Chapter 3 Adult Health Nursing
Care of the Patient with an Integumentary Disorder

Functions of the skin
- Protection
- Temperature regulation
- Vitamin D synthesis

Structure of the skin
- **Epidermis**
  - The outer layer of the skin
  - No blood supply
- **Dermis**
  - "True skin"
  - Contains blood vessels, nerves, oil glands, sweat glands, and hair follicles
- **Subcutaneous layer**
  - Connects the skin to the muscles
  - Composed of adipose and loose connective tissue

Skin helps with **homeostasis**, it **insulates** and cushions our organs, and **prevents loss of body fluids**. It is sensitive to heat, cold, tough, pressure and pain.
Basic Structure of the Skin

- Appendages of the skin
  - sweat glands
  - Ceruminous glands—secrete cerumen (earwax)
  - Sebaceous glands—“oil glands”
  - Hair
  - Nails
  - Composed mainly of keratin

Assessment of the Skin

- Inspection and palpation
- During bathing time
- Assess for rashes, scars, lesions, or ecchymoses
  - Inspect nails
  - Inspect hair for thickness, dryness, or dullness
  - REPORT, Document
Assessment skills

► Assessing dark skin: Structure of dark skin is same, just harder to assess
► Assess where epidermis is lighter, mucous membrane, mouth, lips, soles of feet, underarms.

echymoses

echymoses
**Viral Disorders of the Skin**

- **Herpes simplex**
  - Etiology/pathophysiology
    - Type 1: Most common
      - Cold sores
    - Type 2
      - Genital herpes
  - Transmission
    - Direct contact with an open lesion
  - Type 2—primarily sexual contact

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**Signs and symptoms**

- Itching
- Burning
- Pain
- Small blisters (vesicles)
- Blisters break, ooze yellow or clear exudate
- Fatigue
- Irritability
- Symptoms vary from person to person
Facts about Herpes *Simplex 2*

- 50 million people infected
- 1 out of every 5 people
- 90% of the people infected are not aware
- Asymptomatic viral shedding
- Can spread to other areas of the body
- **No cure**
- **Do not have sex during breakouts**

Herpes type 1 & 2

- Lesions present 7-14 days. With 1-5 recurrences annually. Recurrences can be brought on by stress.

Genital herpes

- Genital herpes is one of many STD’s having no cure—must run it’s course. The herpes virus can infect the fetus and cause abnormalities. A mother who is infected with herpes may transmit the virus to her newborn during vaginal delivery, especially if the mother has an active infection at the time of delivery.
- **The following pictures are vivid.**
Viral Disorders of the Skin

► **Herpes simplex** (continued)
  - Medical management/nursing interventions
    - acyclovir (Zovirax)**: oral, topical, or IV
  - Warm compresses to area
  - Analgesics for pain control
  - Teach techniques to prevent spreading**
Viral Disorders of the Skin

► Herpes simplex (continued)

► No cure

► Type 1
  • Lesions heal within 7-14 days
  • Recur with depression of immune system: physical and/or emotional stress

► Type 2
  • Lesions heal within 7-14 days
  • Recur with depression of immune system

Viral Disorders of the Skin

► Herpes zoster (shingles)

► Etiology/pathophysiology
  • Herpes varicellae (Same virus that causes chickenpox)***

► Signs and symptoms
  • Erythematous rash along a spinal nerve pathway
  • Vesicles are usually preceded by pain
  • Rash usually in the thoracic region
  • Vesicles rupture and form a crust
  • Extreme tenderness and pruritus in the area

Facts on Herpes Zoster

► Cannot be caught from someone else
► Children can contract chickenpox
► People greater than 60 yrs old, 10 x more likely to contract shingles
Herpes zoster.

(Courtesy of the Department of Dermatology, School of Medicine, University of Utah.)

