



# Introduction to Anatomy

Anatomy :- The study of the structure of body parts and their relationships to one another.

Physiology :-The study of the function of the human organs and the changes which occur during the activity of the organ .

## Subdivision:-

### Gross or macroscopic

**regional** - all structures in one part of the body (such as the.)abdomen or leg)

**Systemic** - gross anatomy of the body studied by system

**Surface** - study of internal structures as they relate to the overlying skin

**Developmental anatomy**: structural changes over time

### Microscopic

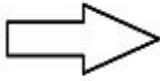
**Cytology** - study of the cell .

**Histology** - study of tissues .

**Embryology** - study of developmental changes of the body before birth

**Anatomical position** : is standardized method of observing or imaging the body.

The Anatomical Position



#tk/dattestok.com

### **Anatomical position :**

1. **Body standing upright or erect**
2. **Hand by the side**
3. **Feet together**
4. **Face looking forward**
5. **Mouth is closed**
6. **Facial expression neutral**
7. **Palms face forward with the fingers**
8. **Toes point forward**

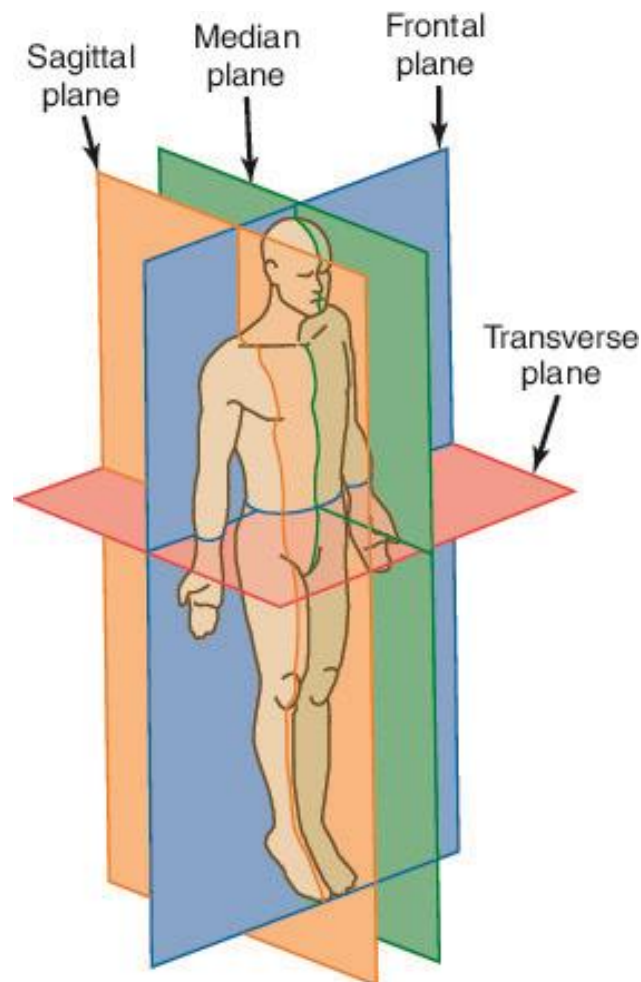
**Anatomical planes:-** is a hypothetical plane used to transect the body in order to describe the location of structures

**1-Mediane plane :-** oriented vertically passing longitudinally through the body, divides the body into equal right and left halves.

**2-Sagittal plane:-** oriented vertically and divide the body into right and left parts.

**3-Coronal or frontal plane :-** oriented vertically and divide the body into anterior and posterior parts

**4- Transvers, horizontal or axial planes:-** divide the body into superior and inferior parts



**Anatomical terms:-** terms are used to describe the location of structure relative to the body.

1-**Anterior and posterior:-** describe the position of structures relative to “front” and “back” of the body.

Anterior, nearer to the front.

Posterior, nearer to the back.

