



Human Anatomy - 1st year



Introduction

Lecture (1)

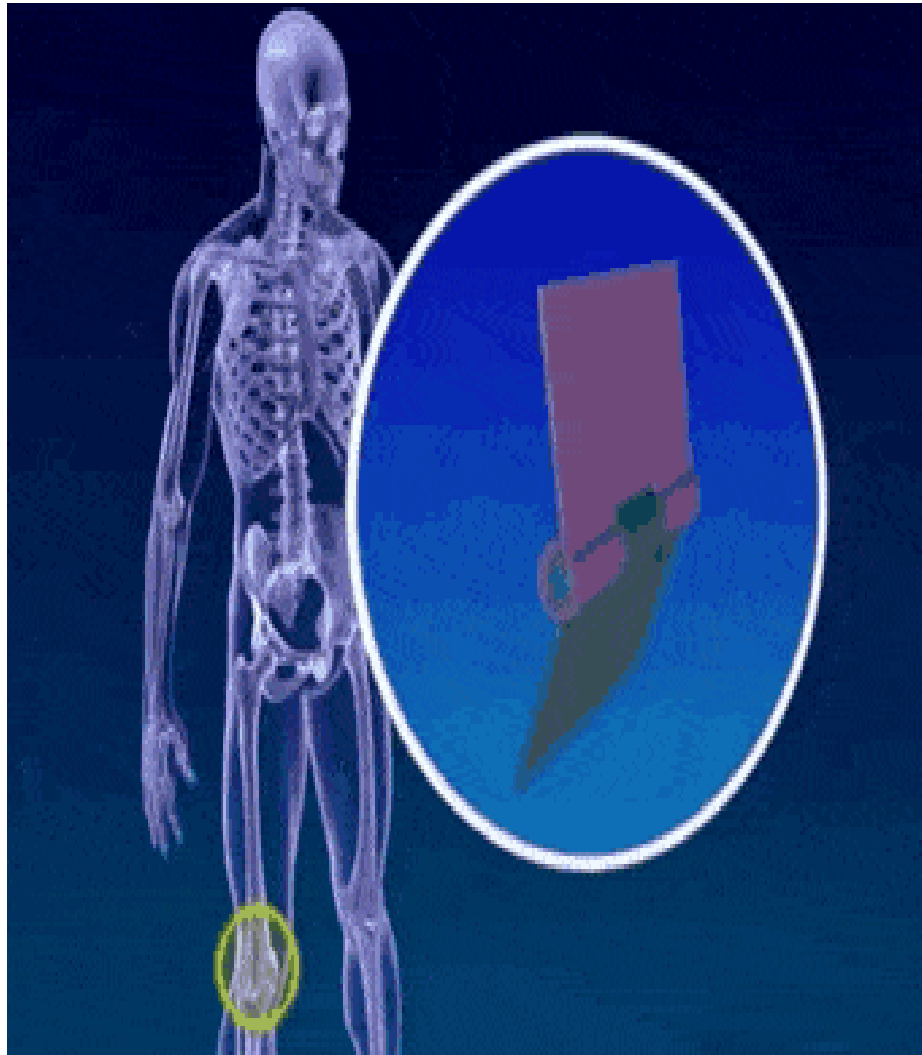
By Dr: Hassna Bader
Jawad

Department of human
anatomy

College of medicine
University of Basrah

Objective Learning:

At the end of the lecture (30 slides) you should know :



- 1. What is anatomy**
- 2. Why we study anatomy**
- 3. Disciplines of anatomy**
- 4. Regions of body**
- 5. Body cavities**
- 6. Parts of human skeleton**
- 7. What is standard anatomical position?**

What is anatomy ?

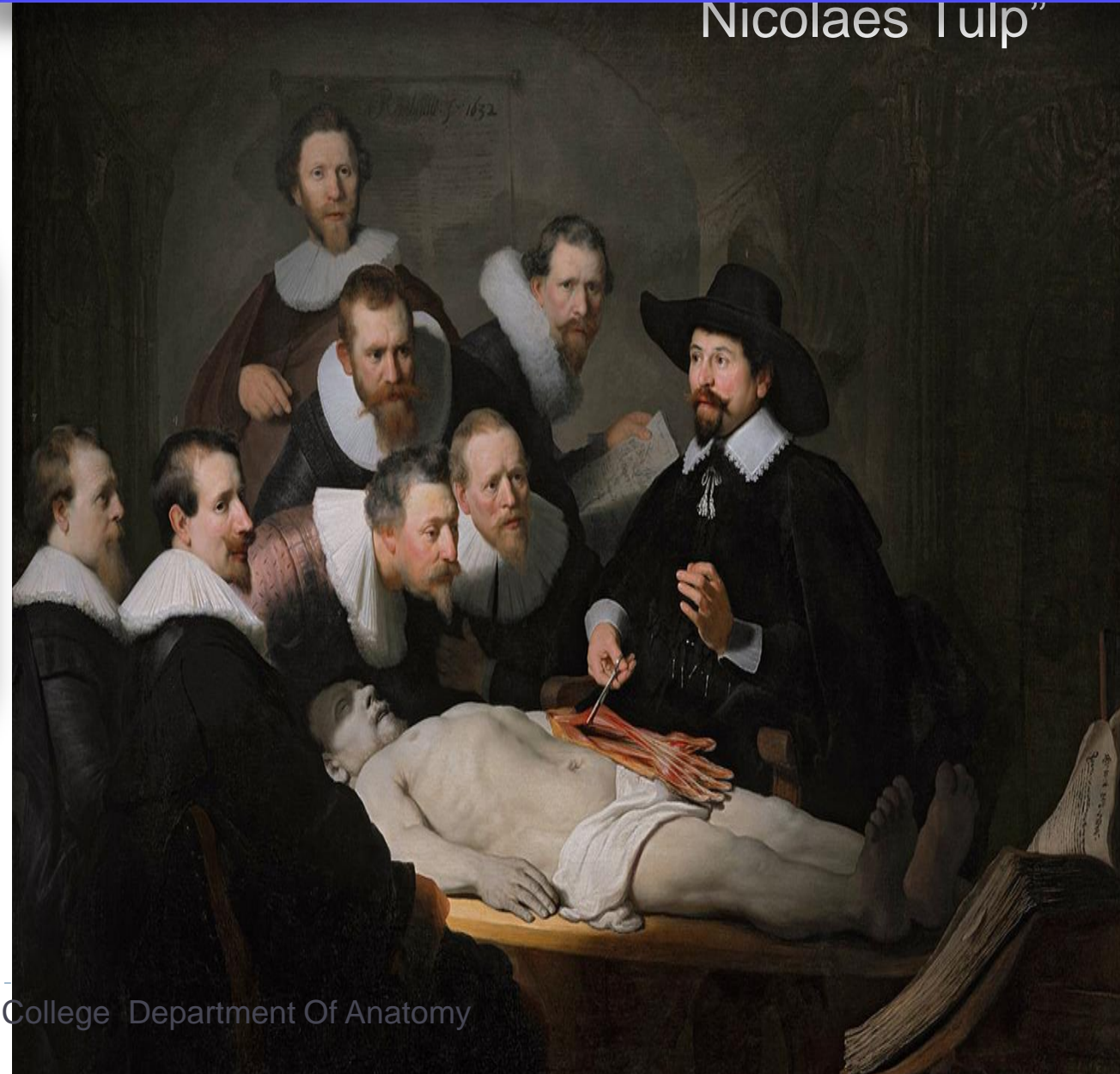
Is the science deals with the structures of all parts of the body and their function, relation microscopical organization, and process by which they developed.



What is anatomy ?

The word anatomy is
Greek word (anatomē
Ana = up
tomē = cut OR
dissect

Nicolaes Tulp”



How to study Anatomy ?

The primary techniques a student should use to learn anatomy is the :

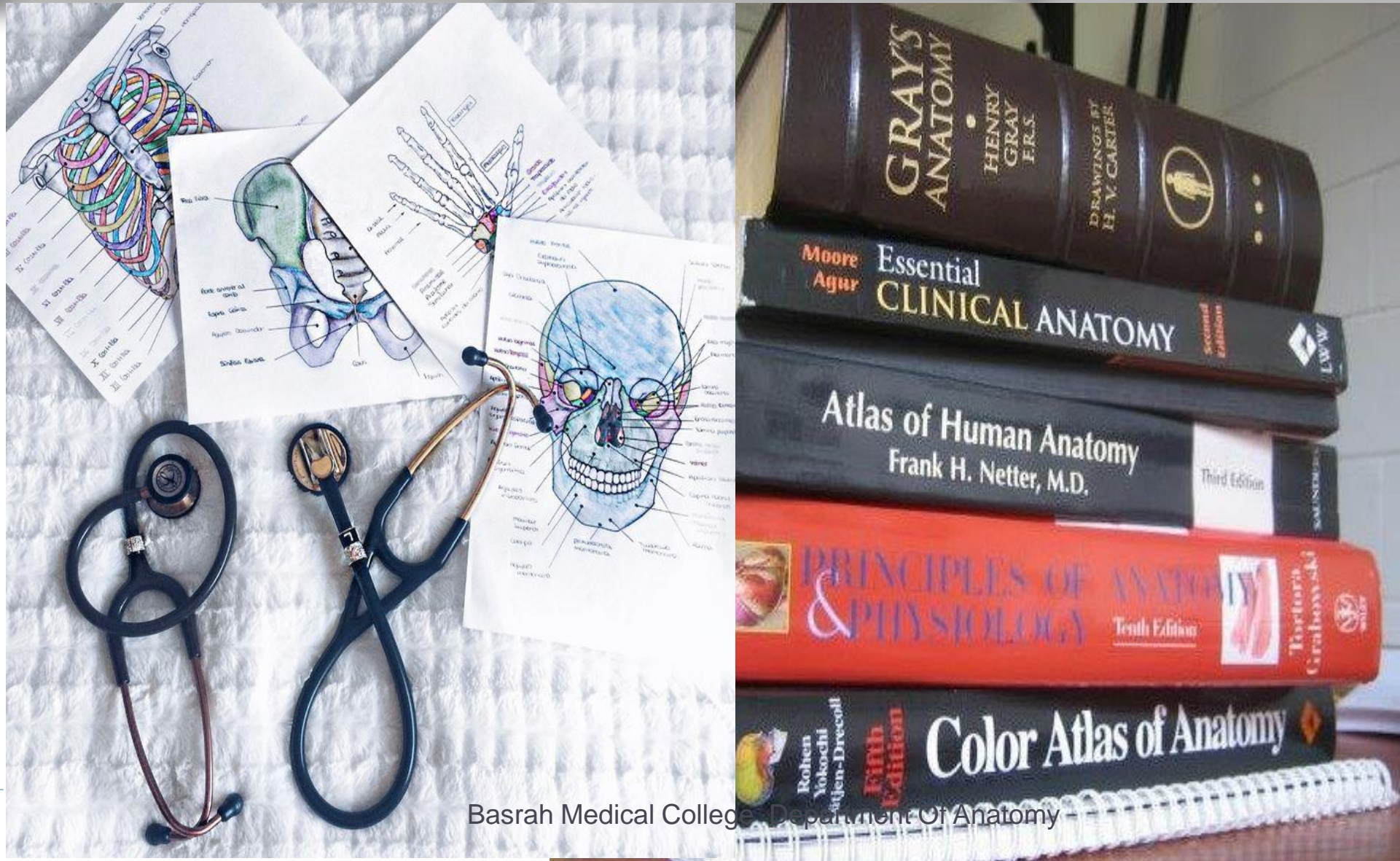
Observation and Visualization

Anatomy is much more than just memorization of lists of names.

