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THE INTEGUMENTARY SYSTEM



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Integumentary System?

*“The integumentary system consists of the **skin, hair, nails, glands, and nerves**. Its main function is to act as a barrier to protect the body from the outside world.”*



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The Integument Is the largest system of the body

16% of body weight,

1.5 to 2 m² in area,

The integument is made up of two parts:

1. Cutaneous membrane

a. **Epidermis**– Superficial epithelium

b. **Dermis** – underlying CT with blood supply

2. Accessory structures

a. **Hair**

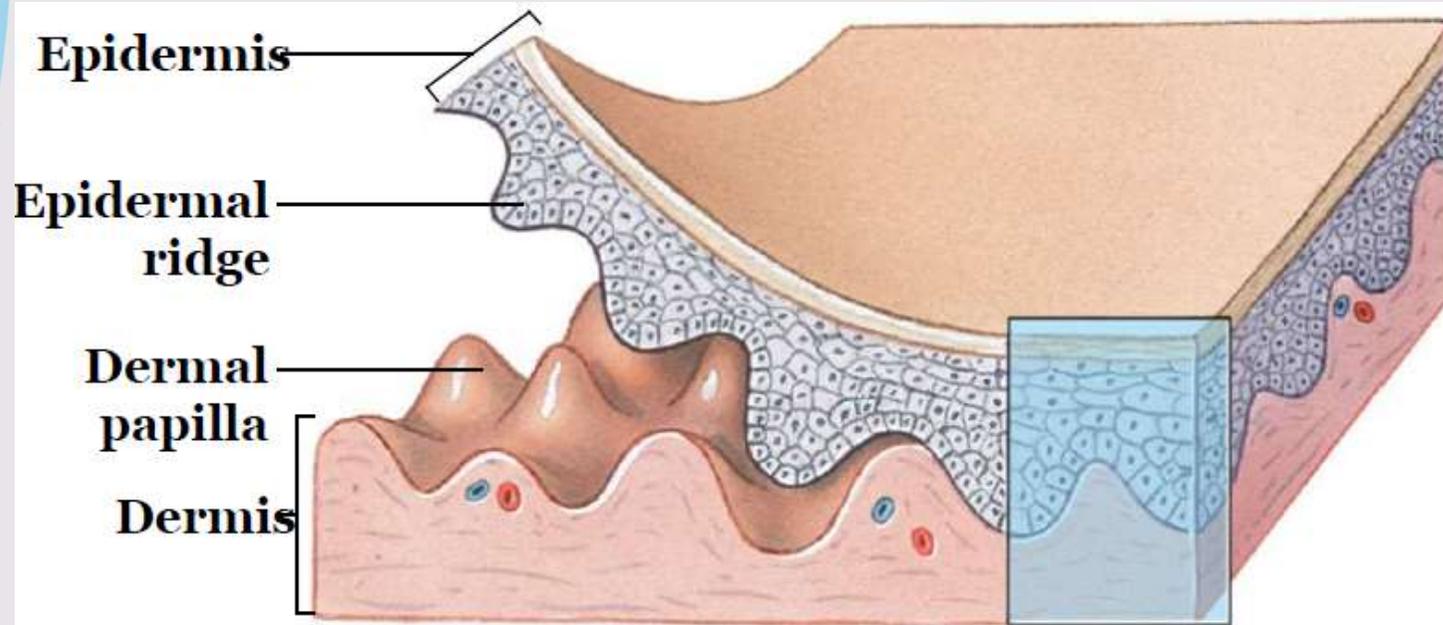
b. **Nails**

c. Exocrine Glands



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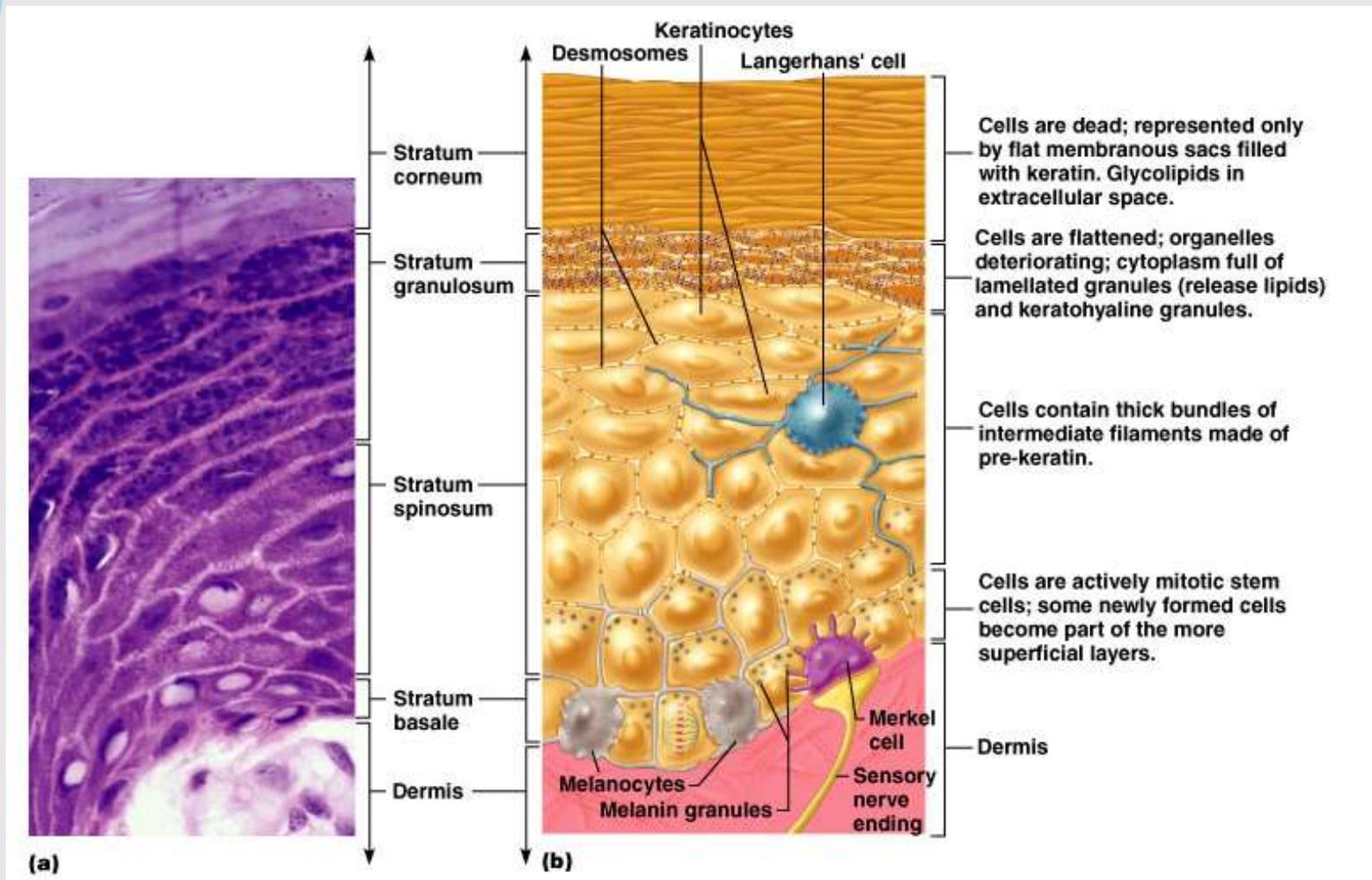
a The structural relationship and interface between the epidermis and underlying dermis. The proportions of the various layers differ with the location sampled.



