

Anatomy

2023-2024

Lecture One Introduction on human anatomy



Introduction

Anatomy may be defined as the science of the structure and function of the body.

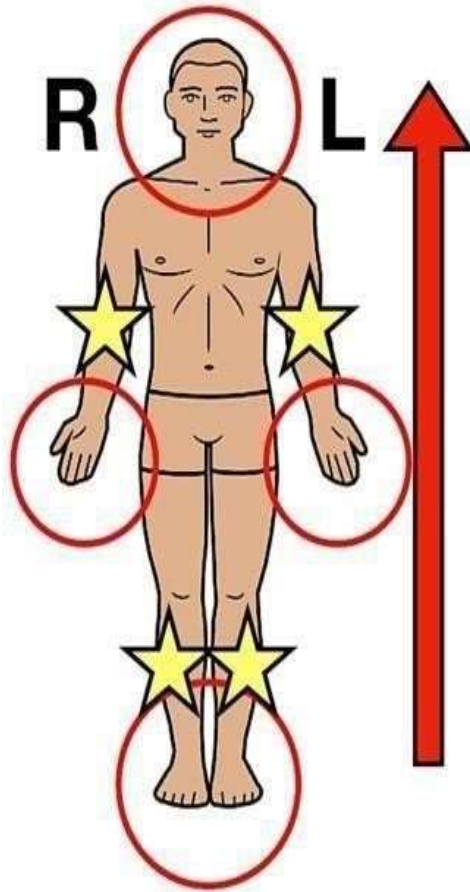
Terms Related to Position

All descriptions of the human body are based on the assumption that the person is **standing erect, with the upper limbs by the sides and the face and palms of the hands directed forward**. This is the so-called **anatomic position**.

The various parts of the body are then described in relation to certain imaginary planes. These are **Median Plane, coronal and transverse**. The median plan is a vertical plane passing through the center of the body, dividing it into equal right and left halves.

Anatomical Position

Figure 1



- Standing upright
- Head and eyes directed straight ahead
- Upper limbs at the sides
- Upper limbs slightly away from trunk
- Palms facing forward
- Thumbs pointing away from body
- Lower limbs parallel
- Feet flat on the ground and facing forward

