

ANATOMY

Human Anatomy Generalities

Approaches to the study in Anatomy

- **Regional Anatomy**
 - ⇒ Topographical anatomy
 - ⇒ Surface anatomy – studying anatomy of the body at rest and in action.
 - ⇒ Physical Exam- clinical application of surface anatomy, palpation of arterial pulse, reflex hammer use, stethoscope, ophthalmoscope, etc.

- **Systemic Anatomy**
 - ⇒ Study by organ systems

Organ System	Branch
Integumentary System	Dermatology
Skeletal System	Osteology
Articular System	Arthrology
Muscular System	Myology
Nervous System	Neurology
Circulatory System	Angiology
Digestive System	Gastroenterology
Respiratory System	Pulmonology
Urinary System	Urology
Reproductive System	Gynecology/ Andrology
Endocrine System	Endocrinology, ductless glands
Locomotor System	Orthopedics

- **Clinical Anatomy**
 - ⇒ Emphasizes the structures and functions as they relate to the practice of medicine and allied courses (uses regional and systemic approach)
- Endoscopic imaging, etc. uses equipment (manual or digital endoscope) to enhance visual appreciation of organs.

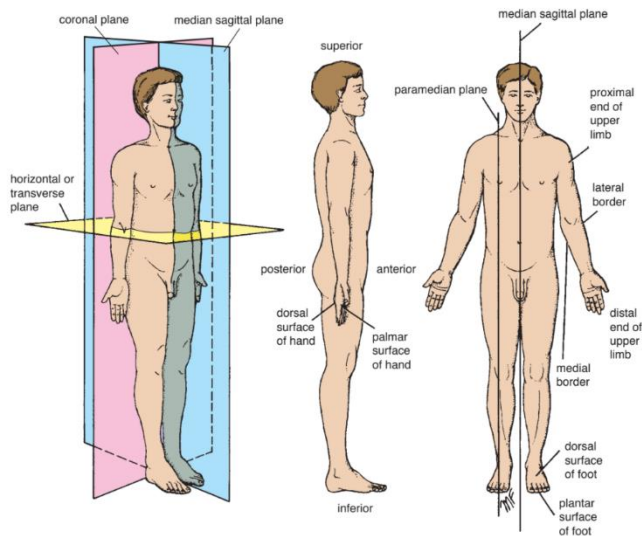
Anatomical Points – SKULL

- **Pterion**
 - ⇒ The union of the frontal, parietal, sphenoid and temporal bones.
- **Occiput**
 - ⇒ From occipital, parietal, and mastoid part of temporal bones.
- **Foramen Magnum**
 - ⇒ Large opening at the base of the skull.
- **Lambda**
 - ⇒ The junction of the sagittal and lambdoid sutures.
- **Coronal Sutures**
 - ⇒ Separates the frontal and parietal bone.
- **Sagittal Sutures**
 - ⇒ Separates parietal bones.
- **Lambdoid Sutures**
 - ⇒ Separates the parietal and temporal bone from the occipital bone.
- **Bregma**
 - ⇒ Intersection of sagittal and coronal sutures.
- **Vertex**
 - ⇒ MOST superior point of the skull.
- **Parietal Foramen**
 - ⇒ Found posteriorly near the sagittal sutures, transmits emissary veins.

ANATOMY

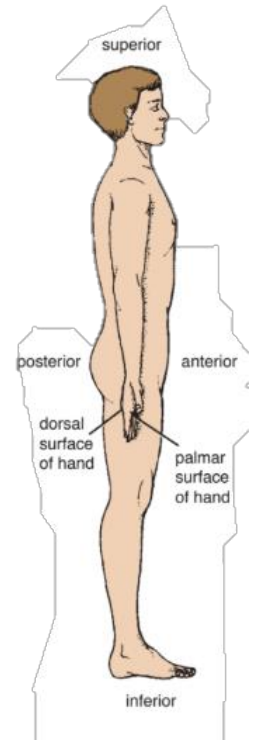
Anatomical Planes & References

- **Frontal Plane**
 - ⇒ Are vertical planes passing through the body at right angles to the median plane, dividing the body into anterior (front) and posterior (back) parts.
- **Median Plane**
 - ⇒ A vertical plane passing longitudinally thru the body, dividing it into equal left and right half.
- **Sagittal Plane**
 - ⇒ A vertical plane passing thru the body parallel to the median plane.
- **Parasagittal Plane**
 - ⇒ A commonly used but is unnecessary because any plane parallel to and on either side of the median plane is sagittal.
- **Transverse/ Horizontal Plane**
 - ⇒ Planes passing thru the body at right angles to the median and coronal planes, dividing the body into superior (upper) and inferior (lower) parts.



