AN INTRODUCTION TO MEDICAL TERMINOLOGIES

BY
MRS.S.LAVANYA DEVI

SYNOPSIS

- DEFINITION-ANATOMY
- PHYSIOLOGY
- ANATOMIC POSITION
- IMPORTANCE OF ANATOMICAL POSITION
- DIRECTIONAL TERMS
- PLANES OF THE BODY
- MOVEMENT TERMS
- BODY CAVITIES
- REGIONS OF ABDOMINO PELVIC CAVITY
- SPINE-VERTEBRAL COLUMNS

- DIVISIONS OF VERTEBRAE
- BASIC STRUCTURE OF A MEDICAL TERMINOLOGY
- COMBINING FORMS
- COLOUR RELATED FORMS
- PREFIXES
- GENERAL SUFFIXES
- MEDICAL & SCIENTIFIC SUFFIXES
- MEDICAL TERMS USED AS SUFFIXES
- IRREGULAR PLURAL FORMS
- ABBREVIATIONS

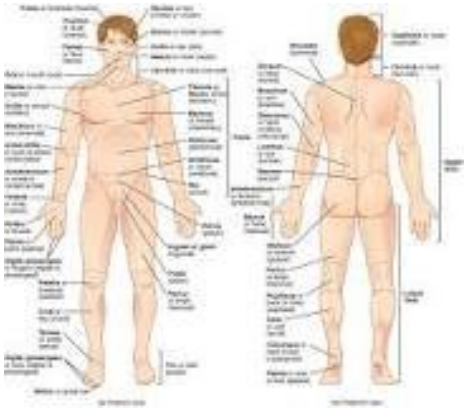
DEFINITIONS

- **ANATOMY**
  the scientific study of the structure of human or animal bodies.

- **PHYSIOLOGY**
- Physiology is the science of life. It is the branch of biology that aims to understand the mechanisms of living things, from the basis of cell function at the ionic and molecular level to the integrated behaviour of the whole body and the influence of the external environment.

- **ANATOMIC POSITIONS**
  Anatomical position, or standard anatomical position, refers to the positioning of the body when it is standing upright and facing forward with each arm hanging on either side of the body, and the palms facing forward. The legs are parallel, with feet flat on the floor and facing forward.

- **MEDICAL TERMINOLOGY**
- Medical terminology is a language used to precisely describe the human body including all its components, processes, conditions affecting it, and procedures performed upon it. Medical terminology is used in the field of medicine.
- **ANATOMIC POSITION**
- Anatomical position, or standard anatomical position, refers to the positioning of the body when it is standing upright and facing forward with each arm hanging on either side of the body, and the palms facing forward.



IMPORTANCE OF ANATOMICAL POSITION

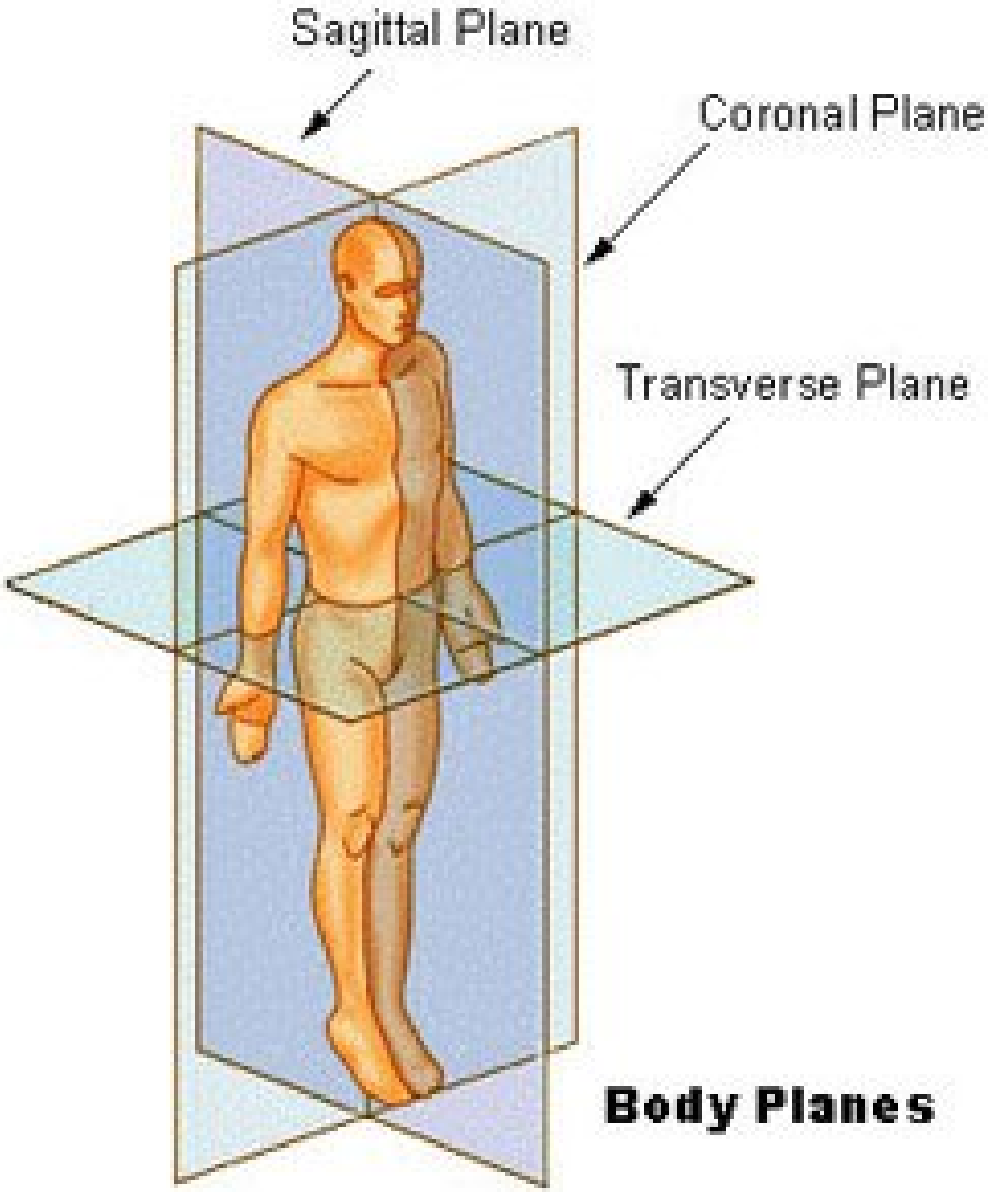
- Standard anatomical position provides a clear and consistent way of describing human anatomy and physiology. When assessing an individual's anatomy, many anatomical terms are used to describe the relative positioning of various appendages in relation to the standardized position.

