

# Chapter 1



## Introduction to Human Anatomy

### Anatomical Terminology

Contact Information    Prof. Dr. Yasser Mohamed Elbastawisy

Email :                      [ym.albastawisi@amc.edu.sa](mailto:ym.albastawisi@amc.edu.sa)

Mobile:                      0568749443

# Objectives

**By the end of this lecture students should:**

- Understand the terms used for describing the structure and function of different regions of gross anatomy.

**Why?**

- Without these terms, it is impossible to describe, in a meaningful way, the composition of the body.
- The physician needs these terms so that anatomic abnormalities found on clinical examination of a patient can be accurately recorded.

# Anatomy

- The word “**anatomy**” comes from the Greek words:  
“ana,” = “up,” + “tome,” = “a cutting.” *بَيْنَ*
- Anatomy is the science of the structure of the body and its parts & their relations to one another.
- Clinical anatomy is the study of the macroscopic structure and function of the body as it relates to the practice of medicine and other health sciences.
- Regional Anatomy is the study of the structure of the body by regions (thorax, abdomen, ...) *دراسة جسم من طريق облаقيات بطنية*
- Systemic Anatomy is the study of the structure of the body by systems (CVS, respiratory S, ...) *دراسة جسم عن طريق الأنظمة*



# Methods of Studying Anatomy

د ۱ ی سَعْدَشَن

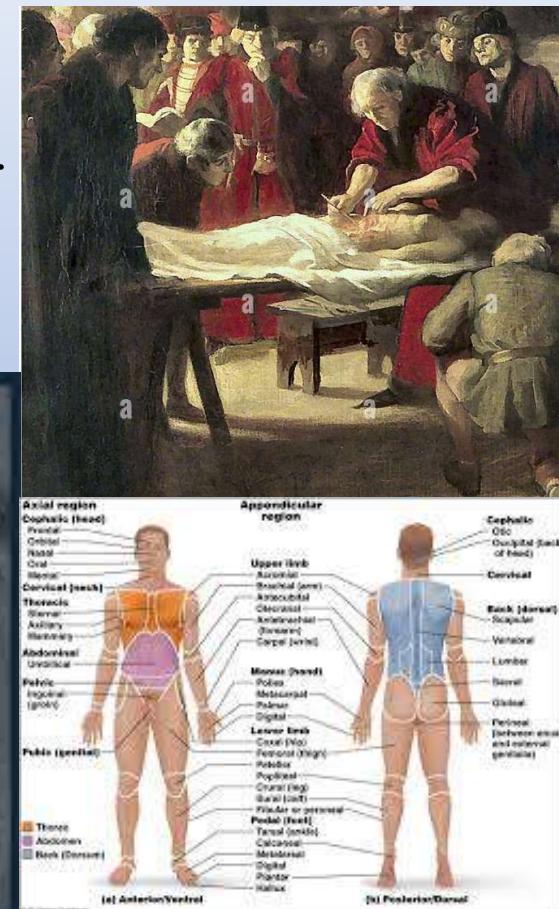
- ① > Dissection. التشربج
  - ② > Living (Surface) Anatomy. التشربج الحي (الповلي)
  - ③ > Radiological Anatomy. التشربج الإشعاعي
  - ④ > Endoscopy. التفتيش الداخلي