Basrah Medical College Department Of Anatomy



Why we study anatomy ?



Why we study anatomy ?

Anatomy forms the basis for the practice of medicine. Anatomy leads the physician towards an understanding of a patient's disease.



Disciplines of Anatomy

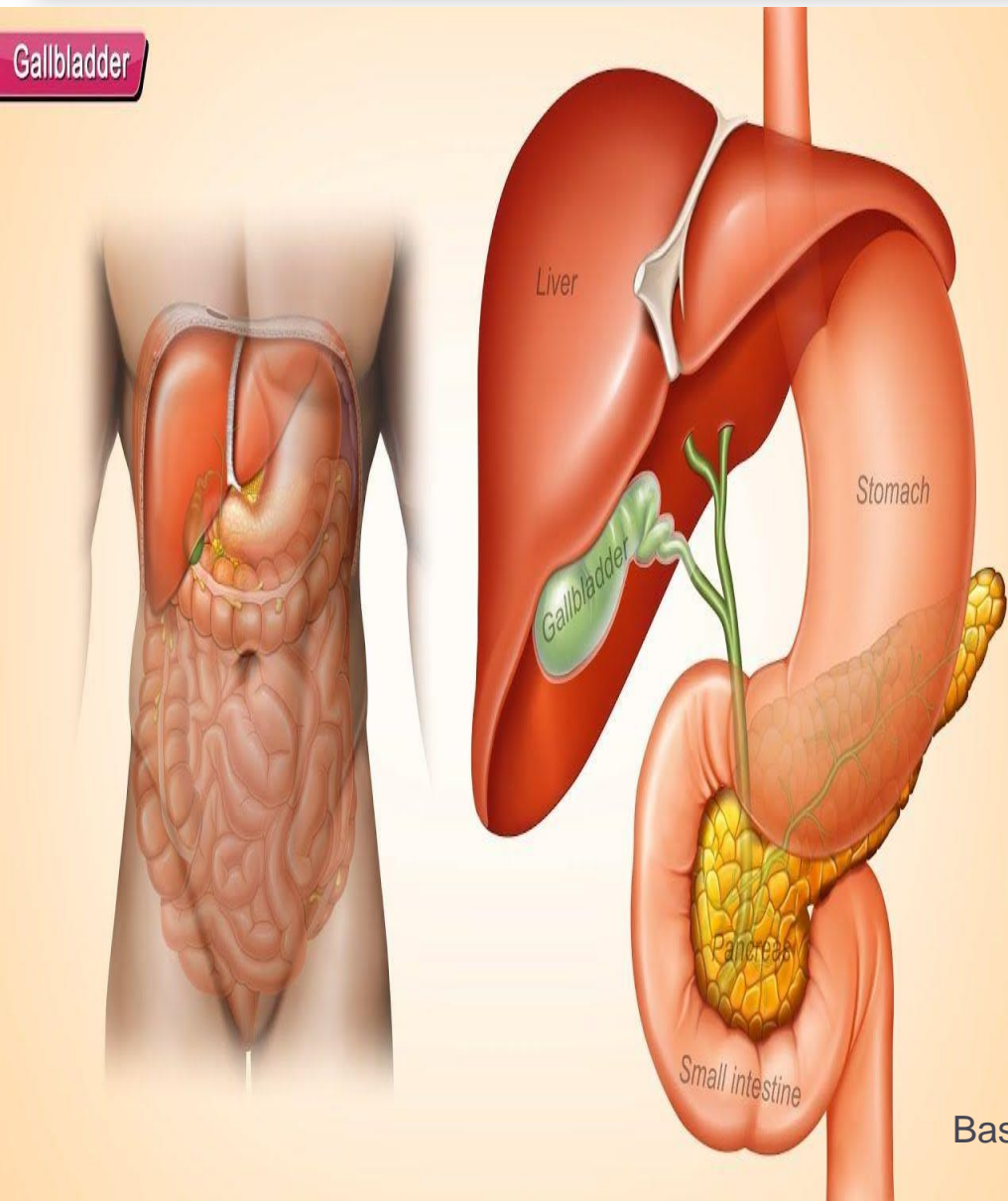
Why anatomy today is considered a relatively broad science?

Anatomy is a relatively broad science because it can be divided into various disciplines. There are two major types of anatomy:

1*Gross Anatomy .

2*Microscopic anatomy

1-Gross Anatomy:

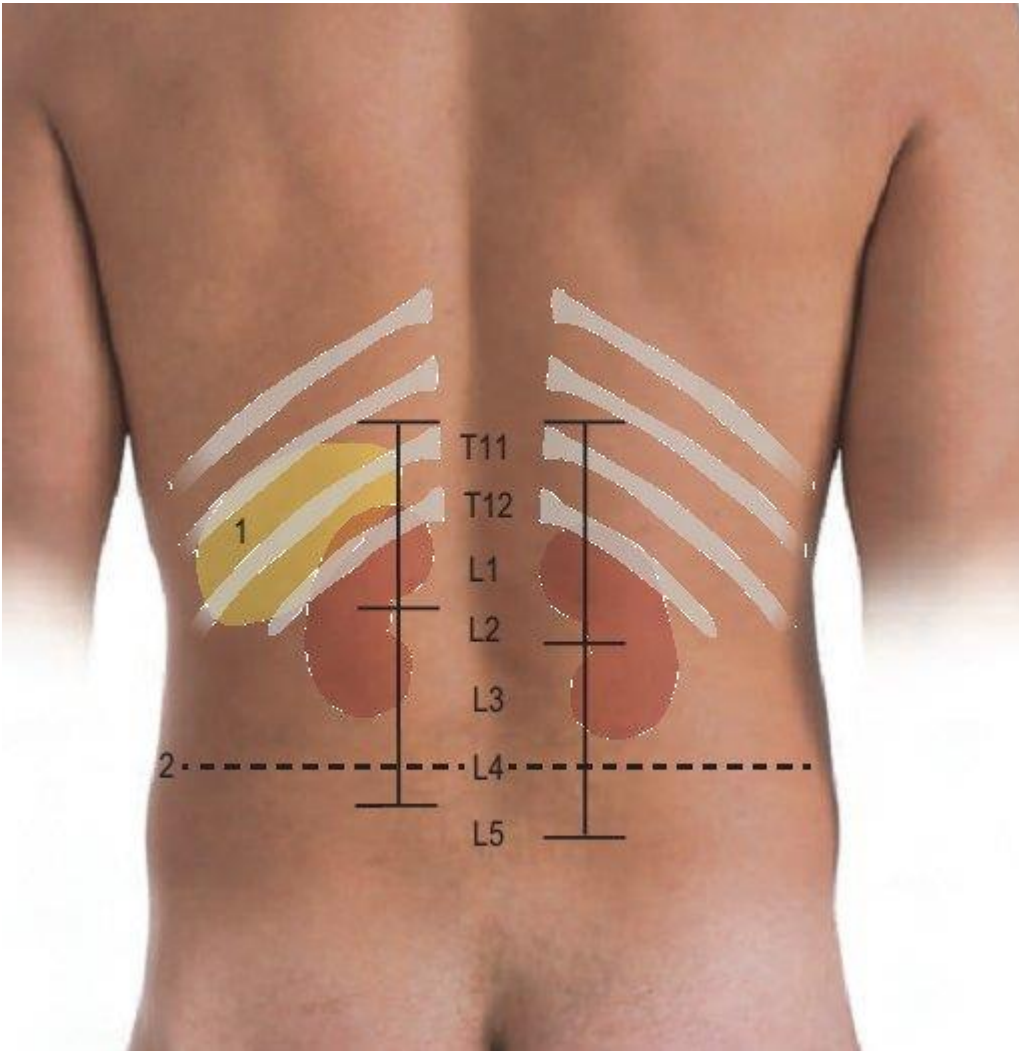


Also called macroscopic anatomy involves studying the structures and forms which can be seen on organism with the naked eye. such as the external and internal bodily organs.

Gross anatomy can be further subdivided into three different fields:



A. Surface Anatomy :



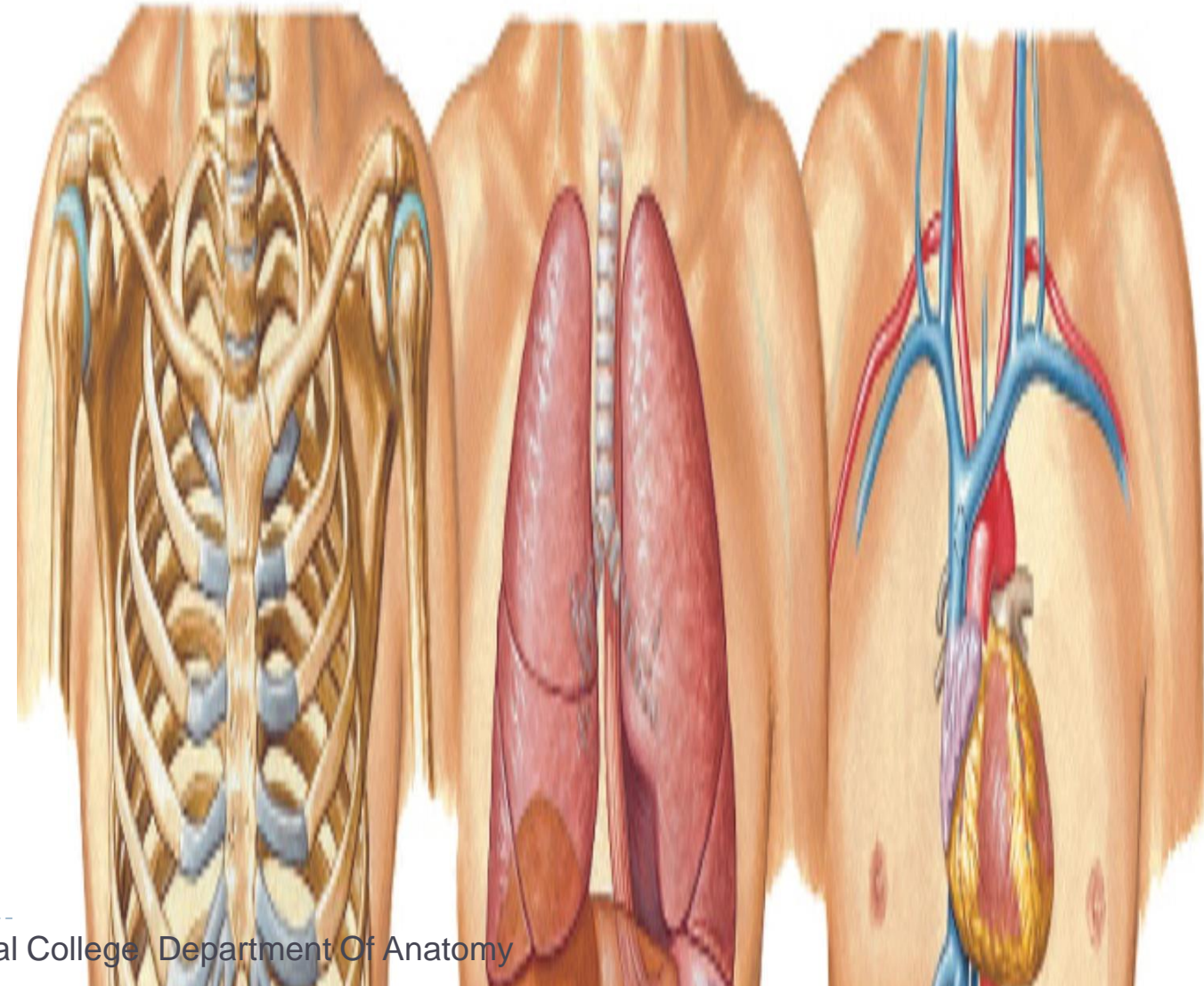
Surface anatomy (or superficial anatomy) is the study of external anatomical features without dissection.



B. Regional Anatomy :

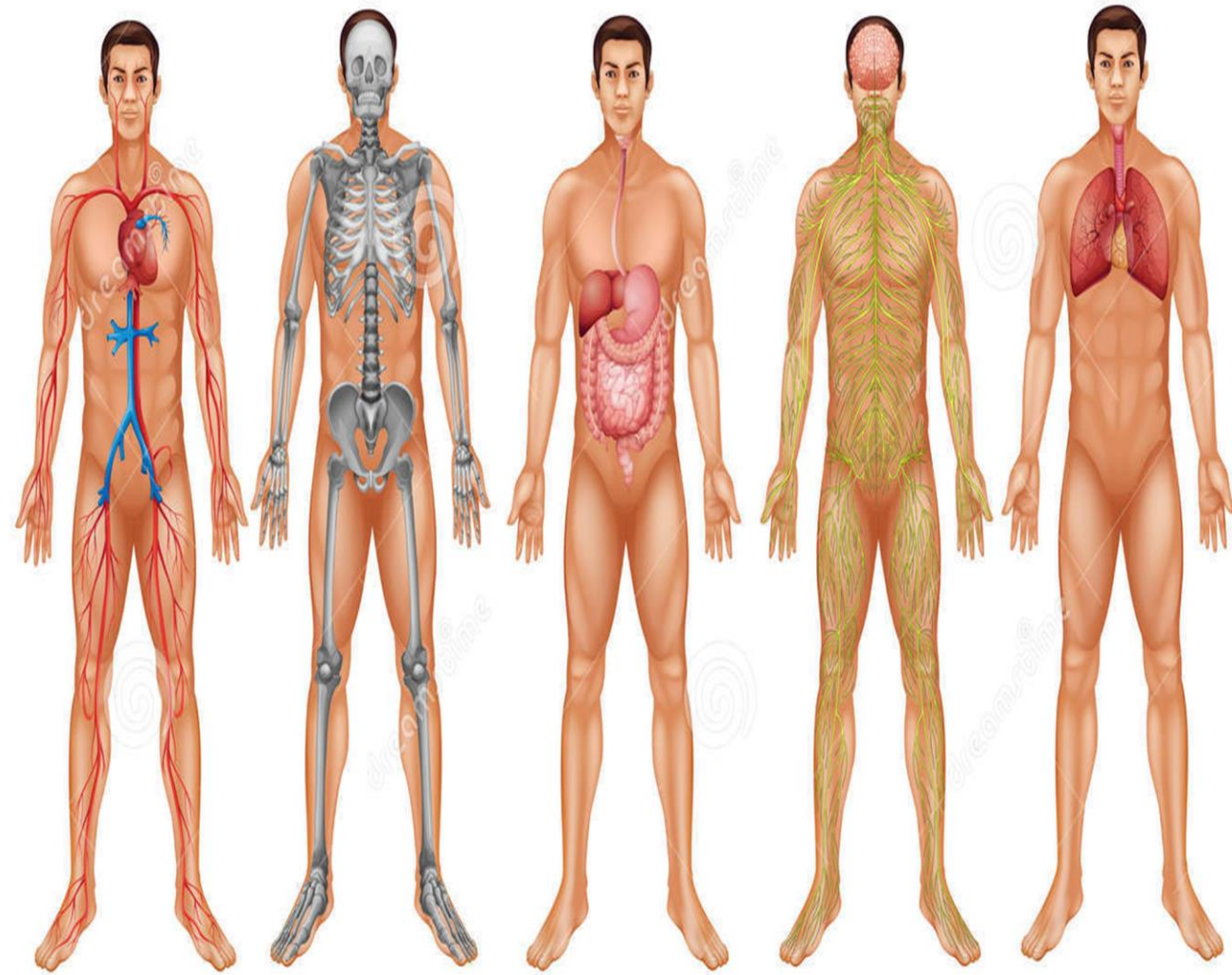
***Is the interrelationships of all of the structures in a specific body region, such as the abdomen.**

***Studying regional anatomy helps us to understand the interrelationships of body structures, such as how muscles, nerves, blood vessels, and other structures work together to serve a particular body region.**

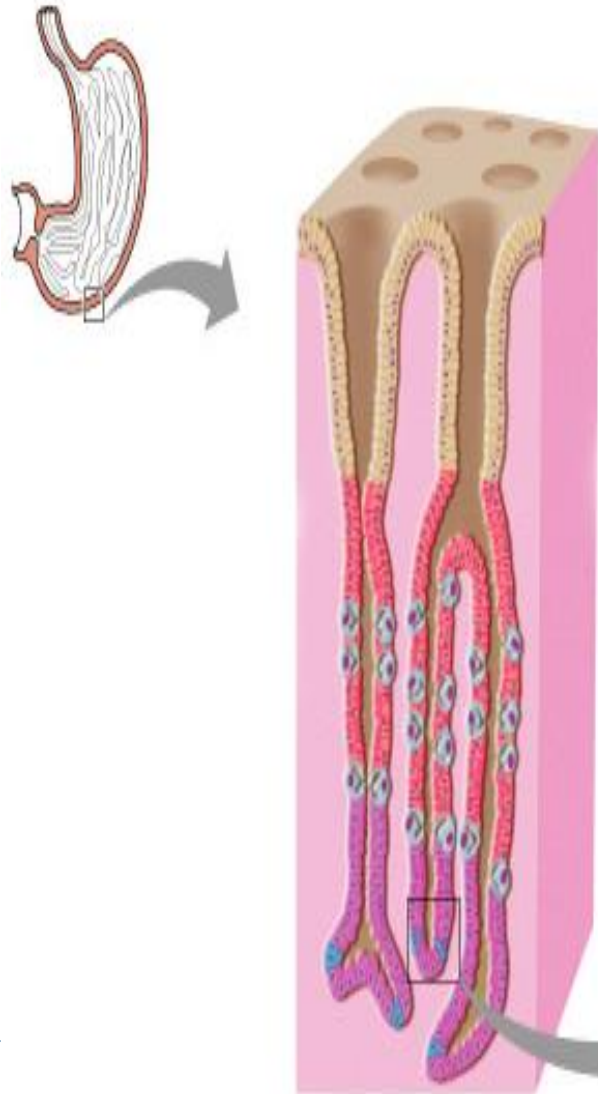


C. Systemic anatomy :

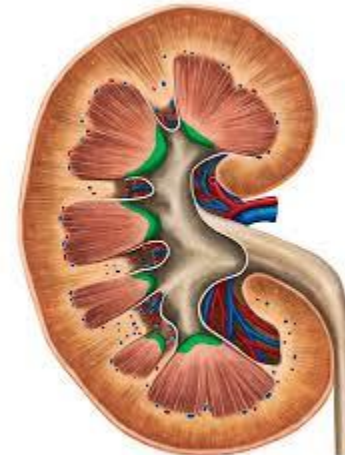
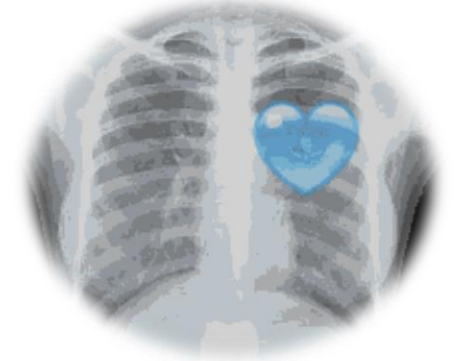
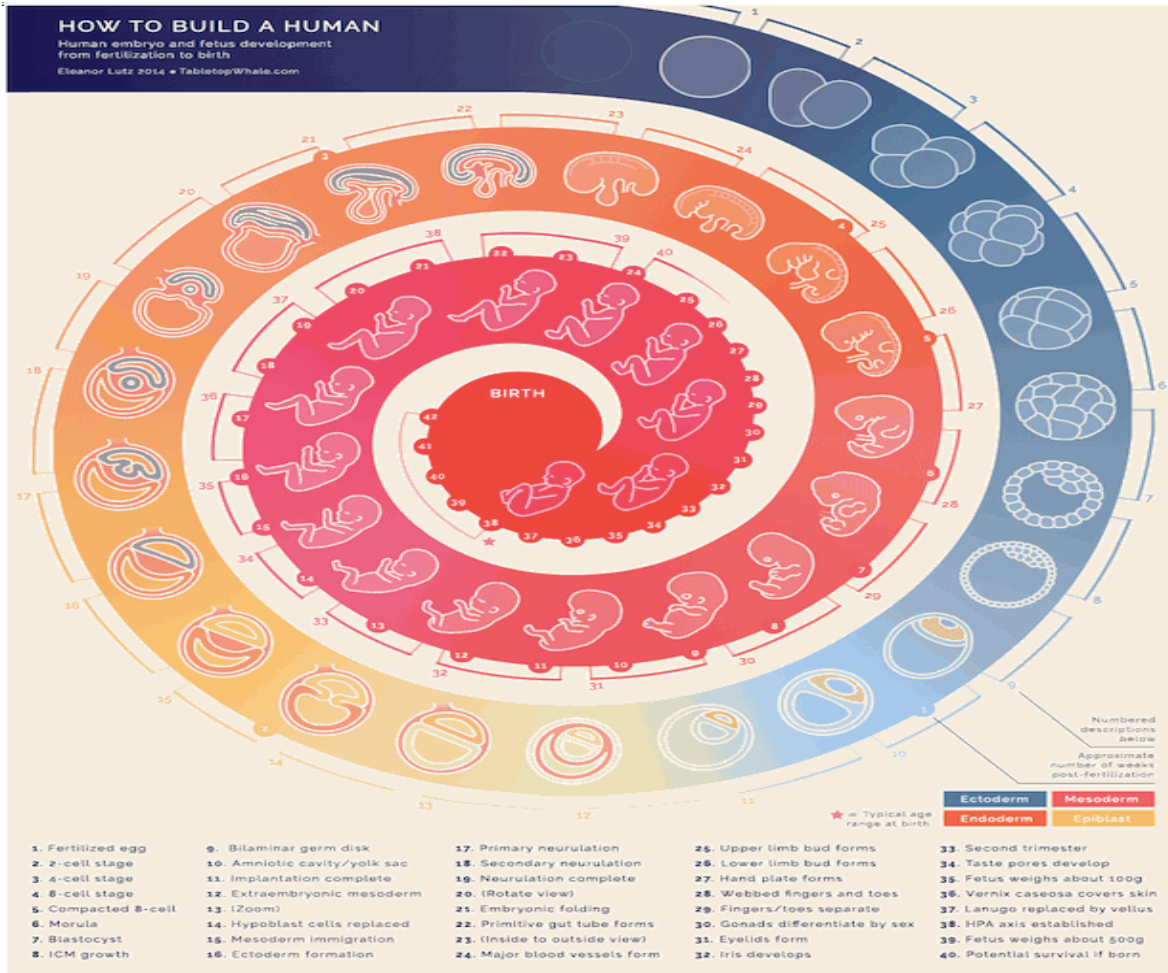
Is the study of structures that work together to perform a unique body function. For example, a systemic anatomical study of the muscular system would consider all of the skeletal muscles of the body.