DIRECTIONAL TERMS

- Directional terms describe the positions of structures relative to other structures or locations in the body.
- **Superior** **or** **cranial** - toward the head end of the body; upper (example, the hand is part of the superior extremity).
- **Inferior** **or** **caudal** - away from the head; lower (example, the foot is part of the inferior extremity).
- **Anterior** **or** **ventral** - front (example, the kneecap is located on the anterior side of the leg).
- **Posterior** **or** **dorsal** - back (example, the shoulder blades are located on the posterior side of the body).
- **Medial** - toward the midline of the body (example, the middle toe is located at the medial side of the foot).
- **Lateral** - away from the midline of the body (example, the little toe is located at the lateral side of the foot).
- **Proximal** - toward or nearest the trunk or the point of origin of a part (example, the proximal end of the femur joins with the pelvic bone).
- **Distal** - away from or farthest from the trunk or the point or origin of a part (example, the hand is located at the distal end of the forearm).

PLANES OF THE BODY

- **Coronal Plane (Frontal Plane)** - A vertical plane running from side to side; divides the body or any of its parts into anterior and posterior portions.
- **Sagittal Plane (Lateral Plane)** - A vertical plane running from front to back; divides the body or any of its parts into right and left sides.
- **Axial Plane (Transverse Plane)** - A horizontal plane; divides the body or any of its parts into upper and lower parts.
- **Median plane** - Sagittal plane through the midline of the body; divides the body or any of its parts into right and left halves.



Body Planes

MOVEMENT TERMS

- flexion - extension
- abduction - adduction
- circumduction (no opposite)
- elevation - depression
- internal/medial rotation - external/lateral rotation
- dorsiflexion - plantar flexion
- pronation - supination
- inversion - eversion
- protrusion/protraction - retrusion/retraction
- opposition - reposition

BODY CAVITIES

- A body cavity is a fluid-filled space inside the body that holds and protects internal organs. Human body cavities are separated by membranes and other structures. The two largest human body cavities are the ventral cavity and the dorsal cavity. These two body cavities are subdivided into smaller body cavities. Both the dorsal and ventral cavities and their subdivisions,

:The ventral cavity includes the thoracic and abdominopelvic cavities and their subdivisions. The abdominopelvic cavity is further divided into abdominal and pelvic cavities. The dorsal cavity includes the cranial and spinal cavities.

Ventral Cavity

- The ventral cavity is at the anterior, or front, of the trunk. Organs contained within this body cavity include the lungs, heart, stomach, intestines, and reproductive organs

- The thoracic cavity fills the chest and is subdivided into two pleural cavities and the pericardial cavity. The pleural cavities hold the lungs, and the pericardial cavity holds the heart.

- The abdominopelvic cavity fills the lower half of the trunk and is subdivided into the abdominal cavity and the pelvic cavity. The abdominal cavity holds digestive organs and the kidneys, and the pelvic cavity holds reproductive organs and organs of excretion.