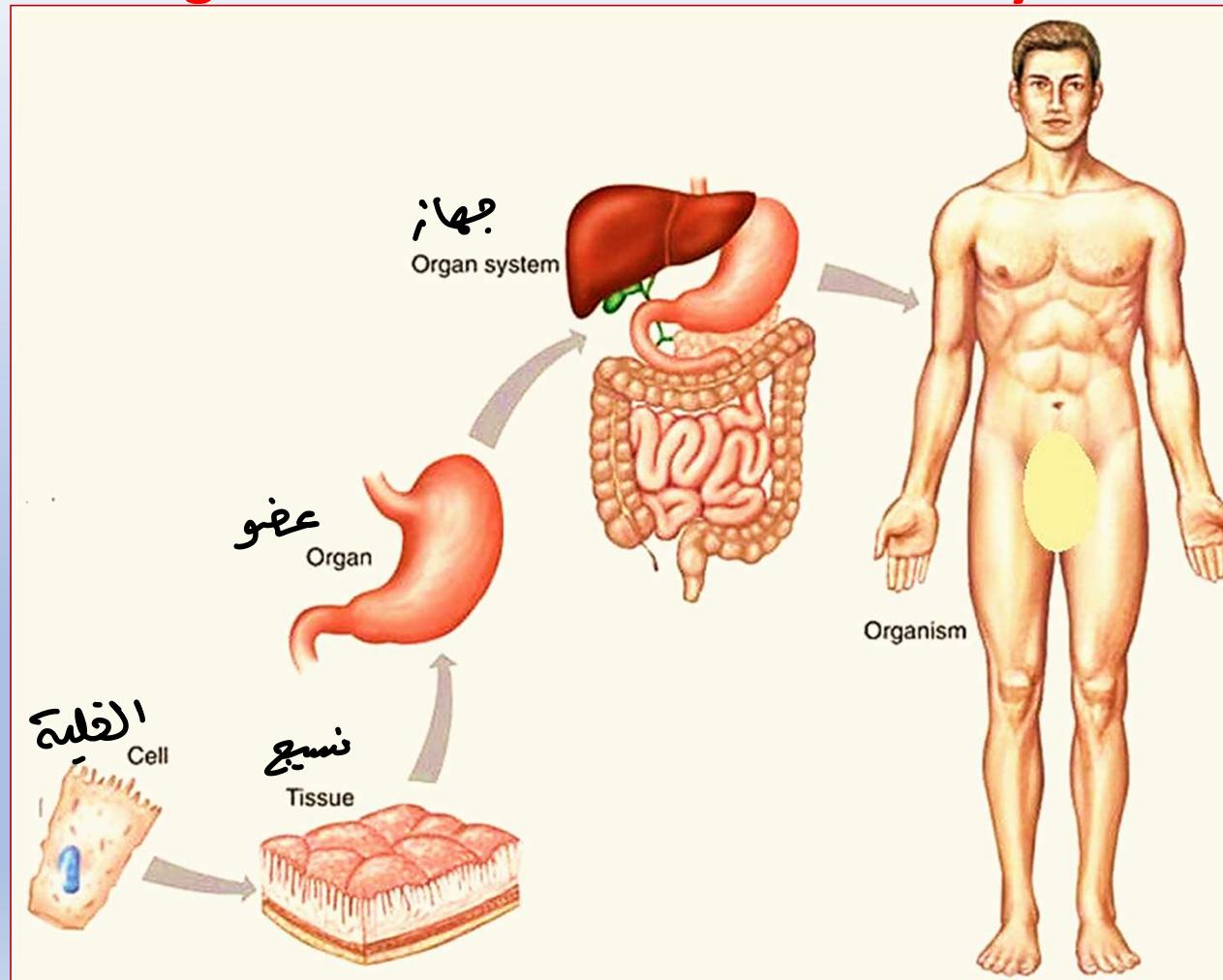
# dissection

# Living Anatomy

# Radiological Anatomy endoscopy



# Organization of the Human Body



## Anatomical Terms

الوضعية القياسية

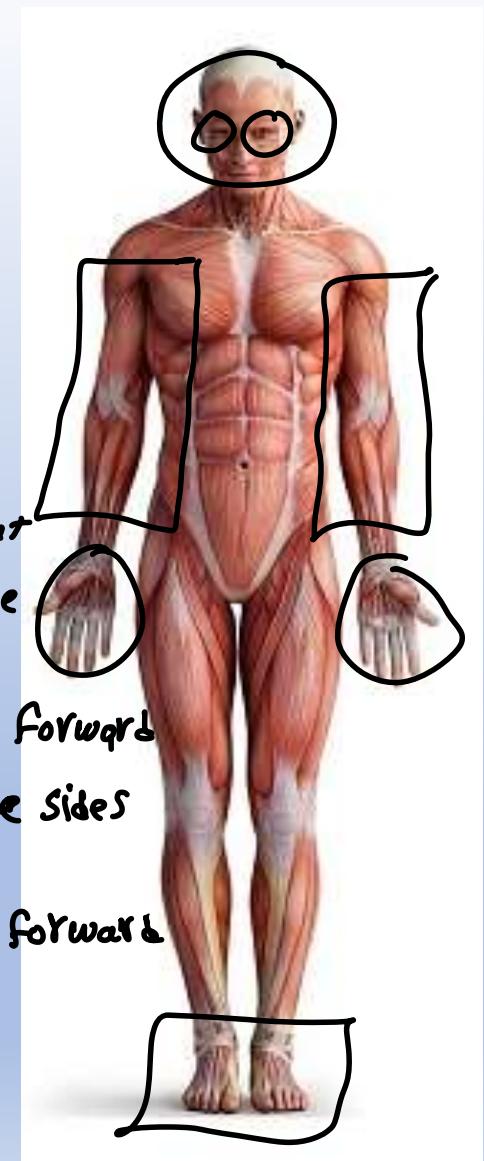
### ① Anatomical position:

