



## **ANATOMY**

**DEFINITION** 

ANATOMY IS THE STUDY OF STRUCTURE & FUNCTION OF THE BODY.



## SUBDIVISIONS OF ANATOMY

- CLINICAL ANATOMY
- GROSS ANATOMY
- SYSTEMIC ANATOMY
- REGIONAL ANATOMY
- FUNCTIONAL ANATOMY
- DEVELOPMENTAL ANATOMY
- HISTOLOGY & CYTOLOGY
- SURFACE ANATOMY
- CLINICAL ANATOMY
- COMPARATIVE ANATOMY



### **DEFINITION**

PHYSIOLOGY IS THE BRANCH OF SCIENCE THAT DEALS WITH VARIOUS FUNCTIONS OF LIVING ORGANISM & THE PROCESSES WHICH REGULATE THEM.

# SUBDIVISIONS OF PHYSIOLOGY

- NUEROMUSCULAR PHYSIOLOGY
- RESPIRATORY PHYSIOLOGY
- CARDIOVASCULAR PHYSIOLOGY
- PHYSIOLOGY OF EXCRETORY SYSTEM
- DIGETION & METABOLISM
- IMMUNOLOGY
- ENDOCRINOLOGY

# BASIC ANATOMICAL TERMINOLOGY

#### ANATOMICAL POSITION

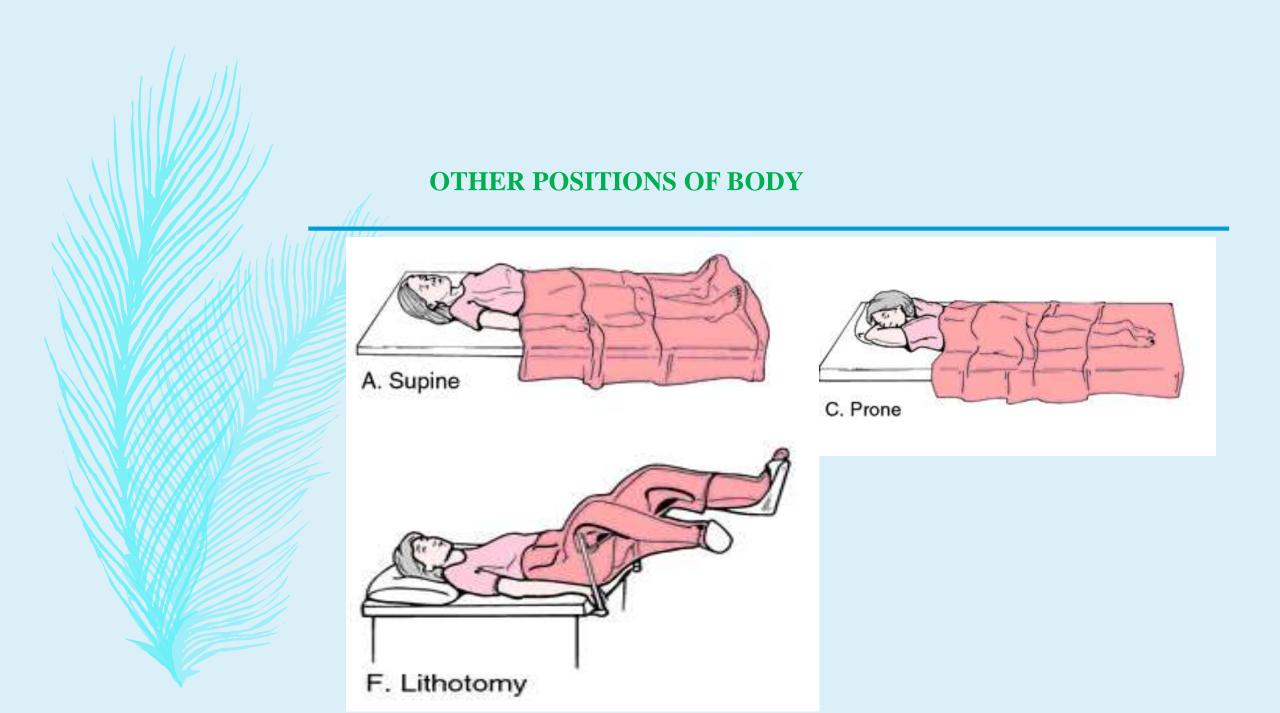
A person stand erect( or lying supine ) with the head, eyes & toes directed forward, the upper limbs by the sides with the palm facing anteriorly.



# IMPORTANCE OF ANATOMICAL POSITION

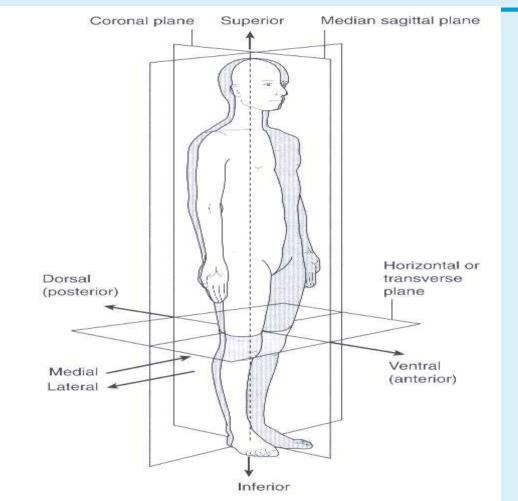
All structures of our body are described in relation to this

position, irrespective to any body posture in space.



# ANATOMICAL PLANES

- Median
- Sagittal
- Coronal
- Horizontal





Median plane

It is the imaginaryc vertical plane passing longitudinally through the body from front to back , dividing it into right and left halves .