Dorsal Cavity

- The dorsal cavity is at the posterior, or back, of the body, including both the head and the back of the trunk. The dorsal cavity is subdivided into the cranial and spinal cavities.
- The cranial cavity fills most of the upper part of the skull and contains the brain.
- The spinal cavity is a very long, narrow cavity inside the vertebral column. It runs the length of the trunk and contains the spinal cord.

REGIONS OF ABDOMINO PELVIC CAVITY

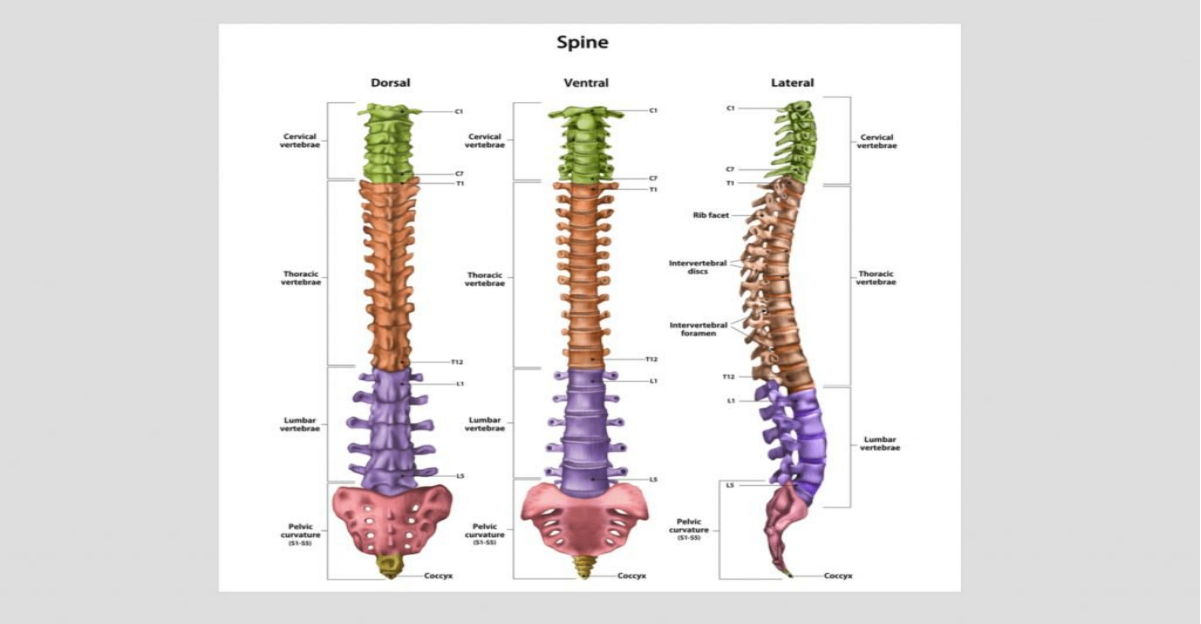
- The abdominopelvic cavity is the largest cavity in the body.
- The abdominopelvic cavity houses both the abdominal cavity and the pelvic cavity.
- The abdominal cavity houses the digestive organs (stomach, liver, gallbladder, and small and large intestines).
- The pelvic cavity is inferior to the abdominal cavity. It contains the male or female reproductive organs, urinary system organs (urinary bladder, ureters, urethra), rectum, and anus.

SPINE-VERTEBRAL COLUMNS

- The bones, muscles, tendons, and other tissues that reach from the base of the skull to the tailbone. The vertebral column encloses the spinal cord and the fluid surrounding the spinal cord. Also called backbone, spinal column, and spine.
- Individual vertebrae are named according to their region and position. From top to bottom, the vertebrae are:
- Cervical spine: 7 vertebrae (C1–C7)
- Thoracic spine: 12 vertebrae (T1–T12)
- Lumbar spine: 5 vertebrae (L1–L5)
- Sacrum: 5 (fused) vertebrae (S1–S5)
- Coccyx: 4 (3–5) (fused) vertebrae (Tailbone)