- ❖ It is a standardized posture that serves as a universal reference point for anatomy and physiology & allowing for precise communication.

- The person stands upright (erect).
- The feet are together and flat on the ground.
- Arms are straight by the sides of the body.
- Palms are facing forward.
- Eyes and face are directed forward

وضعية قياسية تستخدم نقطة مرجعية عالمية لعلم التشريح  
وتشتمل بالتواصل الدقيق

- The Person Stands upright
- the feet are flat and on the ground
- The Palms are facing forward
- The hands are by the sides of the body
- eyes and face directed forward



## أجزاء الترسجية

### 2 Anatomical planes:

#### 1 ➤ Median Sagittal plane:

- ✓ Single vertical plane that divides the body into right & left **equal halves.**

#### Anatomical Terms

#### 2 ➤ Parasagittal (Paramedian) plane:

- ✓ Multiple vertical planes which pass parallel to the median plane.
- ✓ Divides body into right & left **unequal parts.**

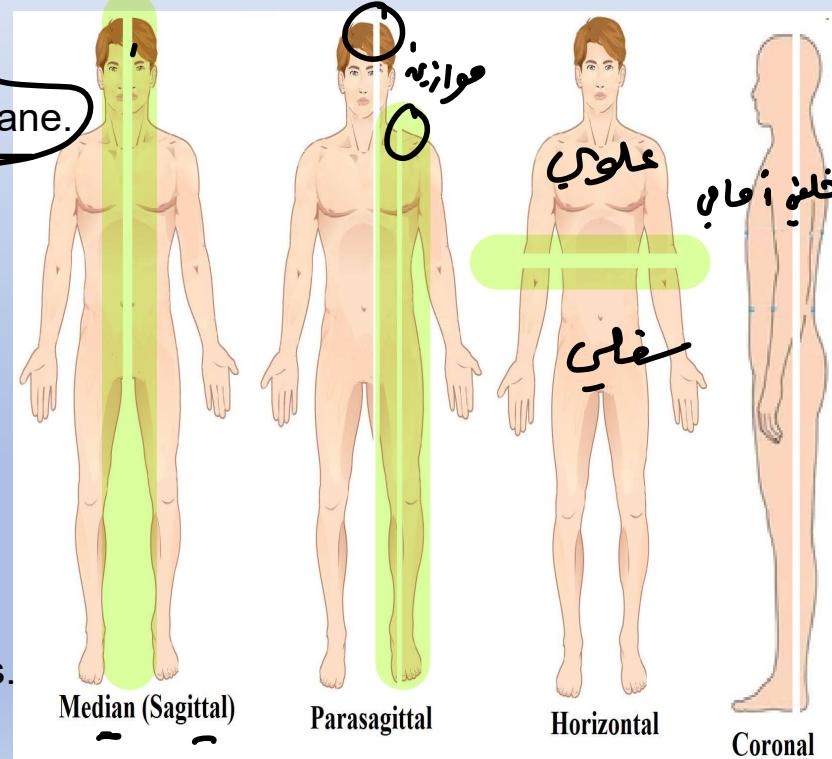
#### 3 ➤ Coronal plane:

- ✓ Multiple vertical planes that pass from side to side.
- ✓ Divides the body into anterior & posterior parts.
- ✓ Perpendicular to the median plane.

