 20 % in children.
   - Third degree burns of < 10 % TBSA not involving special care areas.
   - Excludes electrical injury, inhalation injury, or concurrent trauma and all poor- risk patient.

3. **Major Burn Injury**
   - Second- degree burns > 25 % TBSA in adults or > 20 % in children.
   - All degree burns of > 10 % TBSA

- All burns involving eyes, ears, face, hands, feet, perineum, joints.
- All inhalation injury, electrical injury, or concurrent trauma, and all poor- risk patients.

ESTIMATING THE EXTENT OF BODY SURFACE AREA INJURY

1. **Lund and Browder (L&B) Method**
   - Modifies percentages for body segments according to age.
   - More accurate estimate of burn size
   - Uses a diagram of the body divided into sections with the representative % of the TBSA for ages throughout the lifespan.
   - Should be reevaluated after initial wound debridement.

2. **Rule of 9's**

ADULTS

- ✓ Head- 9 %
- ✓ Arms- 9 % each
- ✓ Legs- 18 % each
- ✓ Chest- 18 %
- ✓ Back- 18 %
- ✓ Groin- 1 %

CHILDREN

- ✓ Head- 18 %
- ✓ Arms- 9 % each
- ✓ Legs- 14 % each
- ✓ Chest- 18 %
- ✓ Abdomen- 18 %

3. **Palm Method**
   - In patients with scattered burns, a method to estimate the percentage of burn is the palm method. The size of the patient's palm is approximately 1 % of TBSA.

ASSESSMENT OF BURN INJURY

S-ize
C-ause
A-ge
L-ocation
D-epth

TYPES OF BURNS

1. **Thermal Burns**
   - Exposure to flames, hot liquids, steam or contact to hot objects.
   - MOST common type.

2. **Chemical Burns**
   - Tissue contact, ingestion or inhalation of acids or alkali.
   - Systemic toxicity from cutaneous absorption can occur.

3. **Electrical Burns**
   - Heat generated by electrical energy as it passes through the body (direct damage.)
   - Results in internal tissue damage.
   - Cutaneous burns cause muscle and soft tissue damage that may be extensive, particularly in high voltage electrical injuries.
   - Alternating current is more dangerous than direct current because it is associated with cardiopulmonary arrest, ventricular fibrillation, tetanic muscle contractions, and long bone or vertebral fractures.

4. **Radiation Burns**
   - Exposure to UV light, x- rays, or radioactive sources.

5. **Smoke Inhalation Burns**
   - Inhalation of superheated air, stream, toxic fumes, or smoke causing respiratory tissue damage.
   - Assessment:
     - ✓ Facial burn
     - ✓ Erythema
     - ✓ Swelling of oro/ nasopharynx
     - ✓ Singed nasal hair
     - ✓ Stridor, wheezing and dyspnea
     - ✓ Flaring nostrils
     - ✓ Sooty sputum and cough
     - ✓ Hoarse voice
     - ✓ Agitation and anxiety
     - ✓ Tachycardia

❖ **Carbon Monoxide Poisoning**
- Carbon monoxide is colorless, odorless and tasteless gas that has an affinity for Hgb 200 times greater than that of oxygen.
- Oxygen molecules are displaced and carbon monoxide reversibly binds to Hgb to form carboxyhemoglobin.
- Can lead to coma and death.
- **Assessment:**
  - ✓ Bright cherry red, in face and upper torso.
  - ✓ Cherry red nail beds, lips and oral mucosa.
  - ✓ Headache
  - ✓ Muscular weakness
  - ✓ Palpitation
  - ✓ Dizziness

- **Management:**
  - ✓ Oxygen is administered until the carboxyhemoglobin level is less than 5 %

❖ **Smoke Poisoning**
- Inhalation of by-products of combustion.
- A localized inflammatory reaction occurs causing a decrease in bronchial ciliary action and a decrease in surfactant.