Latin word for shingles means girdle or belt

Viral Disorders of the Skin

► Herpes zoster (shingles)

► Diagnostic tests
  ► Culture of lesion
  ▪ Medical management/nursing interventions
    ► Analgesics, steroids, Kenalog lotion, corticosteroids, acyclovir (Zovirax)
    ► Ativan and Atarax: decrease anxiety
    ► Warm baths and compresses

► Zostavax vaccine BREAK through
  Reduced shingles by 50% in study group
  Also reduced those who did get shingles pain and discomfort by 61%
**Bacterial Disorders of the Skin**

- **Impetigo**
- **Etiology/pathophysiology**
  - *Staphylococcus aureus* or *streptococci*
  - Common in children
  - **Highly contagious** direct or indirect contact

**Clinical manifestations/assessment**
- Lesions begin as macules and develop into pustules
- Pustules rupture—form **honey-colored exudate**
- Usually affects face, hands, arms, and legs
- Low-grade fever; leukocytosis

**Impetigo**

**Highly contagious**
Bacterial Disorders of the Skin

► Impetigo (continued)
  ▪ Diagnostic tests
    ▪ Culture of exudate from lesion
  ▪ Medical management/nursing interventions
    ▪ Antiseptic soap (Betadine or Hibiclens) to remove crusted exudate and clean area
    ▪ Topical antibiotic cream
    ▪ Antibiotics
  ▪ Keep area clean and dry

Fungal Infections of the Skin

Dermatophytoses

▪ Etiology/pathophysiology
  ▪ Microsporum audouinii major fungal pathogen
    ▪ Tinea capitis
      ▪ Ringworm of the scalp
    ▪ Tinea corporis
      ▪ Ringworm of the body
    ▪ Tinea cruris
      ▪ Jock itch
    ▪ Tinea pedis (most common)
      ▪ Athlete’s foot

Tinea capitis
Fungal Infections of the Skin

► Dermatophytoses (continued)
  ▪ Medical management/nursing interventions
    ► Griseofulvin—oral
    ► Antifungal soaps and shampoos
    ► Tinactin or Desenex
    ► Keep area clean and dry
    ► Burrow’s solution (tinea pedis)

Inflammatory Disorders of the Skin

► Urticaria (HIVES)
  ▪ Etiology/pathophysiology
    ► Allergic reaction (release of histamine in an antigen-antibody reaction)
    ► Drugs, food, insect bites, inhalants, emotional stress, or exposure to heat or cold
  ▪ Clinical manifestations/assessment
    ► Pruritus
    ► Burning pain
    ► Wheals
Inflammatory Disorders of the Skin

► Urticaria (continued)
  • Diagnostic tests
    ► Allergy skin testing
  • Medical management/nursing interventions
    ► Identify and alleviate cause
    ► Antihistamine (Benadryl)
    ► Therapeutic bath
    ► Epinephrine
    ► Teach patient possible causes and prevention

Inflammatory Disorders of the Skin

► Eczema (dermatitis)
  • Etiology/pathophysiology
    ► Allergen causes histamine to be released and an antigen-antibody reaction occurs
    ► Primarily occurs in infants
  • Clinical manifestations/assessment
    ► Papules and vesicles on scalp, forehead, cheeks, neck, and extremities
    ► Erythema and dryness of area**
    ► Pruritus
Examples of dermatitis, sometimes called eczema, include atopic dermatitis, seborrheic dermatitis and perioral dermatitis. Contact dermatitis results from an allergen (allergic contact dermatitis) or irritant (irritant contact dermatitis).

**Inflammatory Disorders of the Skin**

- **Contact Dermatitis**
  - Direct contact with agents in environment that person is hypersensitive to.
    - Detergents, soaps, chemicals and plants.
    - Reddened area with burning, pain, **pruritus**, edema, papules
  - Give antihistamines, corticosteroids
  - **Cold compresses**, cool environment
  - TRIM NAILS
Inflammatory Disorders of the Skin

- Acne vulgaris
  - Etiology/pathophysiology
    - Occluded oil glands
      - Androgens increase the size of the oil gland
    - Influencing factors
      - Diet
      - Stress
      - Heredity
      - Overactive hormones
Inflammatory Disorders of the Skin
► Acne vulgaris (continued)
  ▪ Clinical manifestations/assessment
    ▪ Tenderness and edema
    ▪ Oily, shiny skin
    ▪ Pustules
    ▪ Comedones (blackheads)
    ▪ Scarring from traumatized lesions
  ▪ Diagnostic tests
    ▪ Inspection of lesion
    ▪ Blood samples for androgen level

Inflammatory Disorders of the Skin
► Acne vulgaris (continued)
  ▪ Medical management/nursing interventions
    ▪ Topical therapy
      ▪ Benzoyl peroxide, vitamin A acids, antibiotics, sulfur-zinc lotions
    ▪ Systemic therapy
      ▪ Tetracycline, isotretinoin (Accutane)

