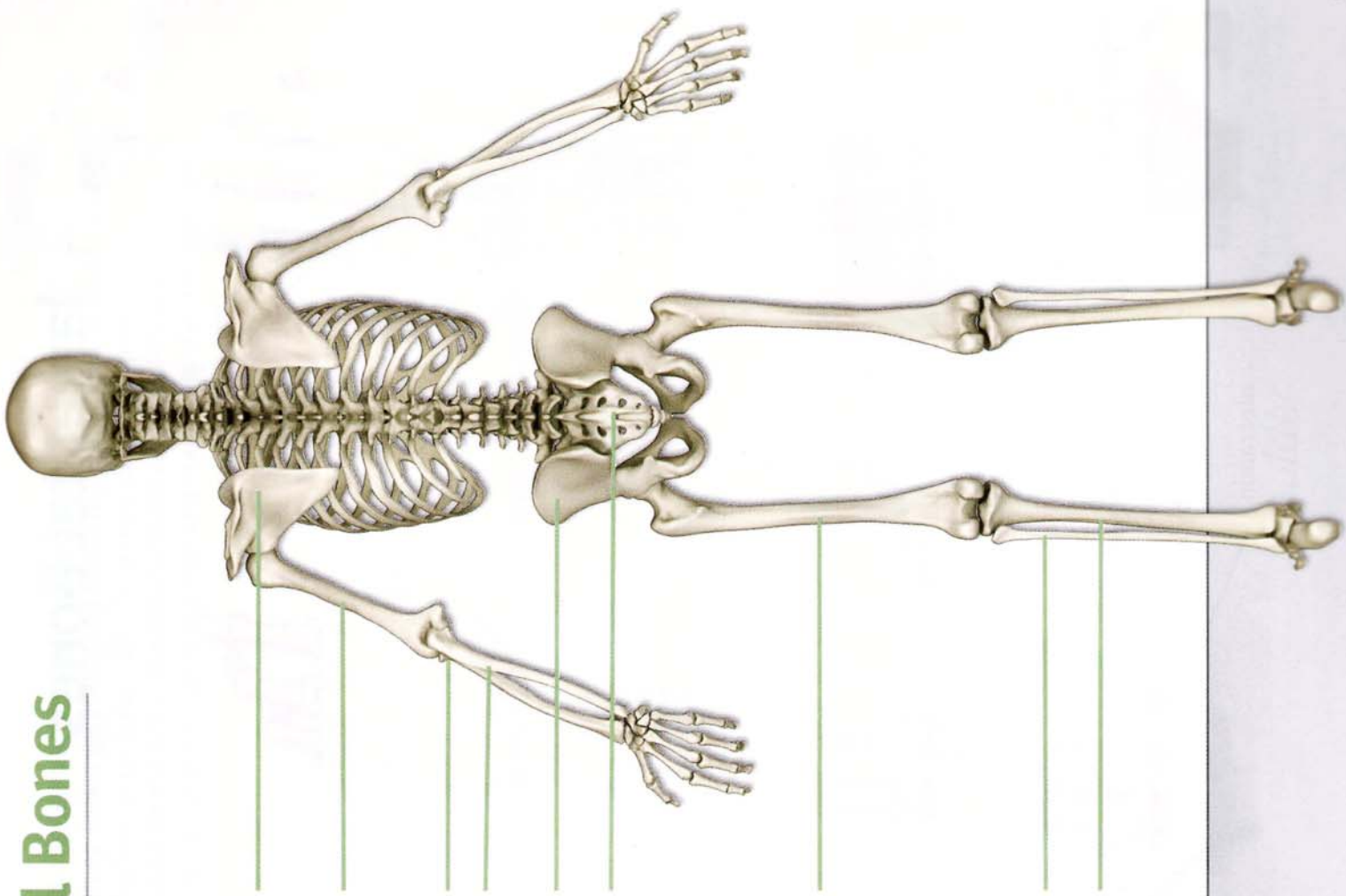


Fundamental Bones



clavicle
scapula
sternum
humerus

radius

