
**كلية الرشيد الجامعة/ قسم كلية التمريض**

**مادة التشريح للمرحلة الاولى**

**المحاضرة الرابعة**

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**Human anatomy**

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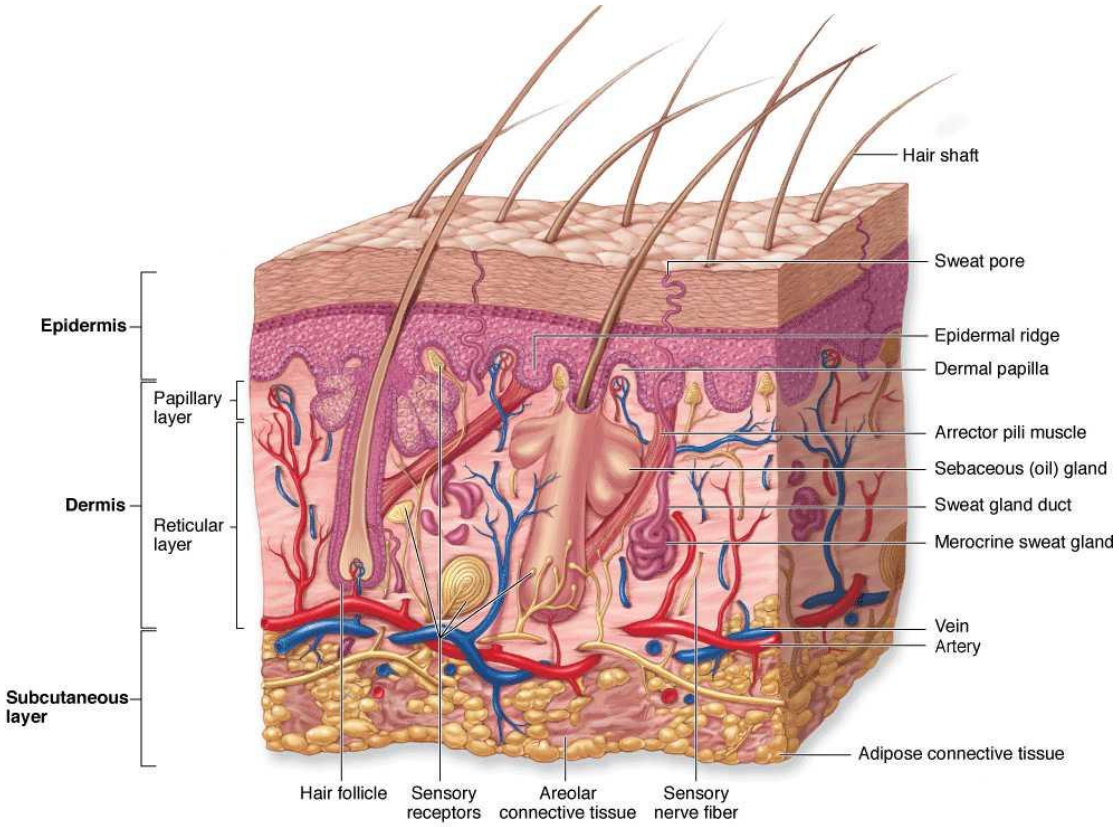
# Skin and fascias

Skin is the largest organ in the body. It is formed of:

**Epidermis (superficial layer):** is a keratinized stratified squamous epithelium which is avascular and varies in thickness (thick in palm and sole; thin in arm and forearm)

**Dermis (deep layer**): is dense bed of connective tissue (contains blood vessels, lymph and nerves)



**Function of skin:**

1- Protection of deeper strictures from abrasion and pathogens
2- Prevents fluid loss
3- Secretions (sweat, sebum, milk)
4- Sensations (pain, touch, temperature)
5- Regulation of body temperature
6- Synthesis and storage of vit. D

