

Module 3 LO8

Accessory Skin Structures and Functions

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8. Accessory Structures of the Skin

- Organs that develop from embryonic epidermis
 - A. Hair
 - B. Skin glands
 - C. Nails

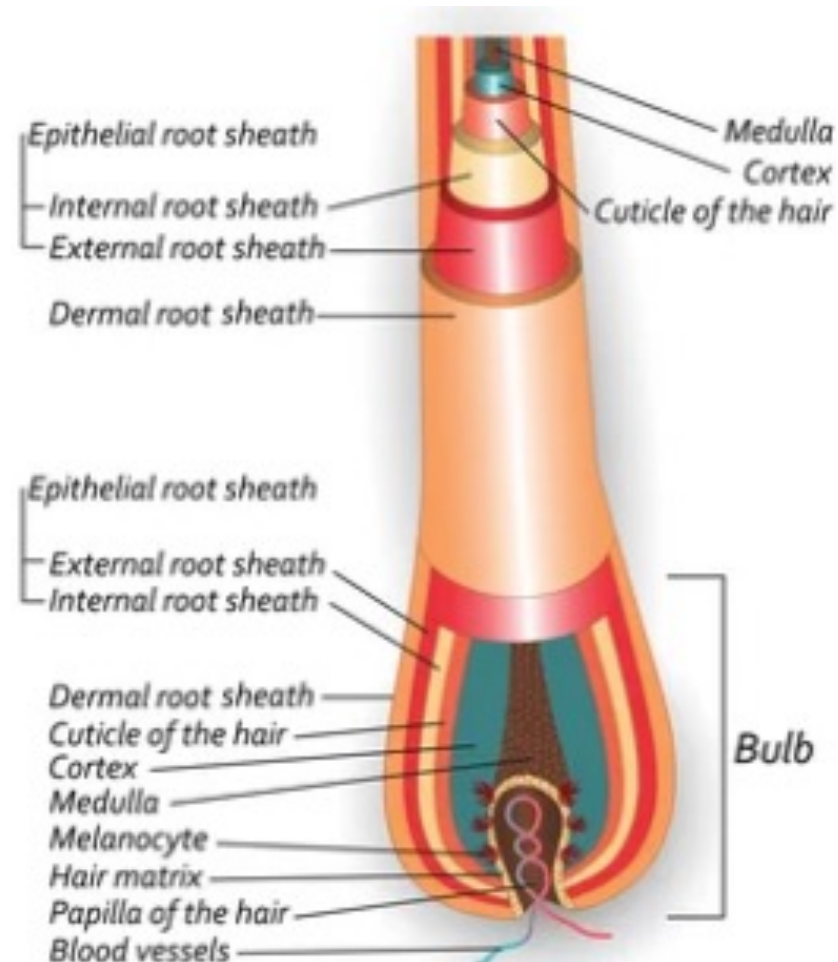
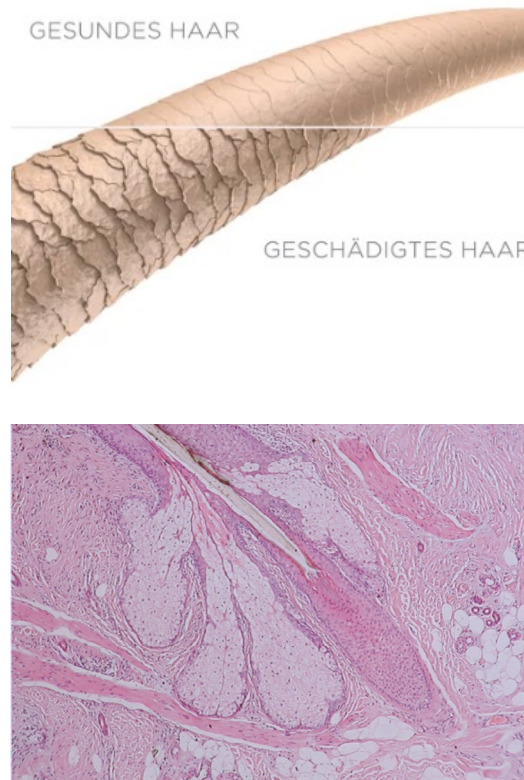
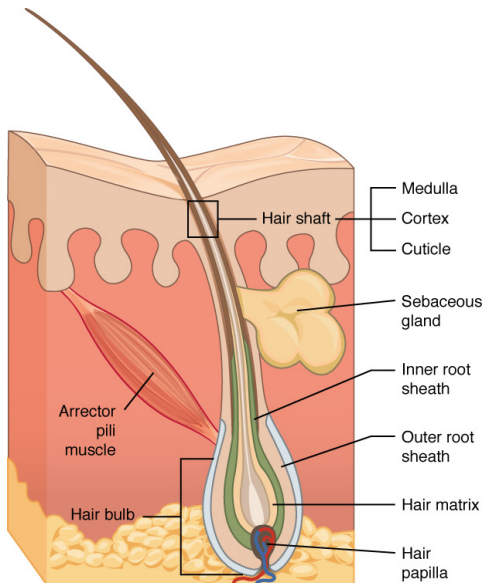
A. Hair