ulna

ilium

sacrum

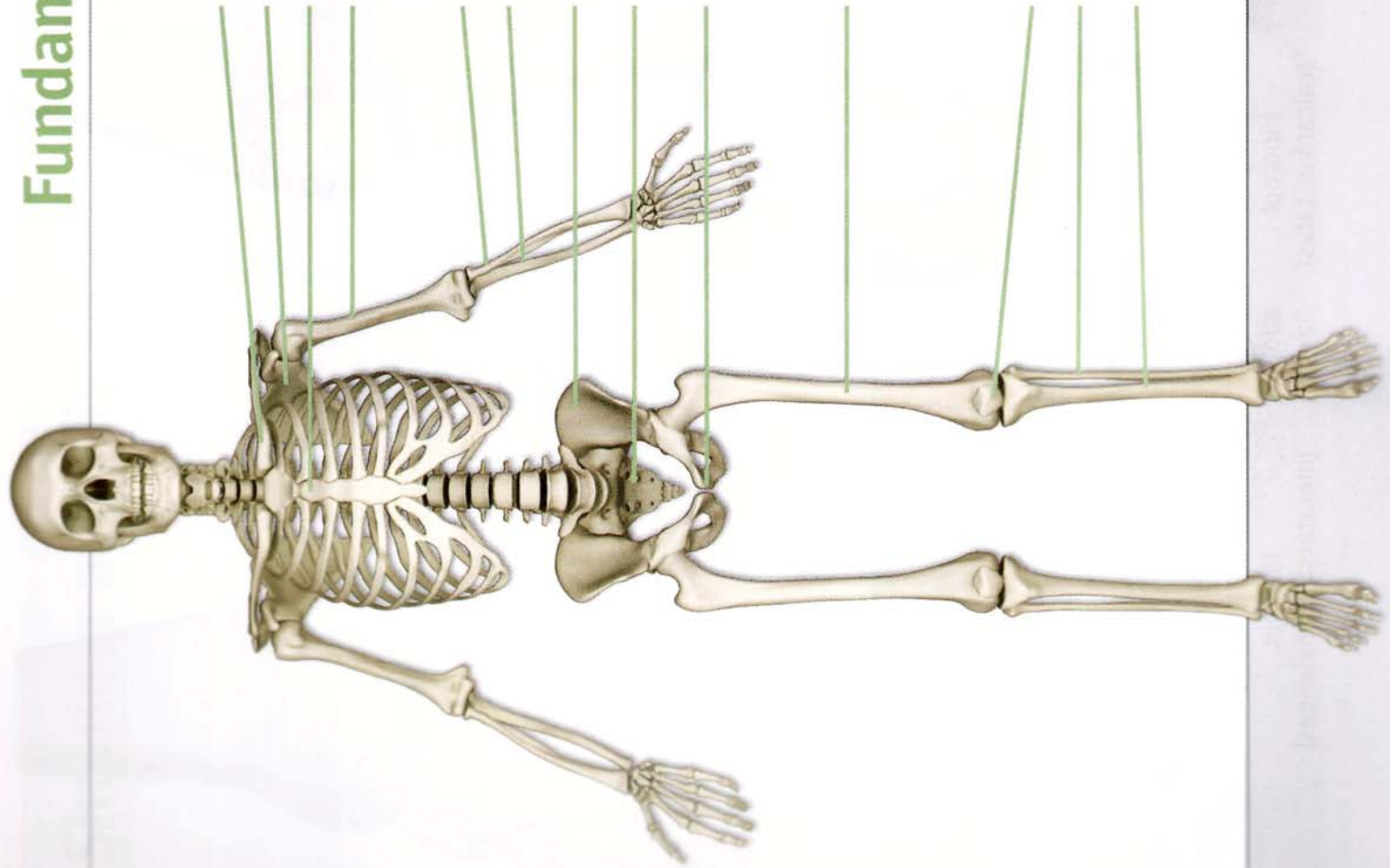
pubis

femur

patella

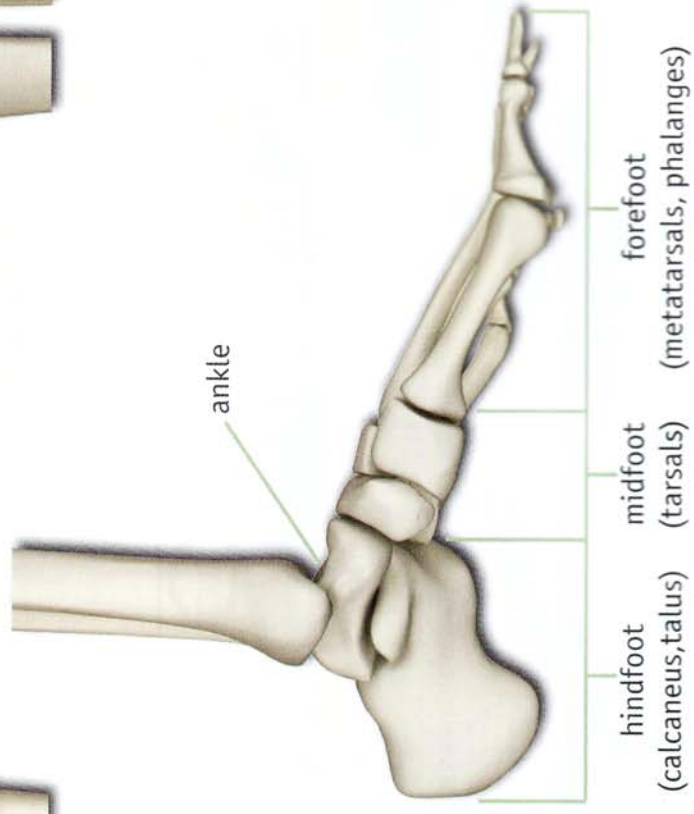