**Appendage of skin:**

1- Nails
2- Hair and hair follicles
3- Sebaceous glands
4- Sweat glands

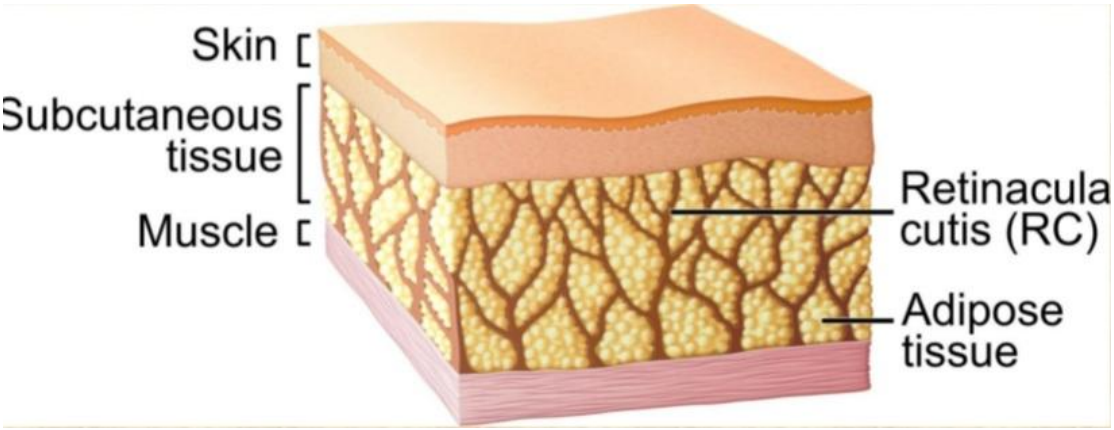
**Sites with no hair:**

1- Palm and sole
2- Sides of fingers and toes of the feet
3- Lips
4- Glans penis
5- Clitoris

**Sites with no sweat glands:**

1- Nails beds
2- Red margin of lips
3- Glans penis
4- Clitoris

**Ritinacula cutis (skin ligaments);** is small fibrous tissue that extend through the superficial fascia attaching the deep surface of the dermis to the deep fascia determining the mobility of the skin over the deep structures particularly developed over the breasts called the suspensory ligaments of the breasts.




**Rules of nine in burns**:

*head & neck 9%

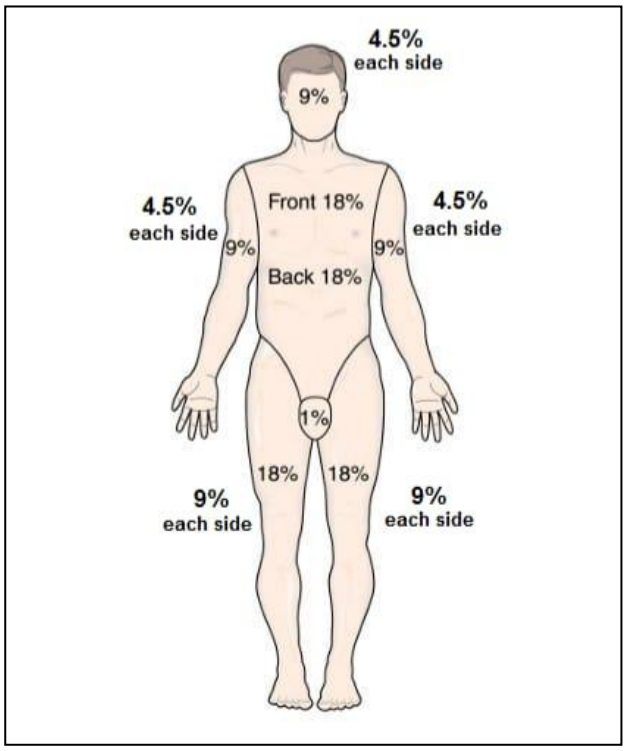
*each upper limbs 9%

*each lower limbs 18%

*front of trunk 18%

*back of trunk 18%

*external genitalia 1%



**Fascia:** is aband or sheet of connective tissue (primarly collagen), there are 3 main types :

1- **Superficial fascia,** which is mostly associated with the skin
2- **Deep fascia**, which is mostly associated with muscles, bones, nerves and blood vessels
3- **Visceral (subserous) fascia**, which is mostly associated with internal organs.