In the trunk (ventral- dorsal)

In the palm (palmar-dorsal)

2-**superior and inferior:-** describe structures in relation to vertical axis of the body

- Superior: “toward the head end of the body” or “higher/above.”
- Inferior (**the opposite**): “away from the head,” or “lower/under/below.”

3-**Medial and Lateral:-** describe the position of structures relative to median plane

Medial, means toward the midline of the body

Lateral, means away from the midline of the body

Intermediate means “between” two structures.

4-**Proximal and Distal:-** used with relation to the origin or attachment of a structure, particularly in the limbs.

Proximal, means “closest to” or “nearest” the point of origin of a structure, such as your limb in relation to your trunk

Distal, means “away from” or “farthest from” the attachment point of the structure (hip for legs or shoulders for arms)

5-**Superficial and Deep:-** used to describe the relative position to structures with respect to the surface of the body.

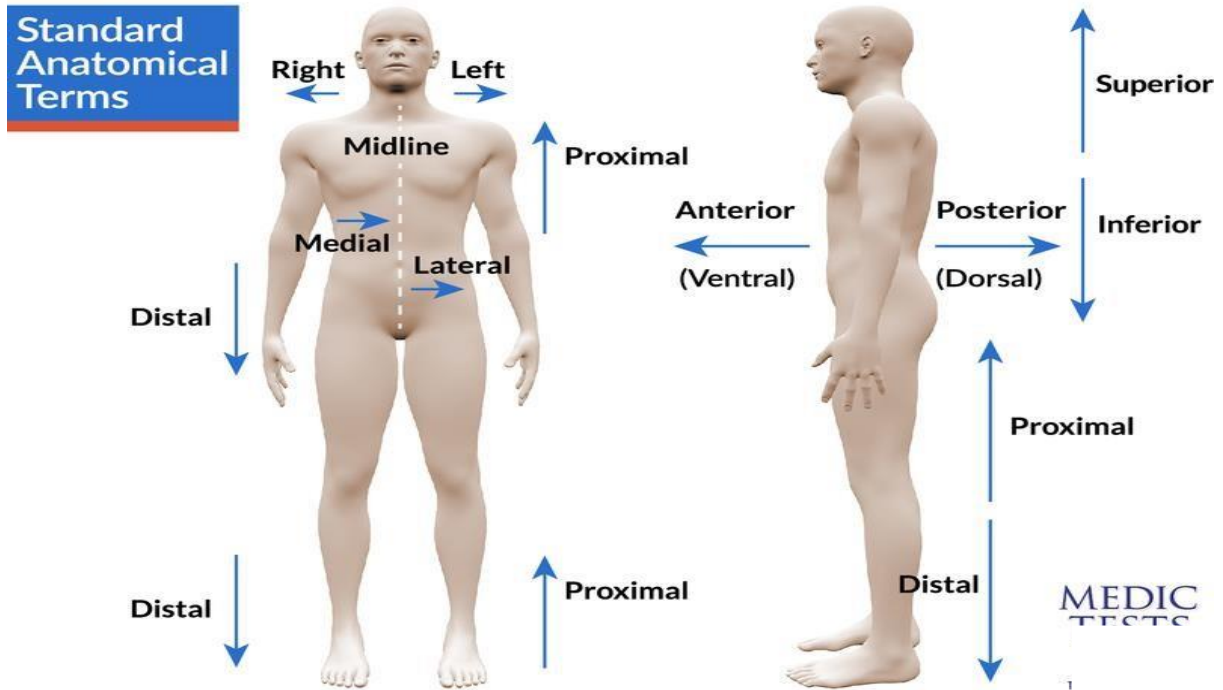
Superficial, means nearest to the surface (or outside) of the body

Deep, means away from the surface (inside) of the body.