Inflammatory Disorders of the Skin
► Psoriasis
► Etiology/pathophysiology
  ▪ Noninfectious
    ▪ Skin cells divide more rapidly than normal
  ▪ Clinical manifestations/assessment
    ▪ Raised, erythematous, circumscribed, silvery, scaling plaques
    ▪ Located on scalp, elbows, knees, chin, and trunk
Inflammatory Skin Disorders

► Systemic lupus erythematosus

  ▪ Etiology/pathophysiology
    ▷ Autoimmune disorder
    ▷ Affects women more than men
    ▷ Contributing factors
      ▪ Immunological, hormonal, genetic, and viral
  ▪ Clinical manifestations/assessment
    ▷ Erythema butterfly rash over nose and cheeks
    ▷ Photosensitivity
    ▷ Oral ulcers
    ▷ Renal disorders
    ▷ Neurological signs (seizures)
    ▷ Hematological disorders

Systemic lupus erythematosus (SLE) flare.
Inflammatory Disorders of the Skin

► Systemic lupus erythematosus (continued)
  ▪ Medical management/nursing interventions
    ► No cure: treat symptoms, induce remission, alleviate exacerbations

► Medical management/nursing interventions
  ▪ Medications
    ▪ Nonsteroidal antiinflammatory agents, antimalarial drugs, corticosteroids, antineoplastic drugs, antinfective agents, analgesics, diuretics
    ▪ Avoid direct sunlight

Parasitic Diseases of the Skin

► Pediculosis (LICE)
  ▪ Lice infestation
    ▪ Three types of lice
      ▪ Head lice (capitis)
        ► Attaches to hair shaft and lays eggs
      ▪ Body lice (corporis)
        ► Found around the neck, waist, and thighs
        ► Found in seams of clothing
      ▪ Pubic lice (crabs)
        ► Looks like crab with pincers
        ► Found in pubic area

Parasitic Diseases of the Skin

► Pediculosis (continued)
  ▪ Clinical manifestations/assessment
    ▪ Nits and/or lice on involved area
    ▪ Pinpoint raised, red macules
    ▪ Pinpoint hemorrhages
    ▪ Severe pruritus

► Diagnostic tests
  ▪ Excoriation

► Physical exam
Eggs of *Pediculus* attached to shafts of hair.

Parasitic Diseases of the Skin

► Pediculosis (continued)
  ▪ Medical management/nursing interventions
    ► Lindane (Kwell); pyrethrins (RID)
    ► Cool compresses
    ► Corticosteroid ointment
  ► Assess all contacts
    ► Wash bed linens and clothes in hot water
    ► Properly clean furniture or nonwashable materials

Parasitic Diseases of the Skin

► Scabies
  ▪ Etiology/pathophysiology
    ► Sarcoptes scabiei (itch mite)
    ► Mite lays eggs under the skin
  ▪ Transmitted by prolonged contact with infected area
  ▪ Clinical manifestations/assessment
    ► Wavy, brown, threadlike lines on the body
    ► Pruritus
    ► Excoriation
Scabies on buttocks!

Parasitic Diseases of the Skin

► Scabies (continued)
  ▪ Diagnostic tests
    ► Microscopic examination of infected skin
  ▪ Medical management/nursing interventions
    ► Lindane (Kwell), pyrethrins (RID), crotamiton (Eurax), 4-8% solution of sulfur in petrolatum
    ► Treat all family members
    ► Wash linens and clothing in hot water

Tumors of the Skin

► Malignant melanoma
  ▪ Cancerous neoplasm
    ► Melanocytes invade the epidermis, dermis, and subcutaneous tissue
  ▪ Greatest risk
    ► Fair complexion, blue eyes, red or blond hair, and freckles
  ▪ Treatment
    ► Surgical excision
    ► Chemotherapy
      ▪ Cisplatin, methotrexate, dacarbazine
Figure 43-18

The ABCDs of melanoma.

- A  Asymmetry
- B  Border
  - irregular scalloped poorly circumscribed
- C  Color
  - varied from one area to another
- D  Diameter >6mm
  - (diameter of pencil eraser)

Burns

- Etiology/pathophysiology
  - May result from radiation, thermal energy, electricity, chemicals
- Clinical manifestations/assessment
  - Superficial (first degree)
    - Involves epidermis
    - Dry, no vesicles, blanches and refills, erythema, painful
  - Flash flame or sunburn
Burns Important

- Death occurs in burn victims due to Hypovolemic Shock in the first 72 hours and/or due to infection in the acute phase.