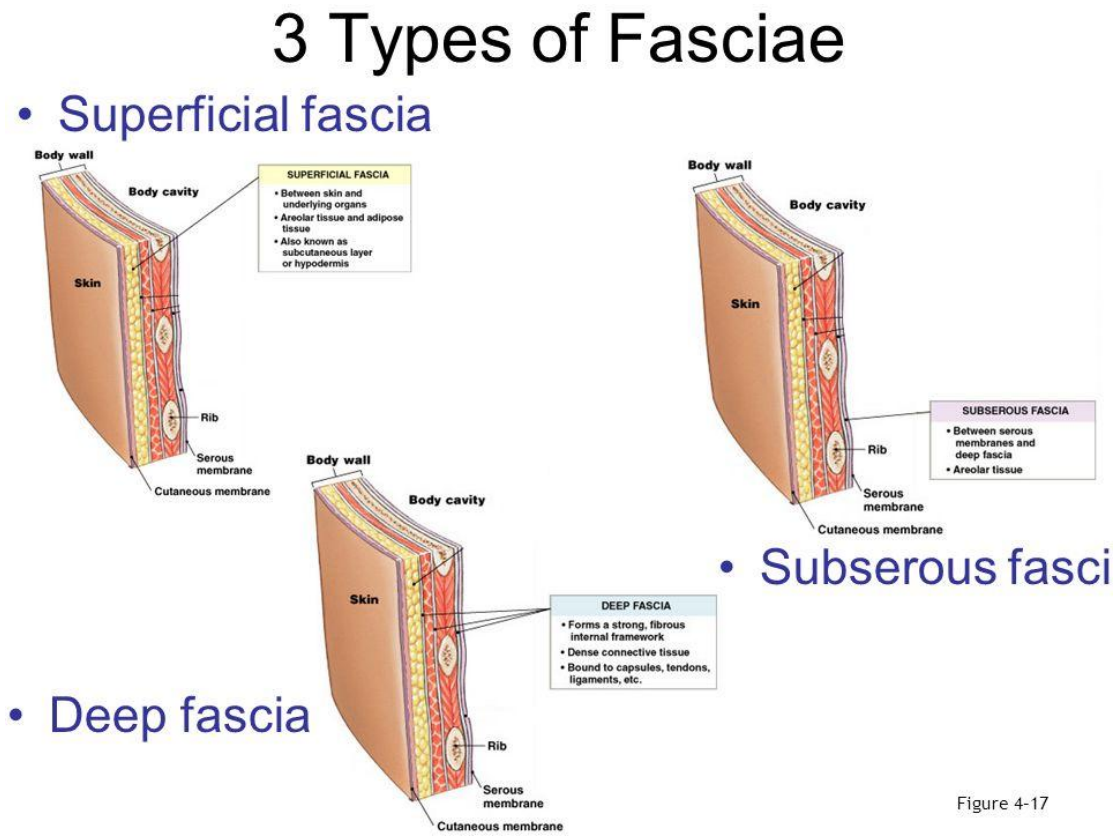



Figure 4-17

**Superficial fascia (subcutaneous tissue):**

A mixture of loose areolar and adipose tissue that connects the skin to deep fascia. It connects the adipose tissue and collagen in loss connective tissue.

**Function of superficial fascia:**

1- allows mobility of skin on deep structures
2- passage of blood vessels and nerves tom dermis of skin
3- insulator layer for the body(fat)
4- depot for food storage and gives body contours.