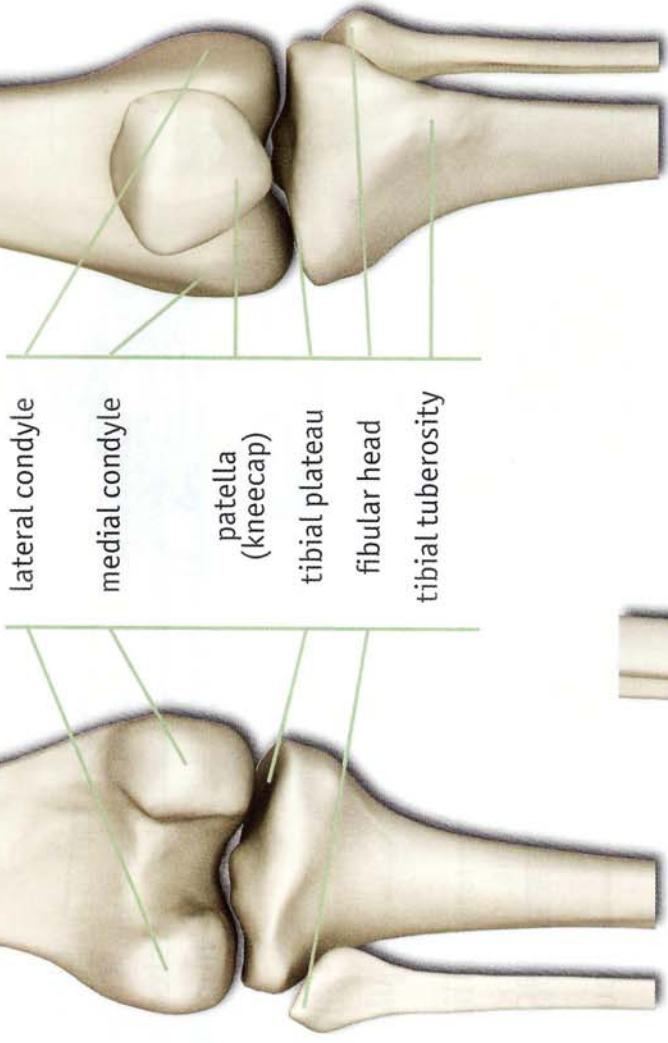
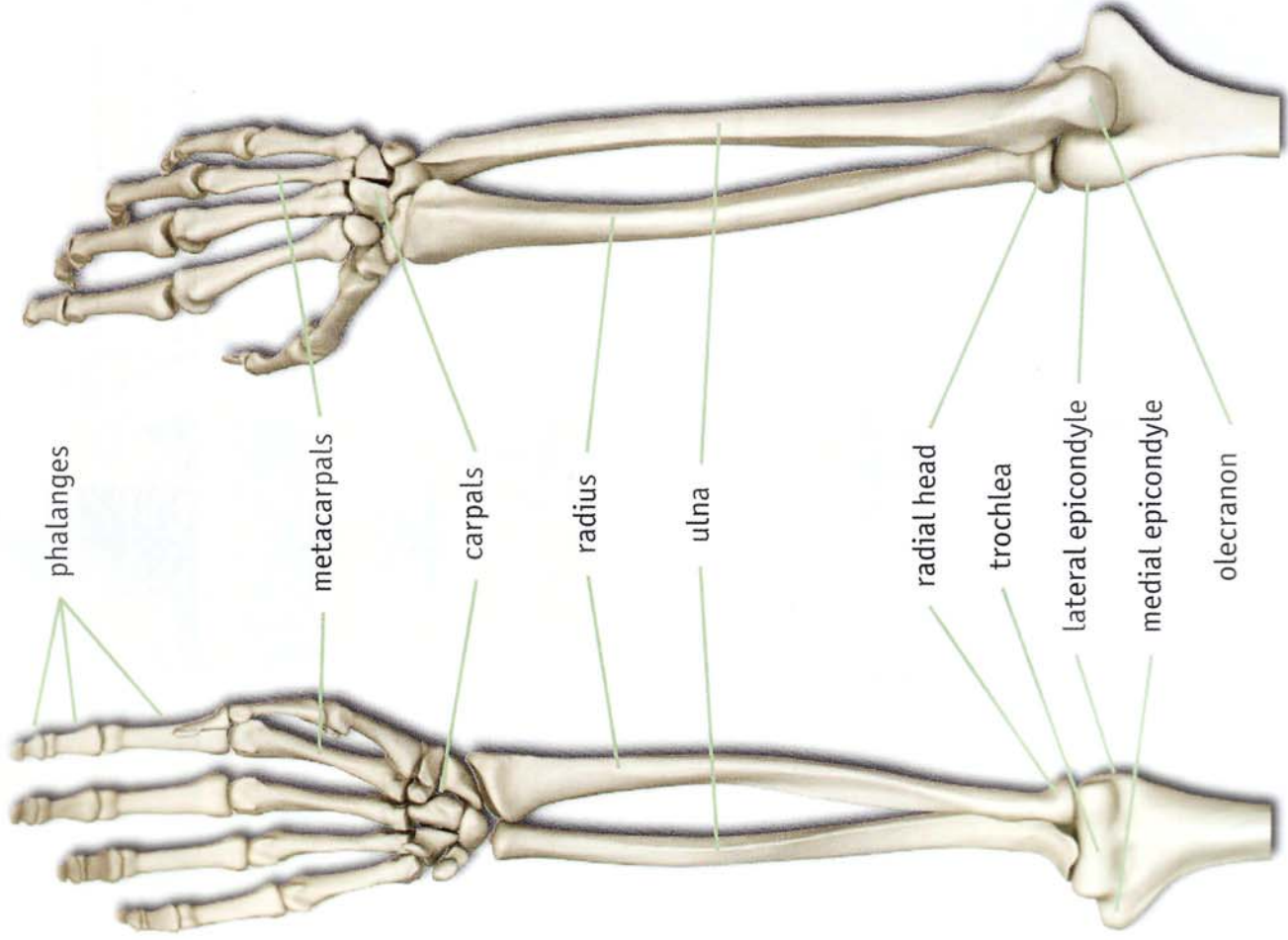
fibula

