**Name**_____ **Date**_____

# CLASSIFICATION OF BODY MEMBRANES

**Section 1:**

**Complete the following table relating to body membranes. Enter your responses in the areas left blank.**

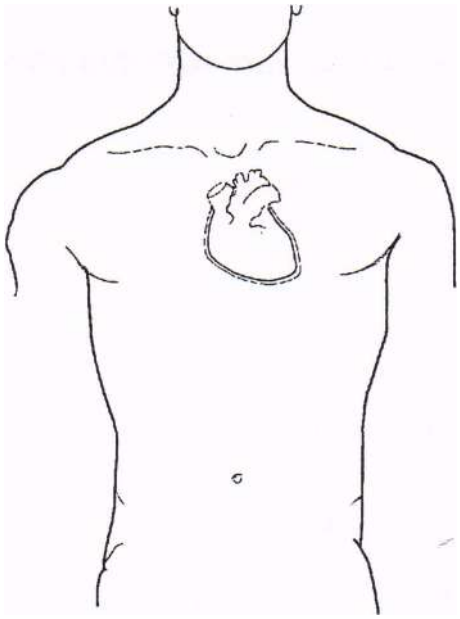
| Membranes | Tissue Type (Connective/Epithelial) | Common Locations | Functions |
|---|---|---|---|
| **Mucous** | | | |
| **Serous** | | | |
| **Cutaneous** | | | |
| **Synovial** | | | |

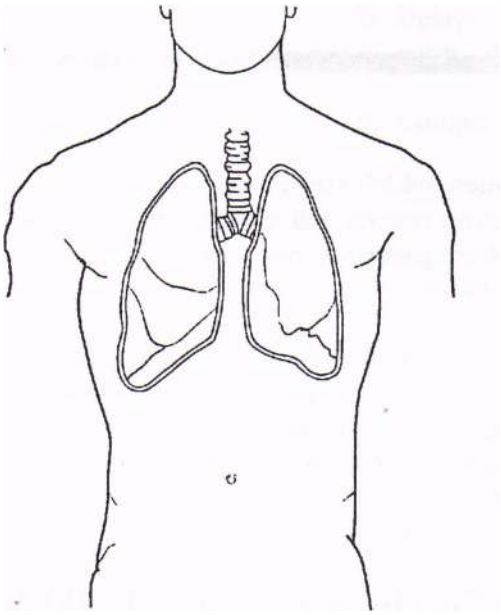
# INTEGUMENTARY SYSTEM (SKIN)

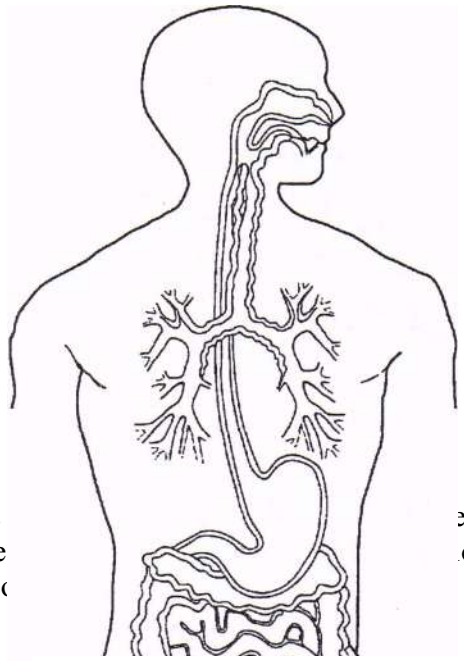
**Section 2:**

Four simplified diagrams are shown in Figure 4—1. Select different colors for the membranes listed below, and use them to color the corresponding structures.

| | | |
|---|---|---|
| Cutaneous membrane | Parietal pleura (serosa) | Synovial membrane |
| Mucosae | Visceral pericardium (serosa) | Visceral peritoneum (serosa) |
| Visceral pleura (serosa) | Parietal pericardium (serosa) | Parietal peritoneum (serosa) |