Assessment:
- ✓ Mucosal edema in the airways
- ✓ Wheezing on auscultation
- ✓ After several hours, sloughing of the tracheo-bronchial epithelium.
- ✓ Hemorrhagic bronchitis.

❖ **Direct Thermal Heat Injury**
- Can occur to the lower airways by:
- Can occur to the upper airways, w/c appear erythematous and edematous, with mucosal blisters and ulcerations.
- Mucosal edema especially during the First 24 to 48 hours.
- Monitored for airway obstruction,
- ET intubation if obstruction occurs.

PATHOPHYSIOLOGY OF BURNS

↑ Vascular permeability
↓
Edema
↓
↓ IV volume
↓

↑ Hematocrit
↓
↑Viscosity
↓
↑ Peripheral resistance
↓
↓ Cardiac output

THE BODY'S RESPONSE TO A BURN

1. **LOCAL RESPONSE:**

❖ **Zone of Coagulation**
- Point of maximum damage.
- Inner zone of injury where cellular death occur.

❖ **Zone of Stasis**
- Decreased tissue perfusion.
- Middle area, inflammation and tissue injury.

❖ **Zone of Hyperemia**
- Outermost; tissue perfusion increased and sustains the least damage.

2. **SYSTEMATIC RESPONSE:**

❖ **Fluid and Electrolyte Changes**
- Local edema caused by thermal injury is often extensive resulting in blister formation.
- Patients with more severe burns develop massive systemic edema.
- As edema increases, pressure on small blood vessels and nerves in the distal extremities causes an obstruction of blood flow and consequent ischemia (tourniquet effect).

❖ **Cardiovascular Changes**
- Cardiac output continues to decrease and the blood pressure drops. This is the onset of burn shock.
- Myocardial contractility may be suppressed by the release of the inflammatory cytokine necrosis factor.

❖ **Respiratory Changes**
- Inflammatory mediators cause bronchoconstriction
- Pulmonary hypertension can develop, resulting in a decrease in the arterial O_2 tension and a decrease in lung compliance.
- ARDS can occur.

❖ **Metabolic Changes**
- Basal Metabolic Rate (BMR) increases up to 3 times its original rate.

❖ **Immunological Changes**
- Immune system function is depressed, resulting in immunosuppression and thus increasing the risk of infection and sepsis.
- Sepsis continues to be the leading cause of morbidity and with thermal.

❖ **Hemodynamic/ Systemic Changes**
- Initially hyponatremia and hyperkalemia followed by hypokalemia as fluid shifts occur and K+ is not replaced.
- Hematocrit level increases as a result of plasma loss; this initial increase falls to below normal at 3rd to 4th day postburn as a result of the RBC damage and loss at the time of injury.
- Initially, body shunts blood from the kidneys, causing oliguria; then the body begins to reabsorb fluid, and diuresis of the excess fluid occurs over the next days to weeks.
- Evaporative fluid losses through the burn wound are greater than normal, and the fluid losses continue until complete wound closure occurs.
- If the intravascular space is not replenished with IV fluids, hypovolemic shock and ultimately death will occur.

❖ **Gastrointestinal Changes**
- Blood flow to the GIT is diminished, leading to intestinal ileus, GI dysfunction and **Curling's ulcer.**

PHASES OF MANAGEMENT OF THE BURN INJURY EMERGENT/RESUSCITATIVE PHASE

❖ Begins at the time of injury, ends with complete fluid resuscitation
❖ first **24-48 hours** after the injury
❖ Fluid shift from intravascular to interstitial space causing hypovolemia
❖ **Goal**: Prevent hypovolemic shock and preserve vital organ functioning.

❖ **Priorities:**
- First aid
- Fluid resuscitation
- Prevention of shock
- Prevention of respiratory distress
- Detection and treatment of concomitant injuries
- Wound assessment and initial care

❖ **On the scene care:**
- Airway
- Breathing
- Circulating

❖ **Emergency Procedure:**

Extinguish the flames

✓ "Stop, drop, and roll"
✓ Smother the flames, a blanket, rug, or coat, may be used

Cool the burn

✓ Adherent clothing are soaked with cool water.
✓ Never apply ice directly to the burn.