DIVISIONS OF VERTEBRAE

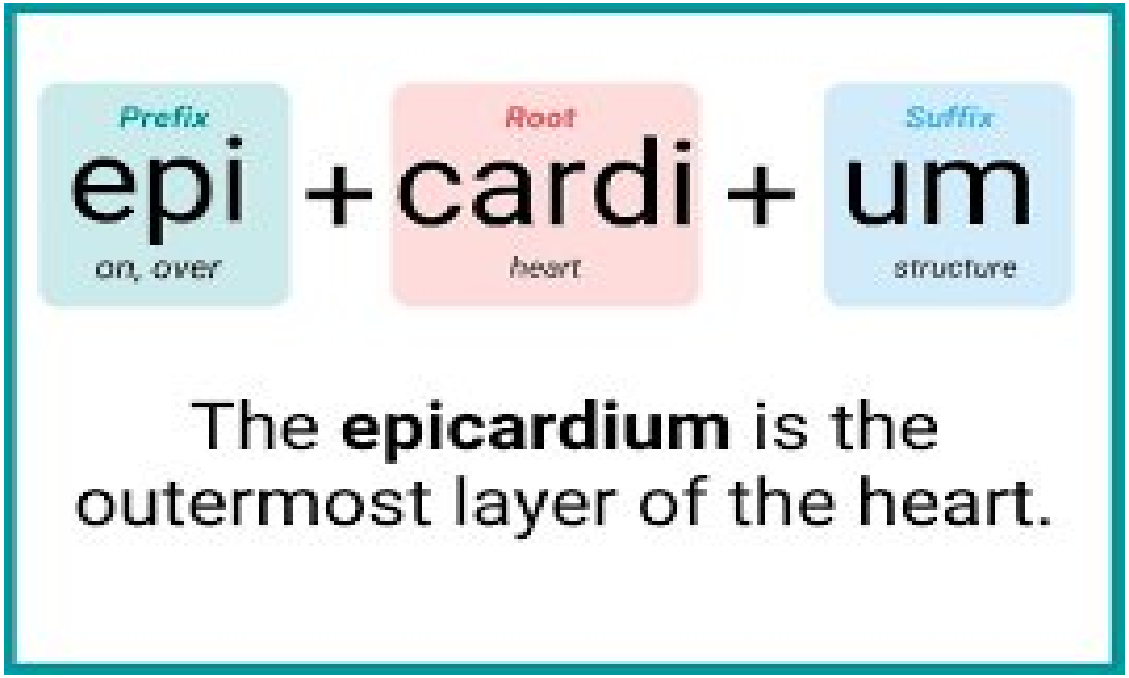
- The vertebrae (back bones) of the spine include the cervical spine (C1-C7), thoracic spine (T1-T12), lumbar spine (L1-L5), sacral spine (S1-S5), and the tailbone.



BASIC STRUCTURE OF A MEDICAL TERMINOLOGY

- There are three basic parts to medical terms: a word root (usually the middle of the word and its central meaning), a prefix (comes at the beginning and usually identifies some subdivision or part of the central meaning), and a suffix (comes at the end and modifies the central meaning as to what or who is interacting …

STRUCTURE OF A MEDICAL TERM



COMBINING FORMS

- When you take a word root and add a vowel it becomes a combining form. This vowel is usually an —o‖, and it is called a combining vowel. - cyst/o - therm/o The combining vowel is used before suffixes that begin with a consonant and before another word root.

COMBINING FORM-MEANING- EXAMPLE OF USE IN MEDICAL TERMS

s

• abdomin/o	abdomen	abdominal
• aden/o	gland	adenoma
• amni/o	amnion sac	amniocentesis
• an/o anus	anal	
• append/o	appendix	appendectomy
• angi/o	vessel	angiogram
• arteri/o	artery	arteriosclerosis
• ather/o	plaque	atherosclerosis
• arthr/o	joint	arthritis
• axill/o	armpit	axillary
• bi/o life	biology	
• bronch/o	bronchial tube	bronchitis
• bronchi/o	bronchial tube	bronchiectasis
• carcin/o	cancer	carcinoma
• cardi/o	heart	cardiology
• carp/o	wrist	carpals
• cephal/o	head	cephalic
• cerebr/o	cerebrum	cerebrovascular accident

COLOUR RELATED FORMS

- Black: melan/o
- Blue: cyan/o
- Gray, silver : glauc/o & poli/o
- Green: chlor/o
- Purple: purpur/o
- Red: erythr/o, eosin/o , rube

PREFIXES

- Anti - Against, opposite of
- Bi - Two, double
- Brady - Slow
- De - Away from, down
- Dys - Abnormal, difficult, painful
- Endo - Within, inner
- Epi - Upon, over, above
- Hyper - Excessive, above normal
- Hypo - Below normal, deficient
- Inter - Between, among
- Intra - Within, inside
- Macro - Large, great
- Micro - Small, minute
- Neo - New
- Poly - Many, much
- Post - After, behind
- Pre - Before, in front of
- Pro - Before, in front of
- Re - Again, back
- Sub - Under, below
- Super - Above, beyond
- Tachy - Fast, rapid

GENERAL SUFFIXES

- -algia - Pain
- -centesis - Surgical puncture to remove fluid
- -ectomy - Surgical removal of a body part
- -emia - Blood condition
- -itis - Inflammation
- -logy - Study of
- -oma - Tumor, mass
- -osis - Abnormal condition
- -otomy - Cutting into, incision
- -pathy - Disease, suffering

- -rrhea - Flow, discharge
- -scopy - Visual examination
- -oma - Swelling,
- -emia - Blood condition
- -blast - Immature cell
- -cyte - Cell
- -penia - Deficiency
- -emia - Blood condition
- -plasty - Surgical repair
- -rrhage - Bursting forth

IRREGULAR PLURAL FORMS

- Axilla, axillae
- Bursa, bursae
- Conjunctiva, conjunctivae
- Scapula, scapulae
- Sclera, sclerae

ABBREVIATIONS

AIDS Acquired immunodeficiency syndrome Infection caused by human immunodeficiency virus

ALP Alkaline phosphatase You may have a blood test for ALP to detect liver or bone disease.