2. Microscopical Anatomy (Histology)

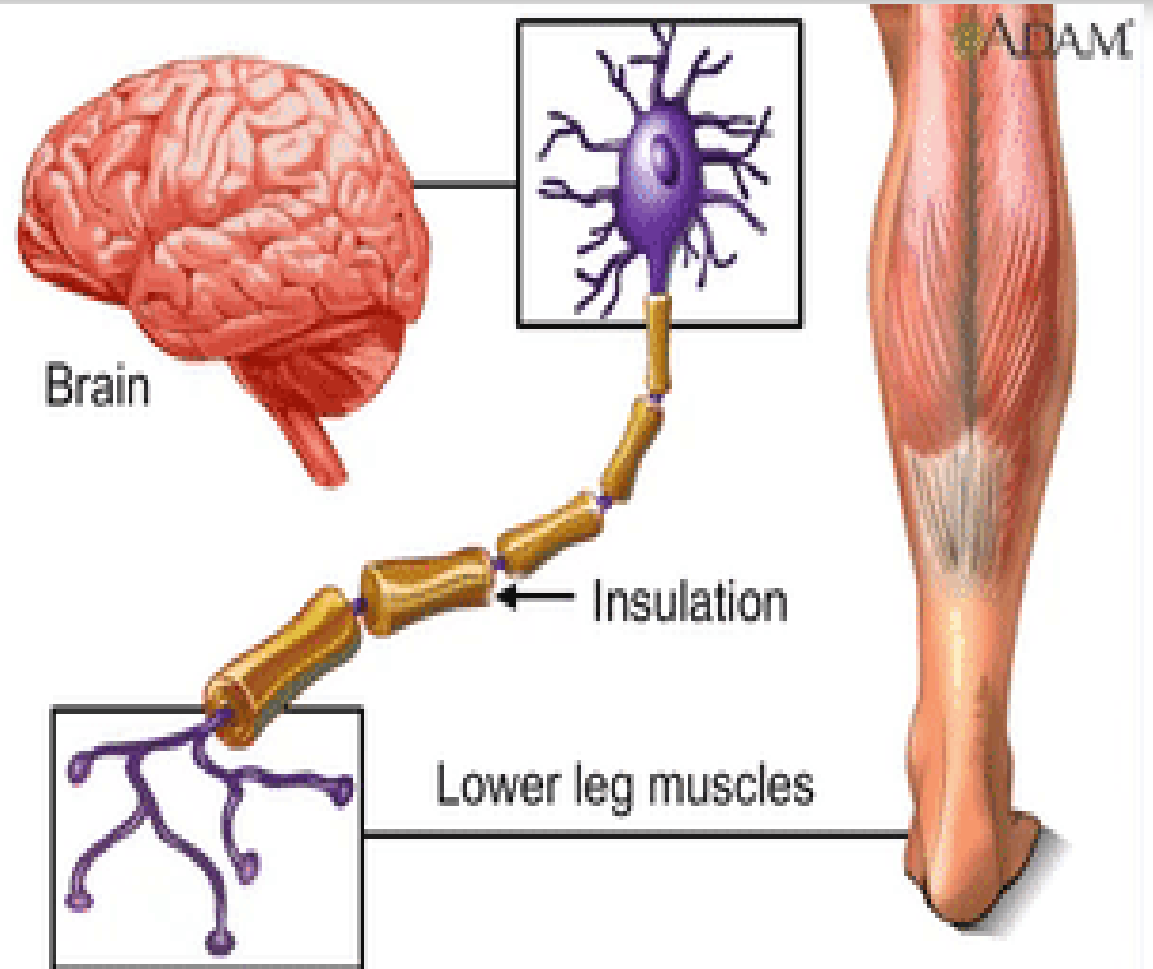


Other Branches



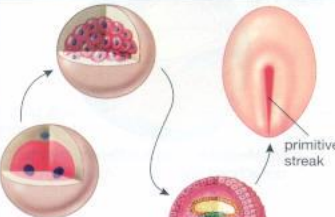











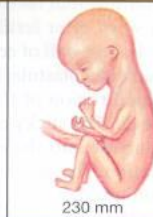
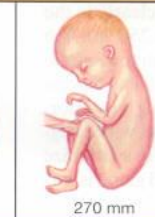

🦴 Neuro anatomy:

Neuroanatomy is the study of the relationship between structure and function in the nervous system. Neuroanatomy includes the study of macroscopic and microscopic structures.



☠ Developmental anatomy (embryology)

Anatomy of the structural changes of an individual from fertilization to adulthood; includes embryology, and postnatal development.

Age (weeks)					
1	2	3	4	5	6
← zygote to formation of embryonic disc →		embryo			
 <p>Zygote cleaves; blastocyst implants</p>		 <p>2-3 mm</p>	 <p>4 mm</p>	 <p>8 mm</p>	 <p>13 mm</p>
Two-layered embryo forms; amniotic cavity and yolk sac open		Gastrulation occurs; notochord and beginning of neural tube form	Neural tube closes; heart beats; arm buds, tail, and gill grooves form	Incipient eye parts—retina (as optic cup) and lens (as lens pits)—form; leg buds form; brain enlarges	Webbed fingers and external ear form; pigment appears in retina; tail and gill grooves disappearing
Age (weeks)					
7	8	9	10	11	12
embryo		fetus			
 <p>18 mm</p>	 <p>30 mm</p>	 <p>50 mm</p>	 <p>61 mm</p>	 <p>73 mm</p>	 <p>87 mm</p>
Webbed toes form; bones begin to harden; back straightens; eyelids form	Upper limbs bend at elbows; genitalia begin to differentiate; fingers are distinct	Toes separate; eyelids develop; major parts of brain are present	Chin grows; nostrils separate; face appears human; genitalia appear male or female	Well-defined neck appears; genitalia are complete; sucking reflex appears	
Age (months)					
4	5	6	7	8	9
fetus					
 <p>140 mm</p>	 <p>190 mm</p>	 <p>230 mm</p>	 <p>270 mm</p>	 <p>300 mm</p>	 <p>350 mm</p>
Blood cells form; all major organs form; head and body hair appear; movements are felt by mother		Fetus may be viable if born; eyelids open; lungs and lung circulation develop; may suck thumb; fat deposited		Fetus usually viable if born; fat deposits increase; body hair is lost; head hair is well developed; most senses are well developed; fetus turns head down in uterus	