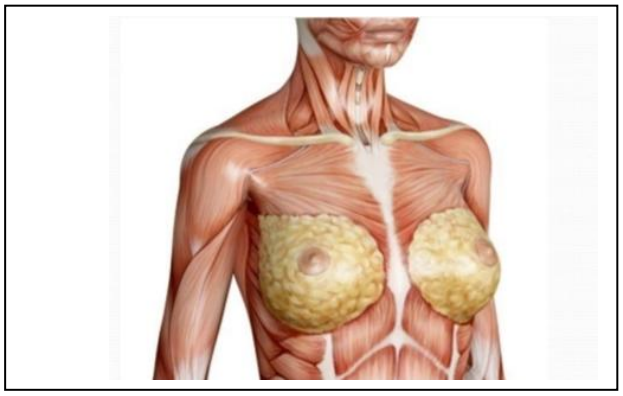
**Sites of superficial fascia without adipose tissue:**

1- eyelids
2- auricle of the ear
3- penis and scrotum
4- clitoris and labia minora
5- nipple and areola of the breast

**Sites of superficial fascia with thick collagen:**

1- palm and sole
2- scalp of head
3- back o neck

**Note:** breast is a modified sweat glands present in the superficial fascia of the anterior chest wall.

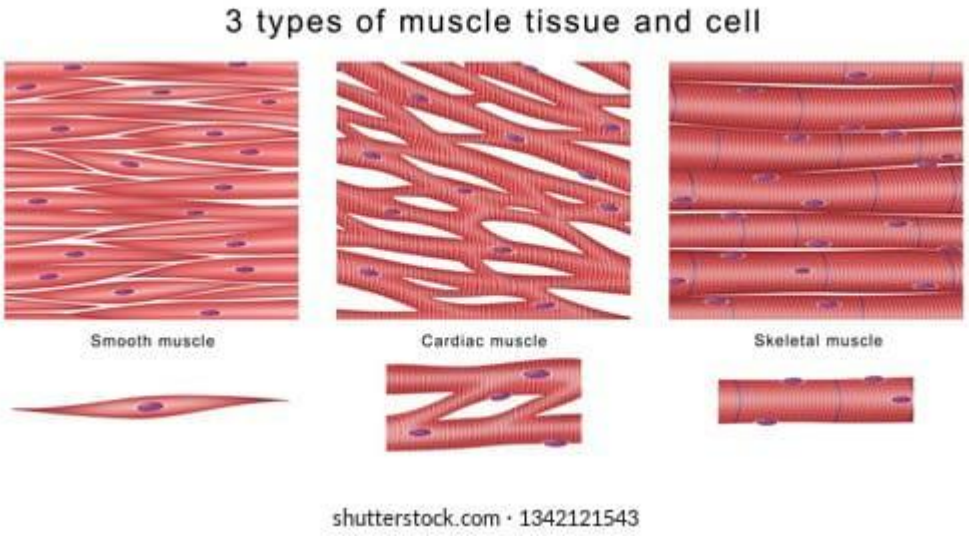


# The Muscles

Is a tissue composed of cells or fibers that can contract to produce movement in the body.

**Types of muscles:**

1- Skeletal muscles (striated, voluntary muscles)
2- Smooth muscles (non-striated, involuntary muscles)
3- Cardiac muscles (striated, involuntary)



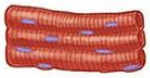
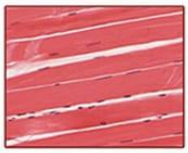
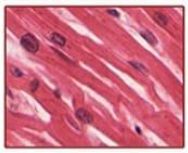

**Skeletal muscles:** it forms the main bulk of the body (about 40% of body weight).

The total number of muscles is 620 muscles.

**Structures of skeletal muscles:**

1- Origin; usually is the proximal, fixed attachment of the muscle
2- Insertion; usually the distal, mobile attachment
3- Belly; the flashy part of the muscle

4- Tendon; non-flashy part, it is a cord of fibrous tissue
(Aponeurosis; is flat tendon, not always present)
(Raphe; tendon in a form of interdigitate fibers)

| | Main features | Location | Type of cells | Histology |
|---|---|---|---|---|
| Skeletal muscle | - Fibers : striated, tubular and multi nucleated<br>- Voluntary<br>- Usually attached to skeleton |  |  |  |
| Smooth muscle | - Fibers : non-striated, spindle-shaped, and uninucleated.<br>- Involuntary<br>- Usually covering wall of internal organs. |  |  |  |
| Cardiac muscle | - Fibers : striated, branched and uninucleated.<br>- Involuntary<br>- Only covering walls of the heart. |  |  |  |