

Chapter 12

Integumentary System

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Learning Objectives

1. Recognize or write the functions of the integumentary system.
2. Recognize or write the meanings of Chapter 12 word parts and use them to build and analyze terms.
3. Write terms for selected structures of the integumentary system or match them with their descriptions.
4. Write the names of the diagnostic terms and pathologies related to the integumentary system when given their descriptions or match terms with their meanings.
5. Match surgical and therapeutic interventions for the integumentary system or write the names of the interventions when given their descriptions.
6. Spell terms for the integumentary system correctly.

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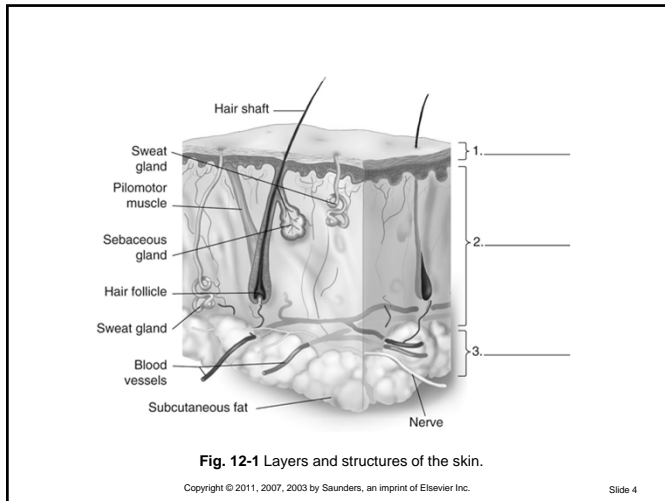
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Function First!

- Covers the body
- Protects underlying tissues
- Helps control body temperature
- Receives stimuli from environment
- Excretes water and salts

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Accessory Skin Structures

hair- provides protection. (scalp, nose, external ear canal, eyebrow/lashes)

nails- unguis=pertaining to the nail
composed of keratin (kerat/o=horny tissue)

sudoriferous glands- (sweat glands)- regulate body temp and eliminate waste in form of sweat

sebaceous glands – found in all areas of the body that have hair. They produce sebum, an oily substance that inhibits growth of bacteria and lubricates the skin

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Word Parts: Accessory Structures

- seb/o sebum
- pil/o, trich/o hair
(pilomotor muscles cause "goose bumps")
- axill/o axilla (armpit)
- follicul/o follicle
- kerat/o horny (or cornea)
- onych/o, ungu/o nail

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Skin Lesions

Lesion - any visible abnormality of the skin, such as a wound, rash, sore, spots or swellings

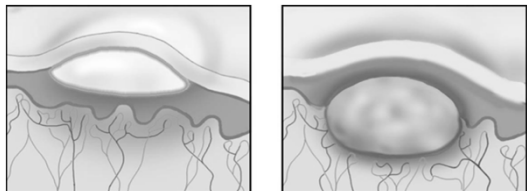
- cyst- filled with fluid
- nodule- filled with solid (marble-like)
- macules- small, nonraised (freckles)
- papules- raised (moles)

- blisters- fluid filled lesions:

- vesicles- filled with clear fluid
- bullae- filled with clear fluid
- pustules- filled with cloudy fluid or pus

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A **cyst** is a sac filled with fluid or semi-solid material.

A **nodule** is a marble-like, solid lesion more than 1 cm wide and deep.

Fig. 12-3 Differentiation of two types of lesions (seen here in cross-section).

Although both cause a raised area of overlying skin, the cyst contains fluid, whereas the nodule is a solid structure.

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Fig. 12-2 Seborrheic keratosis, benign skin lesions. Numerous seborrheic keratosis are present, some of which are deeply pigmented with melanin. The large lesions show the characteristic stuck-on appearance.

seborrheic keratosis*****
 kerat/o=horny tissue
 -rrhea=flow or discharge
 seb/o=sebum
 -osis=condition

****book has this spelled wrong

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Fig. 12-4
Primary lesions of the skin. These are initial reactions to an underlying problem that alters one of the structural components of the skin.