Neural tube



25 Days

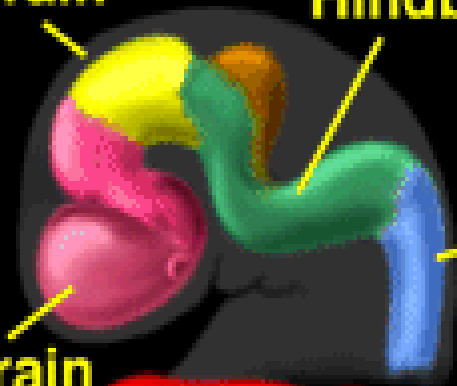
Midbrain

Hindbrain

Forebrain

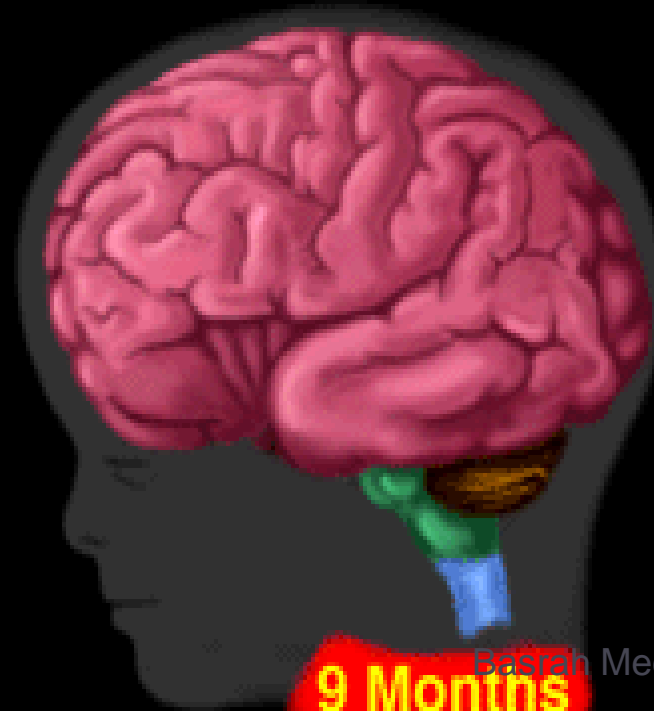
Spinal cord

40 days

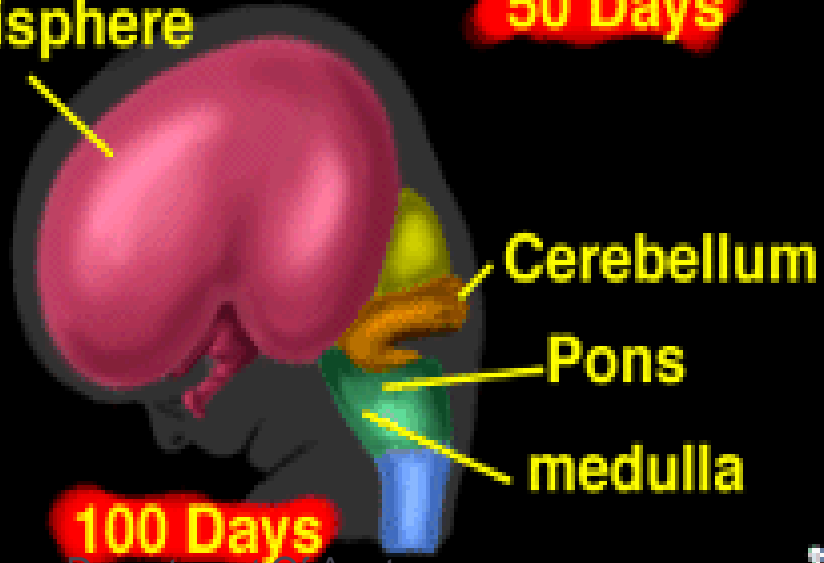


50 Days

Cerebral Hemisphere



9 Months



100 Days

Cerebellum

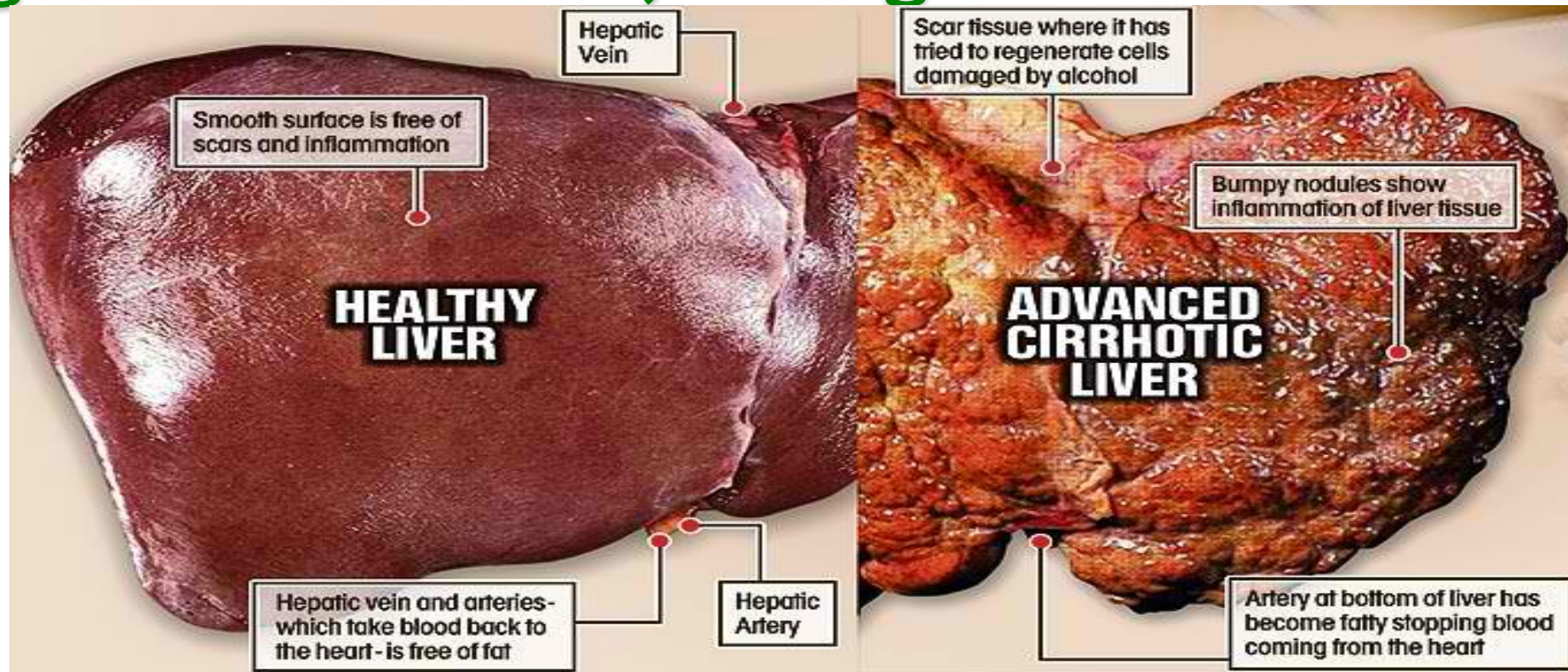
Pons

medulla



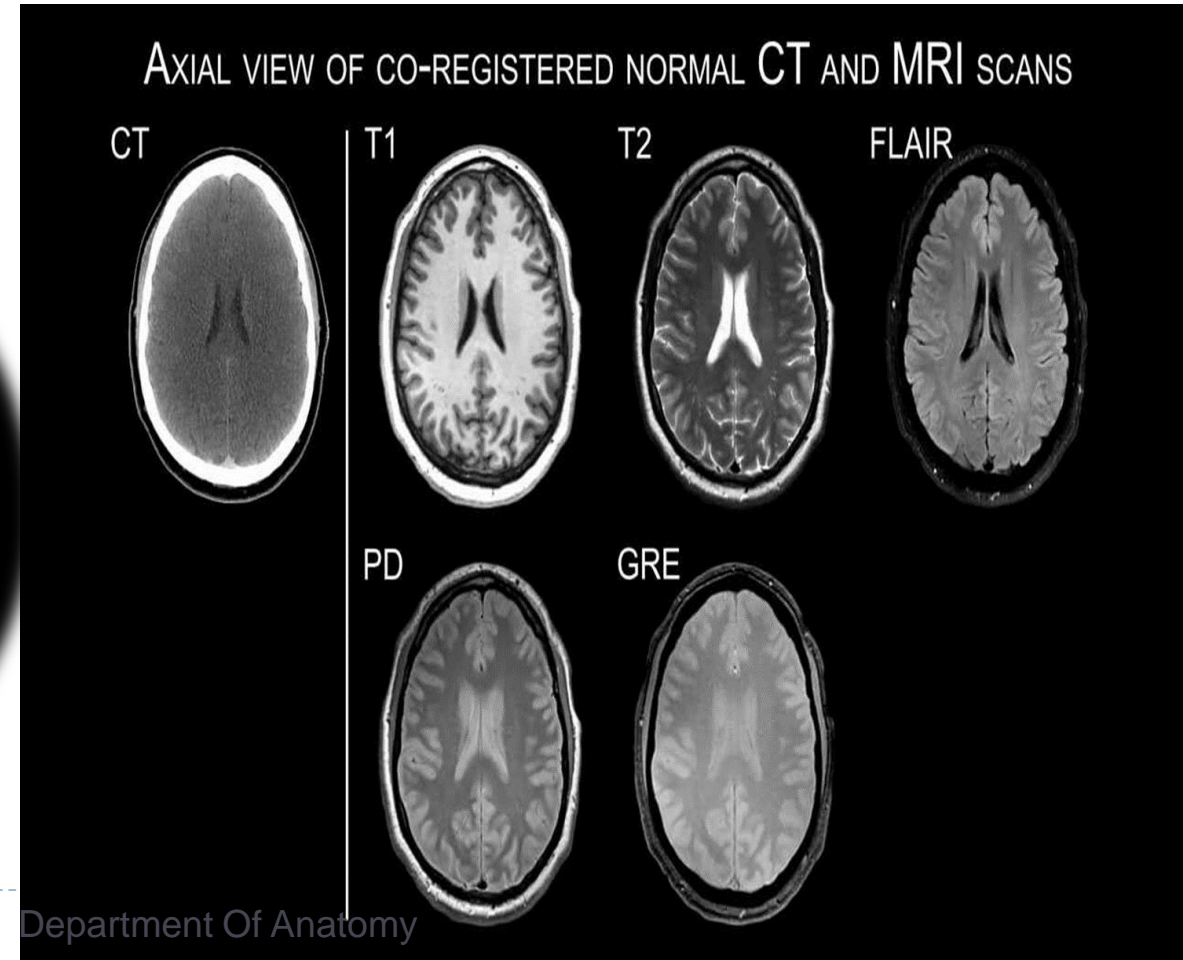
☠️ Pathological anatomy:

The branch of anatomy dealing with the morphologic changes in the tissues, both gross and microscopic