Sagittal plane

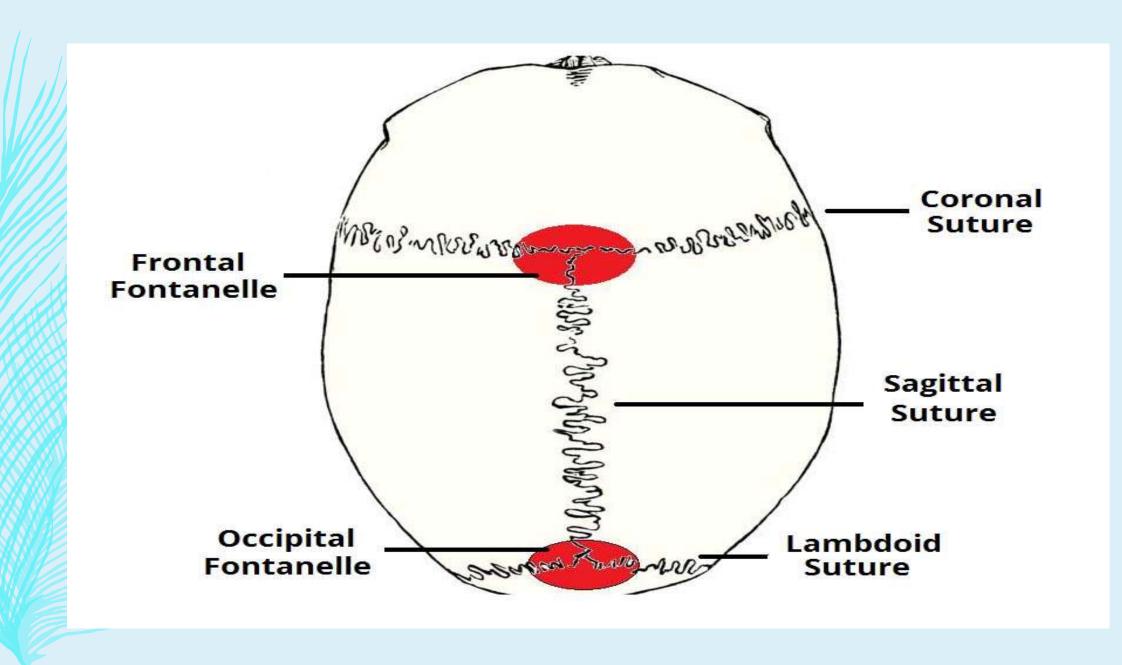
They are parallel to the median plane passing through sagittal suture of the skull.

Coronal plane

It is the imaginery vertical plane passing through the body at right angles to the median plane dividing it into anterior (front ) and posterior (back) portions.

Horizontal or transverse plane

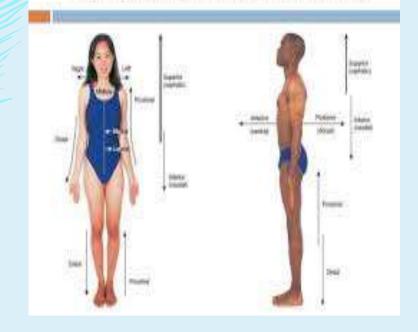
It is the imaginery vertical plane passing through the body at right angles to both the median plane and coronal plane dividing the body into superior (upper ) and inferior ( lower) parts .