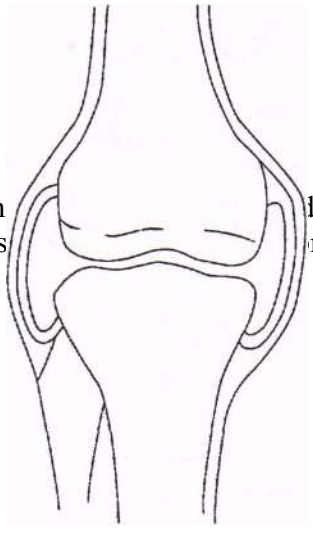


Figure 4-2 e skin. Label the skin licated by leader lines and bracke ors for the structures rresponding structures c

Arrector pili muscle

Adipose tissue

Hair follicle

Nerve fibers

Sweat (sudoriferous) gland

# Integumentary System Disorders

**Section 3:**

In the cold, the blood vessels -

In heat, the blood vessels -

1. Radiation from the skin surface and evaporation of sweat are two ways in which the skin helps to get rid of body _____
2. Fat in the _____ tissue layer beneath the dermis helps to insulate the body.
3. The waterproofing protein found in the epidermal cells is called _____
4. A vitamin that is manufactured in the skin is

   _____
5. A localized concentration of melanin is

   _____
6. Wrinkling of the skin is due to loss of the

   _____ of the skin.
7. A decubitus ulcer results when skin cells are deprived of

   _____
8. _____ is a bluish cast of the skin resulting from inadequate oxygenation of the blood.

**What do the following disorders look like?**

erythema -

jaundice –

pallor -

hematoma –

**Using key choices, choose all responses that apply to the following descriptions. Enter the appropriate letter(s) or term(s) in the answer blanks.**

A. Stratum corneum
B. Stratum basale
C. Stratum granulosum
D. Stratum lucidum
E. Papillary layer
F. Reticular layer
G. Epidermis as a whole (avascular, keratinocytes
H. Dermis as a whole only – gets nutrients & $O_2$ via diffusion from dermis.

1. Translucent cells, containing keratin
2. Dead cells
3. Dermis layer responsible for fingerprints (superior layer of dermis)
4. Vascular region (blood vessels) Gives skin reddish color.
5. Epidermal region involved in rapid cell division (mitosis); most inferior epidermal layer
6. Scale like cells full of keratin that constantly flake off
7. Site of elastic and collagen fibers (holds water)
8. Site of melanin formation (melanocytes)
9. Major skin area from which the derivatives (hair, nails) arise

# Integumentary System Accessory Organs

**Section 4:**

**For each true statement, write T. For each false statement, correct the underlined w ord(s) and insert your correction in the answer blank.**

_____1. Greater amounts of the pigment carotene are produced when the skin is exposed to the sun. -covers nucleus to protect DNA