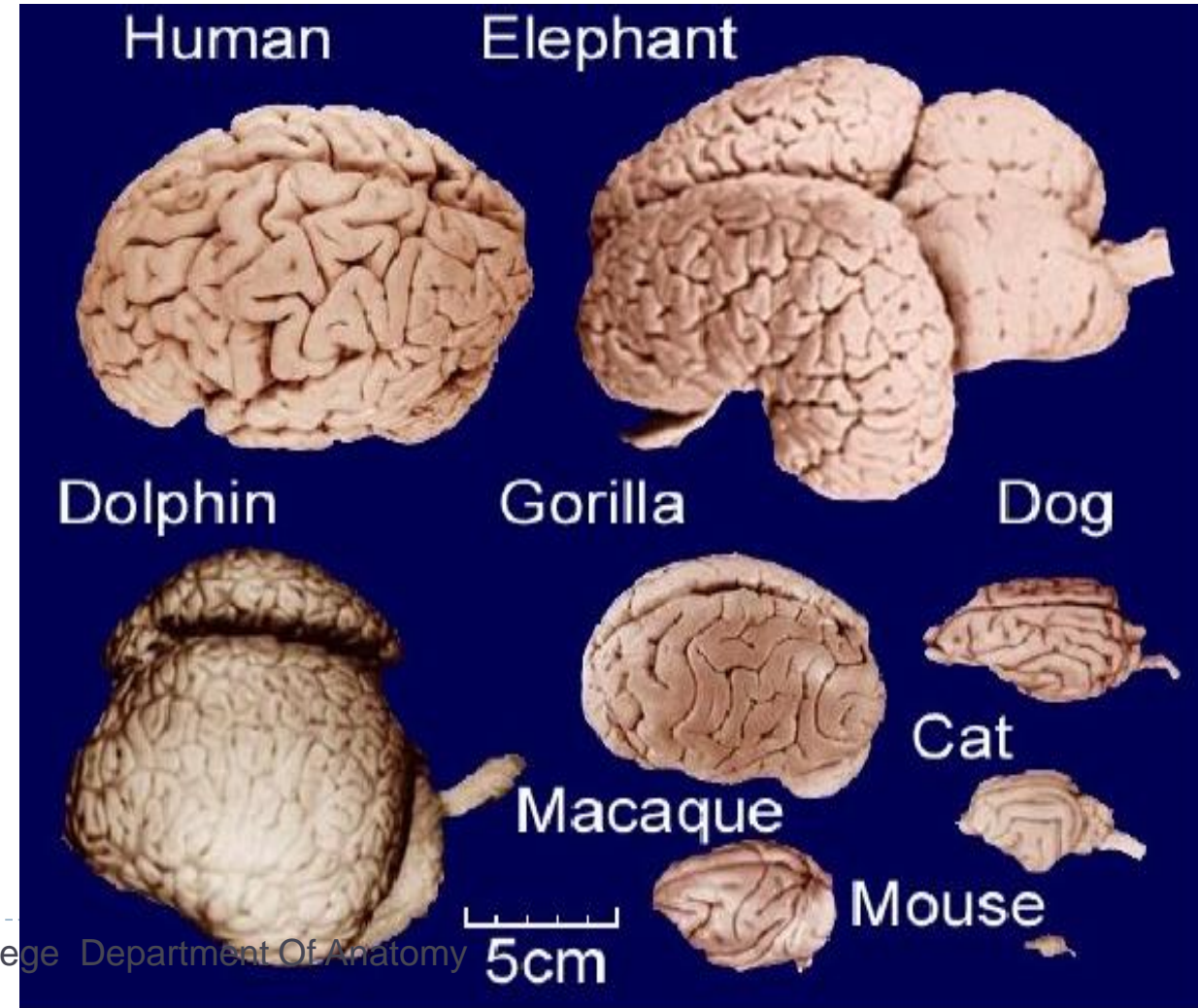
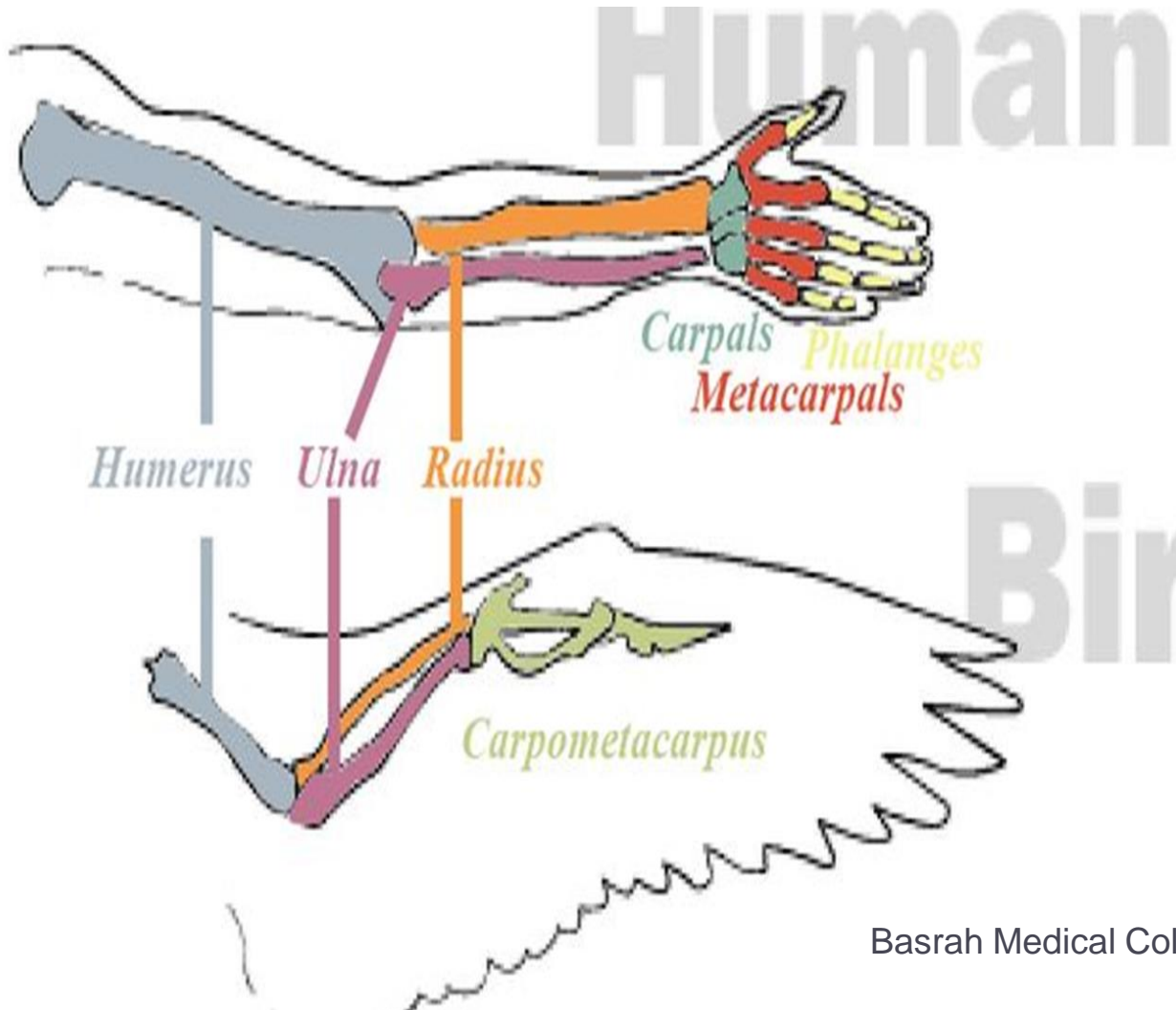
☠ Radiological Anatomy:

The study of body structures by radiography and other imaging methods as ultrasound CT, MRI



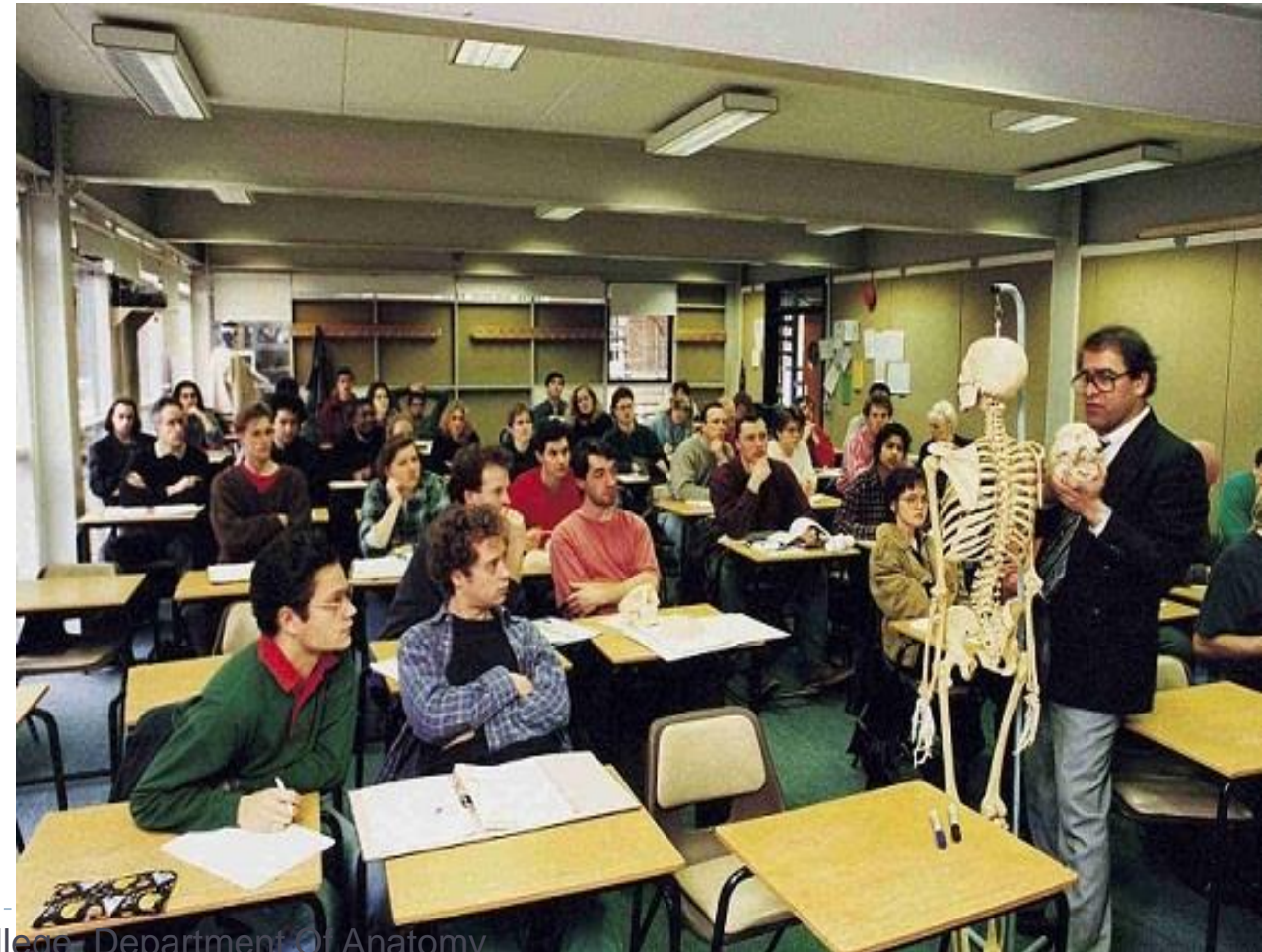
☠ Comparative Anatomy:

Study of the body structures of different species of animals



☠️ Applied (Clinical) Anatomy:

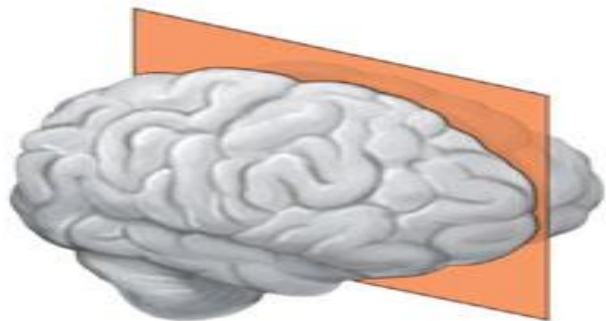
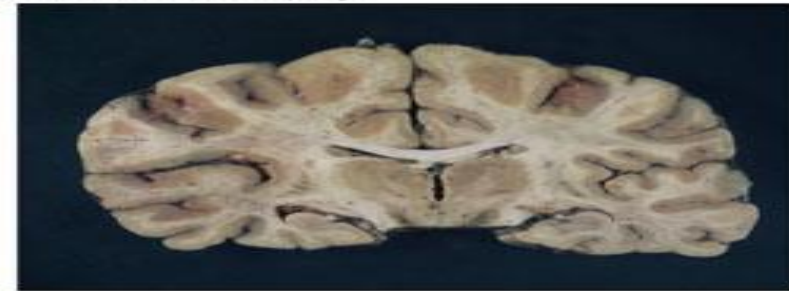
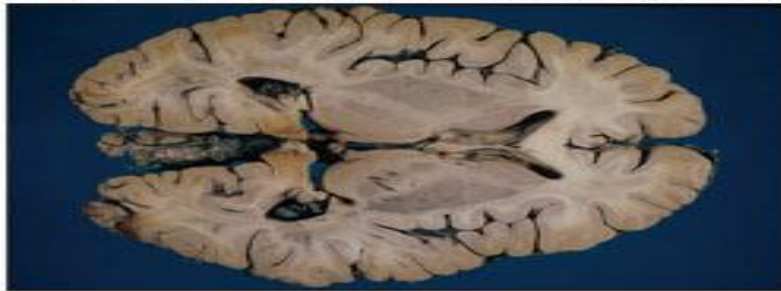
The application of anatomical knowledge, in particular the use of normal anatomical landmarks, in the diagnosis and treatment of disease.