جزء أمامي وخلفي  
جذع

#### 4 ➤ Transverse plane: Horizontal

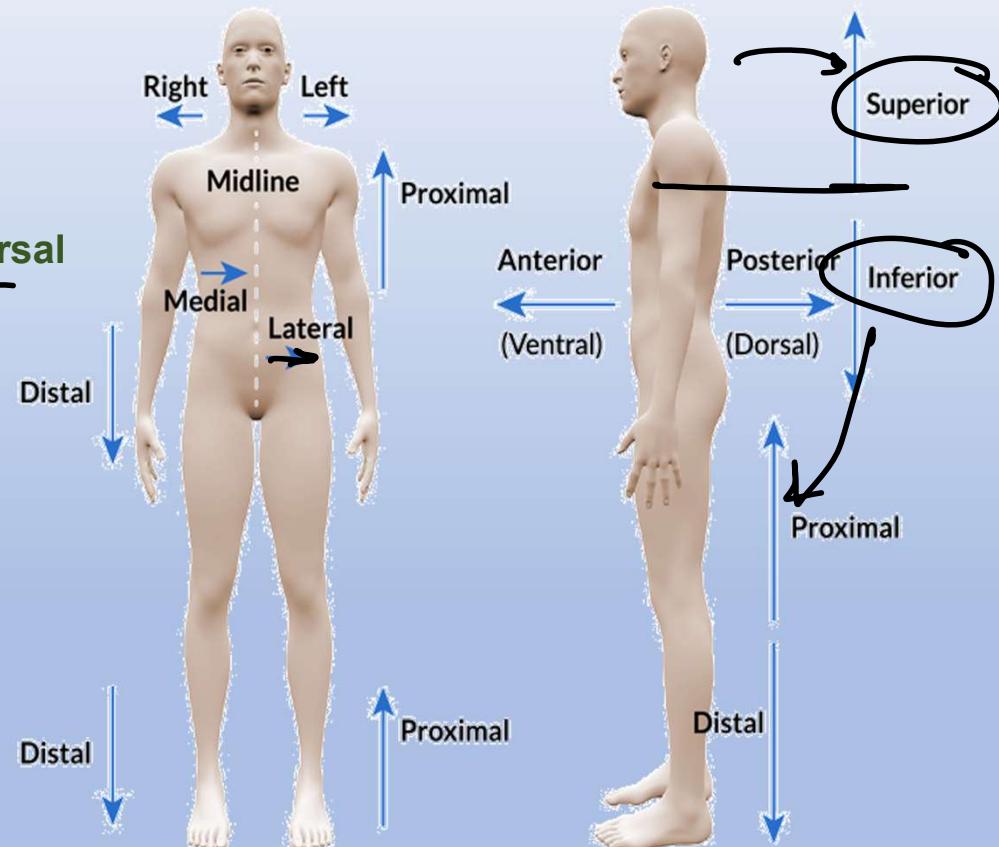
- ✓ Multiple planes that divide the body into upper & lower parts.
- ✓ Perpendicular to both median & coronal planes.



# Anatomical Terms

## □ Terms related to position:

- **Anterior (ventral)**: nearer to the front of the body.
- **Posterior (dorsal)**: nearer to the back of the body.
- \* In the hand, **palmar** is used instead of **anterior** & **dorsal**  
is used instead of **posterior**.
- \* In the foot, **Dorsal** is used instead of **Superior** &  
**Plantar** is used instead of **Inferior**. → see
- **Medial**: nearer to the midline of the body.  
nearer to midline
- **Lateral**: away from the midline of the body.  
away from midline