_____ 2. The most abundant protein in dead epidermal structures such as hair and nails is melanin.

_____ 3. Sebum is an oily mixture of lipids, cholesterol, and cell fragments.

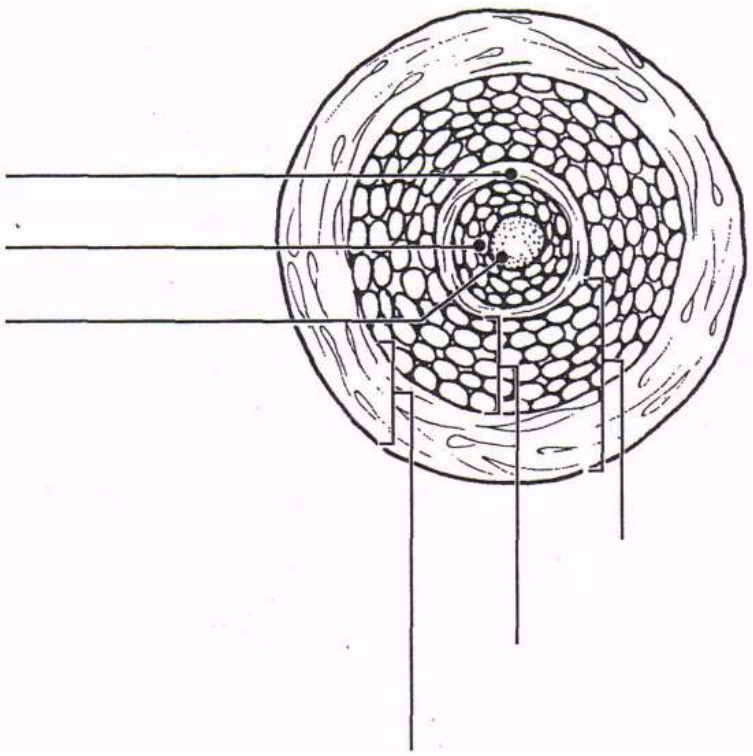
_____ 4. The oldest epidermal cells in the epidermis are found in the stratum basale.
Friction causes thickening of top layer --callus

_____ 5. The externally observable part of a hair is called the root.

_____6. The epidermis provides mechanical strength to the skin. (elastin and collagen)

**Figure 4-3 is a diagram of a cross-sectional view of a hair in its follicle. Complete this figure by following the directions in steps 1-3.**

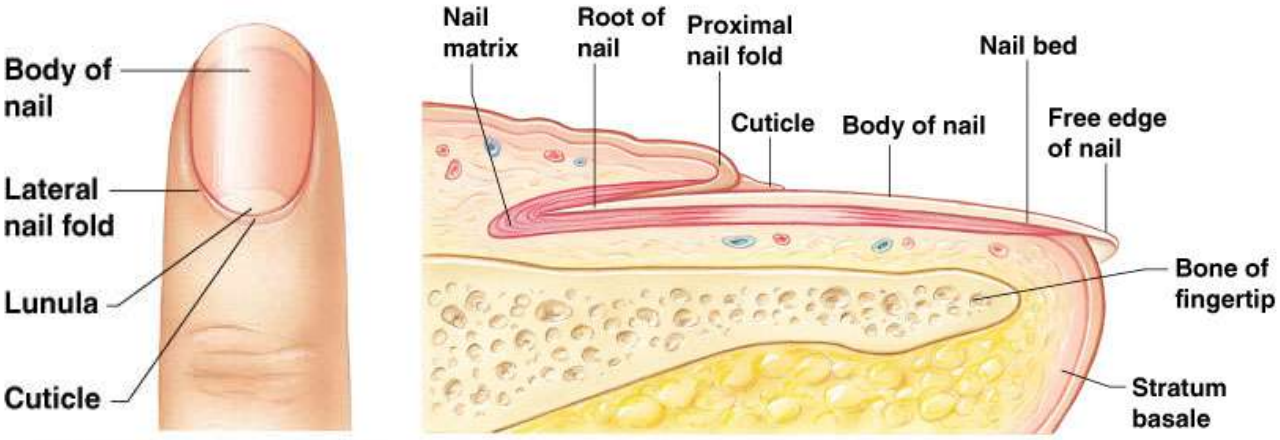
1. Identify the two portions of the follicle wall by placing the correct name of the sheath at the end of the appropriate leader line.
2. Use different colors to color these regions.
3. Label and color the following regions of the hair.
   Cortex Cuticle Medulla Follicle



**Finger nail:**

**Lunula** – crescent-shaped, thickened area of nail matrix, responsible for nail growth

**Cuticle** – (eponychium) flap of stratum corneum over the nail




**Ingrown Toenail**

**Fungal infection**

**Leukonychia**

Using key choices complete the following statements. Insert the appropriate letter(s) or term(s) in the answer blanks.