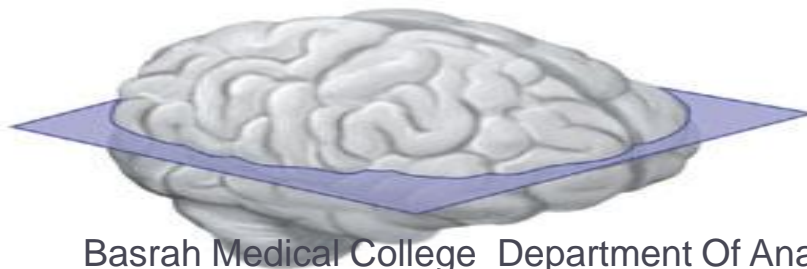
☠ Sectional anatomy:

Descriptive anatomy based on three-dimensional imaging of the body, organs, and structures using a series of computer multiplane sections, displayed by transverse, coronal, and sagittal analyses.

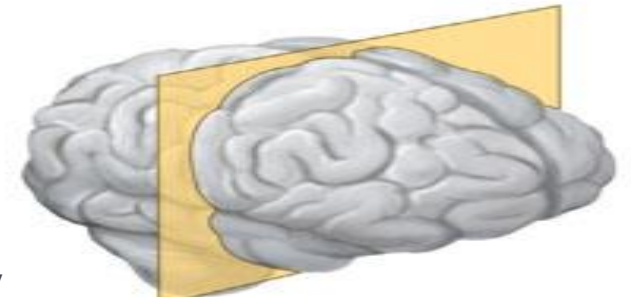
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(a)



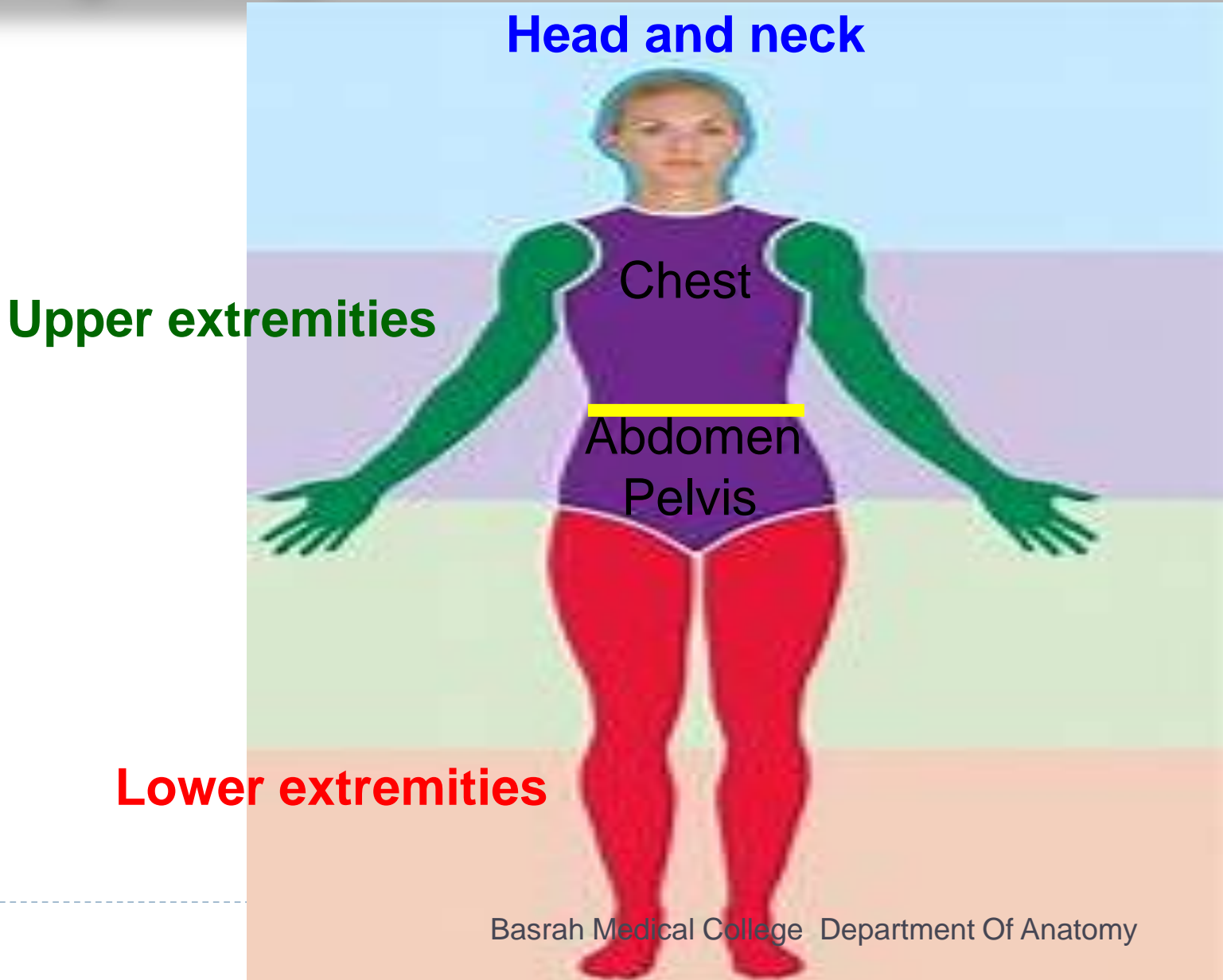
(b)



(c)