# Anatomical Terms

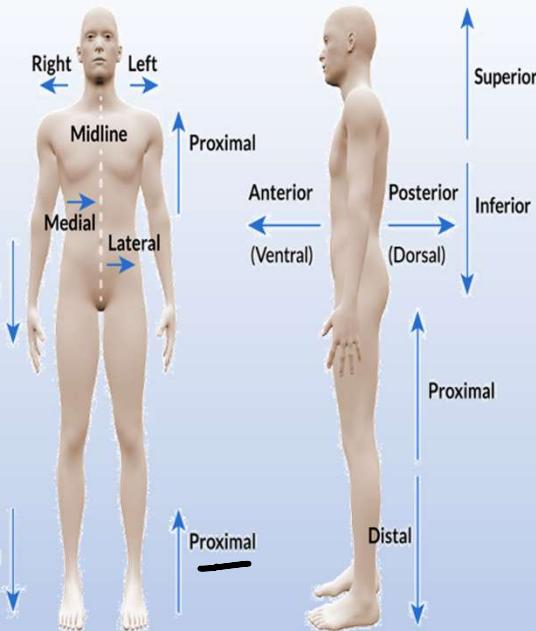
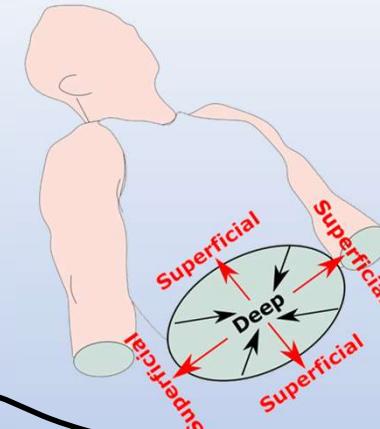
## □ Terms related to position:

**جنب** near to the root of the limb

**Proximal:** near to the root of the limb.

**بعض** away from ...

**Distal:** away from the root of limb.



**Superficial:** nearer to the surface

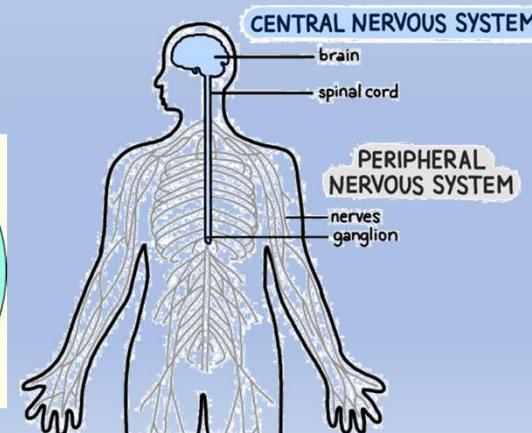
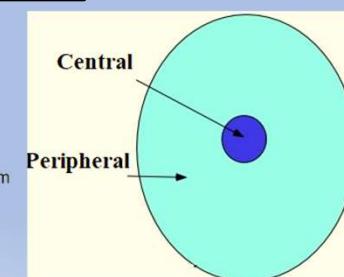
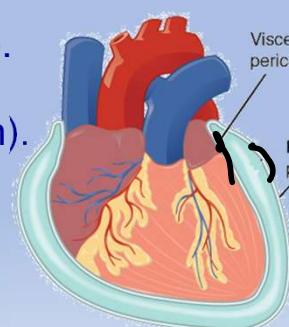
**Deep:** away from the surface of the body.

**Internal (Central):** nearer to the center of the body/organ.

**External (Peripheral):** away from the center of the body/organ.

**Visceral:** inner (nearer to the organ).

**Parietal:** outer (away from the organ).



## Anatomical Terms

□ Terms related to position: Uni → 1 / ipsi → نَفْسِي (Same)  
Bi → 2 / contra → الْمُعَوِّضَةِ (Opposite side)