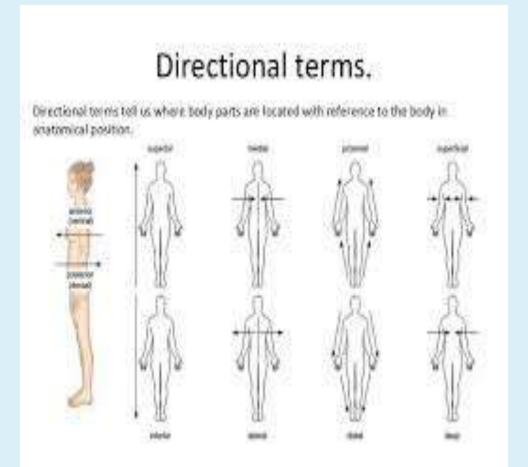


## **TERMINOLOGY**

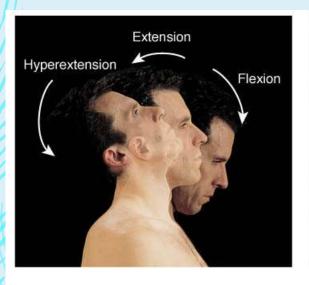
### TERMS OF RELATIONSHIP

## DIRECTIONAL TERMS

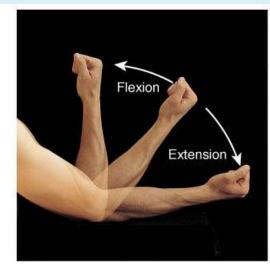




### **Terms of Movement**



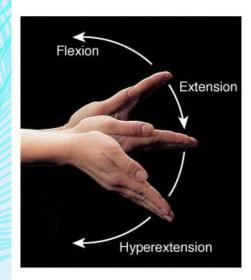
Hyperextension
Flexion
Extension

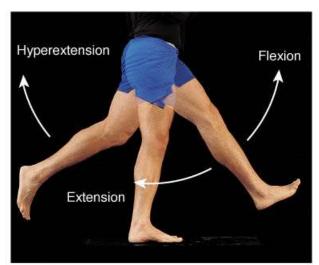


(a) Joints between atlas and occipital bone and between cervical vertebrae

(b) Shoulder joint

(c) Elbow joint

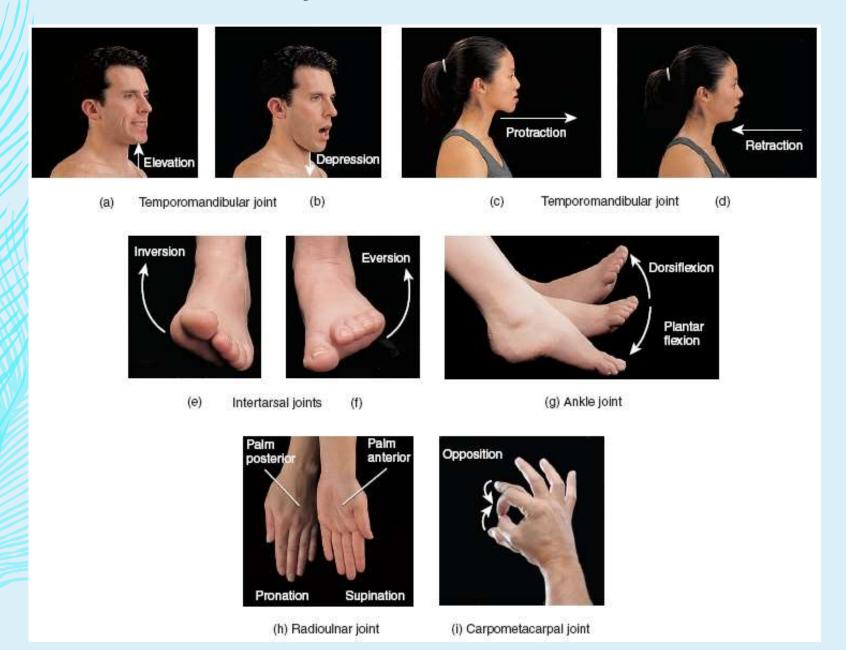




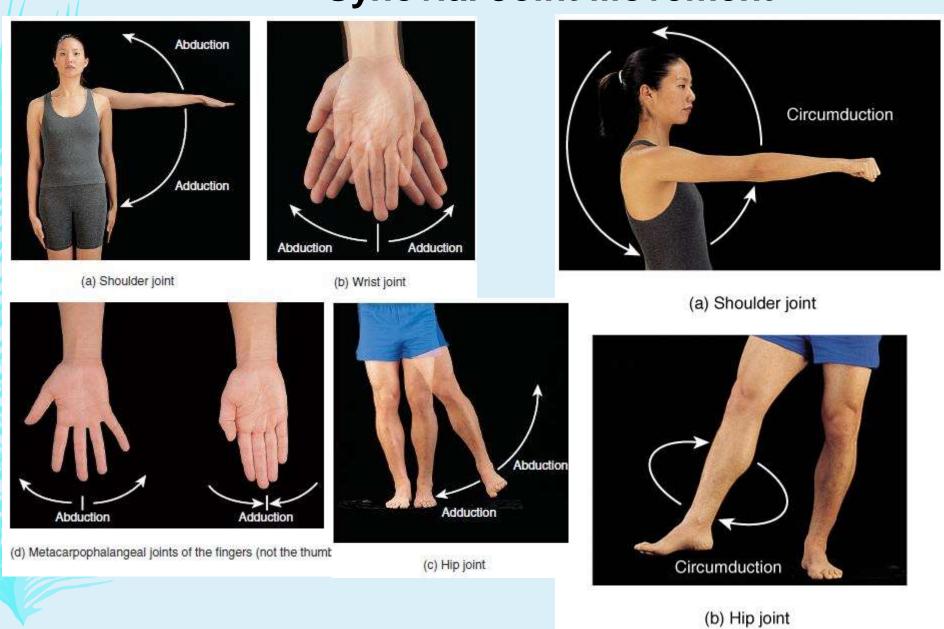


(d) Wrist ioint (e) Hip ioint (f) Knee ioint

## **Synovial Joint Movement**



## **Synovial Joint Movement**



## TERMS OF MOVEMENT

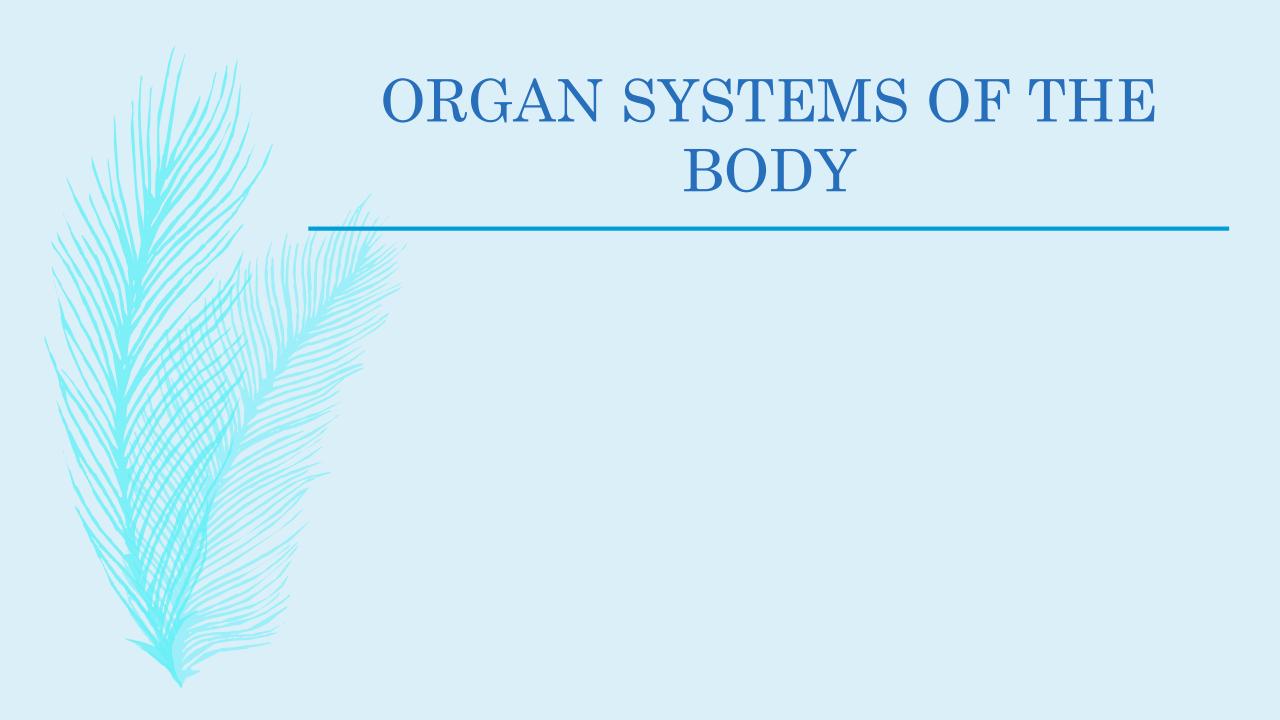
- Flexion
- Extension
- Abduction
- Adduction
- Medial rotation
- Lateral rotation
- Circumduction
- Elevation
- Depression

## TERMS OF MOVEMENT (CONT)

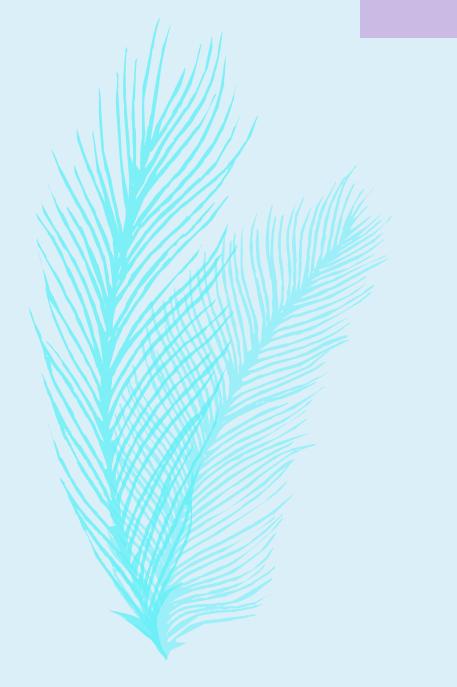
- Protrusion
- Retraction
- Pronation
- Supination
- Inversion of foot
- Eversion of foot
- Opposition

