Chapter 4

Integumentary System
Integumentary System Function

- The integumentary system comprises the skin, nails, and glands.
- The skin forms a protective covering that when unbroken prevents entry of bacteria and other invading organisms. The skin also protects the body from water loss and from damaging effects of ultraviolet light.
- Other functions include regulation of body temperature and synthesis of vitamin D.
Structure of the Skin

cutane/o, derm/o, dermat/o
Cross Section of the Skin

1. Horn tissue
   CF:

2. Sweat
   CF:

3. Hair
   CF:

4. Skin
   CF:

5. Sebaceous gland
   CF:

Sudoriferous gland

Dermis

Epidermis

Sebaceous gland

Hair follicle
Major Structures of the Skin

- **epidermis**: outer layer of skin
  - **keratin**: horny, or cornified, layer composed of protein
  - **melanin**: color, or pigmentation, of skin
- **dermis (also called “true skin”)**: the inner layer of skin
Major Structures of the Skin (cont’d)

- **sudoriferous glands**: tiny, coiled, tubular structures that emerge through pores on skin’s surface
- **sebaceous glands**: secrete sebum (oil) into the hair follicles, where the hair shafts pass through the dermis
Skin Layers
Skin c.s.
Thick Skin C.S.
pachyoderma
Accessory Structures of the Skin

- **Hair**: compressed, keratinized cells that arise from hair follicles (sacs that enclose the hair fibers)
- **Nails**: originate in the epidermis; found on the upper surface of the ends of the fingers and toes
- **Glands**: temperature control and protection
- **Melanin**: UV protection
Melanin
Sudoriferous Gland, Sweat Gland (duct)
Sebaceous Gland

seb/o
Fingernail, onych/o
Hair; trich/o
Hair Follicles
Alopecia
Errector pili
Combining Forms for the Integumentary System

- cutane/o, derm/o, dermat/o
- hidr/o
- kerat/o
- onych/o, ungu/o
- seb/o
- trich/o
Combining Forms Commonly Used with Integumentary System Terms

- aut/o
- bi/o
- coni/o
- crypt/o
- heter/o
- myc/o
- necr/o
- pachy/o
- rhytid/o
- staphyl/o
- strept/o
- xer/o
Prefixes

- epi-
- intra-
- para-
- per-
- sub-
Suffixes

- coccus
- ectomy
- ia
- itis
- malacia

- opsy
- phagia
- plasty
- rrhea
- tome
Disease and Disorder Terms Built From Word Parts

- dermatitis
- dermatocroconiosis
- erythroderma
- hidradenitis
- leukoderma
- onychocryptosis
- pachyderma
- xeroderma
The -a Ending

The -a ending in the terms “pachyderma,” “xeroderma,” “erythroderma,” “leukodermia,” and “xanthodermia” is a noun suffix and has no meaning.
Disease and Disorder Terms
Not Built From Word Parts

- abrasion
- abscess
- cellulitis
- contusion
- eczema
- gangrene
- herpes zoster
- impetigo
Kaposi sarcoma
laceration
lesion
onychomycosis
psoriasis
tinea
percutaneous lesion and cancers of the skin
Common Skin Disorders

Tinea.

Dermatitis.
Cancers of the Skin

Basal cell carcinoma.
Squamous cell carcinoma.
Melanoma.
Surgical Terms Built from Word Parts

- biopsy
- dermatoautoplasty
- dermatoheteroplasty
- dermatoplasty
- onychectomy
- rhytidectomy
- rhytidoplasty
Complementary Terms Built from Word Parts

- dermatologist
- dermatome
- epidermal
- intradermal
- keratogenic
- necrosis
- percutaneous
- staphylococcus
- streptococcus
- ungual
Complementary Terms Not Built from Word Parts

- adipose
- albino
- allergy
- cicatrix
- cytomegalovirus (CMV)
- debridement
- decubitus ulcer
- dermabrasion
Albinism
Complementary Terms Not Built from Word Parts (cont’d)

- diaphoresis
- ecchymosis
- edema
- erythema
- jaundice
- keloid
- leukoplakia
- pallor
Types of Burns

- **Scald**.......................... May occur from scalding hot water, grease or radiator fluid.
- **Thermal**....................... May occur from flames, usually deep burns.
- **Chemical**...................... May come from acid and alkali, usually deep burns.
- **Electrical**..................... Either low voltage around a house or high voltage at work
- **Explosion Flash**............ Usually superficial injuries.
- **Contact Burns**.............. Usually deep and may occur from muffler tail pipes, hot irons and stoves.
Burns

- **1st degree burn**......is a superficial, reddened area of skin like a sunburn.

- **2nd degree burn**......is a blistered injury site which may heal spontaneously after the blister fluid has bee removed.

- **3rd degree burn**......is a burn through the entire skin and will usually require surgical intervention for wound healing.
First and Second Degree Burns
Second and Third Degree Burns
Debridement
Burn Keloid
Abbreviations

- bx
- BCC
- CMV
- subq
- SLE
- staph
- strep
- SqCCA
Hair Follicle
Sweat Gland
(grapelike clusters) / cv / (berry-shaped) bacteria
(twisted chains) / cv / (berry-shaped) bacteria