Remove restrictive objects

Cover the wound

✓ Minimize bacterial contamination,
✓ Maintain body temperature
✓ Decrease pain
✓ Ointments and salves should not be used.

Irrigate chemical burns

✓ Rinse all areas of the body that have come in contact with the chemical.
✓ In the shower or any other source of continuous running water.
✓ The eyes should be flushed with cool, clean water immediately.

R- Rescue the patient
A- Activate Alarm
C- Confine the fire
E- Extinguish the fire

❖ **Assessment Findings:**
- Third spacing/Edema
- Hypovolemia
- Dehydration
- Hypotension
- Tachycardia
- Oliguria
- Thirst

❖ **Diagnostic tests:**
- Hyperkalemia (K+ leaks into blood vessels)
- Hyponatremia
- Elevated hematocrit (Hemoconcentration)
- Metabolic acidosis (Loss of bicarbonate)

❖ **Management:**

Remove person from source of burn

- **Thermal:** smother burn beginning with the head.
- **Smoke inhalation:** ensure patent airway
- **Chemical:** remove clothing that contains chemical; wash area with copious amounts of water.
- **Electrical:** note victim position, identify entry/ exit routes of electricity; maintain airway; assess heart rate and rhythm

❖ Wrap in dry, clean sheet or blanket to prevent further contamination of wound and provide warmth.
❖ Assess how and when burn occurred.
❖ Provide IV route if possible
❖ Transport immediately
❖ Includes pre- hospital care and emergency room care**.**

- Amount of fluid administered is based on the client's weight and extent of injury (e.g. Parkland Formula).
- Most fluid replacement formulas are calculated from the time of injury and not from the time of arrival at the hospital.

ACUTE / IMMEDIATE/ DIURETIC PHASE

- Begins when client is hemodynamically stable diuresis has begun.
- Ends at the completion of wound closure
- **2- 5 days after the time of injury**
- Interstitial fluid returns to the vascular compartment
- **Goals:** Wound closure, Prevention of complications
- **Focus:**
  - Infection control.
  - Wound care
  - Wound closure
  - Nutritional support
  - Pain management
  - Physical therapy
- **Assessment Findings:**
- Diuresis
- Decreased Hematocrit (Hemodilution)
- Hypertension
- Increased urine output
- **Diagnostic tests:**
- Hypokalemia (K+ shifts back into the cells)
- Hyponatremia
- Metabolic acidosis

REHABILITATIVE/ CONVALESCENT PHASE

- Final phase of burn care
- From wound closure to return to optimal level of functioning
- Goes beyond hospitalization.
- **Goals:** Gain independence and achieve maximal function.
- **Focus:**
  - Prevention of scars and contractures
  - Physical and occupational rehabilitation
  - Functional and cosmetic reconstruction
  - Psychosocial counseling
- **Assessment:**
- Dry, waxy- white, appearance of full-thickness burn changing to dark brown
- Drying out of wet, shiny and serious exudates (in partial thickness burns)

MANAGEMENT OF THE BURN INJURY

FLUID RESUSCITATION

- **Indications:**
- Adults with burns involving more than 15 %- 20 % TBSA.
- Children with burns involving more than 10- 15 % TBSA.
- Patients with electrical injury, the elderly, or those with cardiac or pulmonary disease and compromised response to burn injury.
- The amount of fluid administered depends on how much intravenous fluid per hour is required to maintain a urinary output of 30- 50 ml/hr.

- Successful fluid resuscitation is evidenced by:
- **Stable vital signs**
- **Palpable peripheral pulse**
- **Adequate urine output**
- **Clear sensorium**
- **Urinary output** is the most sensitive assessment parameter for cardiac output and tissue perfusion. Monitor hourly.
- If Hgb and Hct levels decrease or if the UO >50 ml/hr, the rate of IV fluid administration may be decreased.
- Generally, a crystalloid (**Ringer's lactate)** solution is used initially. **Colloid** is used during the 2nd day (5% albumin, plasmate or hetastarch).
- **Formulas:**

- **Parkland/ Baxter Formula**

Lactated Ringer's Solution:
4 mL x kg body weight x % TBSA burned

✓ **Day 1:** Half to be given in first 8 hours; half to be given over next 16 hours.
✓ **Day 2:** varies: colloid is added.