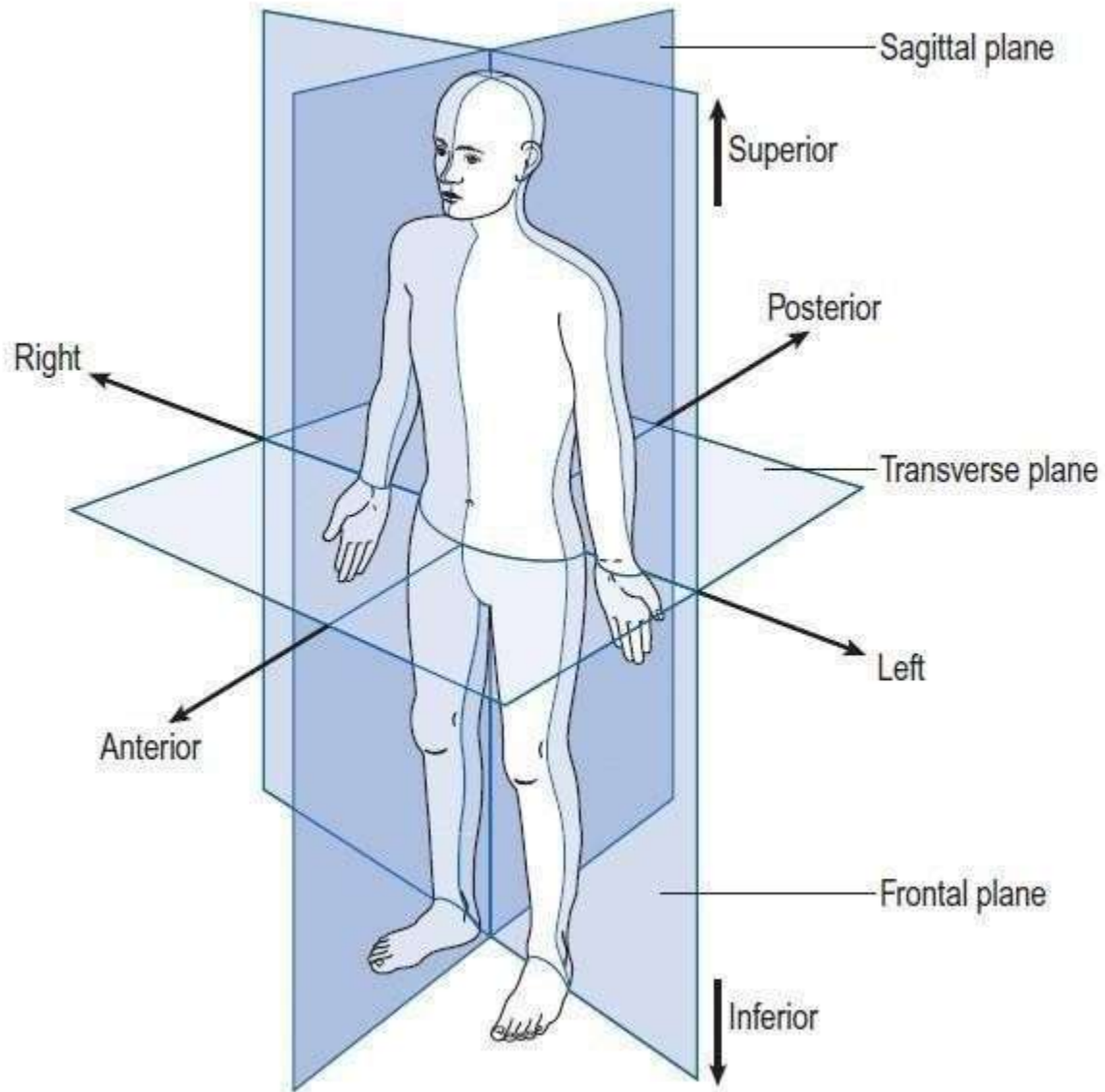


Figure2

A structure situated nearer to the median plane of the body than another is said to be **medial** to the other. Similarly, a structure that lies farther away from the median plane than another is said to be **lateral** to the other.

Anterior and Posterior are used to indicate the **front** and **back** of the body, respectively. To describe the relationship of two structures, one is said to be anterior or posterior to the other as it is **closer to the anterior or posterior body surface**.

In describing the hand, the terms **palmar and dorsal surfaces** are used in place of anterior and posterior, and in describing the foot, the terms **plantar and dorsal surfaces** are used instead of lower and upper surfaces.

The terms **proximal and distal** describe the relative distances from the roots of the limbs; for example, the arm is **proximal** to the forearm and the hand is **distal** to the forearm.

The terms **superficial and deep are used to** the relative distances of structures from the surface of the body, and the terms **superior and inferior** mean levels relatively high or low with reference to the upper and lower ends of the body.

The terms **internal and external** are used to describe the relative distance of a structure from the center of an organ or cavity.

The term **ipsilateral** refers to the same side of the body.
Contralateral refers to opposite sides of the body.

The **supine** position of the body is lying on the back.

The **prone** position is lying face downward.

Practical part:

Terms of movement

Movements usually occurs at joint, a site where two or more bones come together. Some joints have **no movement** (e.g., **sutures of the skull**), and some are **freely movable** (e.g., **shoulder joint**).

Flexion is a movement that takes place in a sagittal plane. For example, flexion of the elbow joint.

Extension means straightening the joint and usually takes place in a posterior direction.

Abduction is a movement of a limb away from the midline of the body.