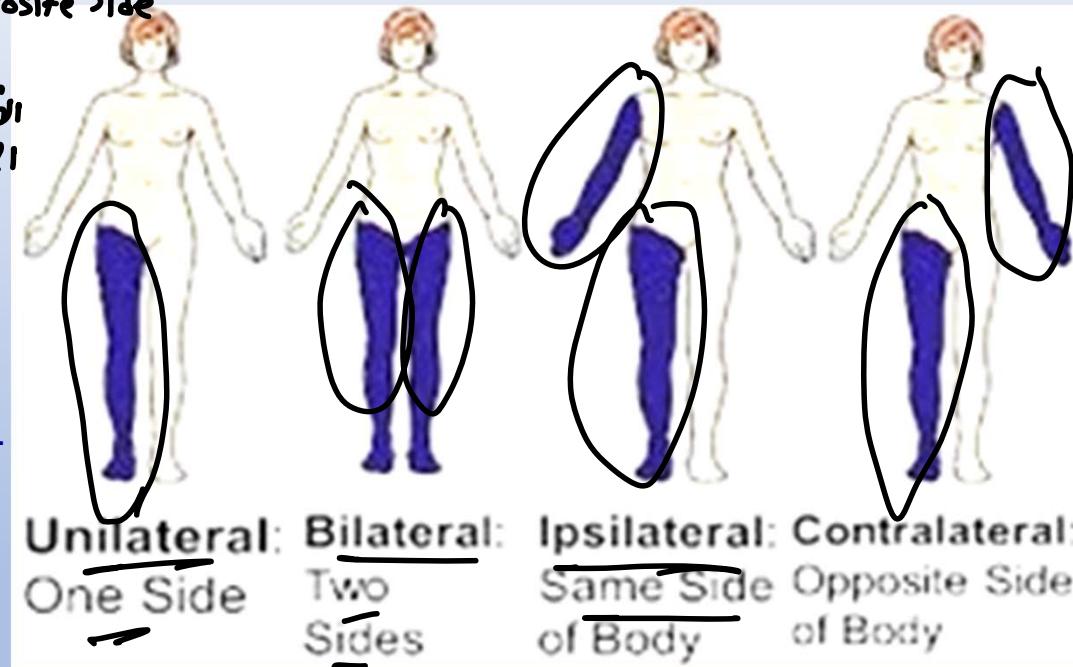
جُنْدُونُ لَانِيَرَال  
جُنْدُونُ لَابِلَرَال  
جُنْدُونُ لَاسِلَرَال  
جُنْدُونُ لَاسِلَرَال

جُنْدُونُ لَاسِلَرَال  
جُنْدُونُ لَاسِلَرَال

Ipsilateral: at the same side of the body.

\* Contralateral: at the opposite side of the body.

جُنْدُونُ لَابِلَرَال



Tuesday 2 SEP 10:26

# Anatomical Terms

## □ Terms related to movements:

*decreasing the angle*

➤ **Flexion:** bending / approximation / decreasing the angle.

*increasing ...*

➤ **Extension:** straightening / increasing the angle.

*moving the trunk in coronal plane*

➤ **Lateral flexion:** movement of the trunk in coronal plane.

*movement away the median plane*

➤ **Abduction:** movement away the median plane.

*--- towards ---*

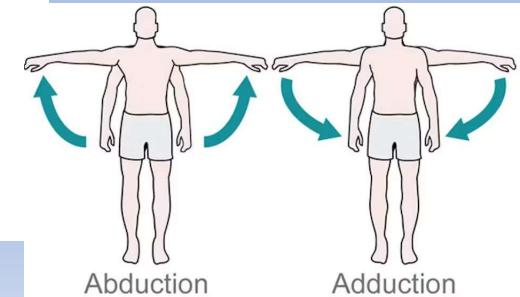
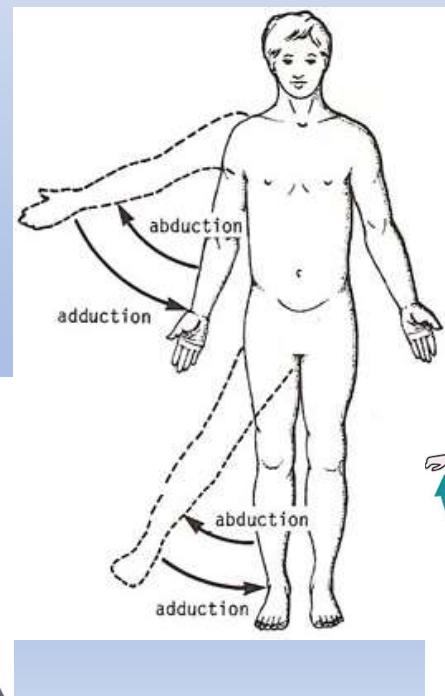
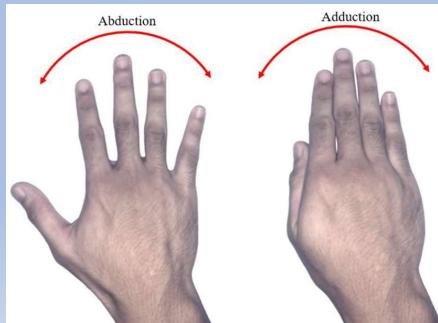
➤ **Adduction:** movement towards the median plane.