- Present everywhere in the body
 - Except palms of hands and soles of feet
- Developmental types of hair
 - Lanugo
 - Terminal hairs
 - Vellus
- Hairs (pili) important characteristics:
 - Protection
 - Reduction of heat loss
 - Sensing light touch

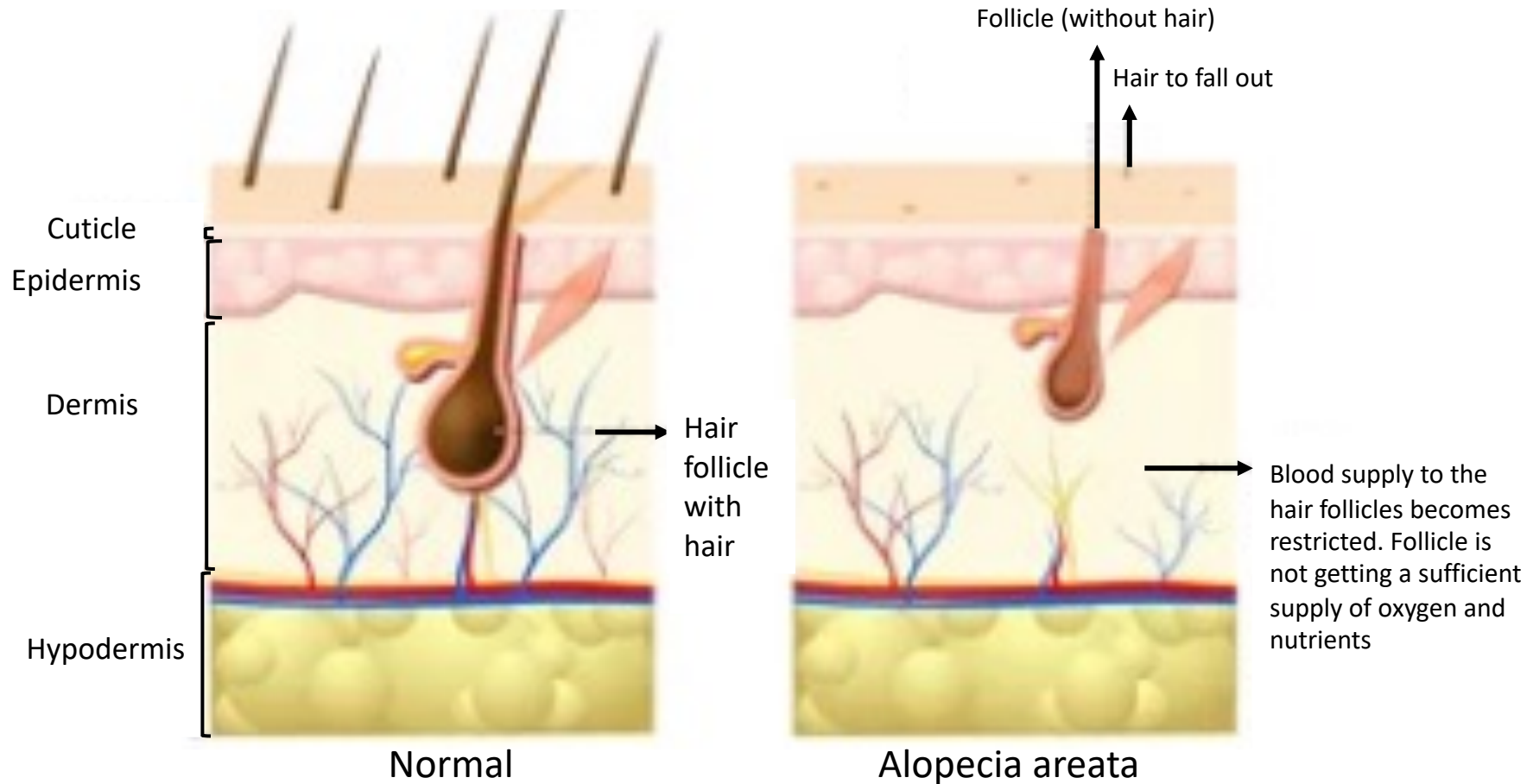


Hair Structure

- Composed of dead, keratinized epidermal cells
- Each hair consists of:
 - shaft
 - root
 - hair follicle