*Key Choices*

| | | | |
|---|---|---|---|
| A. Arrector pili | C. Hair | E. Sebaceous glands | G. Sweat gland (eccrine) |
| B. Cutaneous receptors | D. Hair follicle(s) | F. Sweat gland (apocrine) | |

_____ 1. A blackhead is an accumulation of oily material produced by (1) .

_____ 2. Tiny muscles attached to hair follicles that pull the hair upright during fright or cold are called (2) .

_____ 3. The most numerous variety of perspiration gland is the (3) .

_____ 4. A sheath (from which hair grows) of both epithelial and connective tissues is

_____ *5.* A less numerous variety of perspiration gland is the *(5).* Its secretion (often milky in appearance) contains proteins and fatty acids that favor bacterial growth. (axillary and genital areas)

_____ 6. is found everywhere on the body except the palms of the hands, soles of the feet, and lips, and primarily consists of dead keratinized cells.

_____ 7. are specialized nerve endings that respond to temperature and touch
Pacinian – deep pressure
Meissner's – light touch
Free nerve endings - pain

_____ 8. (8) become more active at puberty. (due to increased hormones)

_____ 9. Part of the heat-liberating apparatus of the body is the (9) ("everywhere")

**Circle the term that does not belong in each of the following groupings.**

| | | | |
|---|---|---|---|
| 1. Sebaceous gland | Hair | Arrector pili | Epidermis |
| 2. Radiation | Absorption | Conduction | Evaporation |
| 3. Stratum corneum | Nails | Hair | Stratum basale |
| 4. Freckles | Blackheads | Moles | Melanin |
| 5. Scent glands | Eccrine glands | Apocrine glands | Axilla |
| 6. Cyanosis | Erythema | Wrinkles | Pallor |
| 7. Keratin | Carotene | Melanin | Hemoglobin |

# Homeostatic Imbalances of the Skin

**Section 5:**

Overwhelming infection is one of the most important causes of death in burn patients. What is the other major problem they face, and what are its possible consequences?

This section reviews the severity of burns. Using the key choices, select the correct burn type for each of the following descriptions. Write the correct answers in the answer blanks.

*Key Choices*

A. First-degree burn B. Second-degree burn C. Third-degree burn

_____ 1. Full-thickness burn; epidermal and dermal layers destroyed; skin is blanched

_____ 2. Blisters form

_____ 3. Epidermal damage, redness, and some pain (usually brief)

_____ 4. Epidermal and some dermal damage; pain; regeneration is possible

_____ *5.* Regeneration impossible; requires grafting

_____ 6. Pain is absent because nerve endings in the area are destroyed

What is the importance of the "rule of nines" in treatment of burn patients?

Fill in the type of skin cancer which matches each of the following descriptions:

_____ 1. Epithelial cells, develop lesions; metastasizes (spreads)

_____ 2. Cells of the lowest level of the epidermis invade the dermis and hypodermis; exposed areas develop ulcer; slow to metastasize.

_____ 3. Rare but often deadly cancer of pigment-producing cells. Metastasize rapidly

What does ABCD mean in reference to examination of pigmented areas? _____

# DEVELOPMENTAL ASPECTS OF THE SKIN AND BODY MEMBRANES

**Section 6:**

Match the choices letters or terms in Column B with the appropriate descriptions in Column A.

| **Column A** | **Column B** |
|---|---|
| 1. Skin inflammations that increases in frequency with age | a. Acne |
| 2. Cause of graying hair | b. Decrease in melanin |
| 3. Small white bumps on the skin of newborn babies, resulting | c. Lanugo |
| from accumulations of sebaceous gland material | d. Vernix caseosa |
| 4. Reflects the loss of insulating subcutaneous tissue with age | e. Dermatitis |
| 5. A common consequence of accelerated sebaceous gland | f. Milia |
| activity during adolescence | g. Cold tolerance |
| 6. Oily substance produced by the fetus's sebaceous glands | |
| 7. The hairy "cloak" of the fetus | |