Nursing Care of Patients With Burns
Chapter 55

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Burns

- Pathophysiology
  - Energy transfer from heat source to body
  - Heat denatures cellular protein
  - Interruption of blood supply

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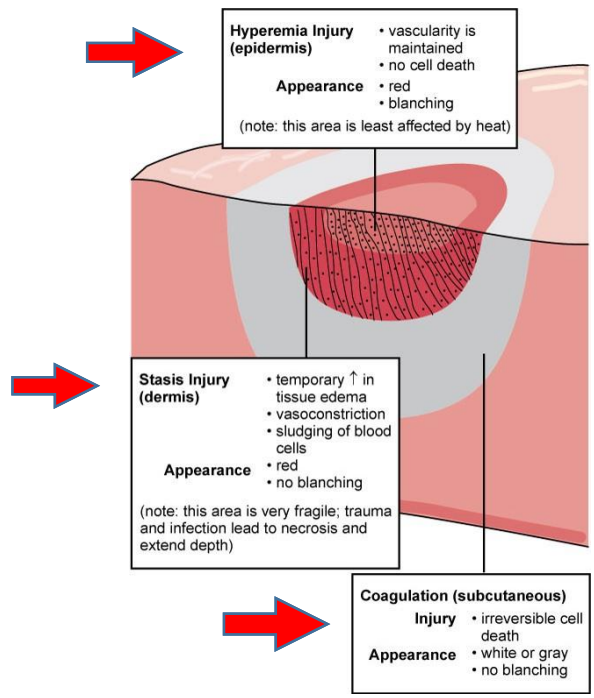


Alteration of Normal Skin Function

- Loss of protective function
- Impaired temperature regulation
- Risk for infection
- Change in sensory function
- Fluid loss
- Impaired skin regeneration
- Impaired secretory and excretory function

Systemic Responses

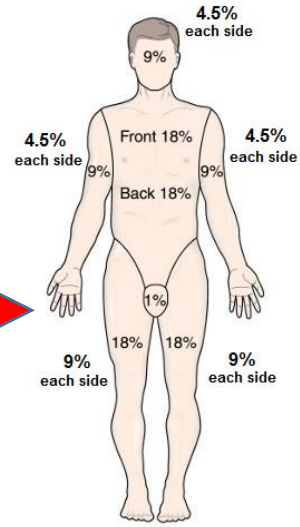
- Increased capillary permeability
- Leakage of plasma and proteins
- Loss of intravascular volume
- Decreased cardiac output
- Hypovolemic shock
- Decreased platelet function
- Leukocyte and platelet aggregation

- Hypermetabolism, catabolism
- Negative nitrogen balance
- Hyperglycemia from stress response
- Gastrointestinal complications — peptic ulcers, constipation
- Renal insufficiency
- Pulmonary damage
- Risk for infection

Classification

- Extent
  - Rule of Nines

Know this



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Additions: RegisteredNurseRN.com

Classification

- Depth
  - Partial thickness: Superficial
  - Partial thickness: Deep
  - Full thickness

Partial Thickness (Superficial)

- First to second degree
- Involves epidermis and papillae of dermis
- Bright red to pink, blanches, serum filled blisters, moist
- Sensitive to air, temperature, and touch
- Heals in 7-10 days

Partial Thickness (Deep)

- Second degree
- Involves epidermis, half to seven eighths of dermis
- Blisters may be present, pink to light red to white, soft and pliable, blanching
- Pressure may be painful because of exposed nerve endings giving the greatest degree of pain
- Heals in 14-21 day; may need grafting to decrease scarring

Full Thickness

- Third to fourth degree
- Involves epidermis, dermis, tissue, muscle, and bone
- Snowy white, gray, or brown. Texture is firm and leathery.
- No pain because nerve endings are destroyed, unless surrounded by areas of partial thickness burns.
- Grafting is necessary to complete healing

Common Causes of Burns

Flame	Contact	Scalding	Chemical	Electrical	Radiation
• House fire; associated with inhalation injury	• Hot tar, metals, grease; produces a full thickness injury	• Hot liquid; common in children, scalding with immersion, usually no splash marks	• Industrial settings; extent depends on chemical and duration of contact	• Most serious type; can be full thickness with possible loss of limbs	• Industrial settings, treatment of disease, or ultraviolet light; severity depends on type, duration, distance, and absorbed dose

Diagnostic Tests

- History and physical
- Complete blood count (C B C)
- Blood urea nitrogen
- Glucose
- Electrolytes
- Serum protein, albumin
- Urine cultures
- Clotting studies
- X-rays
- Electrocardiogram
- Arterial blood gases (A B G's)
- Cultures

Therapeutic Measures for Major Burns

- Emergent stage
  - A B C's (airway, breathing, circulation)
  - Stop burning process.
  - Stabilize related injuries.
  - I V fluids
  - Pain control
    - Give prior to dressing changes
    - IV quickest route

Therapeutic Measures for Major Burns

- Acute stage
  - Clean, debride, dress.
  - Prevent infection.
  - Skin grafting if needed.
  - Control pain.
  - Maintain nutrition and fluid and electrolyte balance.
    - **Nutrition Notes on Burns page 1143**
  - Monitor for complications.
    - Check return of distal pulses is escharotomy is done

Skin Grafts

- Autograft (clients own unburned skin)
  - Split-thickness skin graft (S T S G)
  - Full-thickness skin graft (F T S G)

Rehabilitation Stage

- Reconstructive surgery
- Prevent contracture
  - Physical therapy
- Psychosocial care

Nursing Diagnoses

- *Impaired Gas Exchange*
- Impaired Skin Integrity
- Deficient Fluid Volume
- Acute Pain
- Impaired Physical Mobility
- Ineffective Peripheral Tissue Perfusion
- Risk for Infection

Vocabulary

e Leathery skin, usually painless

c Pink to red moist skin; blisters may be present

a Removal of a slough or scab formed on skin and underlying tissue of severely burned skin

d Epidermis and dermis involved; pain from exposed nerve endings

b Hard scab or dry crust from necrotic tissue

A. Debridement
B. Eschar
C. Superficial partial-thickness burn
D. Partial-thickness deep burn
E. Full-thickness burn

A client is brought in the ED with burns over 40% of the body from an apartment fire. Which assessment should take priority?

A. Burn depth
B. Percent of body surface burned
C. Respiratory status
D. Circulatory status

A home health care nurse visits an 82-year-old client. On entering the home, the nurse finds that the client has dropped a pot of boiling water on both legs. What action should the nurse take first?

A. Call 911
B. Remove the clothing from the affected area
C. Place ice on the affected area
D. Assess the extent of the burn