Example: Patient's weight: 70 kg; % TBSA burn: 80 %

❖ **1st 24 HOURS:**

- 4ml x 70kg x 80 % TBSA = 22, 400ml of lactated Ringer's

✓ 1st 8 hours= 50 % = 11,200ml
✓ 2nd 8 hours= 25 %= 5,600ml
✓ 3rd 8 hours= 25 %= 5,600ml

❖ **2ND 24 HOURS:**

- (0.5mL colloid x weight in kg x TBSA) + 2000ml D5W run concurrently over the 24 hours period
- 0.5ml x 70kg x 80 %= 2,800ml colloid + 2000 ml D5W
- 2,800/24 h= 117mL colloid/ h
- 2,000/ 24 h=84 mL D5W/ h

- **Brooke Army Formula**

Colloids: 0.5ml x kg body weight x % TBSA burned.

1. Electrolytes (lactated Ringer's solution): 1.5mL x kg body weight x % TBSA burned.
2. Glucose (5 % in water): 2000 mL for insensible loss.

✓ **Day 1:** Half to be given in first 8 h; remaining half over next 16 h.
✓ **Day 2:** Half of colloids, half of electrolytes; all of insensible fluid replacement. Second and third degree burns exceeding 50 % TBSA are calculated on the basis of 50 % TBSA.

PAIN MANAGEMENT

❖ **Opioid administration** (Morphine Sulfate or Meperidine) via the **IV route.**
❖ **Morphine sulfate** remains the analgesic for treatment of acute burn pain.
❖ Avoid IM or SC routes because absorption through the soft tissue is unreliable when hypovolemia and large fluid shifts are occurring.
❖ Avoid administering medication by oral route, because of GI dysfunction.
✓ **Note: Oral route is preferred when patient is already for discharge and when IV is already discontinued**
❖ Medicate client 30 minutes prior to painful procedures or wound care.
❖ Position burned areas in proper alignment.

NUTRITION

❖ Essential to promote would healing and prevent infection.
❖ Maintain NPO status until bowel sounds are heard; then advance to clear liquids as prescribed.
❖ Nutrition may be provided via enteral tube feeding, peripheral parenteral nutrition, or total parenteral nutrition.

- Indications for parental nutrition:

✓ Weight loss greater than 10 % of normal body weight.
✓ Clinical Status
✓ Prolonged wound exposure
✓ Malnutrition or debilitated condition before injury.

- Diet:

✓ High in protein
✓ High carbohydrates (5000 calories per day)
✓ High calories, vitamins and minerals.

✓ Protein requirements may range from 1.5 to 4.0 g of protein per kilogram of body weight every 24 hours.
- Schedule would care and other treatment at least 1 hour before meals.

PREVENT GI COMPLICATIONS

❖ Assess for signs & symptoms of **paralytic ileus**
❖ Assist with insertion of NGT to prevent/ control Curling's / stress ulcer; monitor patency & drainage.

❖ Administer prophylactic antacids, Proton Pump Inhibitors (PPI) or H_2 blockers as ordered
❖ Monitor bowel sounds
❖ Test stools for occult blood

WOUND CARE

❖ The cleansing, debridement and dressing of the burn wounds.
❖ Place client in controlled sterile environment.

1. **Hydrotherapy**

- Wounds are cleansed by immersion, showering or spraying done for **30 minutes or less,** to prevent increased sodium loss through the burn wound.
- Client should be pre- medicated prior to the procedure
- Not used for hemodynamically unstable or those with new skin grafts.
- The temperature of the water is maintained at **37.8 C.**
- During the bath, the patient is encouraged to be as active as possible. It provides an excellent opportunity for exercising the extremities.

