BURNS

Definition: Burn is the loss of epithelium and a varying degree of dermis due to exposure to physical form of energy, certain chemicals or radiation.

Types Of Burn Injuries

- Flame
- Electrical
- Chemical
- Steam
- Radiation
- Scald

Classes of Burn Injury

Categories of Burn and their Equivalents:

- **First Degree:** Partial thickness

- **Second Degree:** Superficial & Deep Dermal burns.

- **Third Degree:** loss full thickness of skin.

Definitions:

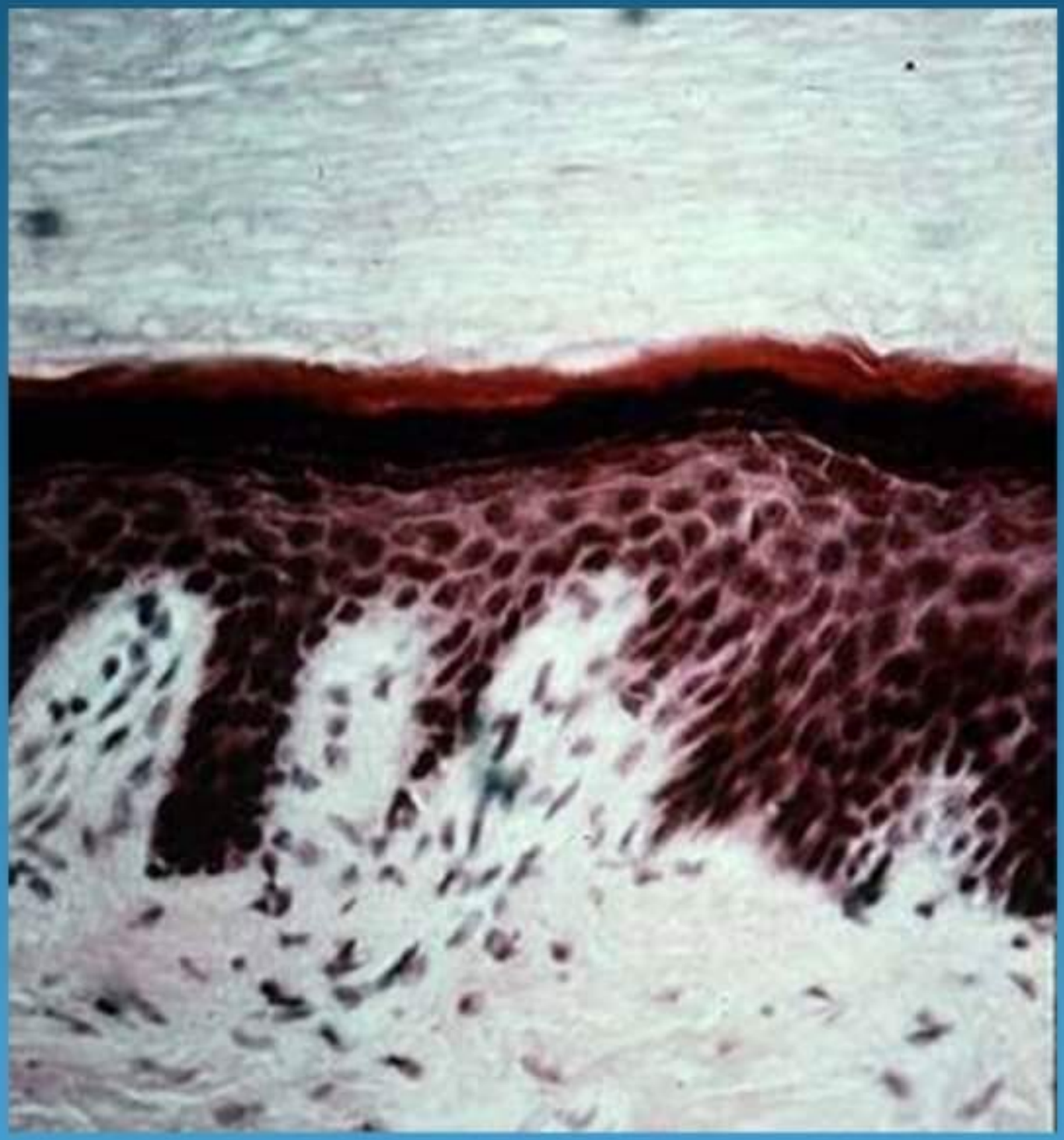
- **First Degree Burns**
  - Involves only the epidermis
  - Characterized by erythema, pain and slight edema
  - Pain subsides in 48 hours
  - Epidermis peels off in small scales in five to ten days.

