The Child with a Skin Condition Chapter 30 Niomi Quinteros BSN, RN

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Integumentary System

- Differences between children and adults:
- Thin epidermis in infants
- Absorption is dramatically greater
- Skin is drier and chaps easier
- Less subcutaneous fat-more sensitive to heat and cold
- Ability to perspire through the skin matures by 3 years of age so thermoregulation may be a problem

2

Functions of the Skin

PROTECTION- FIRST LINE OF DEFENSE

REGENERATES AND REPAIRS

3

Integumentary System

- Maintaining skin integrity- physiological and psychological impact
- 4 basic skin sensations
  - Pain
  - Temperature
  - Touch
  - Pressure
- Secretes sebum

4

Integumentary System

- Two layers
  - Epidermis
  - Dermis
- Vernix caseosa
- Lanugo

5

Assessment of the Skin

- Color – wide variations

  Texture

  Moisture

  Rashes
- Bruising/discolorations

  Thickness

  Hair and fingernails

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Skin Conditions in Infancy

- Milia
- Strawberry nevus
- Mongolian spots
- Portwine nevus

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Skin Infections

- Miliaria
- Intertrigo
- Seborrheic dermatitis
- Diaper dermatitis
- Acne Vulgaris
- Herpes simplex, type I

Eczema

- Avoid overheating
- Avoid exposure to skin irritants
- Improve skin hydration
- Admin of meds (antihistamines, topical steroids)
- Seems to follow a definite familial history of allergies and asthma

Goals of management:

- Relieve pruritus
- Hydrate skin
- Reduce inflammation
- Prevent/control secondary infection

Staphylococcal Infection

- Primary infection may develop in a newborn in the umbilicus or circumcision wound.
- May occur while in hospital or after discharge
- Infection may enter bloodstream, leading to septicemia.
- Small pustules on a newborn must be reported immediately.
- Antibiotic ointments are used in some situations; in others, intravenous antibiotics are required.
- If an infant has MRSA, the child is placed in contact isolation if hospitalized.

Scalding Skin Syndrome

- Caused by *Staphylococcus aureus*
- Lesions begin with a mild erythema with a sandpaper texture.
- Vesicles appear, and rupture and peeling occur, exposing a bright-red surface.
- Skin appears scalded, and child abuse is often suspected.
- Generally heals without scarring

Impetigo

- Caused by staphylococci or group A beta-hemolytic streptococci
  - Bullous form seen in infants usually staphylococcal
  - Nonbullous form seen in children and young adults
  - Newborns susceptible because resistance to skin bacteria is low
- Very contagious
- Treatment is either oral or parenteral antibiotics

Fungal Infections

- Tinea Capitis
- Tinea Corporis
- Tinea Pedis
- Tinea Cruris

TREATMENT

- Tinea Capitis
  - Griseofulvin
    - Avoid exposure to the sun
- Tinea Corporis, Tinea Pedis, and Tinea Crurus
  - Clotrimazole (Lotrimin AF)

Pediculosis

- Capitis (head lice)
- Corporis (body lice)
- Pubis (pubic lice)

Treatment:

Nix, Rid, Pronto, comb dipped in 1:1 solution white vinegar and water; Ovide for resistant bugs may need to retreat

Scabies

- Parasitic infection
- Rarely seen on face
- Body folds and between fingers
- Intense itching especially at night

Treatment:

Elimite; everyone in close contact needs to be treated.

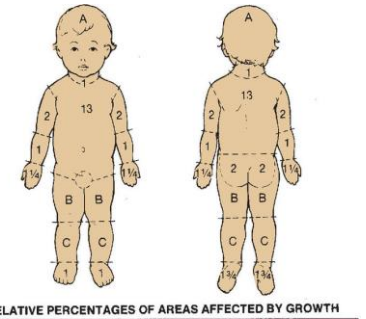
Burns

Leading cause of accidental death between 1 and 4 years of age

- Types of burns include
  - Thermal—caused by fire or scalding vapor or liquid
  - Chemical—caused by corrosive powder or liquid
  - Electrical—caused by electrical current passing through the body
  - Radiation—caused by x-rays or radioactive substances

Children's Response to Burns

- Thinner skin
- Larger BSA
- Increased metabolism
- Smaller muscle and fat content
- Skin is more elastic
- Immature immune system
- Growth/Development issues

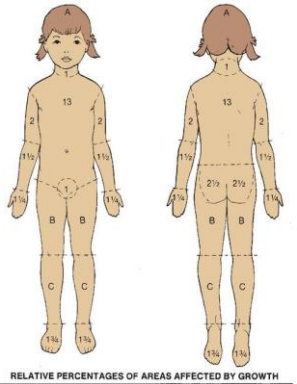


A

RELATIVE PERCENTAGES OF AREAS AFFECTED BY GROWTH

AREA	BIRTH	AGE 1 YR	AGE 5 YR
A = ½ of head	9½	8½	6½
B = ½ of one thigh	2¾	3¼	4
C = ½ of one leg	2½	2½	2¾

From Hockenberry MJ and Wilson D, *Wong's nursing care of infants and children*, ed 10, St. Louis, 2015, Elsevier. Figure 24-5.



B

RELATIVE PERCENTAGES OF AREAS AFFECTED BY GROWTH

AREA	AGE 10 YR	AGE 15 YR	ADULT
A = ½ of head	5½	4½	3½
B = ½ of one thigh	4½	4½	4¾
C = ½ of one leg	3	3¼	3½

From Hockenberry MJ and Wilson D, *Wong's nursing care of infants and children*, ed 10, St. Louis, 2015, Elsevier. Figure 24-5.

Superficial (1st degree)

Epidermis only
Usually heals in 5-10 days
Treatment:
Immerse in cold water; apply ointment
Examples:
Sunburn, hot water

Partial Thickness (2nd degree)

- Epidermis and much of dermis
- Treatment
  - Apply antimicrobial ointment if area is small
  - Larger areas immerse in cold water and cover to prevent contamination
  - Avoid breaking blisters

Deep Dermal

Appears red, waxy; is very painful

Sweat glands and hair follicles are not affected.

Healing takes place in about 30 days, usually with extensive scarring.

Full Thickness

Appears leathery, black or pearly white. Painless to touch, but surrounding tissue is very painful.

Nerve endings, sweat glands and hair follicles are destroyed.

Extends into SQ tissue

Secondary and Tertiary Complications From Burns

Secondary Infection

Disfigurement

Emergency Care of Burns

- Stop the burning process.
- Assess the victim's condition.
- Cover the burn.
- Transport to a medical facility.
- Provide reassurance to family.

Burn Care

- Minor

  Wound cleansing, antimicrobial ointment, loose dressing, pain relief

  Usually cared for on outpatient basis.

- Major

  Establish airway, IV lines, lab studies, Foley cath, NG tube, wound assessment/management, escharotomy

Burn Care

Wound Care

- Can be painful; pain medications should be given in advance of the treatments to ensure adequate pain control is achieved.
- Cleansing and débridement
- Loss of skin increases threat of infection and fluid loss caused by evaporation can be significant.

Nursing Care

- Protective isolation is instituted.
- All instruments are sterile.
- Ointments are applied with a sterile gloved hand or sterile tongue depressor.
- Care must be taken to avoid injury to granulating tissue.

Grafting

- Permanent
  - Autograft
  - Isograft
- Temporary
  - Homograft
  - Heterograft
  - Porcine xenograft

*Tanner mesh graft

*"Postage-stamp" graft

*Full cover (sheet) graft