tibia



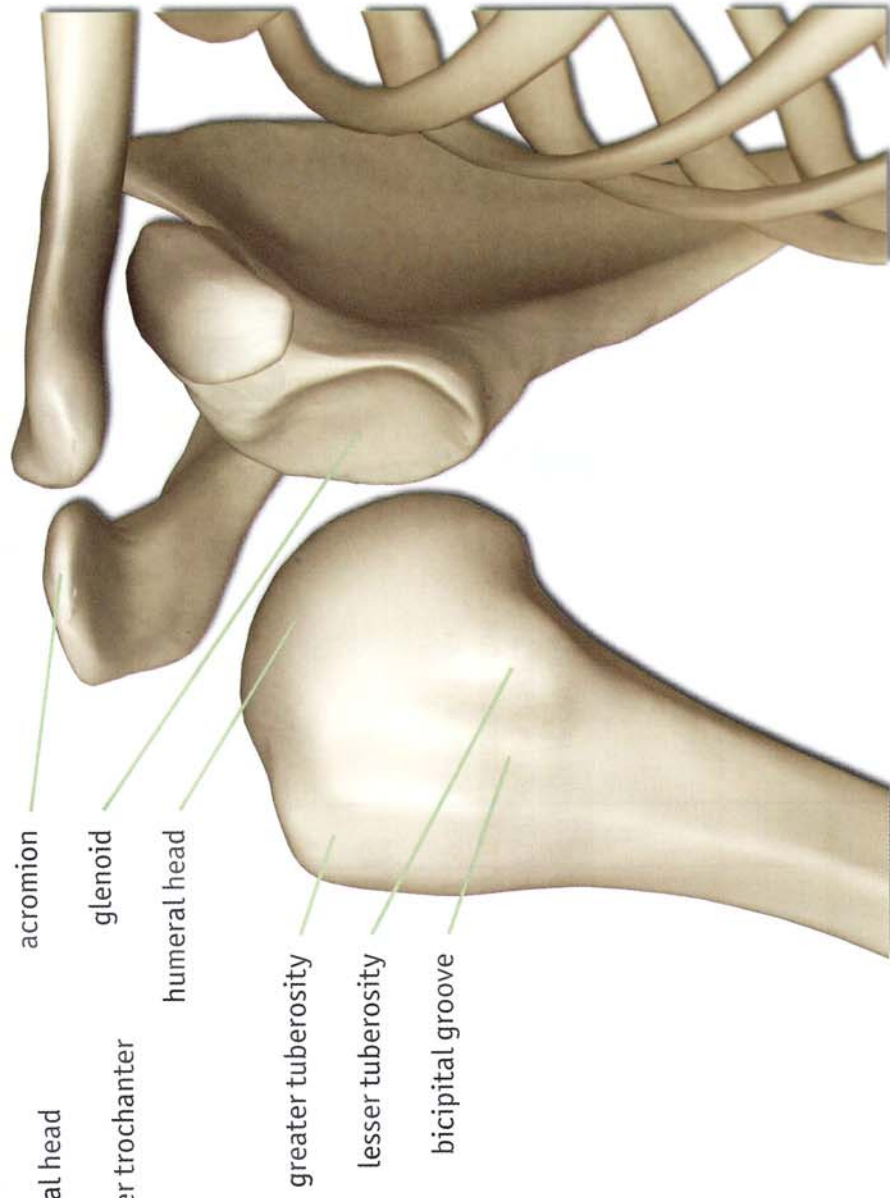
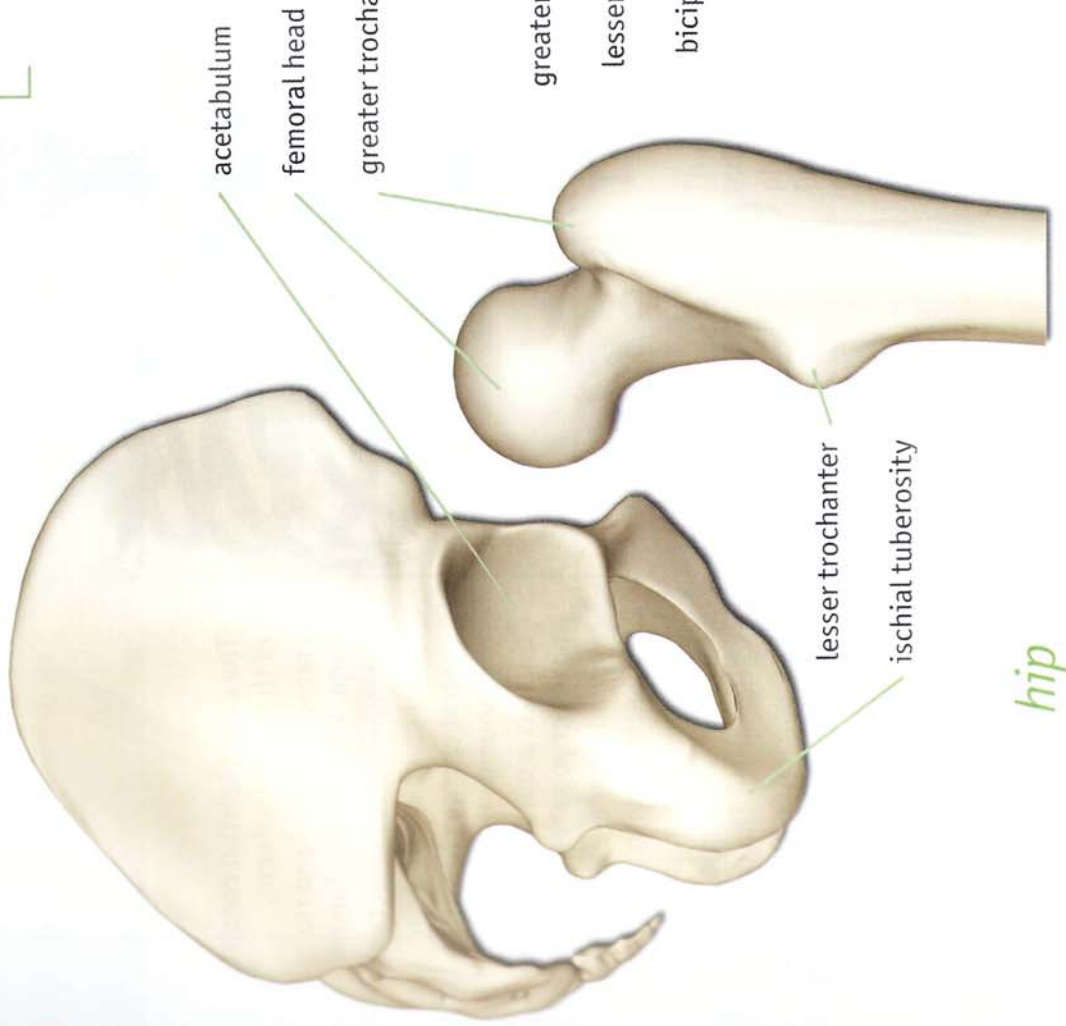
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Fundamental Bones