Body regions



☠ Body cavities

2 major body cavities

1. Dorsal body cavities

*cranial cavity

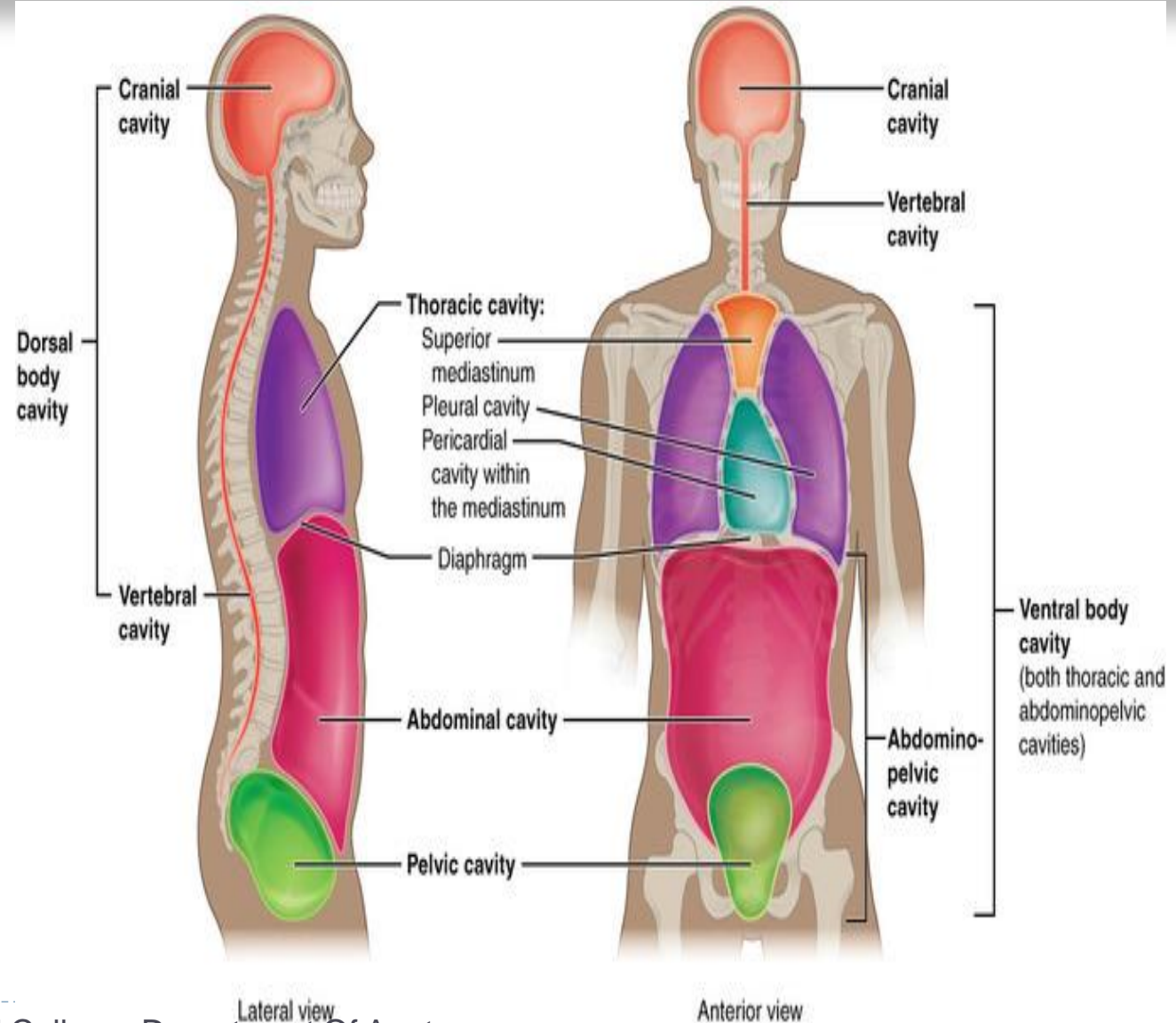
*vertebral cavity

2. Ventral body cavity

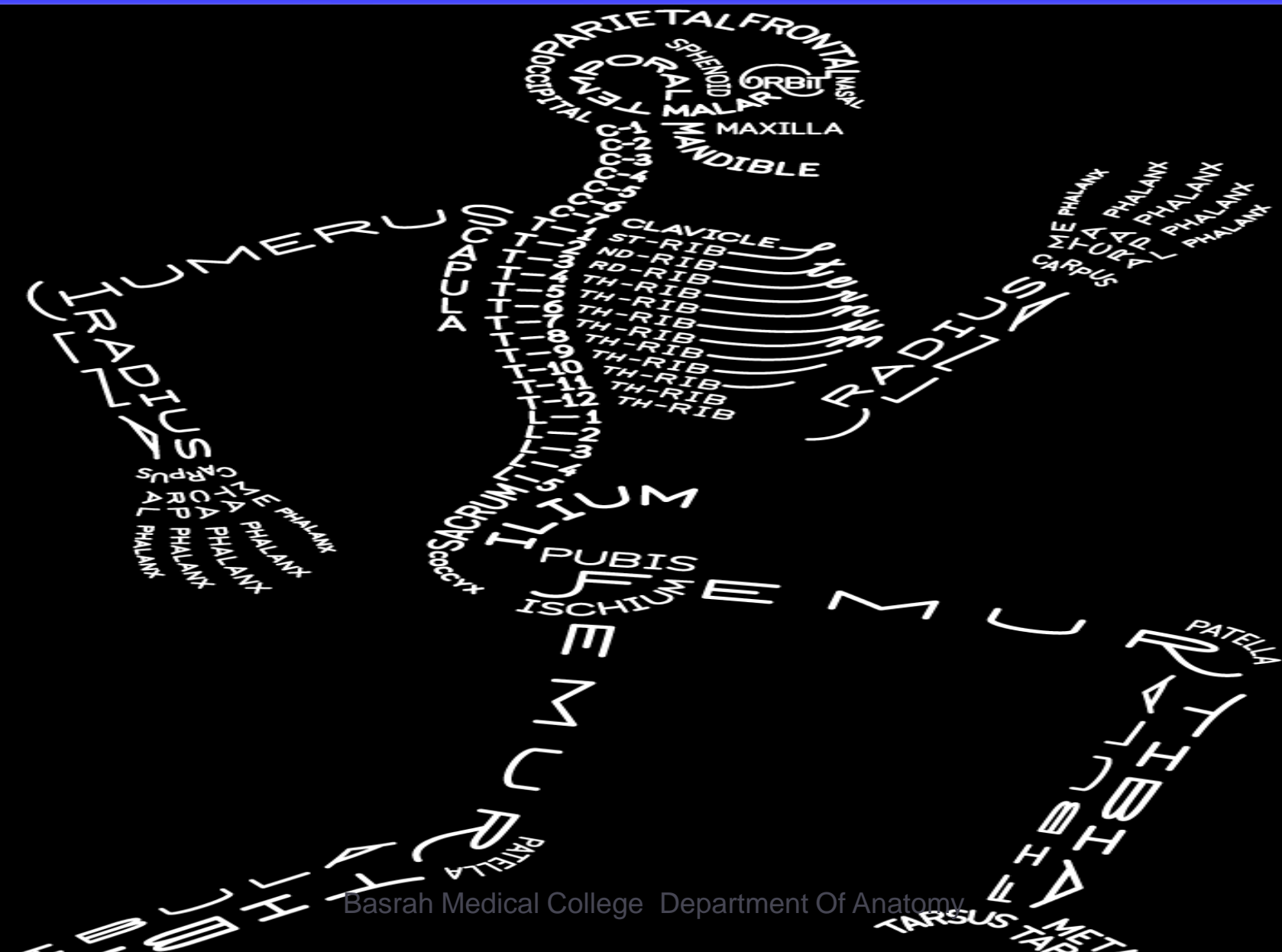
*Thoracic cavity contains
(pericardial and pleural
cavities)

*abdominal cavity

*pelvic cavity.

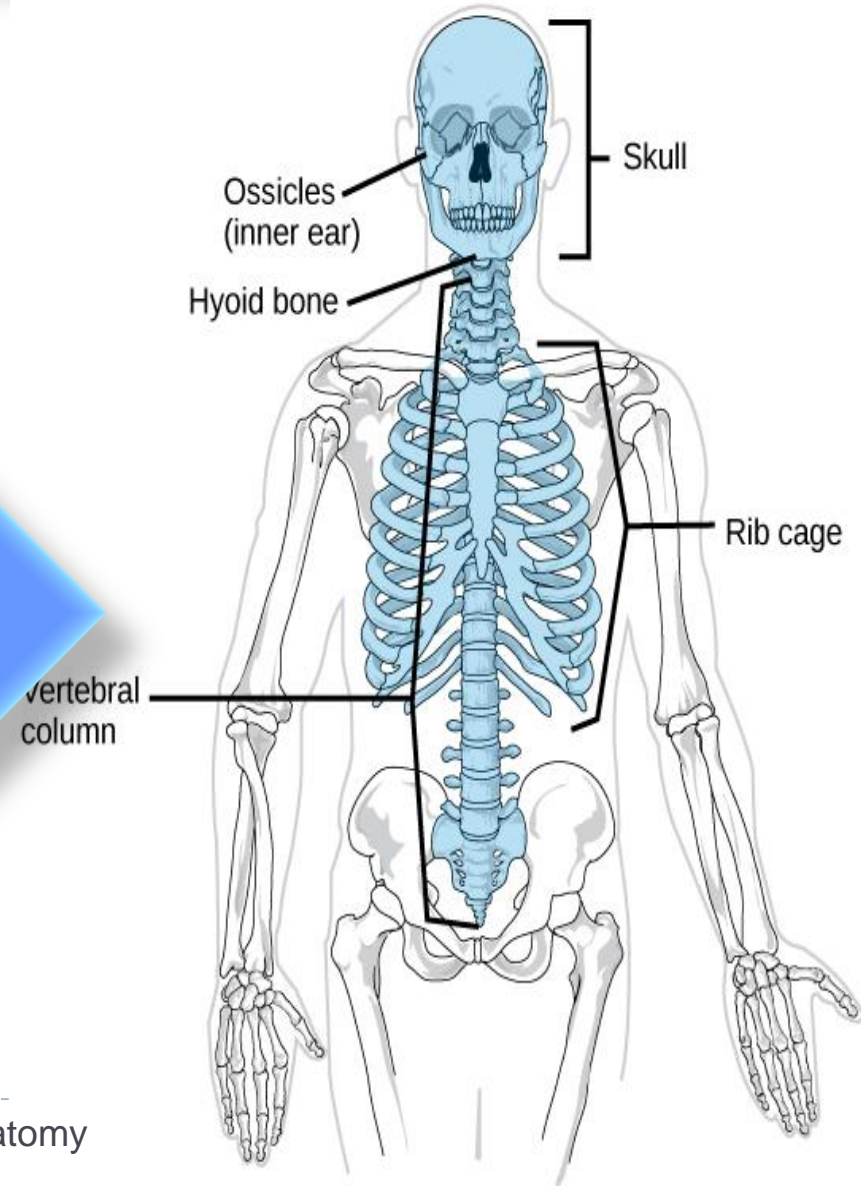


🦴 Human skeleton :



☠ Axial SKELETON:

Skull
Auditory ossicles
Vertebral column
Thoracic cage



☠️ Appendicular Skeleton:

Bones of upper limb :

Clavicle

Scapula

Humerus

Radius and ulna

Bones of the hand

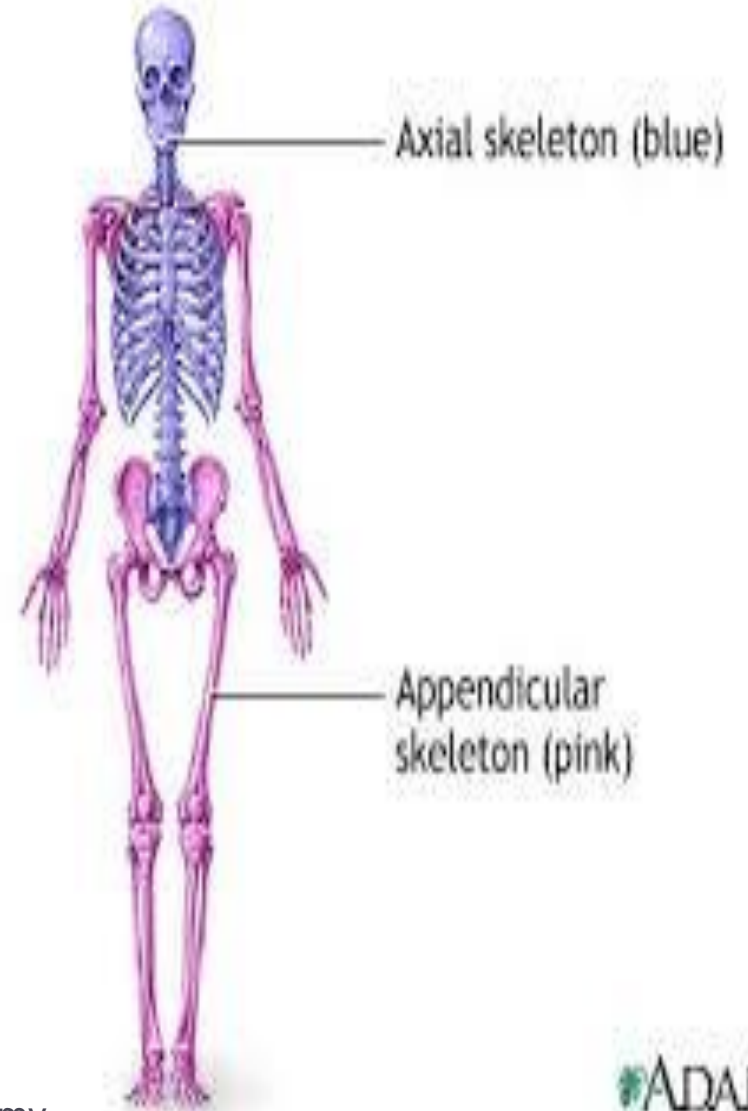
Bones of lower limb :

Hip bone

Femur

Tibia and fibula

Bones of the foot



☠️ Anatomical Position :

- * Standing straight
- * Eyes facing to the front
- * Feet flat on the floor (a parted)
- * Arms at the sides with extended fingers.
- * Thumb pointed outside
- * Palms turned to the front



Thank you