- **Second Degree Burn**

  - Involves all the epidermis and much of the corium

  - Characterized by blisters, subcutaneous edema, presence of systemic symptoms

- Infection is a threat which may convert to third degree burn



- **Third Degree Burn**

  - Involves the entire epidermis and entire dermis down to the deeper layers which is destroyed by coagulation necrosis

  - Physiologic derangements are definitely present

Depth Of Burn:

This is determined by:

- The nature of the agent
  - Temperature
  - Concentration
- The length of contact
- The tissues resistance to injury

Skin: vascularity

thickness

Determination of depth and extent of burn injury

- **Clinical Evaluation:**
  - **First Degree Burns**
    - erythematous flush
    - dry and painful
    - no blistering
    - skin is intact

Second Degree Burns

A. Superficial:

- formation of blisters
- mottled red or pink in appearance
- quite painful and sensitive to air
- blanching on pressure
- pinprick increased

B. Deep Dermal:

mottled appearance
pain positive
blisters
fixed discoloration

Third Degree Burns:

- dry, dead white or charred in appearance
- skin feels leathery
- diminished pain sensation
- hair pulls out easily and painlessly
- broken skin with fat exposed
- edema
- no capillary refill

Assessment of area of burn

- This is done using the "rule of nines".
- The body is divided up into eleven areas, each representing 9% of the total body surface.

Body Area	**Percentage Of Burn**
Head and Neck	9%
Anterior Trunk	18%
Posterior Trunk	18%
Rt. Lower Extremity	18%
Lt. Lower Extremity	18%
Rt. Upper Extremity	9%
Lt. Lower Extremity	9%
Ext. Genitalia and Perineum	1%

Guide To Management

- Minor burns (less than 10%) can be treated in the hospital on out patient basis
- Moderate and severe burns…….hospitalized for treatment
- Adult patients sustaining more than 20% burn require intravenous therapy.

First Aid Treatment

- Place the burning person in a horizontal position and roll him over in a blanket
- In case of respiratory arrest, do positive breathing, using the mouth-to-mouth or mouth-to-mask technique.
- Cover the wound to minimize contamination and inhibit pain by preventing air to come in contact with the injured surface.(use clean sheet or cloth)

- **Apply cold bath:** **- normal saline**

  - kept at 10 to 15C

- **Medications or home remedies should not be applied**
- **Facilitate transport to a hospital of severely burned patients.**

Burn Therapy For Severe Burns:

- Assure an adequate airway
- Look for and treat immediate life-threatening conditions
- perform venipuncture with large bore needle
- Remove patients clothing
- Obtain history (Cause, time, place of burn, allergies, tetanus, diabetes, cardiac, renal and liver disease)

- Insert indewelling catheter
- Cleanse wound:
  - **use soap and warm water**
  - **remove dirt**
  - **irrigate chemical burns copiously with water**
- After the wound is cleansed , estimate % and depth of burn in a chart
- provide adequate analgesic as needed
- calculate fluids

Dressing:

- Open Method
- Closed Occlusive Pressure Dressings

Care Of Burn Wounds

- Face and perineum: exposed
- Hands: polythene bags
- c. Rest of the body: closed method

Electrical Burns

- Surface Thermal Burns
- Flash arcing
- True Electrical Injury
- Passage of current through the body

Later Care Of Post Burn Patients

- Oil or Vaseline
- Pressure garments
- Splints and physiotherapy
- Reconstructive surgery

Late Complications:

- Dyspigmentation
- Hypertrophic scars
- Contractures
- Margilins ulcer