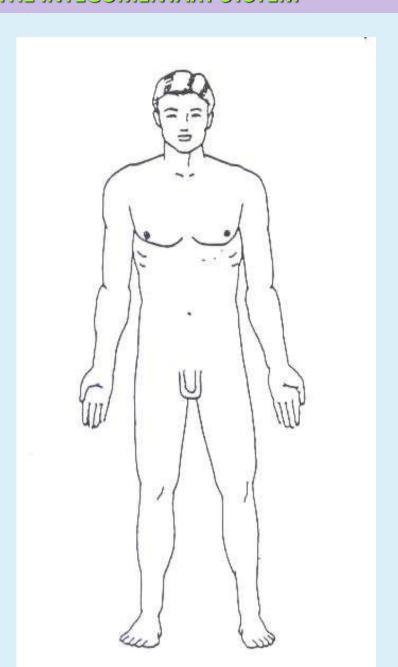
## LEVEL OF ORGANIZATION

- Level 1 (chemical level)
- Level 2 (cellular level )
- Level 3 (tissue level)
- Level 4 (organ level)
- level 5 (system level)

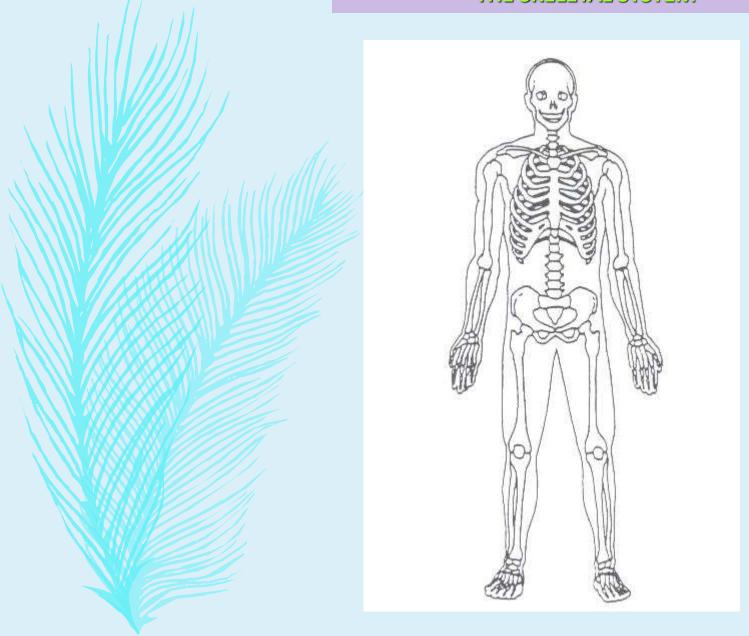


#### THE INTEGUMENTARY SYSTEM



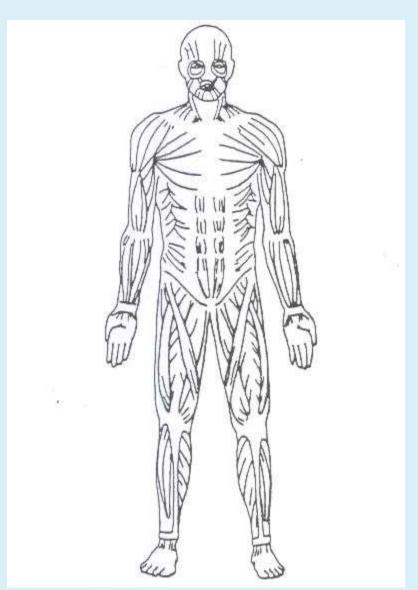


#### THE SKELETAL SYSTEM

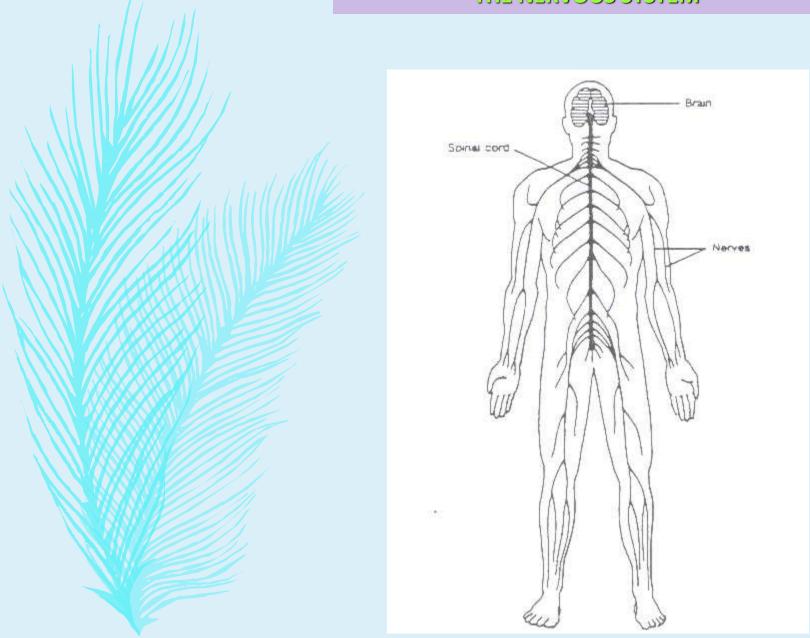