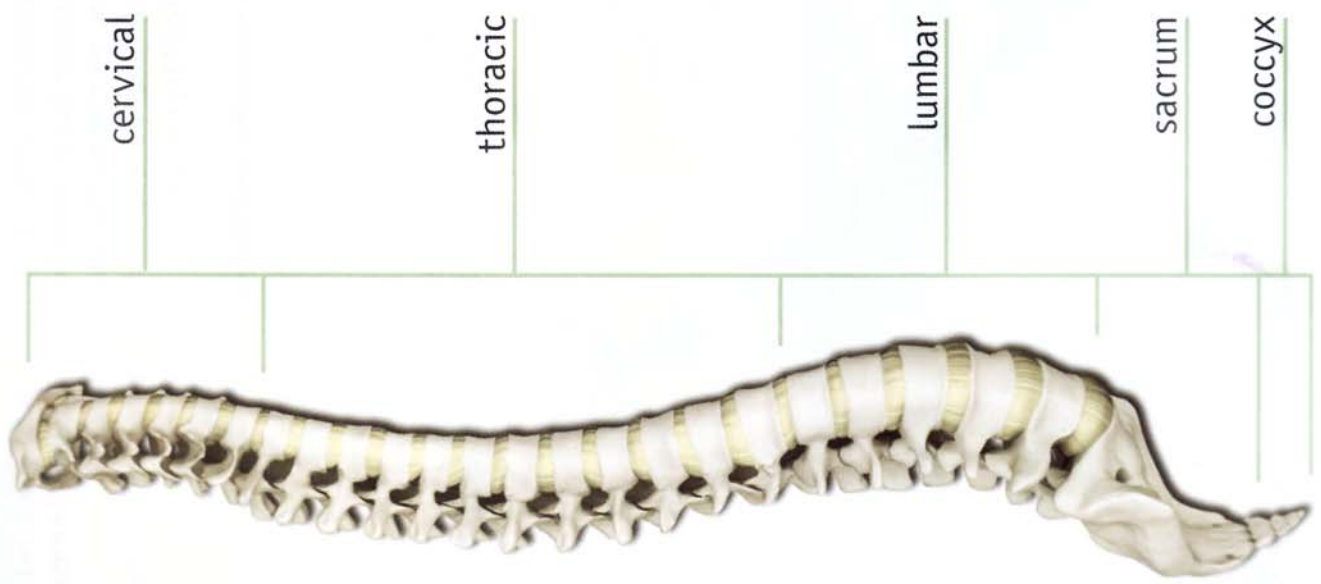


Shoulder and Hip

The hips and shoulders are ball and socket joints. Their form reflects their function in that the deep socket (acetabulum) of the hip is designed to support weight while the shallow socket (glenoid) of the shoulder is designed to provide maximum range of motion for the arms. Yoga postures balance mobility and stability by increasing the range of motion of the hips and stabilizing the shoulder.



The Vertebral Column

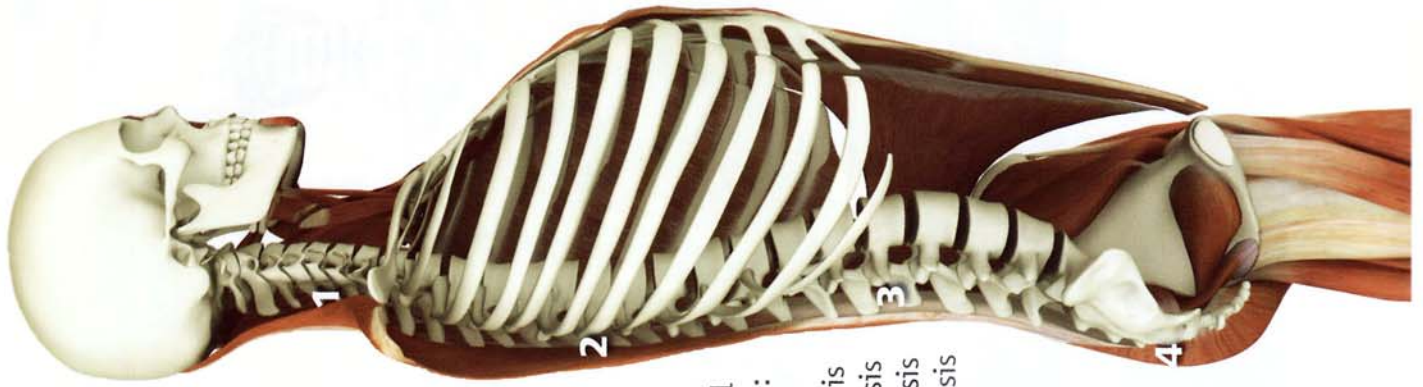


Spinal Curves

We determine the spinal curves by viewing them from the side. Kyphosis is a convex curve and lordosis is a concave curve.

