

Human Body: Integumentary System

The integumentary system protects the body from the external environment and works with other body systems to regulate internal processes. Major structures include the skin, glands, hair, and nails. The main functions of the integumentary system are protection, regulation, and sensation.

Skin

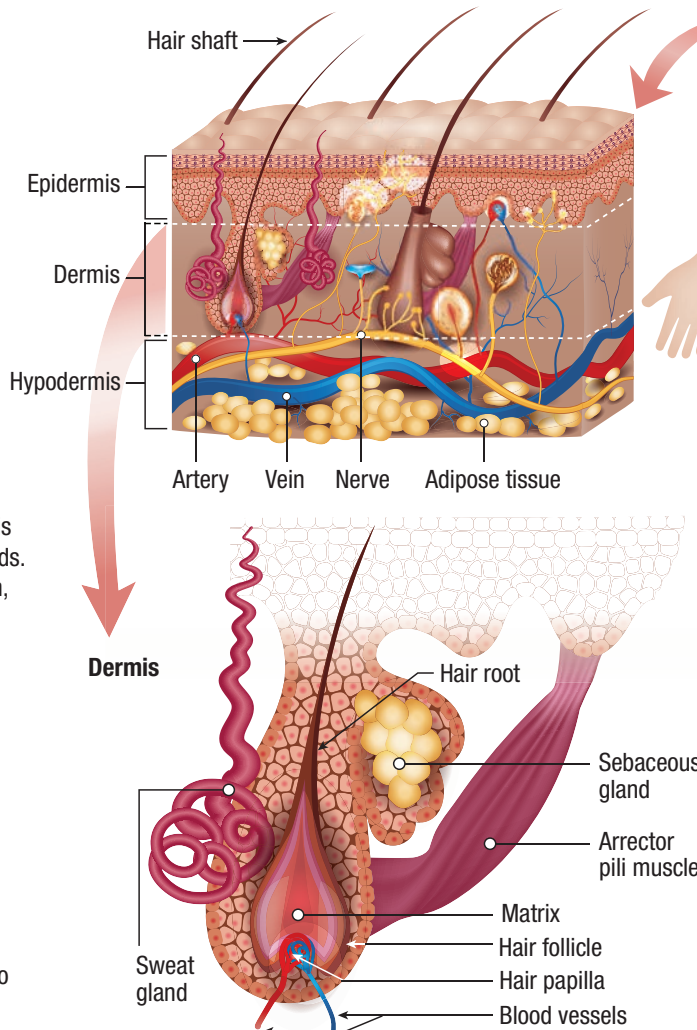
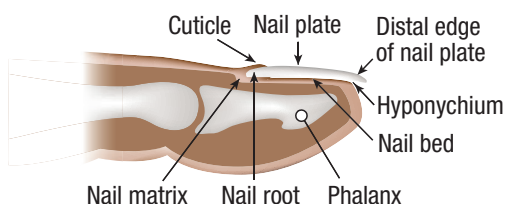
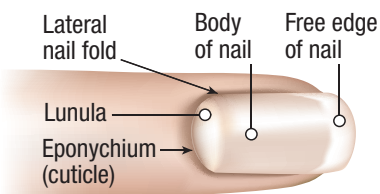
Skin is the largest and fastest-growing organ in the body. The outermost layer, the **epidermis**, is composed of stratified squamous epithelial tissue. Below this layer is the **dermis**, which contains the cutaneous glands, hair follicles, and most of the skin's nerve endings. The **hypodermis** (subcutaneous layer) consists of loose connective and adipose tissue.

Cutaneous Glands

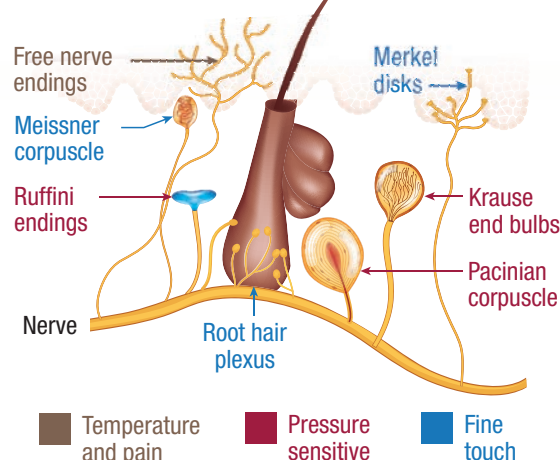
Cutaneous glands within the dermis include sebaceous and sweat glands. **Sebaceous glands** secrete sebum, an oily substance that waterproofs and lubricates the skin. **Sweat glands** help cool the body through evaporation of sweat.

Fingernails

Fingernails and toenails are made of densely-packed cells covered in keratin. The cuticle, found at the base of the nail, provides a barrier between the skin and the nail. The body of the nail appears pink due to numerous blood vessels in the nail bed underneath. Nails protect the fingers and toes and can be used for scratching.



Nerve receptors of the skin



Hair

Hair is a pigmented filament formed by mostly keratinized cells. Human hair follicles can be divided into 3 main segments: the bulb, root, and shaft. The shaft (the visible part of hair) consists of 3 layers: the cuticle, cortex, and medulla. The cortex defines texture and contains the pigment that gives hair its color.