2. **Wound dressing**

- Burned areas are patted dry and topical agents are applied.
- Light dressing:
  - Joint areas to allow motion
  - Areas with splint to conform to the body
- Circumferential dressing:
  - Distally to proximally
  - Fingers and toes should be wrapped individually.
- Occlusive dressing
  - Thin gauze impregnated with a topical antimicrobial agent
  - Used over new skin grafts
  - Protects the graft and promotes adherence of graft to recipient site.
  - Remains in place for 3 to 5 days.
  - Administer analgesic 20 minutes prior to dressing changes.

3. **Debridement**

- Removal of eschar

✓ To prevent bacterial proliferation under the eschar.
✓ To promote wound healing.

- Natural debridement

✓ The dead tissue separates from the underlying viable tissue spontaneously.
✓ Bacteria that are present at the interface of the burned tissue and the variable tissue underneath gradually liquify the fibrils of collagen that hold the eschar in place for the first or second post- burn week.

- Mechanical Debridement

✓ Involves the use of surgical scissors, scalpels, and forceps to separate and remove the eschar.
✓ Debridement by these means is carried out **to the point of pain** and bleeding.
✓ Coarse-mesh dressings applied dry or wet-to-dry (applied wet and allowed to dry) will slowly debride the wound of exudate and eschar when removed.

- Surgical debridement

✓ Operative procedure involving either primary excision of the full thickness of the skin down to the fascia or shaving of the burned skin layers to freely bleeding, viable tissue.
✓ Early excision is carried out before the natural separation of eschar is allowed to occur.
✓ The procedure creates a high risk of extensive blood loss (as much as 100 to 125 mL of blood per percent of body surface excised.)

4. **Escharotomy**

- A lengthwise incision is made through the burn eschar to relieve constriction and pressure and to improve circulation.

- Usually performed in circumferential burn wounds.
- After escharotomy, assess pulses, color, movement, and sensation of affected extremity and control any bleeding with pressure.
- Pack incision gently with fine mesh gauze for 24 hours after escharotomy, as prescribed.
- Apply topical antimicrobial agents as prescribed.

5. **Fasciotomy**
   - An incision is made, extending through the SQ tissue and fascia.
   - Performed if adequate tissue perfusion does not return after an escharotomy.
   - Performed in OR under General Anesthesia.
6. **Topical Antimicrobial Agents**
   - **Silver Sulfadiazine (Silvadene) cream**

✓ Most bactericidal agent
✓ Minimal penetration of eschar
✓ Use with either open treatment, light or occlusive dressings.
✓ Applied 1 to 3 times daily after thorough wound cleansing.
✓ Observe for and report hypersensitivity reactions (rash, itching, burning sensation in unburned areas).
✓ May cause transient leukopenia that disappears 2-3 days of treatment.
✓ Anticipate formation of pseudoeschar, which is removed easily after 72 hours.
✓ Store drug away from heat.

- **Mafenide Acetate 5% or 10% Cream (Sulfamylon)**
  - ✓ Penetrates eschar
  - ✓ Agent of choice for **electrical burns**.
  - ✓ Painful during and for a while after application. Administer analgesic 30 minutes before application.
  - ✓ May cause **metabolic acidosis.**
  - ✓ Not used if >20 % TBSA
  - ✓ Open: 2 times a day. Dressed: 4 times a day
  - ✓ Provide daily baths for removal of previously applied cream.
- **Silver Nitrate 0.5 % Solution**
  - ✓ Bacteriostatic, fungicidal
  - ✓ Does NOT penetrate eschar.
  - ✓ Keep dressing wet; cover with dry gauze.
  - ✓ Remoisten every 2 hours.
  - ✓ Redress twice daily.
  - ✓ Handle carefully, solution leaves a **gray or black stain** on skin, clothing and utensils.
  - ✓ Monitor serum sodium (Na^+) and potassium (K^+).
- **Other Topical Dressings**
  - ✓ Cerium nitrate
  - ✓ Povidone iodine (Betadine)
  - ✓ Gentamycin
    - ➢ Assess vestibular/ auditory
    - ➢ Assess renal functions
  - ✓ Polymyxin B
  - ✓ Bacitracin ointment

Wound Closure

❖ Prevents infection and loss of fluid.
❖ Minimize heat loss through evaporation.
❖ Promotes healing.
❖ Prevents contractures.
❖ Performed on the 5th to 21st day depending on the extent of the burn.