Macules
Nonraised, discolored spots less than 1 cm in diameter

Papules
Elevated lesion less than 1 cm in diameter

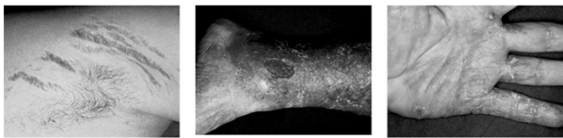
Plaques
Elevated and circumscribed patches more than 1 cm in diameter

Bullae
Blisters greater than 1 cm and filled with clear fluid

Vesicles
Blisters less than 1 cm and filled with clear fluid

Pustules
Elevated lesions containing purulent material

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Atrophy
Wasting of the epidermis; skin appears thin and transparent

Ulcer
Irregularly shaped erosions that extend into the dermis

Fissures
Deep linear splits through the epidermis into the dermis

Fig. 12-6 Secondary lesions of the skin. Atrophy of the skin, ulcers, and fissures result from changes in the initial skin lesion.

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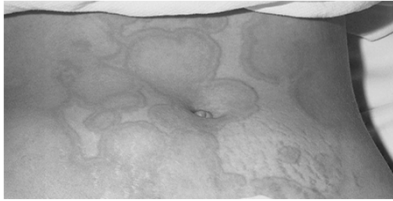


Fig. 12-5 Wheals. This elevated, irregularly shaped lesion is seen in urticaria (hives), an allergic skin eruption. Notice the irregular shapes of the lesions.

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Word Parts

ichthy/o

fish

- ichthyosis= skin condition where skin is dry and scaly, resembling fish skin

xer/o

dry

- xerosis= skin condition with excessive dryness

cutane/o, derm/o,

skin

derm/a, dermat/o

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Word Parts, cont.

seps/o

infection

- sepsis= infection or contamination
- asepsis=absence of infection/germs

sept/o

infection or septum

- septic=infected wound
- aseptic conditions=free of pathogenic organisms

- a- = no, not, without

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Word Parts, cont.

bacter/i, bacteri/o

bacteria

-cidal

killing

-static

keeping stationary

bacteriostatic =inhibiting the growth of bacteria

bactericidal = killing bacteria

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Skin Injuries

A wound is a physical injury involving a break in the skin, usually caused by an act or accident rather than a disease

keloid: overgrowth of unsightly scar tissue

laceration: torn, jagged wound

incision: smooth-edged wound produced by a sharp instrument

puncture: a wound made by piercing

abrasion: skin is scraped or rubbed away by friction

contusion: a bruise that does not break the skin

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Skin Disorders

cellulitis- acute infection of the skin and subcutaneous tissue causing redness, pain and inflammation

albinism- absence of normal pigmentation, present at birth, caused by a defect in melanin (albin/o=white)

contact dermatitis – skin rash resulting from exposure to an irritant or result of allergic reaction to poison ivy, jewelry , etc.

cyanosis – blue discoloration of skin and mucous membranes (cyan/o=blue, osis=condition)

dermatitis – inflammation of the skin

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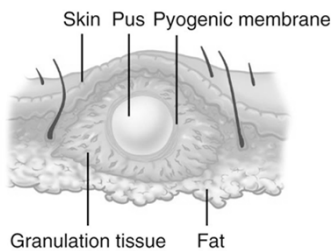


Fig. 12-8 An abscess. The pus is contained within a thin, pyogenic membrane that is surrounded by harder granulation tissue, the tissue's response to the infection.

An abscess is a cavity that contains pus caused by an infectious microorganism and surrounded by inflamed tissue

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Quick Quiz!

A *puncture* is

- A. a torn, jagged wound
- B. a wound made by piercing
- C. a scar
- D. an erosion into the dermis

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Fig. 12-9 Characteristic "butterfly rash" of lupus erythematosus. *Lupus* is the Latin term for wolf, the name perhaps originated from the rash over the nose and cheeks, which resembles a wolf's snout. The rash is usually red, and thus the term erythematosus, from the Greek *erythēma*, meaning redness. Discoid lupus erythematosus/ cutaneous lupus erythematosus - chronic disorder characterized by lesions covered with scales.

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Skin Disorders, cont.

frostbite: damage to the skin, tissues, and blood vessels as a result of prolonged exposure to cold.

furuncle: a localized skin infection originating in a gland or hair follicle and characterized by pain, redness, and swelling. Also called a boil.

hypopigmentation - unusual lack of skin color, usually involving only localized areas of the skin and not the complete absence of pigmentation as in albinism.

lipoma - benign tumor of mature fat cells

malignant melanoma - malignant tumors that originate in the skin

mycodermatitis: inflammation of the skin caused by a fungus. (myco=fungus, dermat/o=skin, itis= inflammation)

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Fig. 12-10 Tissue necrosis. Necrosis that resulted from contact with the stinging structures on the tentacles of a jellyfish.