#### THE MUSCULAR SYSTEM



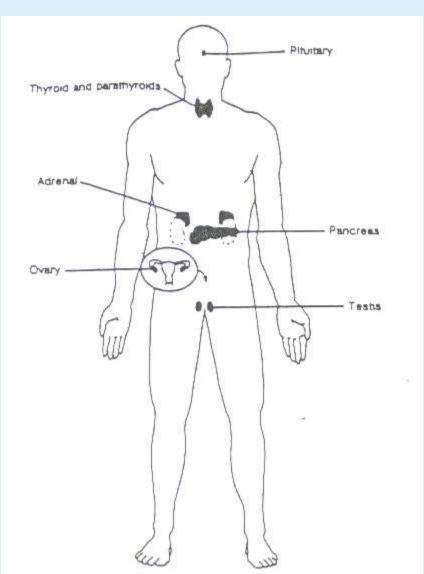


#### THE NERVOUS SYSTEM

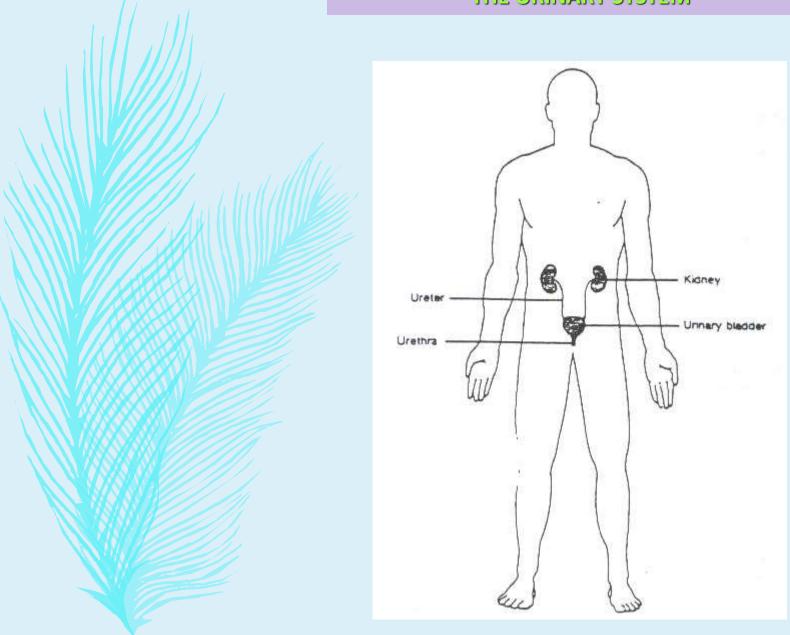


#### THE ENDOCRINE SYSTEM

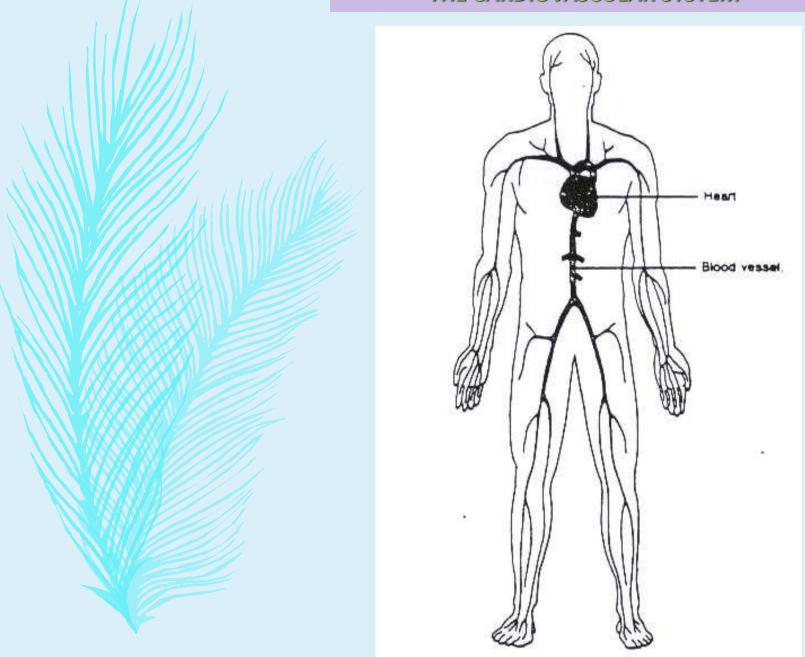




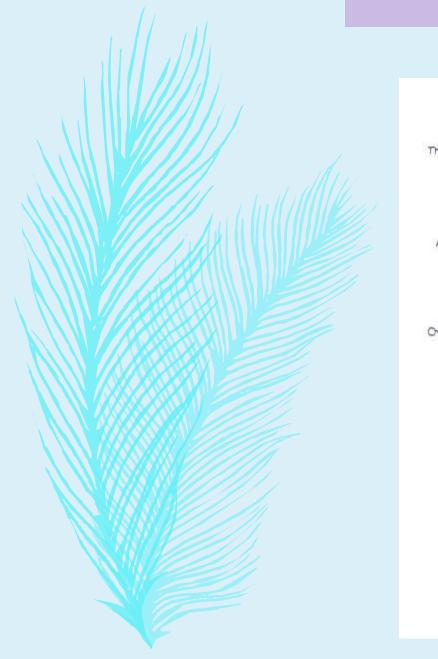
#### THE URINARY SYSTEM

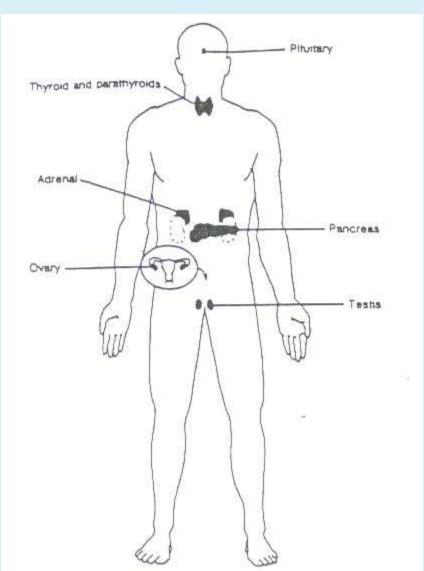


#### THE CARDIOVASCULAR SYSTEM

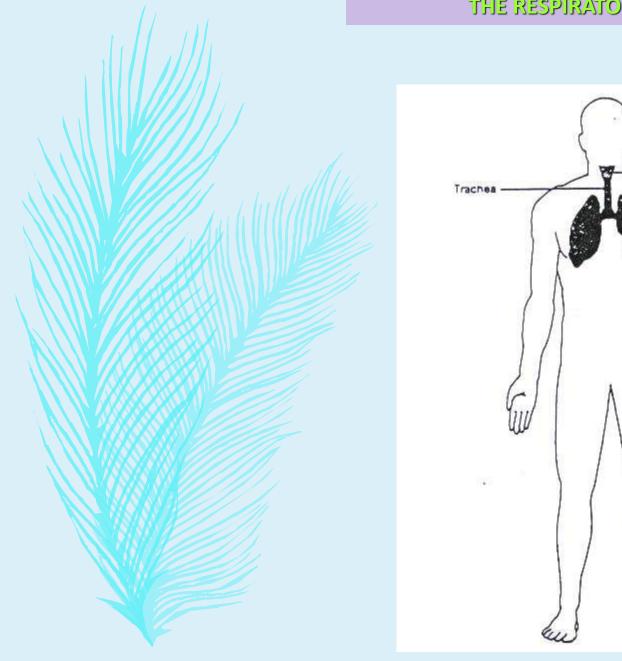