6-External and internal :- used to describe the position in relation to center

External: away from the center

Internal: nearer to the center



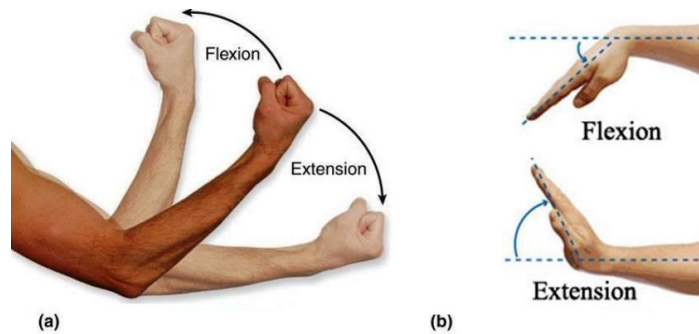
## Terms of movement

### 1-Flexion and Extension

Flexion, indicate a decrease in the angle between the bone or part of the body.

Extension, indicate an increase or straightening the angle between bones or parts of the body.

**Note**(flexion and extension movement occurs in sagittal plane)

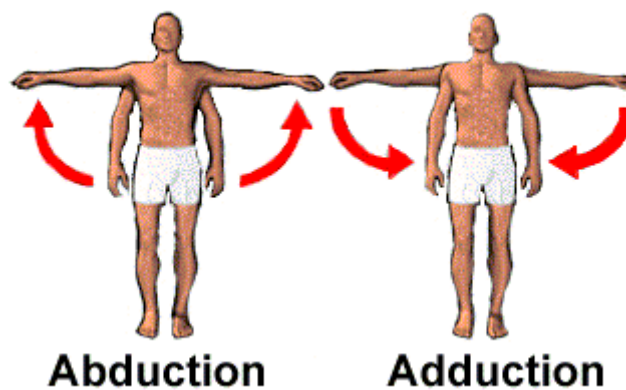


### 2-Adduction and Abduction

Adduction: means moving toward the median plane

Abduction: means moving away from the median plane

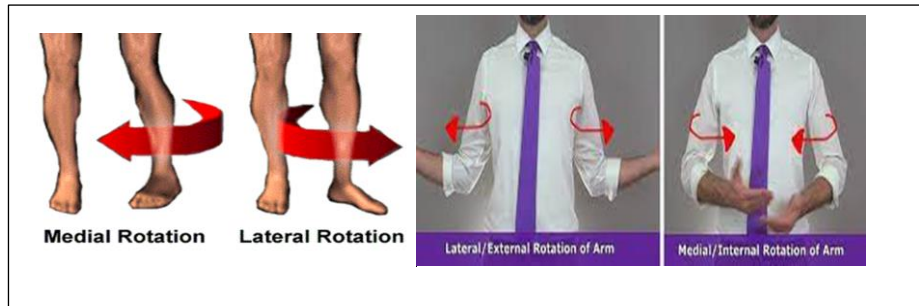
**Note**(Adduction and Abduction movement occurs in coronal plane)



### 3-Medial and lateral rotation

Medial rotation ;(internal rotation) brings the anterior surface of a limb closer to the median plane.

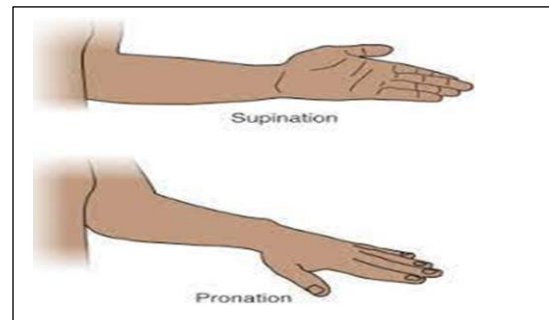
Lateral rotation;(external rotation) takes the anterior surface away from the median plane



### 4-pronation and supination

Pronation: your palm or forearm faces down.

Supination: your palm or forearm faces up.



### 5-Eversion and inversion

Eversion: moves the sole of the foot away from the median plane, turning the sole laterally

Inversion: moves the sole of the foot toward the median plane(facing the sole medially)