Hair Loss

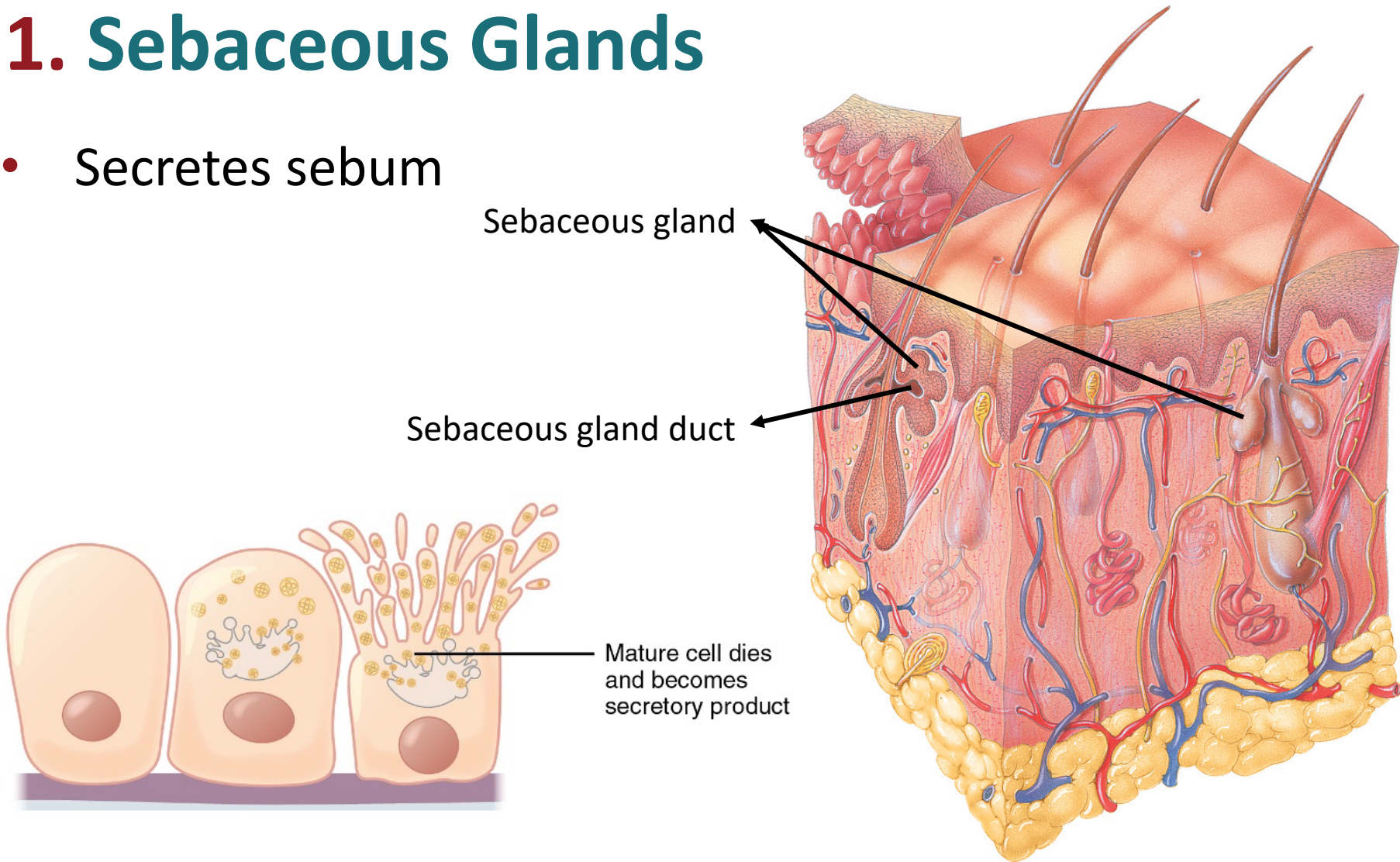


B. Skin Glands

- Exocrine glands
 1. Sebaceous glands
 2. Sweat glands (sudoriferous)
 - Merocrine (eccrine)
 - Apocrine sweat glands
 3. Ceruminous glands
 4. Mammary glands