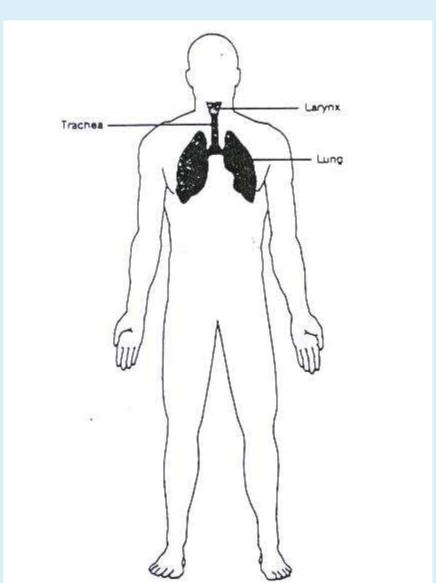
#### THE LYMPHATIC SYSTEM



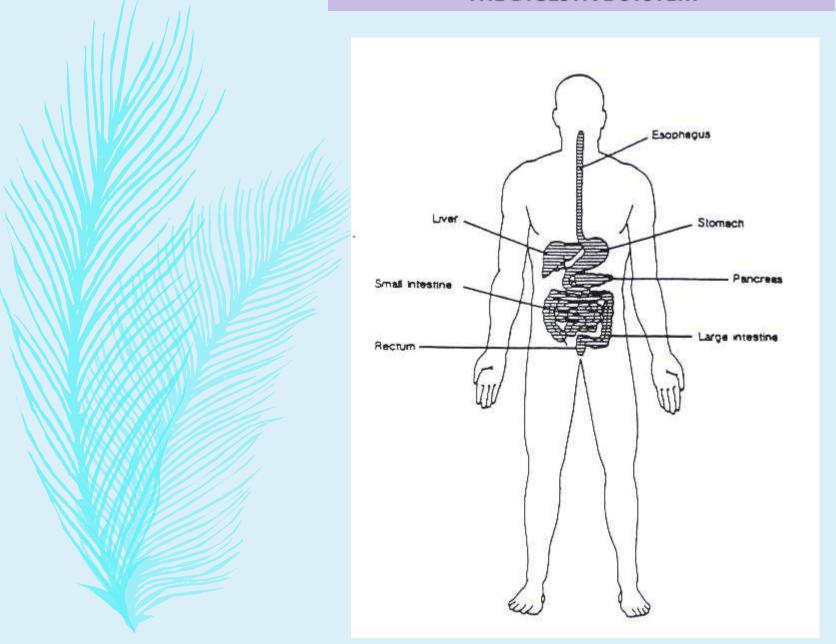


#### THE RESPIRATORY SYSTEM

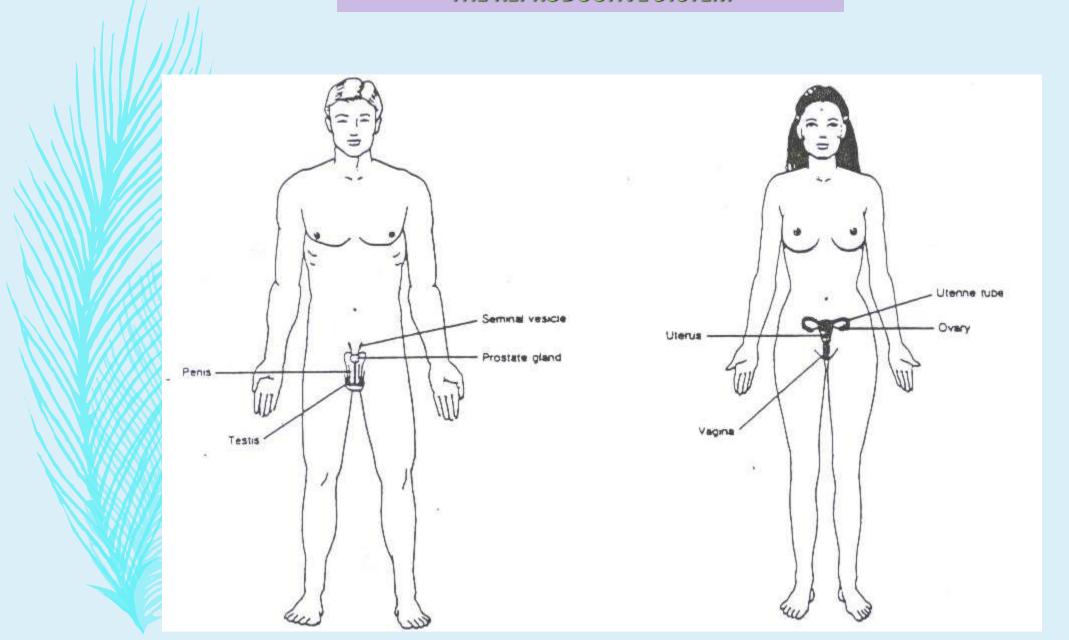




#### THE DIGESTIVE SYSTEM



#### THE REPRODUCTIVE SYSTEM





The skeleton is the bony framework of the body. It forms the cavities & fossae that protects some structures, forms the joints &

give attachment to muscles.