ALS Amyotrophic lateral sclerosis Also known as Lou Gehrig's Disease

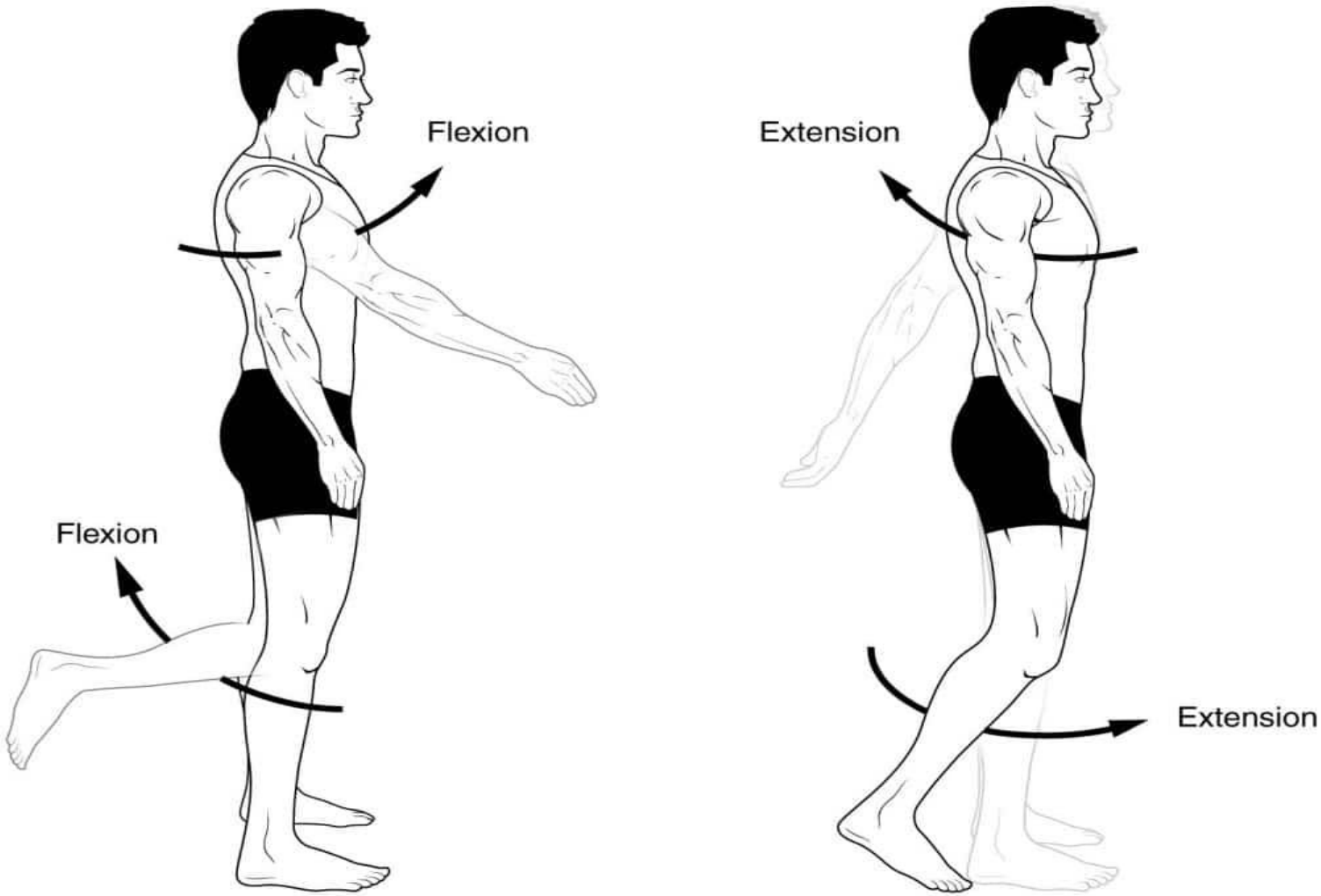
ALT Alanine aminotransferase Yo u may have a blood test for ALP to detect liver disease.