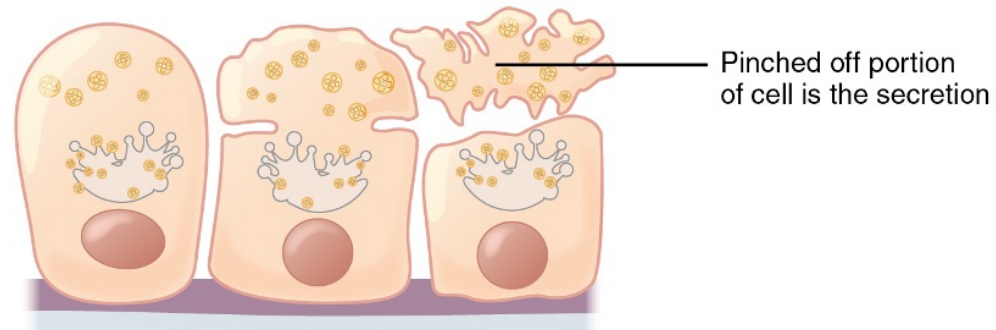
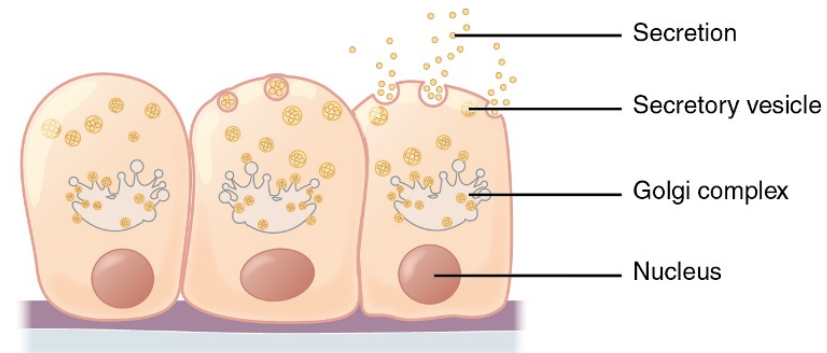
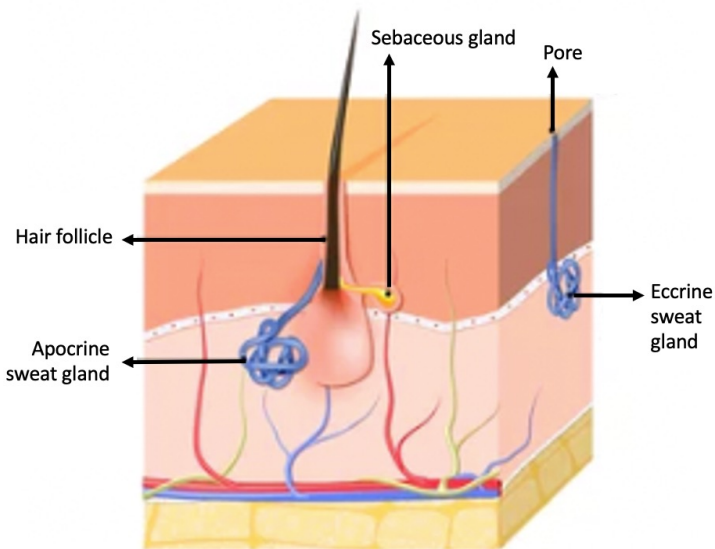
1. Sebaceous Glands