*spreading or fanning*

➤ **Abduction in fingers & toes:** spreading or fanning.

*drawing together*

➤ **Adduction in fingers & toes:** drawing together.



# Anatomical Terms

## □ Terms related to movements:

**Medial Rotation:** movement of the anterior surface towards the midline.

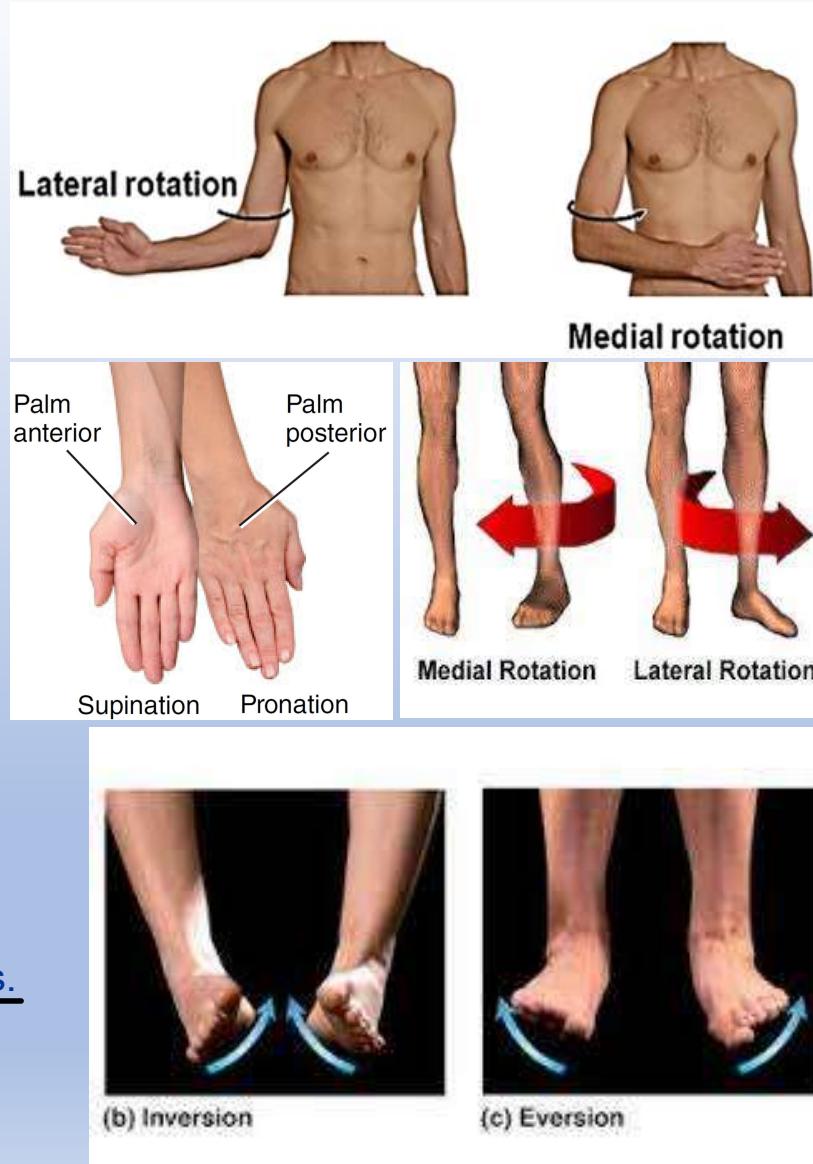
**Lateral Rotation:** movement of the anterior surface away from the midline.

➤ **Supination (Lateral rotation of forearm):** rotation of the forearm so, the palm faces forwards.

➤ **Pronation (Medial rotation of forearm):** rotation of the forearm so, the palm faces backwards.

➤ **Inversion:** rotation of the foot so, the sole is directed inwards.

➤ **Eversion:** rotation of the foot so, the sole is directed outwards.



## Anatomical Terms

### □ Terms related to movements:

➤ **Elevation:** moving up.