This illustration demonstrates the four normal curves in the spine:

- 1) cervical lordosis
- 2) thoracic kyphosis
- 3) lumbar lordosis
- 4) sacral kyphosis



tadasana

Movement

Movement Definitions

Motion of the musculoskeletal system necessarily involves multiple joints, forces applied in many directions, and movement in many planes. A convention exists to describe the basic movements of the musculoskeletal system that can be useful in analyzing the form and function of the asanas.

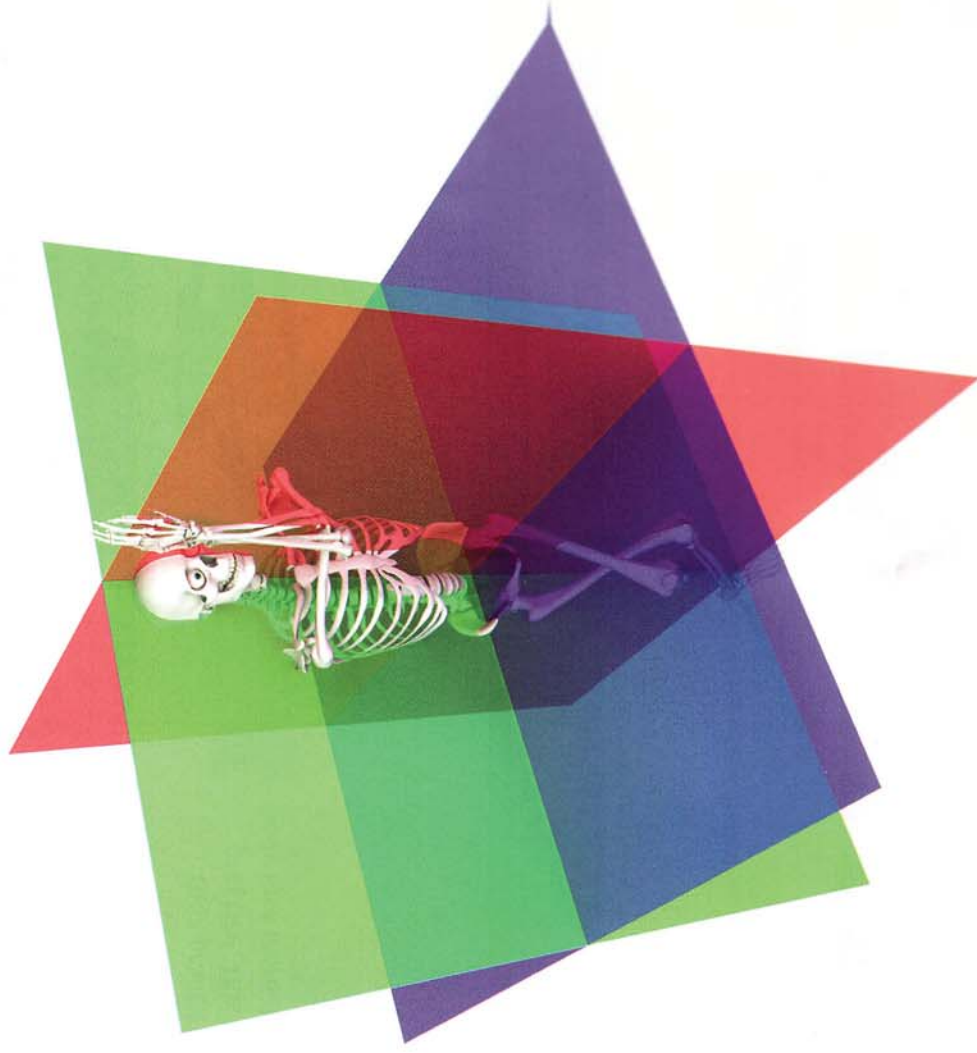
The six basic movements of the body take place in three planes.

Coronal plane: Divides the body into front and back. Movements along this plane are called adduction and abduction. Adduction moves the extremity towards the midline, abduction moves the extremity away from the midline.

Sagittal plane: Divides the body into right and left. Movements along this plane are called flexion and extension. Flexion usually moves the extremity forward except at the knee where it moves backward. Extension moves the extremity backward.

Transverse plane: Divides the body into upper and lower halves. Movement along this plane is called rotation. Rotation is further classified as medial rotation (toward the midline) or lateral rotation (away from the midline). Medial and lateral rotation are also referred to as internal and external rotation, respectively.

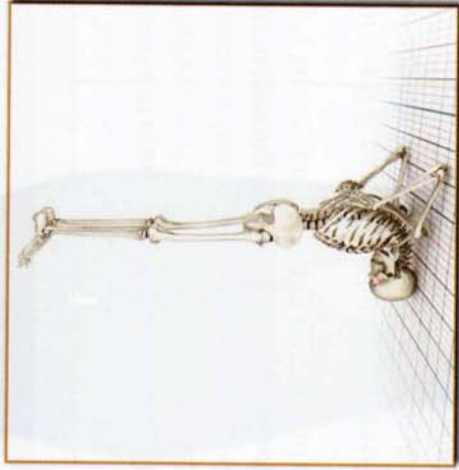
All movements of the body are composed of varying contributions of these six elemental movements.