- Secretes sebum



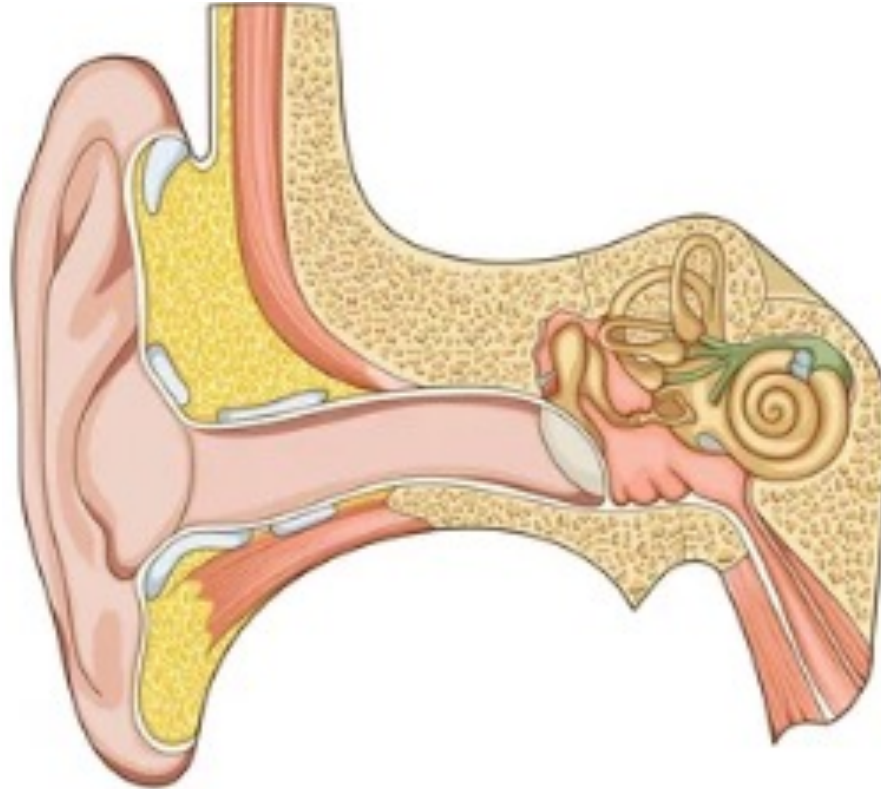
2. Sweat Glands (sudoriferous)

- Merocrine (eccrine)
 - Secretes a salty water
- Apocrine sweat glands
 - Same as eccrine
 - Addition of lipids and proteins



