

## **Integumentary System**

The skin and its associated structures make up the integumentary system. This body covering system protects against infection, dehydration, ultraviolet radiation, and injury. Extensive damage to the skin, such as by burns, can result in a host of dangerous complications. The skin contains receptors for the sensory perceptions of touch, temperature, pressure, and pain. The word derma (from Greek) means “skin” and is used as an ending in words pertaining to the skin, such as xeroderma (dryness of the skin) and scleroderma (hardening of the skin).

### **Function of the Integumentary System**

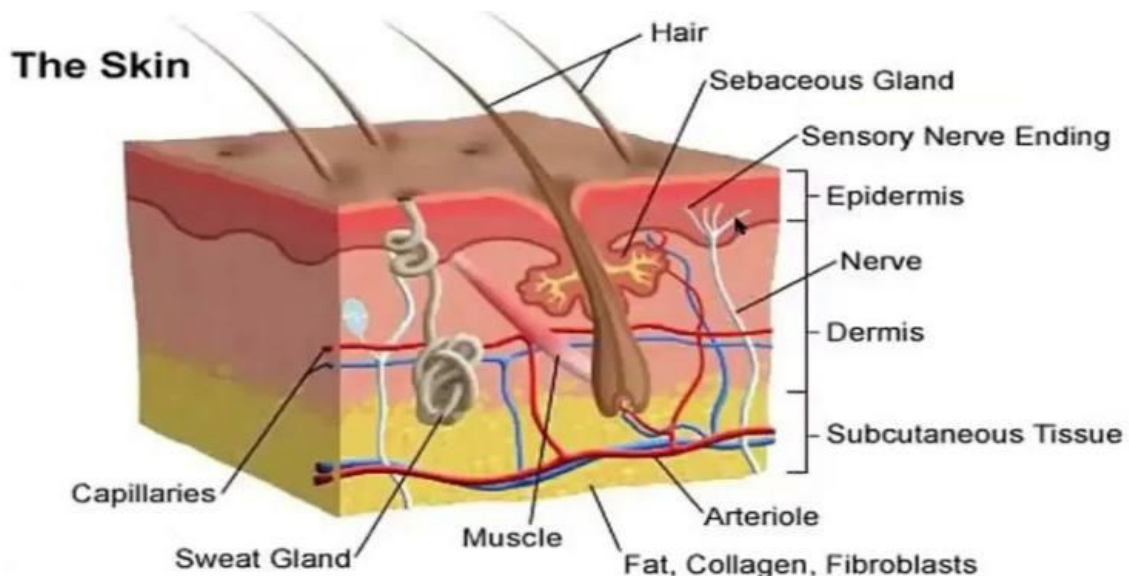
- 1-Protection:** The skin and hair provide a barrier against harmful substances, ultraviolet (UV) radiation from the sun, and temperature extremes.
- 2- Sensation:** The skin contains nerve endings that detect touch, pressure, pain, heat, and cold.
- 3-Temperature regulation:** The skin can sweat and widen blood vessels to regulate body temperature.
- 4-Waste excretion:** The skin eliminates some wastes through sweat.
- 5-Vitamin D production:** When exposed to UV light from the sun, the skin produces vitamin D, which is important for bone health .

## Components of the Integumentary System

Three layers of tissue make up the skin:

- 1- Epidermis, the top layer.
- 2- Dermis, the middle layer.
- 3- Subcutaneous layer .

Beneath the skin there is connective tissue called **subcutaneous** layer its composed of fatty tissue & its very important its connect the dermis to the muscles & organs beneath. The **epidermis** is composed of **keratinized, stratified squamous epithelium**. It is made of four or five layers of epithelial cells, depending on its location in the body. It does not have any **blood vessels** or **nerves**.



### Accessory Structures

Accessory structures of the skin include hair, nails, sweat glands, and sebaceous glands.

- 1- **Hair**: This is a keratinous filament that grows out of the epidermis. It is primarily made of dead, keratinized cells.
- 2- **Nail**: This epidermal structure is found at the tips of our fingers and toes. The nail body is formed on the nail bed and protects the tips of our fingers and toes and assists with picking up small objects.
- 3- **The sweat (sudoriferous) glands** : act mainly in temperature regulation by releasing a watery fluid that evaporates to cool the body.
- 4- **The sebaceous glands** : release an oily fluid, sebum, that lubricates the hair and skin and prevents.

### Disorders of skin:

**Skin lesions**: means any wound or injury to the skin.

### Albinism

Albin/o = white - The suffix (-ism) = condition.

**Albinism**: Partial or total absence of the pigment (melanin) of the skin, hair, and eyes.



## **Xeroderma**

**Xer/o= dry - Xeroderma= xerosis= xerosis cutis**

**genetic disorder in which there is a decreased ability to repair DNA damage such as that caused by ultraviolet (UV) light. Symptoms may include a severe sunburn after only a few minutes in the sun.**



## **Melanoma**

**Melan/o= black - The suffix -oma= tumor**

**Melanoma (malignant melanoma) is a skin cancer that develops from the melanocytes (pigment producing cells).**

**Acne**

Is a localized skin inflammation due to overactivity of the oil glands at the base of the hair follicle.

**Dermatitis**

Dermatitis is a general term for inflammation of the skin, which may be acute or chronic. Mild forms show erythema (redness) and edema and sometimes pruritus (itching),

**Eczema:** its type of chronic dermatitis.



## **Skin Cancer**

**Skin cancer is the most common type of human cancer. mainly because of the mutation causing effects of sunlight's ultraviolet rays. Squamous cell carcinoma and basal cell carcinoma are both cancers of epithelial cells. Both appear in areas exposed to sunlight, such as the face and hands.**