- It is described in 2 parts :
- Axial skeleton
- Appendicular skeleton



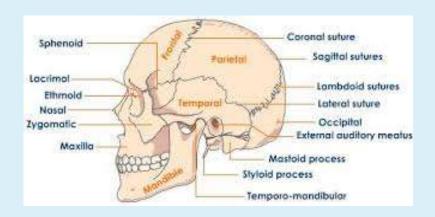
## **AXIAL SKELETON**

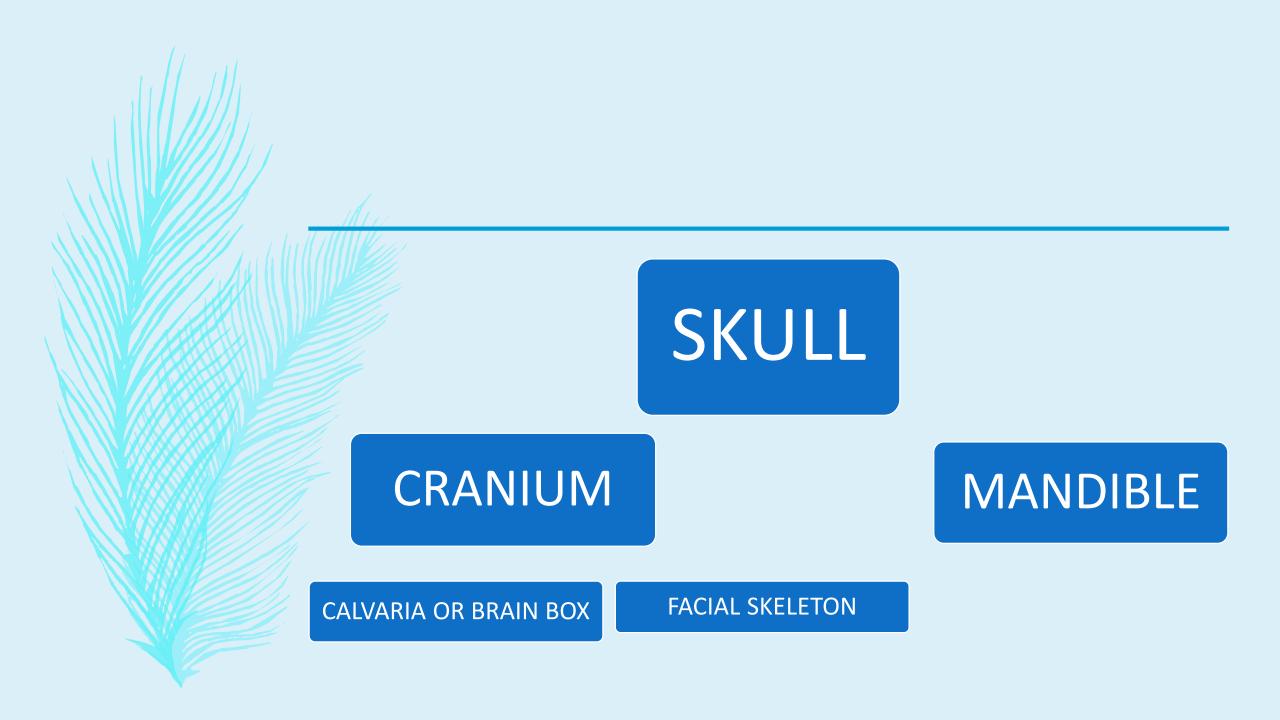
It consists of the skull, thoracic cage & vertebral column.

#### SKULL

The skeleton of head is called skull.

It consists of cranium & mandible.





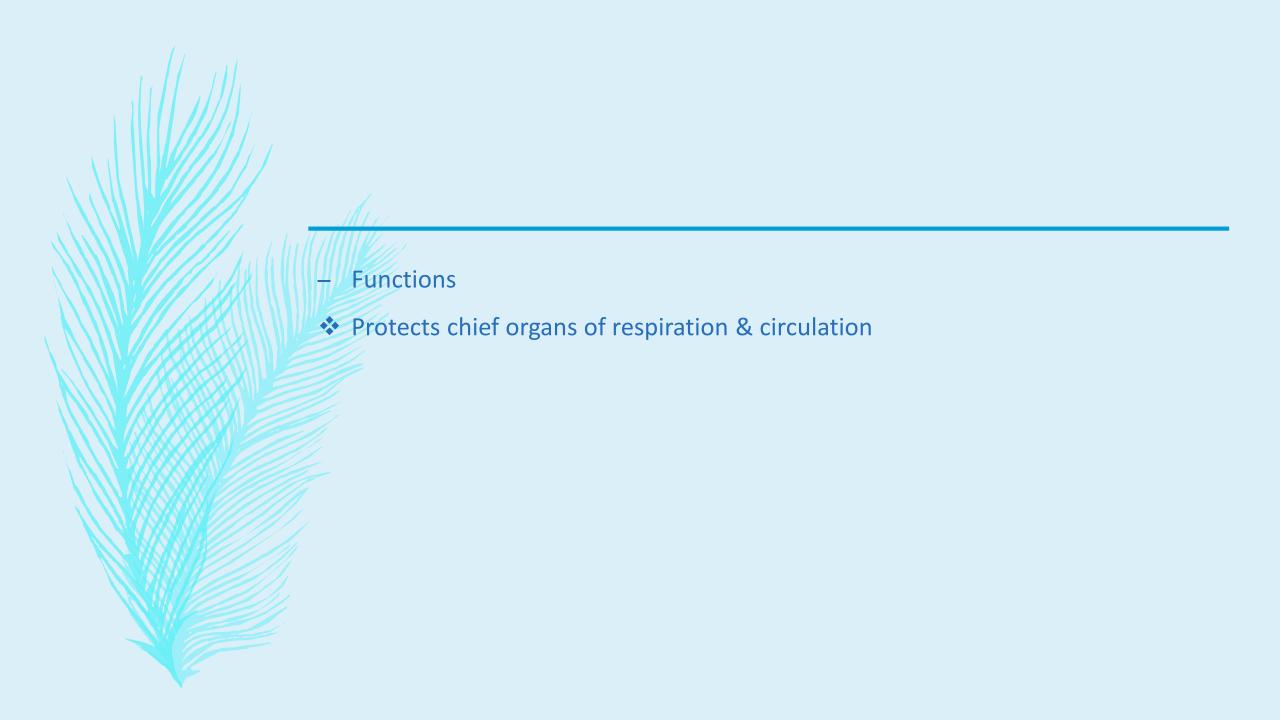
#### Functions:

- Protection of brain
- Protection of special sense organs ears, eyes, tongue& nose
- Protection of beginning of respiratory & digestive tracts.