AMD Age-related macular degeneration An eye problem

AMI Acute myocardial infarction

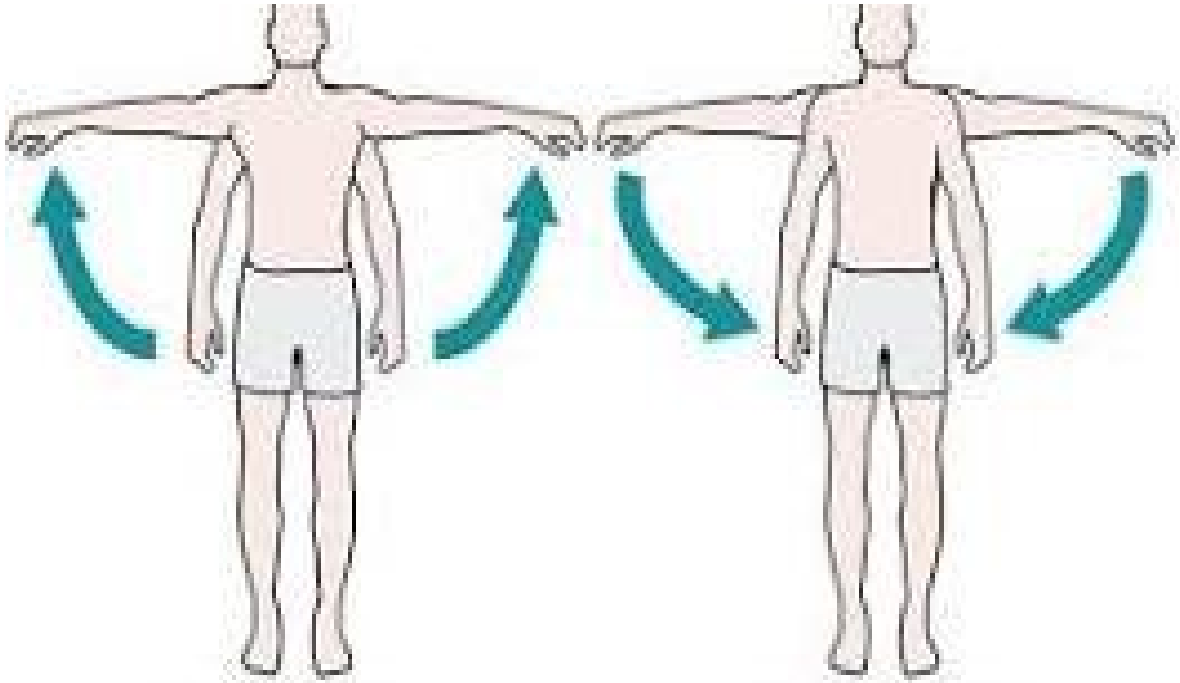
CC chief complaint

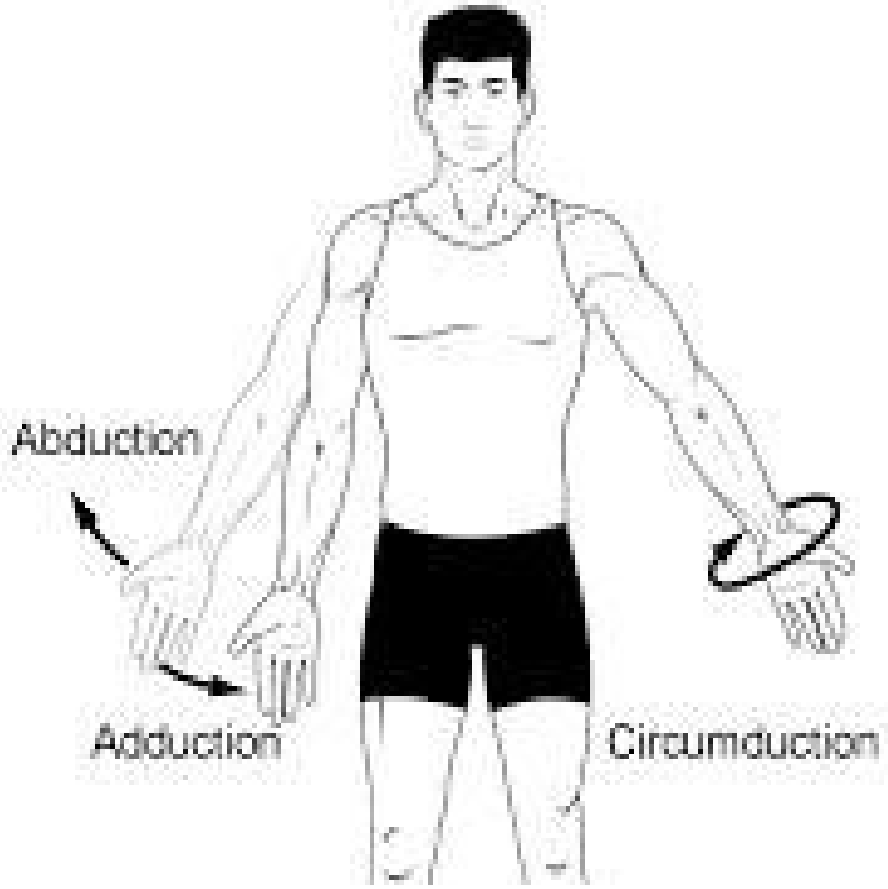
THANK YOU


Flexion
Flexion
Extension
Extension

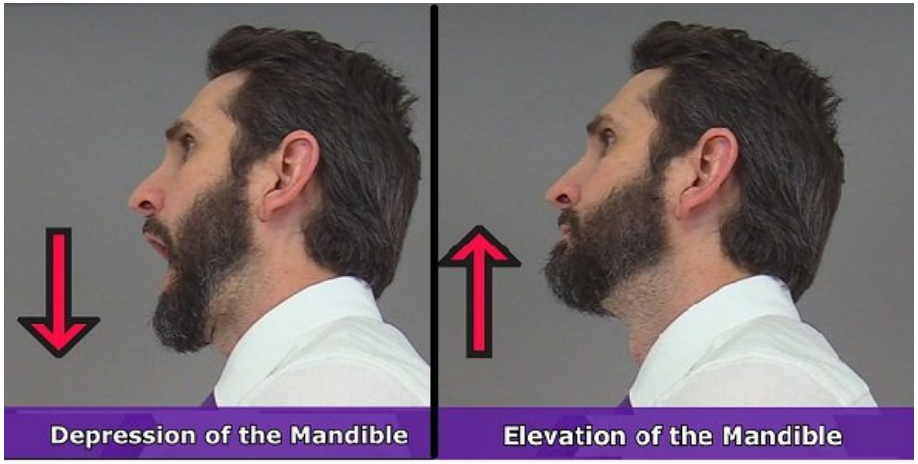
flexion refers to the movement that decreases the angle between two bones at a joint, like bending the elbow, while extension is the opposite movement, increasing the angle, like straightening the elbow.

abduction is the movement of a limb or body part away from the midline (the imaginary vertical line through the center of the body), while adduction is the movement toward the midline. Think of it like opening your arms wide (abduction) versus bringing them back to your sides

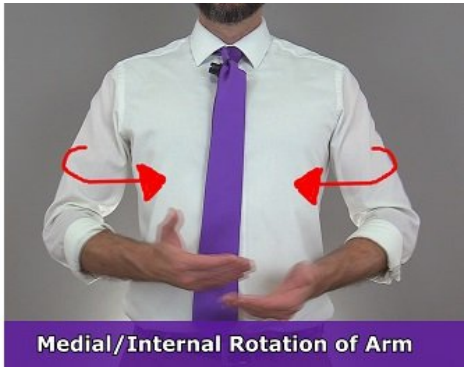

Abduction
