Lecture 1 Human Anatomy second stage

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Anatomy is the science of the structure and function of the body.

Clinical anatomy is the study of the macroscopic structure and function of the body as it relates to the practice of medicine and other health sciences.

Basic anatomy is the study of the minimal amount of anatomy consistent with the understanding of the overall structure and function of the body.

Descriptive Anatomic Terms:

It is important for medical personnel to have a sound knowledge and understanding of the basic anatomic terms. With the aid of a medical dictionary, you will find that understanding anatomic terminology greatly assists you in the learning process.
The accurate use of anatomic terms by medical personnel enables them to communicate with their colleagues both nationally and internationally. Without anatomic terms, one cannot accurately discuss or record the abnormal functions of joints, the actions of muscles, the alteration of position of organs, or the exact location of swellings or tumors.

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.

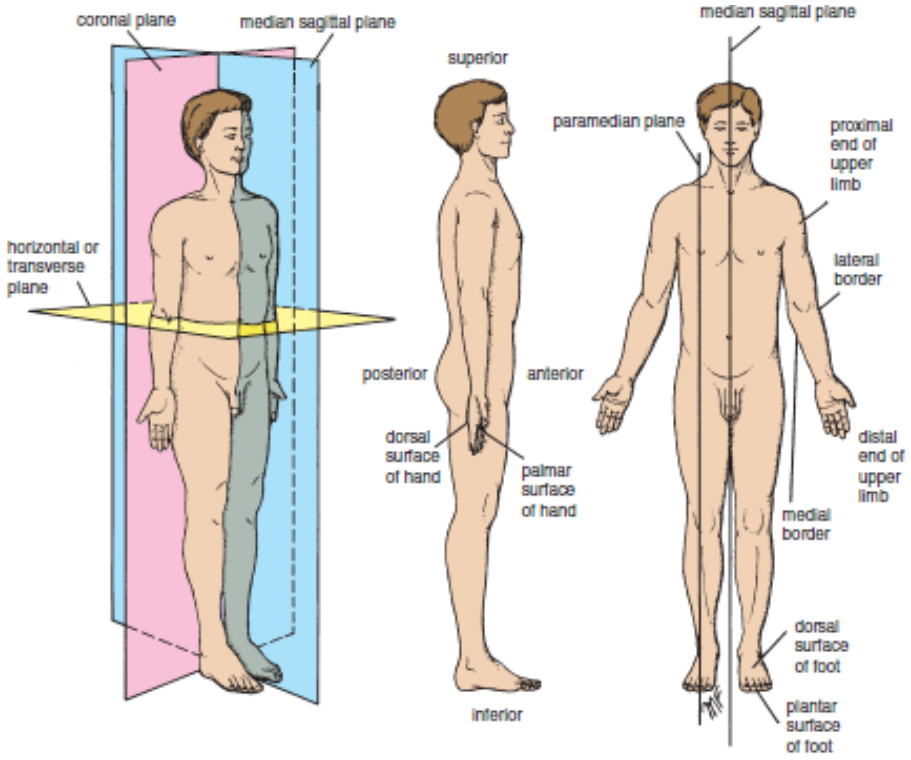
Median Sagittal Plane

This is a vertical plane passing through the center of the body, dividing it into equal right and left halves. Planes situated to one or the other side of the median plane and parallel to it are termed paramedian.

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.

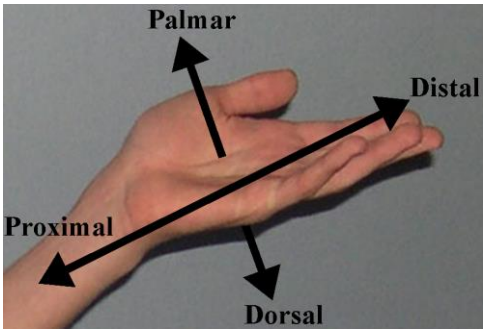
Coronal Planes
These planes are imaginary vertical planes at right angles to the median plane.

Horizontal, or Transverse Planes
These planes are at right angles to both the median and the coronal planes.
The terms 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 insofar as it is closer to the anterior or posterior body surface.

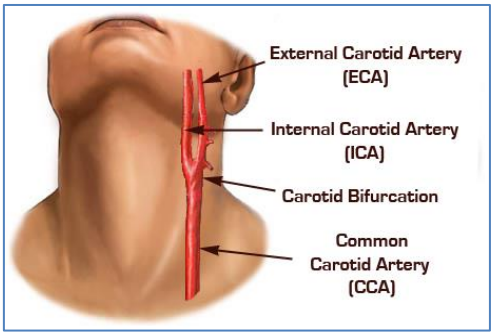
In describing the hand, the terms palmar and dorsal surfaces are used in place of anterior and posterior, and in describing the foot, the terms plantar and dorsal surfaces are used instead of lower and upper surfaces



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 theforearm.