1. **Autografting**
   - **Permanent** wound coverage.
   - Surgical removal of a thin layer of the client's own unburned skin, which is then applied to the excised wound.
   - Monitor for bleeding beneath an autograft can prevent adherence.
   - Immobilized after the surgery for 3-7 days to allow time to adhere and attach to the wound bed.
   - **Care of the graft site**
     - ✓ Occlusive dressings are commonly used initially after grafting to immobilize the graft.

- ✓ The first dressing change is usually performed 2 to 5 days after surgery, or earlier in the case of purulent drainage or a foul odor.

- **Care of the donor site**
  - ✓ A moist gauze dressing is applied at the time of surgery to maintain pressure and to stop any oozing.
  - ✓ A thrombostatic agent such as **thrombin or epinephrine** may be applied directly to the site as well.
  - ✓ Because a donor site is usually a partial thickness wound, it will heal spontaneously within 7 to 14 days with proper care.
  - ✓ Donor sites are painful, and additional pain management must be a part of patient's care.

2. **Allograft (Homograft)**
   - **Temporary** wound covering.
   - Donated human cadaver skin is harvested w/in 24 hours after death.
   - Monitor for wound exudates and signs of infection.
   - Rejection can occur w/in 24 hours.

3. **Xenograft (Heterograft)**
   - **Temporary** wound covering.
   - Porcine (pig) skin is harvested after slaughter and preserved.
   - Rejection can occur w/in 24- 72 hours.
   - Replaced every 2-5 days until the wound heals naturally or until closure with autograft is complete.

4. **Biosynthetic and Synthetic**
   - **Temporary** wound covering.
   - Artificial skin graft
   - Visual inspection of wound is possible, as dressings are transparent or translucent.

THE BURNED CHILD

❖ **PEDIATRIC DIFFERENCES**

- Very young children who have been severely burned have a **higher mortality rate** than older children adults with comparable burns.
- Lower burn temperatures and shorter exposure to heat can cause a more severe burn in a child than in an adult because a **child's skin is thinner**.
- Severely burned children are at **increased risk for fluid and heat loss, dehydration, and metabolic acidosis than an adult.**
- The higher proportion of body fluid to mass in children **increases the risk of cardiovascular problems.**
- Burns involving more than **10 %** of TBSA require some form of fluid resuscitation.
- Infants and children are at **increased risk for protein and calorie deficiency** because they have smaller muscle mass and less body fat than adults.
- **Scarring is more severe** in a child.
- An immature immune system presents **an increased risk of infection.**
- A **delay in growth** may occur following a burn.

CARE OF MAJOR BURN INJURY

- Main goals: To restore form, function, and feeling through 7 phases of burn management.
  - ✓ **Rescue-** Get the individual away from the source of injury and provide first aid.
  - ✓ **Resuscitate-** Immediate support must be provided for any failing organ system.
  - ✓ **Retrieve-** After initial evacuation to an accident and ER, patients with serious burns may need transfer to a specialist burns unit for further care.
  - ✓ **Resurface-** Skin and tissues that have been damaged by the burn must be repaired.
  - ✓ **Rehabilitative-** Begins on the day a patient enters hospital and continues for years after he or she has left.
  - ✓ **Reconstruct-** Scarring that results from burns of the leads to functional impairment that must be addressed.
  - ✓ **Review-** Burn patients, especially children, require regular review for many years so that problems can be identified early and solutions provided.