## THORACIC CAGE

## It is formed by:

- 12 thoracic vertebrae
- ❖ 12 pairs of ribs
- 1 sternum





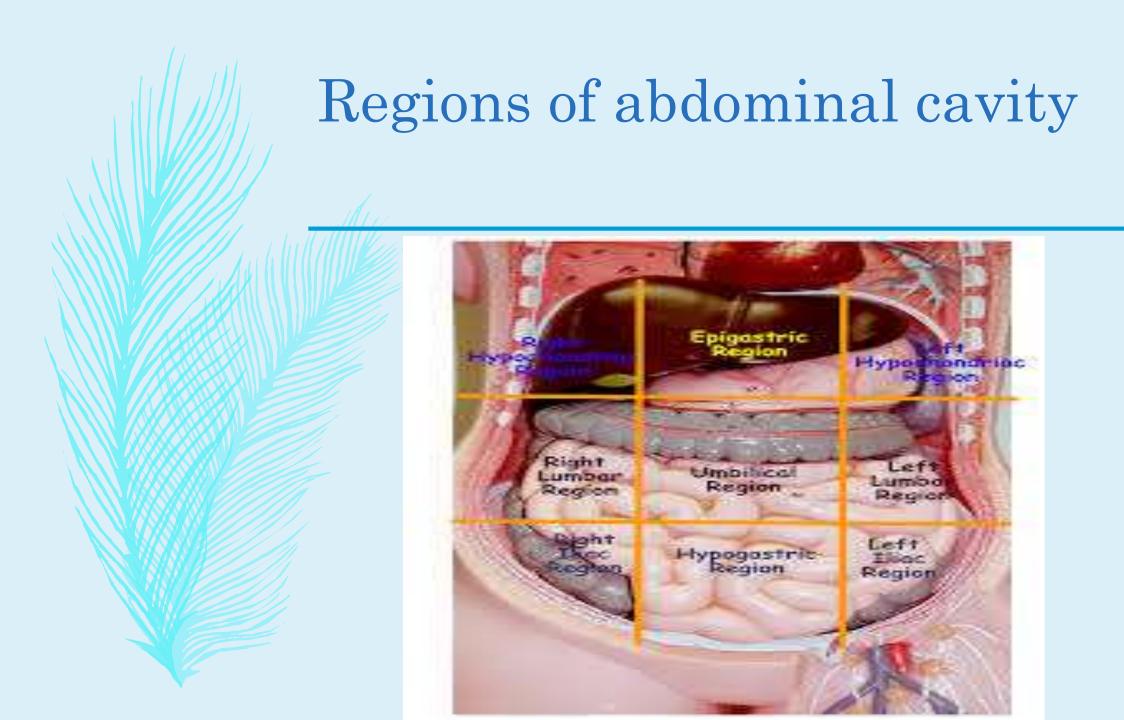
## Vertebral column

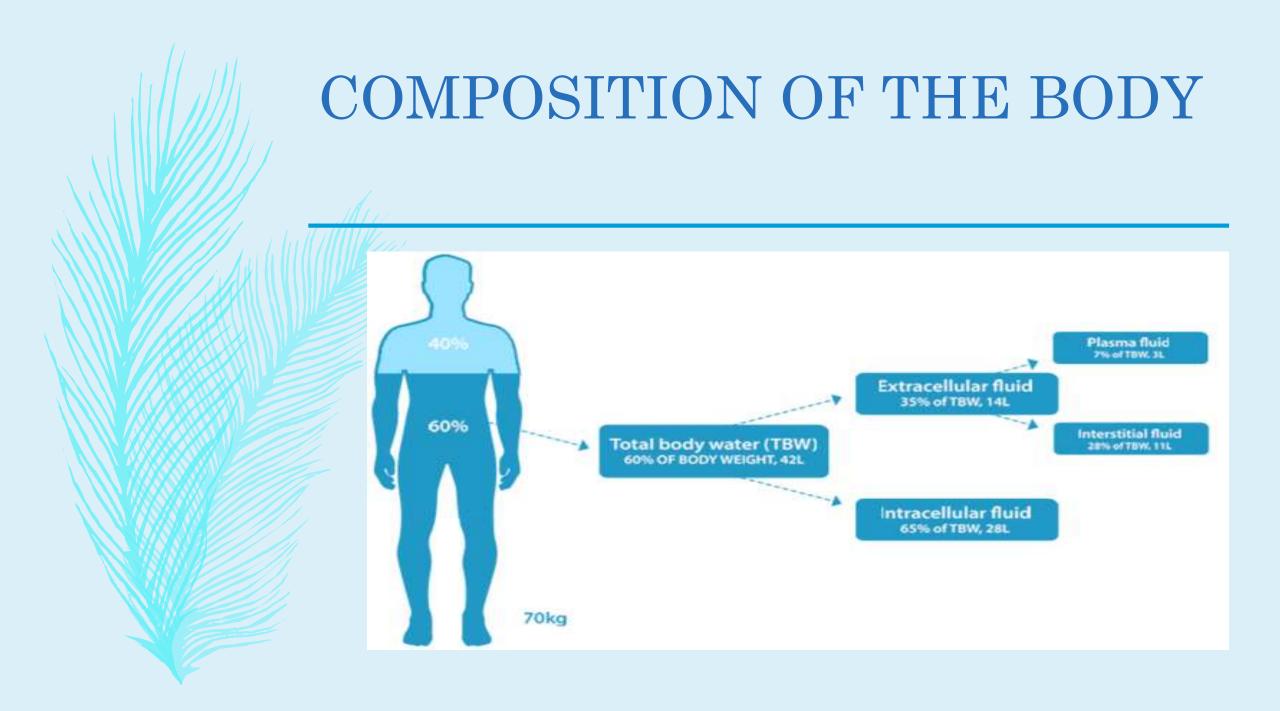
- It is the main part of the axial skeleton. It consists of 33 bones called vertebrae
   & intervertebral disks between them .
- It extents from the base of the skull through the neck & trunk.



# CAVITIES OF THE BODY

- Cranial cavity
- Thoracic cavity
- Abdomenopelvic cavity





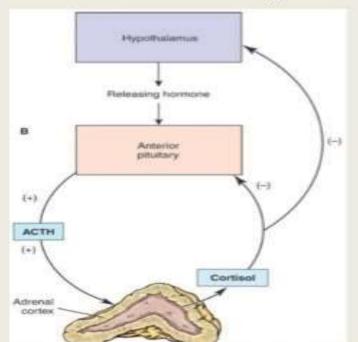


## Homeostasis

A constant internal environment in the body, which remains within certain physiological range.



## Cortisol: Negative Feedback Loop



Releasing hormone



ACTH



Cortisol



Negative feedback by cortisol

## Positive feedback mechanism