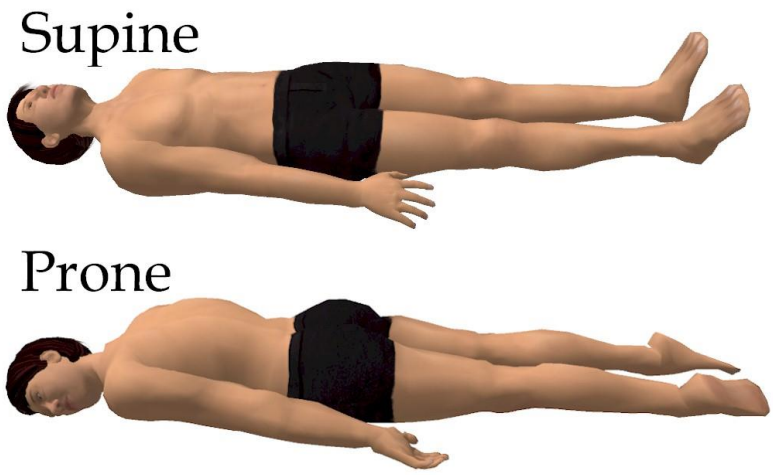
The terms superficial and deep denote the relative distances of structures from the surface of the body, and the terms superior and inferior denote levels relatively high or low with reference to the upper and lower ends of the body.

The terms internal and external are used to describe the relative distance of a structure from the center of an organ or cavity; for example, the internal carotid artery is found inside the cranial cavity and the external carotid artery is found outside the cranial cavity.



The term ipsilateral refers to the same side of the body; for example, the left hand and the left foot are ipsilateral. Contralateral refers to opposite sides of the body; for example, the left eye and the right ear are contralateral.

The supine position of the body is lying on the back. The prone position is lying face downward.



Terms Related to Movement

A site where two or more bones come together is known as a **joint**. Some joints have no movement (sutures of the skull), some have only slight movement (superior tibiofibular joint), and some are freely movable (shoulder joint).

Flexion is a movement that takes place in a sagittal plane. For example, flexion of the elbow joint approximates the anterior surface of the forearm to the anterior surface of the arm. It is usually an anterior movement, but it is occasionally posterior, as in the case of the knee joint.

Extension means straightening the joint and usually takes place in a posterior direction.
Lateral flexion is a movement of the trunk in the coronal plane.

Abduction is a movement of a limb away from the midline of the body in the coronal plane.
Adduction is a movement of a limb toward the body in the coronal plane .