Tissue necrosis is death of areas of damaged or diseased tissue. (necr/o=dead, -osis=condition)

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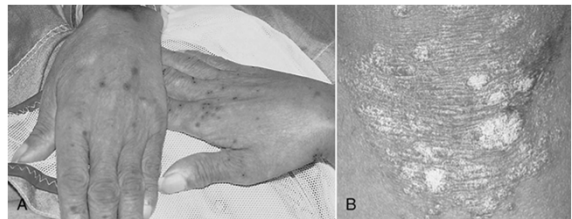


Fig. 12-11 Common benign disorders of the skin.

A. Petechiae - tiny purple or red spots appearing on the skin as a result of tiny hemorrhages beneath the surface.

B. Psoriasis is characterized by circumscribed red patches covered by thick, dry, silvery scale.

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Skin Disorders, cont.

pediculosis- infestation by lice (head, body, pubic)

scabies -a contagious dermatitis caused by the itch mite that is transmitted by close contact

scleroderma (*scler/o*, hard, + *-derma*, skin):

chronic hardening and thickening of the skin.

urticaria - a skin eruption characterized by *wheals* of varying shapes and sizes with well-defined margins and pale centers. It is also called hives.

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Disorders of Accessory Skin Structures

acne vulgaris - a skin disease characterized by blackheads (the result of blocked hair follicles becoming infected with bacteria), whiteheads, and pus-filled lesions.

seborrheic dermatitis -commonly called dandruff, an inflammatory condition of the skin that begins with the scalp but may involve other areas, particularly the eyebrows.

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Quick Quiz!

Inflammation of the skin caused by a fungus is

- A. furuncle
- B. mycodermatitis
- C. psoriasis
- D. scleroderma

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Disorders of Accessory Skin Structures, cont.

folliculitis- inflammation of a hair follicle

hidradenitis – inflammation of a sweat gland

● (*hidr/o*=sweat, *aden/o*=gland, *-itis*=inflammation)

onychomycosis: fungal infection of the nails.

onychopathy: any disease of the nails.

● *onych/o*=nail, *myc/o*=fungus, *-osis*=condition, *-pathy*=disease)

seborrhea: (*seb/o*, sebum, + *-rrhea*, discharge) excessive production of sebum.

trichosis (*trich/o*, hair, + *-osis*) any abnormal condition of hair growth, including baldness or excessive hair growth in an unusual place.

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Surgical and Therapeutic Interventions

topical medication -a drug placed directly on the skin

transdermal drug delivery- a method of applying a drug to unbroken skin. Drug is absorbed thru skin and then enters the circulatory system.

antimicrobial -medicine applied to broken skin to prevent infection

antiperspirants -act against or inhibit perspiration

aspiration- the act of withdrawing fluid from a cyst using a syringe.

biopsy -the removal of a small piece of tissue for microscopic examination to confirm or establish a diagnosis

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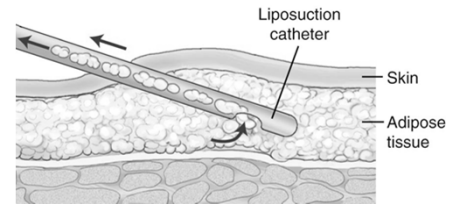


Fig. 12-12 Liposuction. This procedure, also called suction lipectomy, removes adipose tissue with a suction pump device. It is primarily used as cosmetic surgery to remove or reduce localized areas of fat.

lip/o=fat, -ectomy=excision

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Surgical and Therapeutic Interventions, cont.

cryosurgery - use of subfreezing temperature to destroy tissue.

debridement: removal of foreign material and dead or damaged tissue, especially from a wound.

dermabrasion: a treatment for the removal of superficial scars on the skin by the use of revolving wire brushes or sandpaper.

electrolysis: (*electr/o*, electricity, + *-lysis*, destruction) destruction of a substance by passing electrical current through it, often used for hair removal

electrosurgery: surgery performed with electric instruments that operate on high-frequency electric current, and often used to destroy skin lesions.

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Fig. 12-14 Curettage. A curet (or curette) is used to scrape material from the surface of a wound. Curettage is performed to obtain tissue for either microscopic examination or culture, or to clear unwanted material from areas of chronic infection.

curettage: scraping of material from a surface to remove abnormal tissue.

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Quick Quiz!

Hidradenitis is

- A. inflammation of a hair follicle
- B. abnormal condition of hair growth
- C. dandruff
- D. inflammation of a sweat gland