Adduction


Abduction
Adduction
Circumduction

- elevation refers to the upward movement of a body part, and depression refers to the downward movement.



- Internal rotation (or medial rotation) refers to rotation towards the axis of the body. External rotation (or lateral rotation) refers to rotation away from the center of the body.



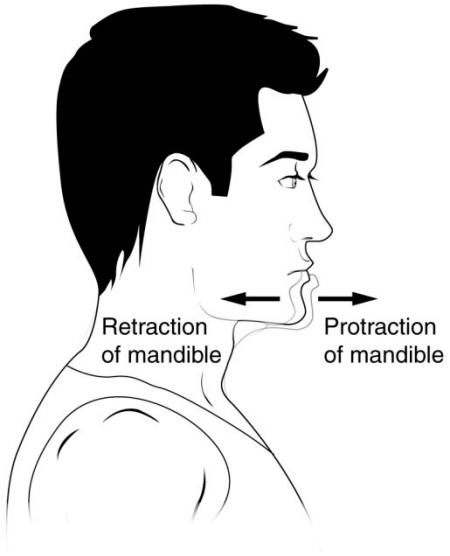
Dorsiflexion is the upward bending or flexion of the foot or hand at the ankle or wrist, respectively.

- Proper functioning of the hand relies on its capacity to rotate and point the palm upward (i.e. supination) or downward (i.e. pronation) when standing up with the elbow in 90° flexion.

- Inversion and eversion are movements of the ankle joint where the sole of the foot rotates inward (inversion) or outward (eversion).