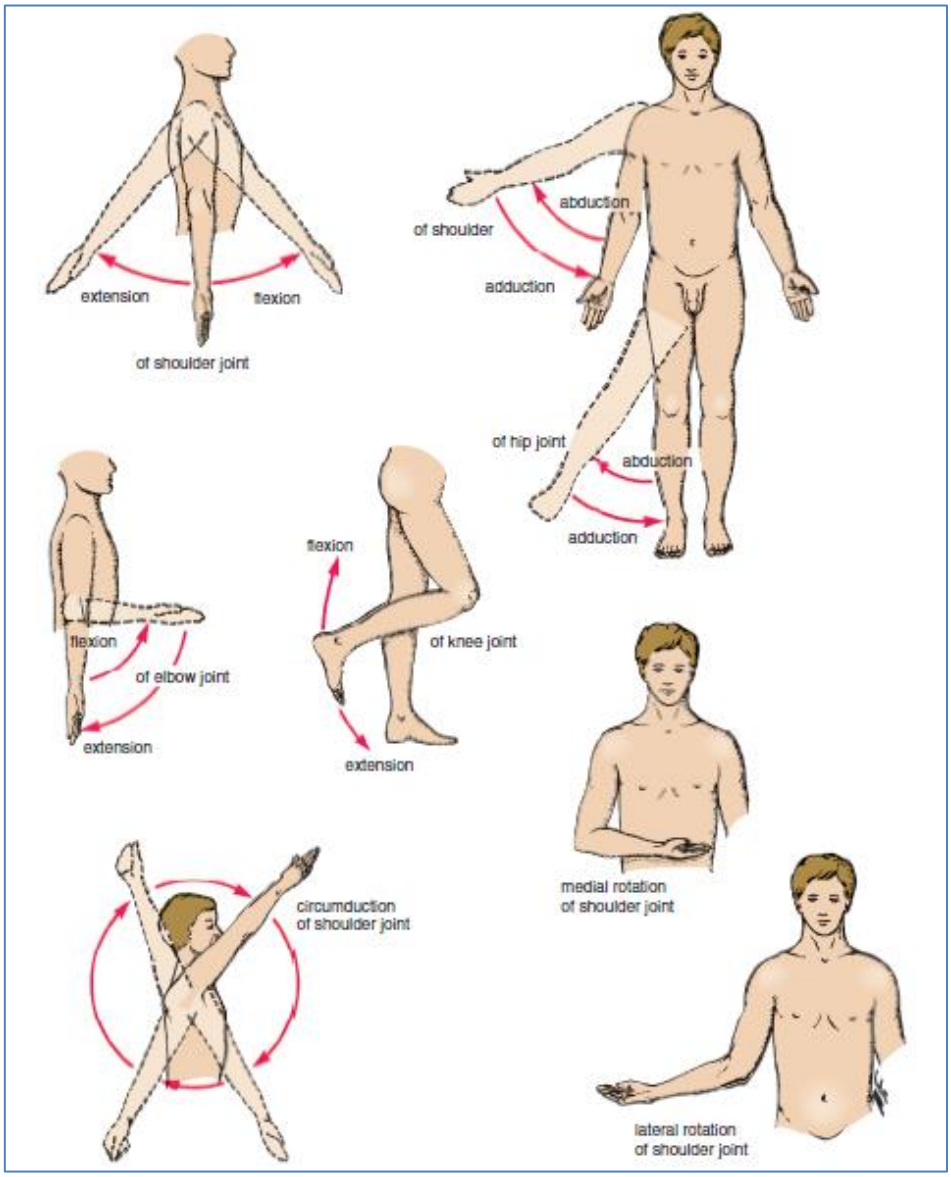
Rotation is the term applied to the movement of a part of the body around its long axis. **Medial rotation** is the movement that results in the anterior surface of the part facing medially. **Lateral rotation** is the movement that results in the anterior surface of the part facing laterally.

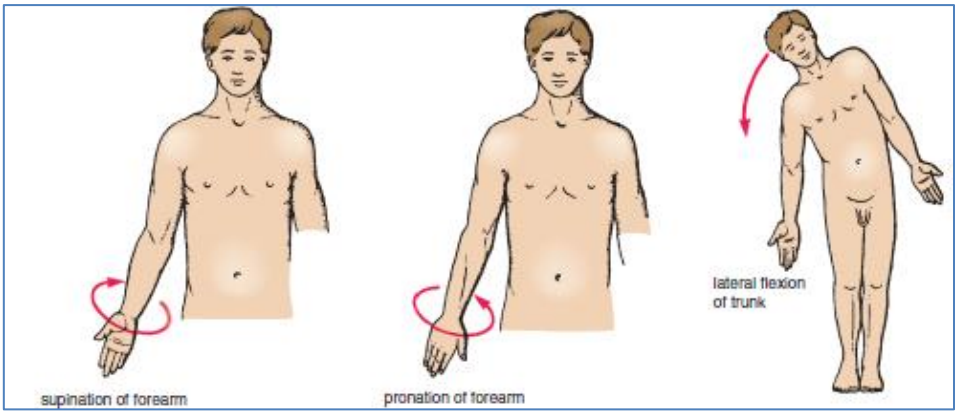
Pronation of the forearm is a medial rotation of the forearm in such a manner that the palm of the hand faces posteriorly. **Supination** of the forearm is a lateral rotation of the forearm from the pronated position so that the palm of the hand comes to face anteriorly.

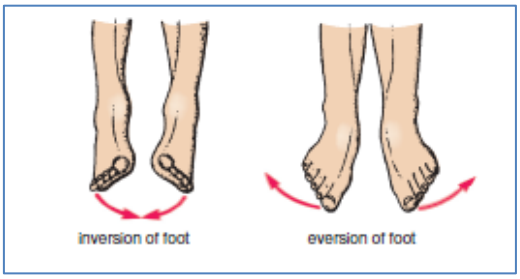
Circumduction is the combination in sequence of the movements of flexion, extension, abduction, and adduction.

Protraction is to move forward; **Retraction** is to move backward (used to describe the forward and backward movement of the jaw at the temporomandibular joints).

Inversion is the movement of the foot so that the sole faces in a medial direction . **Eversion** is the opposite movement of the foot so that the sole faces in a lateral direction.







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