ANATOMICAL POSITIONS

- **Superficial**
 - ⇒ Describes the position of structures relative to the surface of the body or the relationship of one structure to another overlying or underlying structure.
- **Medial**
 - ⇒ A structure nearer to the median plane.
- **Lateral**
 - ⇒ A structure farther away from the median plane.
- **Superior**
 - ⇒ Refers to the structure that is nearer the vertex (the topmost point of the cranium)
- **Inferior**
 - ⇒ Refers to the structure that is nearer the sole of the foot.
- **Posterior (Dorsal)**
 - ⇒ Refers to the back surface of the body or nearer to the back.
- **Anterior (Rostral or Ventral)**
 - ⇒ Refers to the front surface of the body.
- **Cranial**
 - ⇒ Relates to the cranium and a useful directional term that means towards the head or cranium.
- **Caudal (Tail)**
 - ⇒ A directional term that means towards the feet or tail region.

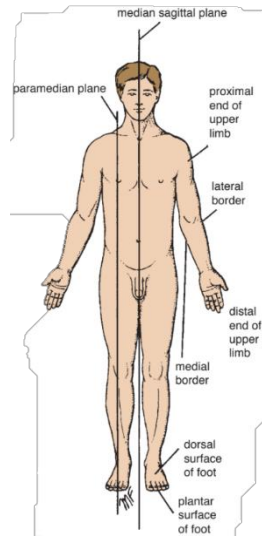


ANATOMY

TERMS OF MOVEMENT (cont.)

ANATOMICAL POSITIONS (cont'.)

- **Dorsum**
 - ⇒ Refers to the superior aspect of any part that protrudes anteriorly from the body.
- **Proximal**
 - ⇒ Near the attachment
- **Distal**
 - ⇒ Further away from the attachment.
- **Laterality**
 - ⇒ **Bilateral** – paired structures which appears to both sides (right & left)
 - ⇒ **Unilateral** – appears on one side only
 - ⇒ **Ipsilateral** – occurring on the same side of the body.
 - ⇒ **Contralateral** – means occurring on the opposite side of the body relative to another structure.



TERMS OF MOVEMENT

- Adduction
- Abduction
- Flexion
- Extension
- Rotation, Medial, and Lateral
- Circumduction

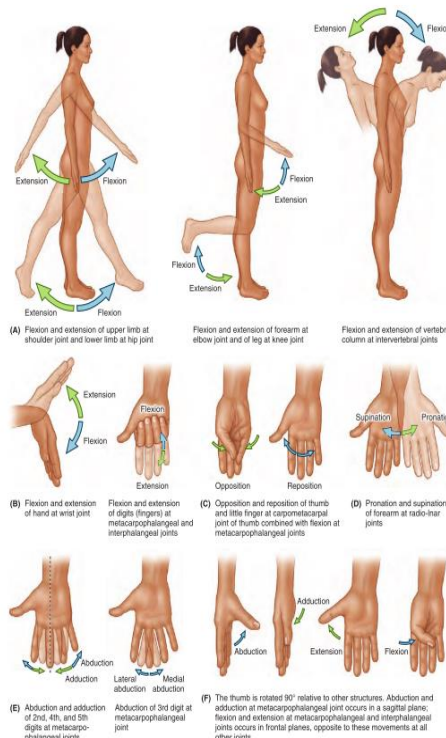


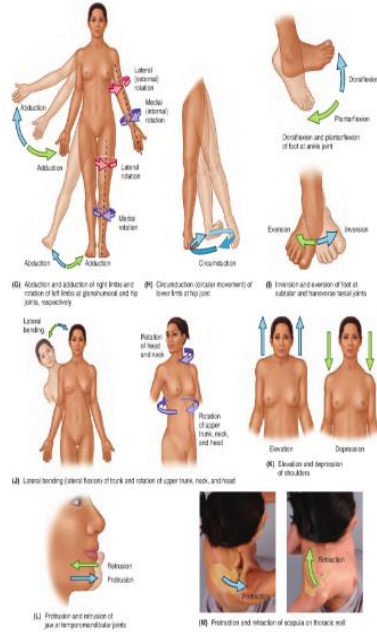
FIGURE 1.5. Terms of movements. These terms describe movements of the limbs and other parts of the body, most movements take place at joints, where two or more bones or cartilages articulate with one another.