➤ **Depression:** moving down.

➤ **Opposition:** movement that brings the tip of the thumb opposite the other fingers.

النحو الأمام

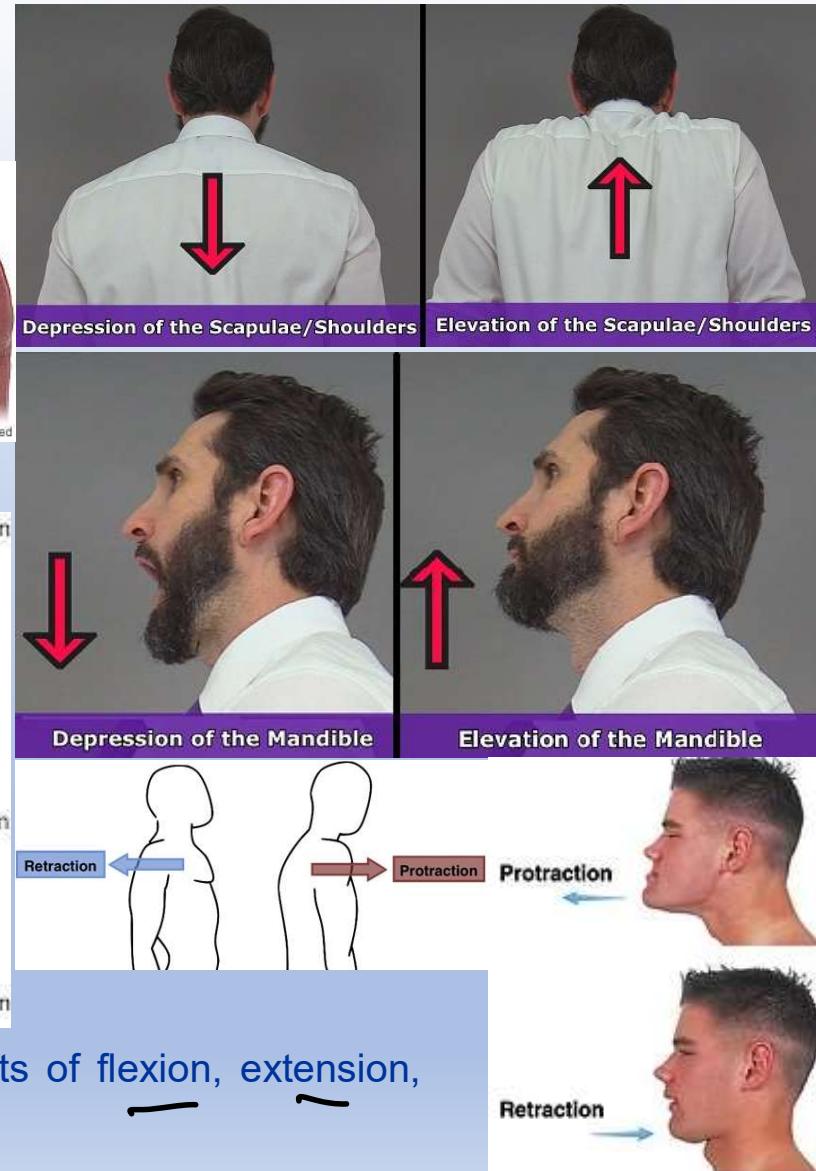
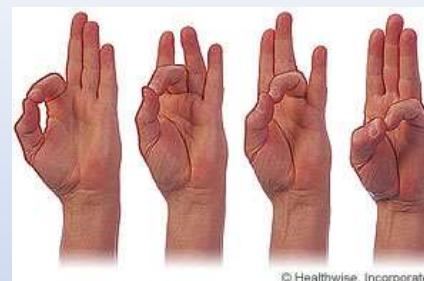
➤ **Protraction:** moving forwards.

النحو الخلف

➤ **Retraction:** moving backwards.

الحركة المترددة

➤ **Circumduction:** combination in sequence of the movements of flexion, extension, abduction, and adduction.



مترددة

## References

- Richard S. Snell, Clinical Anatomy by Regions, 9<sup>th</sup> ed., 2012. Lippincott Williams & Wilkins, Pages 28-32.

Study Hard