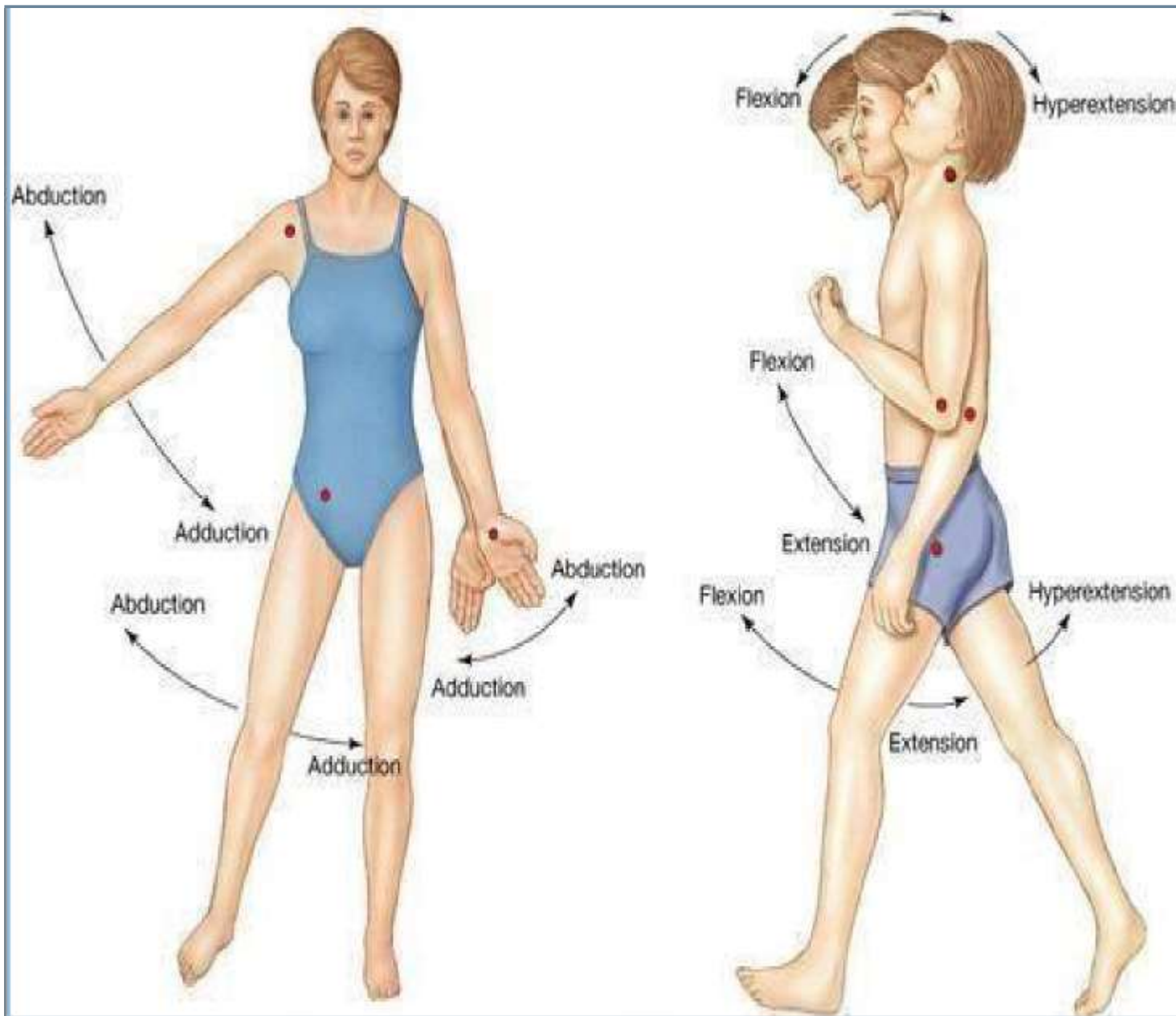
Adduction is a movement of a limb toward the midline of the body.

In the **fingers and toes**, abduction is applied to the spreading of these structures and adduction is applied to the drawing together of these structures.

Rotation is the term applied to the movement of a part of the body around its long axis.

Medial rotation is the internal rotation of the limb towards the midline.

Lateral rotation is the external rotation of the limb away from the midline.





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