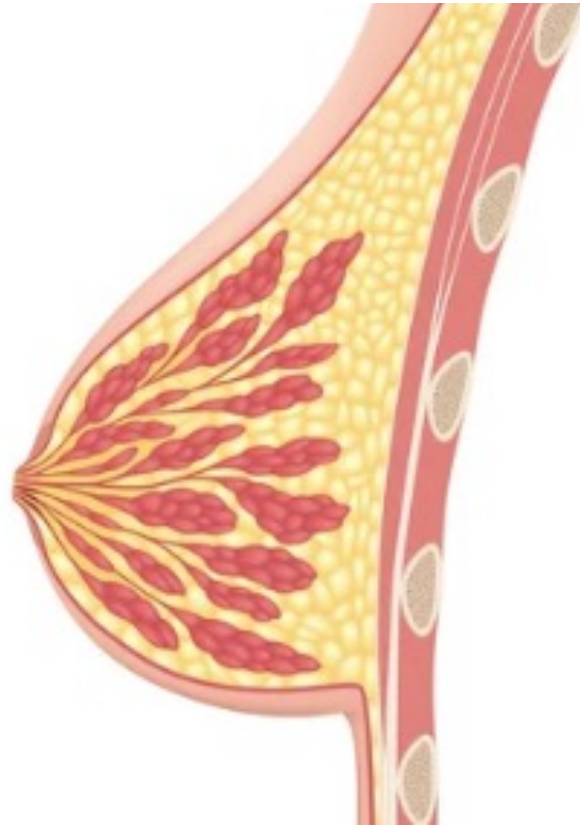
3. Ceruminous Glands

- Modified eccrine gland
- Produces cerumen, together with sebaceous glands



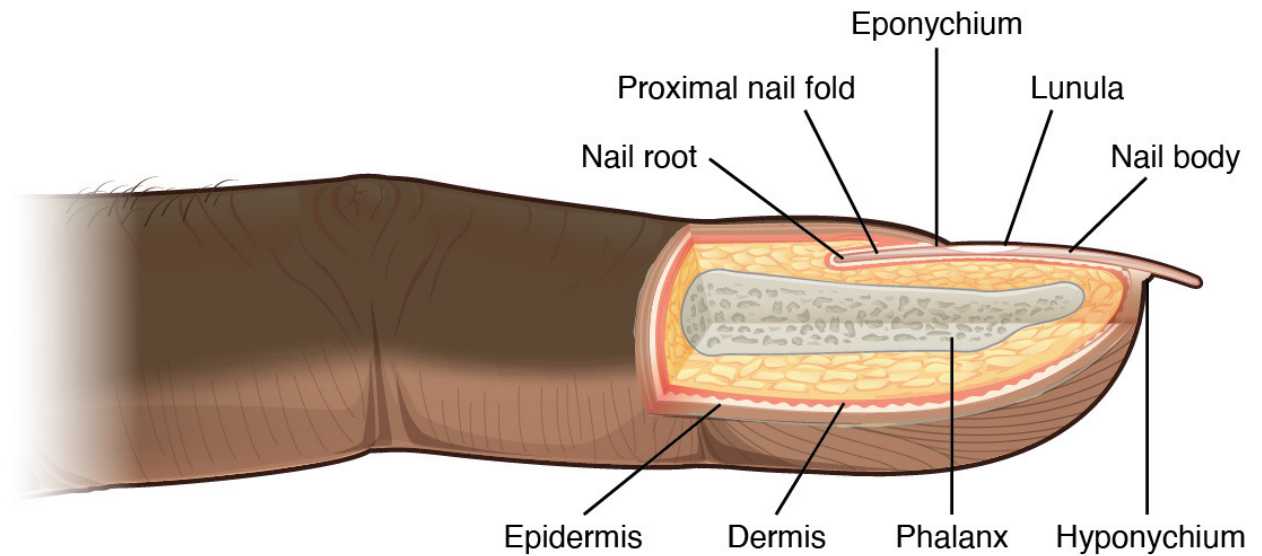
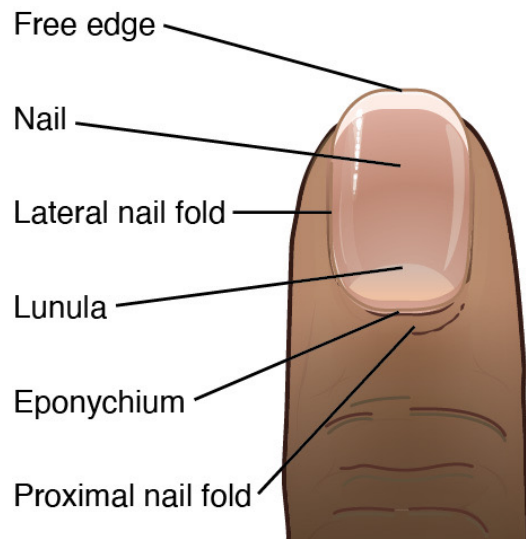
4. Mammary glands

- Modified apocrine glands
- Produces milk



FEATURE	SEBACEOUS (OIL) GLANDS	ECCRINE SWEAT GLANDS	APOCRINE SWEAT GLANDS	CERUMINOUS GLANDS
Distribution	Large in lips, glans penis, labia minora, and tarsal glands; small in trunk and limbs; absent in palms and soles	Throughout skin of most regions of the body, especially in skin of forehead, palms, and soles	Skin of axilla, groin, areolae, bearded regions of face, clitoris, and labia minora	External auditory canal
Location of secretory portion	Dermis	Mostly in deep dermis	Mostly in subcutaneous layer	Subcutaneous layer
Termination of excretory duct	Mostly connected to hair follicles	Surface of epidermis	Hair follicle	Surface of external auditory canal or into ducts of sebaceous glands
Secretion	Sebum (mixture of triglycerides, cholesterol, proteins), and inorganic salts	Less viscous; consists of water, ions (Na^+ , Cl^-), urea, uric acid, ammonia, amino acids, glucose, and lactic acid	More viscous; consists of the same components as eccrine sweat glands plus lipids and proteins	Cerumen, a waxy material
Functions	Prevent hairs from drying out, prevent water loss from skin, keep skin soft, and inhibit growth of some bacteria	Regulation of body temperature, waste removal, and stimulation during emotional stress	Stimulation during emotional stress and sexual excitement	Impede entrance of foreign bodies and insects into external ear canal, waterproofs canal, and prevent microbes from entering cells
Onset of function	Relatively inactive during childhood; activated during puberty	Soon after birth	Puberty	Soon after birth

C. Nails Structures



Nail Functions

- Protect distal ends of digits
- Providing support and counterpressure to the palmar surface of the finger
- Grasp and manipulate objects
- Scratching various body parts

