Lecture 6

Integumentary System
Integumentary System

**Consists of:**
1. Skin (Epidermis & Dermis)
2. Accessory structures
   - ________________
   - ________________
   - ________________

**Functions**
- Protection
- Sensation
- Temperature regulation
- Vitamin D production
- Excretion

Fig. 5.1
Epidermis and Dermis

Fig. 5.2
Epidermal Cells

- **Cell types**
  - ____________________:
    Produce keratin for strength
  - ____________________:
    Contribute to skin color (pigment melanin)
  - **Epidermal dendritic cell**: Part of the immune system
  - **Tactile cells**: Detect light touch and pressure

- **Keratinization**: Cells die and produce outer layer that resists ____________________ and forms permeability layer
Epidermal Strata

- **Stratum Basale**
  - Deepest portion of epidermis and single layer
  - High ____________ activity

- **Stratum Spinosum**
  - Limited cell division

- **Stratum Granulosum**
  - In superficial layers nucleus and other organelles ____________ and cell dies

Fig. 5.2
Epidermal Strata

- **Stratum Lucidum**
  - Thin, clear zone

- **Stratum Corneum**
  - Most superficial and consists of______________
  - ________________

![Fig. 5.2](https://via.placeholder.com/150)
Dermis

**Structural strength**

**Two layers**

- **Deeper layer** - dense connective tissue; stretch marks (________)
- **Superficial layer underneath epidermis** - loose connective tissue

Fig. 5.6
Accessory Skin Structures: Hair

• Found everywhere on human body except palms, soles, lips, nipples, parts of external genitalia, and distal segments of fingers and toes

• Composed of:
  – _______________ protrudes above skin surface
  – ________________________ located below surface
  – Hair bulb

• Hair follicle consists of layer of ____________________

• Arrector pili
  – Smooth muscle
  – __________________________

Fig. 5.9
Accessory Skin Structures: Nails

- **Anatomy**
  - Nail root proximally
  - Nail body distally: Eponychium or ________________

- **Growth**
  - Grow continuously unlike hair
Accessory Skin Structures: Oil and Sweat Glands

- **Sebaceous glands**
  - Produce ________________
  - Oils hair and skin surface

- **Sudoriferous glands (sweat)**
  - Most commonly found in palms, soles and forehead
  - Also found in axillae (armpit), genitalia, around anus
  - Ceruminous glands (____________________ or ear wax)
  - Mammary glands
Points to Remember

• Two components to integumentary system
  – Skin (epidermis & dermis)
  – Accessory structures (hair, nails and glands)
• Keratinization (accumulation of keratin) produces upper layer of cells of epidermis, hair and nails
• Two types of glands in skin
  – Sebaceous (oily)
  – Sudiferous (watery)
Questions?