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Epithelium: layers (on left) and cell types (on right)

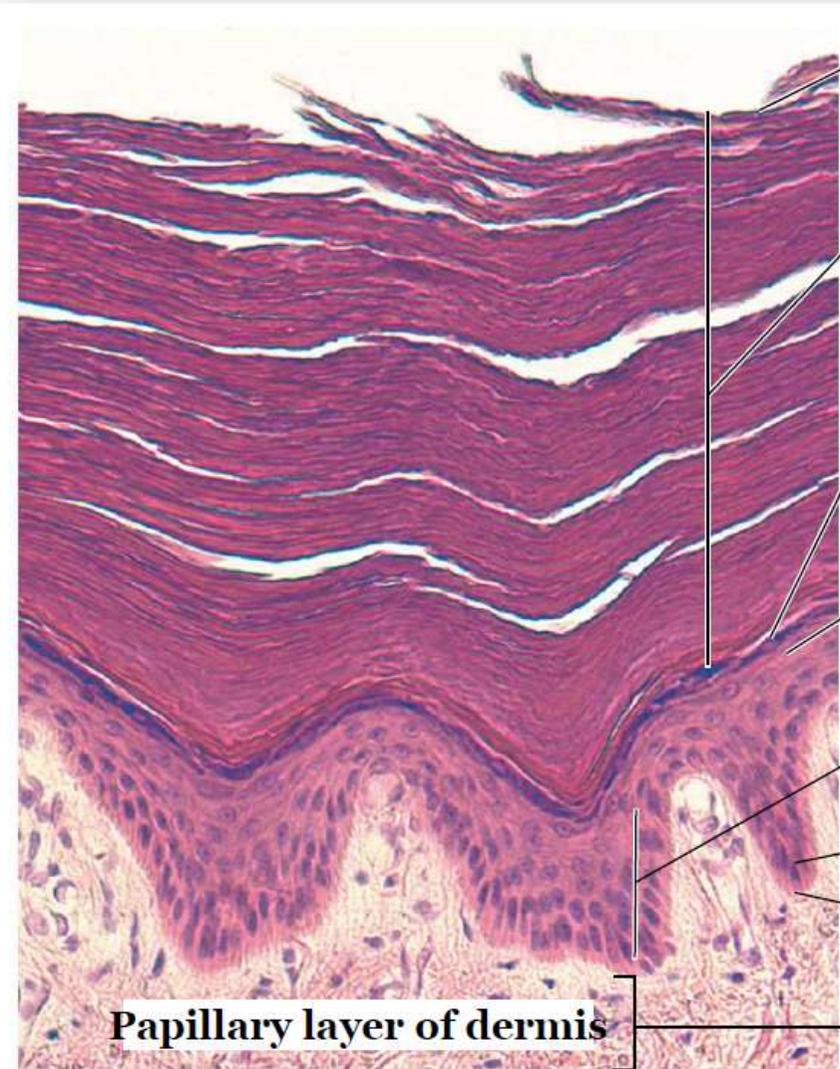




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**E
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Surface

**Stratum
corneum**

**Stratum
lucidum**

**Stratum
granulosum**

**Stratum
spinosum**

Stratum basale

**Basement
membrane**

Dermis

Papillary layer of dermis

Thick skin

LM × 210



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Remember...

Four basic types of tissue

Epithelium – epidermis just discussed

Connective tissue - dermis

Muscle tissue

Nervous tissue



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Association with other systems

Immune system

Digestive system

Circulatory system

Nervous system



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The skin is one of the first defense mechanisms in your **immune system**.

Tiny glands in the skin secrete oils that enhance the barrier function of the skin.

Immune cells live in the skin and provide the first line of defence against infections.



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By helping to synthesize and absorb vitamin D, the integumentary system works with **the digestive system** to encourage the uptake of calcium from our diet.

This substance enters the bloodstream through the capillary networks in the skin.

Healthy functioning of your skin also is related to the digestive system because the digestion and assimilation of dietary fats and oils are essential for the body to be able to make the protective oils for the skin and hair.

The integumentary system also works closely with the **circulatory system** and the surface capillaries through your body.