- **Adduction**
 - ⇒ Moving towards the median plane.
- **Abduction**
 - ⇒ Moving away from the median plane.
- **Flexion**
 - ⇒ Bending or decreasing the angle between bones.
 - ⇒ **Dorsiflexion** - flexion ankle
 - ⇒ **Plantarflexion** - standing on toes.
- **Extension**
 - ⇒ The straightening or increasing the angle between the bones.
- **Circumduction**
 - ⇒ A circular movement that involves sequential flexion, abduction, extension and adduction, in such a way that the distal end of the part moves in a circular motion.
- **Rotation**
 - ⇒ Revolving of a body part around its longitudinal axis.
 - ⇒ Medial Rotation (internal rotation) – brings the anterior surface of the limb closer to the median plane.
 - ⇒ Lateral Rotation (external rotation) – takes the anterior surface away from the median plane.
- **Pronation**
 - ⇒ Movement of the hand and forearm that rotates the radius medially around its longitudinal axis, palm of the hand faces posteriorly and its dorsum faces anteriorly.
- **Supination**
 - ⇒ An opposite rotational movement of the hand and forearm that rotates the radius laterally around the longitudinal axis, dorsum of the hand faces posteriorly, palmar aspect faces anteriorly.

ANATOMY

TERMS OF MOVEMENT (cont'.)

- **Retrusion**
⇒ Movement posteriorly or backwards.
- **Protraction**
⇒ Anterior movement of the shoulders.
- **Retraction**
⇒ Posterior movement of the shoulders.
- **Elevation**
⇒ Movement of the shoulders superiorly.
- **Depression**
⇒ Lowers or movement of a part inferiorly.
- **Eversion**
⇒ Moves the sole of the foot away from the median.
- **Inversion**
⇒ Moves the sole of the foot towards the median plane.



SKELETAL SYSTEM (cont.)

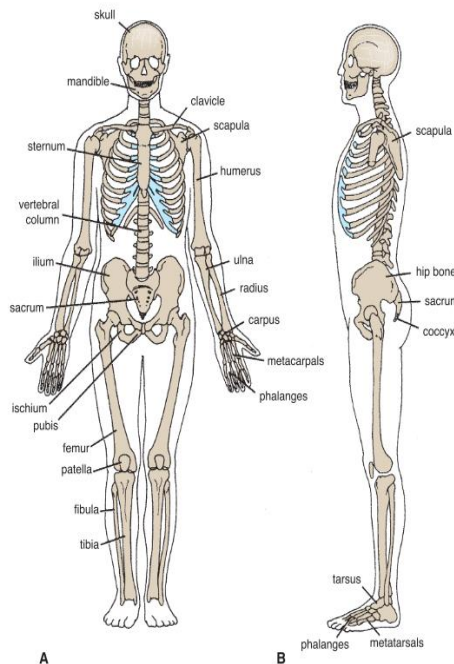
- Pelvic Girdle
⇒ Hip bones – 2
- Lower Extremities
⇒ Femur – 2
⇒ Patella – 2
⇒ Fibula – 2
⇒ Tibia – 2
⇒ Tarsals – 14
⇒ Metatarsals – 10
⇒ Phalanges – 28

Total 206 bones

SKELETAL SYSTEM

AXIAL SKELETON

- Skull:
⇒ Cranium – 8
⇒ Facial – 14
⇒ Auditory ossicles – 6
- Hyoid – 1
- Vertebrae – 26
- Sternum – 1
- Ribs – 24



APPENDICULAR SKELETON

- Shoulder Girdles
⇒ Clavicle – 2
⇒ Scapula – 2
- Upper Extremities
⇒ Humerus – 2
⇒ Radius – 2
⇒ Ulna – 2
⇒ Carpals – 16
⇒ Metacarpals – 10
⇒ Phalanges – 28