

Integumentary System Part 1: Structure & Functions of the Skin



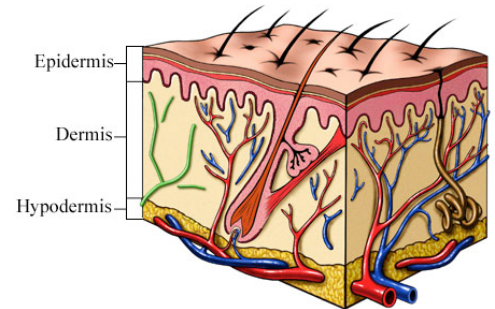
Integumentary System (Chapter 5)
Provides protection, regulates body temperature, site of cutaneous receptors, synthesizes vitamin D, prevents water loss.

I. Integumentary System

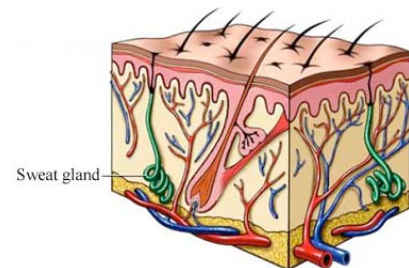
- The Integumentary system includes:
 - _____ - largest organ of the body
 - Accessory Organs:
 - _____ & _____
- Serves to protect the _____ (internal organs) and regulate temperature

II. Structure of the Skin

- The skin is composed of 3 layers from superficial to deep:



1. _____
 - Outermost layer of skin
 - _____ - hard outermost layer of epidermis
 - Produces a protein called _____
 - Keratinization causes _____ of dead skin cells, making skin _____.
 - _____ - produces new cells of epidermis
 - Contains Langerhans cells (for _____) and melanocytes (make _____ to give skin color)
2. _____
 - Thick layer of connective tissue containing:
 - _____ - ridges that cause _____ and provide gripping surface
 - _____ & _____ fibers - stretching & movement
 - Blood vessels
 - Sensory Nerves
 - _____ Glands
 - Hair Follicles
3. _____ (Subcutaneous Layer)
 - _____ layer of skin
 - Composed of _____ connective tissue and _____ tissue (fat)
 - Helps to _____, _____ body, and provides protective padding

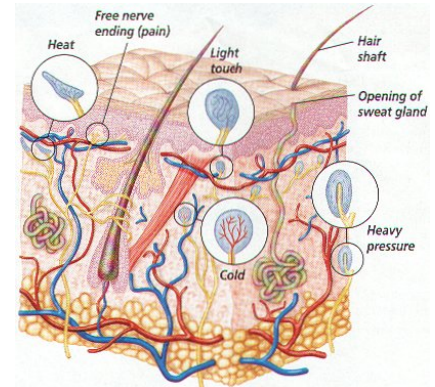


Unit 3: Integumentary System

A&P Chapter 5

III. Five Functions of the Skin

- 1. _____
 - Physical barrier to _____, _____, and _____
 - _____ and other invaders are prevented entry by the top dead layer of skin and the acidic, oily secretion from sebaceous glands (_____).
- 2. Regulates _____
 - Keratinization of the dead skin outer layer also prevents water from entering or leaving the skin, even when immersed in water.
 - Skin works with the urinary system to sweat off some excess water.
- 3. Produces _____
 - _____ produce _____ to protect against harmful UV radiation from the sun and also to produce Vitamin D
 - Vitamin D helps regulate the uptake of calcium by the digestive system.
 - _____ is needed for strong bones.
- 4. Gathers _____ Information
 - Sensory receptors are linked to the _____ system
 - Receptors specialize in sensing:
 - Touch
 - Pressure
 - Pain
 - Temperature (hot & cold)
 - Many receptors in hands
- 5. Regulates _____
 - When the body is too _____, the skin will help to _____ the body temperature back to 98.6°:
 - _____
 - _____ of dermal blood vessels
 - When the body is too _____, the skin will help to _____ _____ back to 98.6° by generating heat:
 - _____ (muscle contraction)
 - _____ (contraction of _____ muscles attached to hair follicles) cause hair to trap _____
 - _____ of dermal blood vessels
 - Bad things happen when body temp. is not constant:
 - _____ -Lower body temp. than normal interferes with the body's normal functions and eventually ends in death
 - _____ -Higher body temp. than normal results in dehydration (from excess sweating) and heat stroke.



Learning Goals

1. Describe the 3 layers of the skin, including the location and what structures are found in each.
2. Explain the 5 functions of the skin and how each function relates to homeostasis.