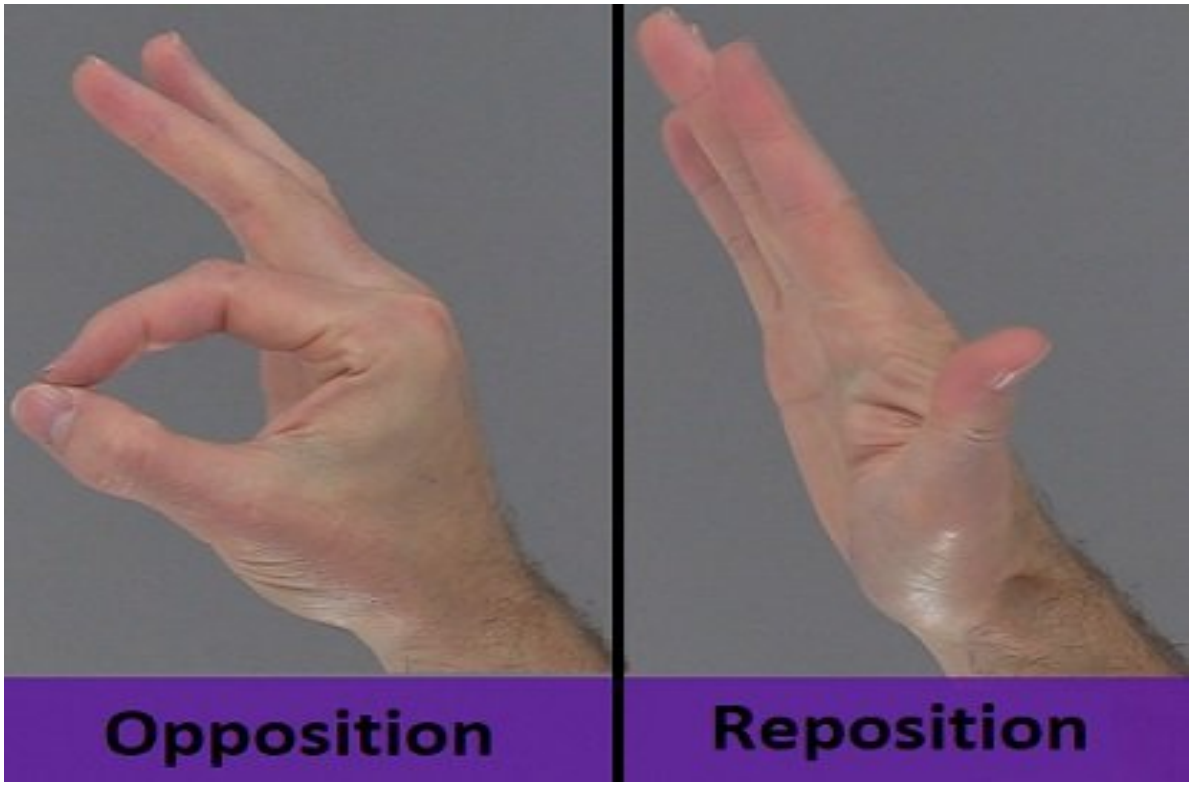
(b) Inversion (c) Eversion

- protrusion and protraction (often used interchangeably) describe a forward movement of a structure, while retrusion and retraction describe a backward movement

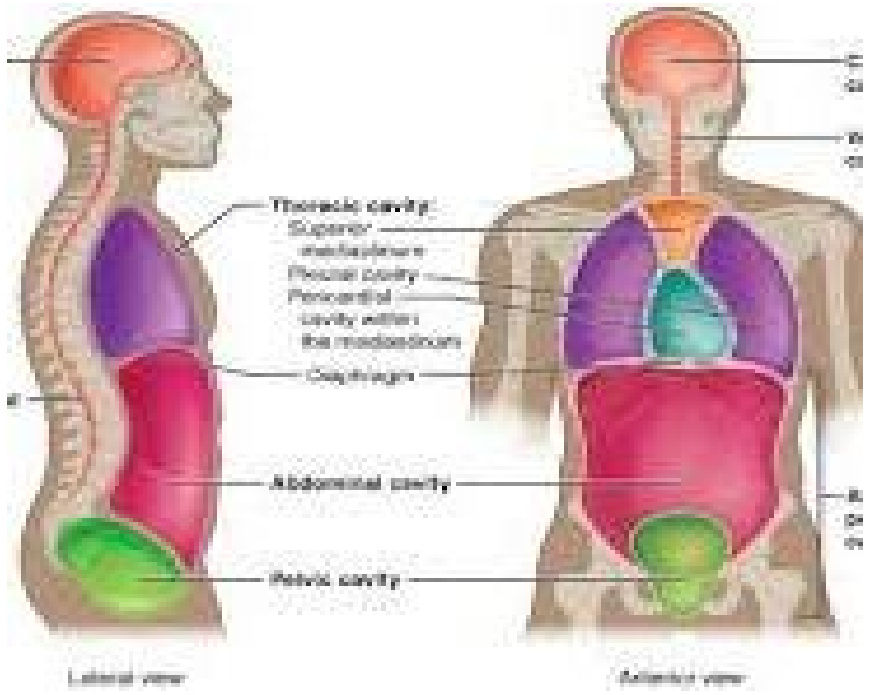


(j) Protraction and retraction

- opposition" refers to the movement that brings the thumb across the palm to touch the fingertips of the same hand, enabling grasping and pinching.
- Reposition," on the other hand, is the reverse movement, returning the thumb to its original position beside the index finger.


Opposition
Reposition

BODY CAVITIES



SPINE –VERTEBRAL COLUMN