Movement: Foot

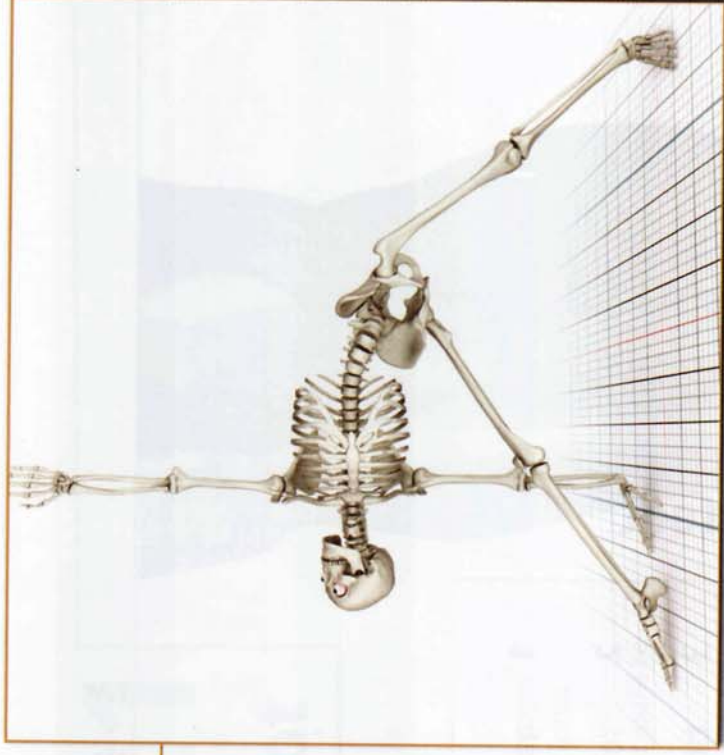
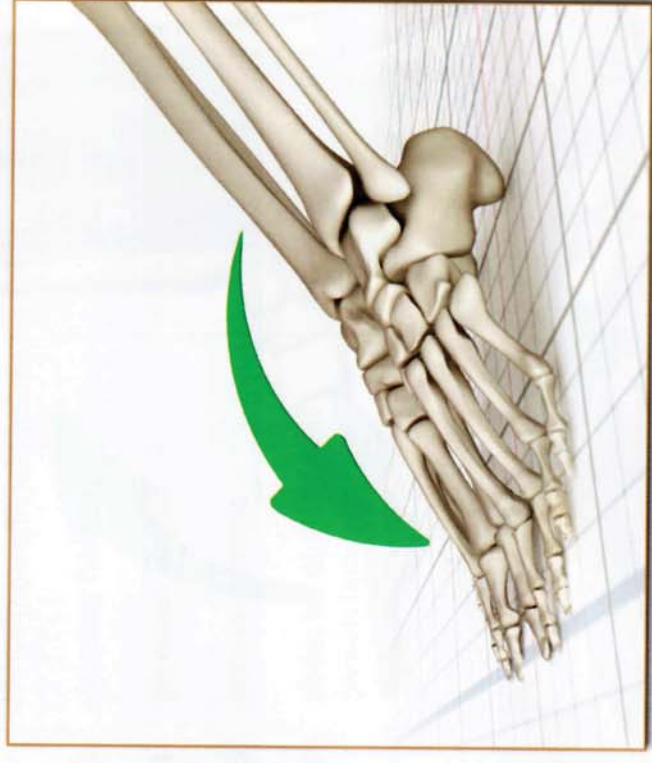
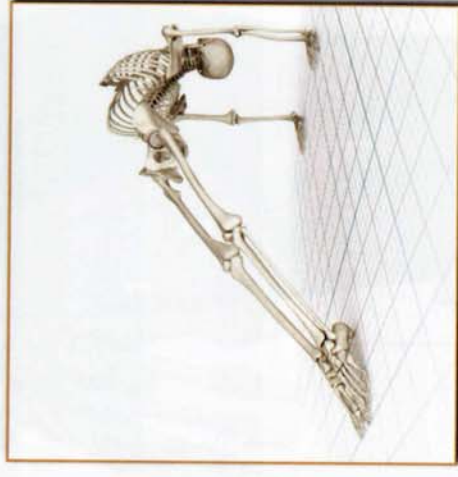
Eversion

Sarvangasana



Plantar Flexion

Purvotthanasana



Inversion

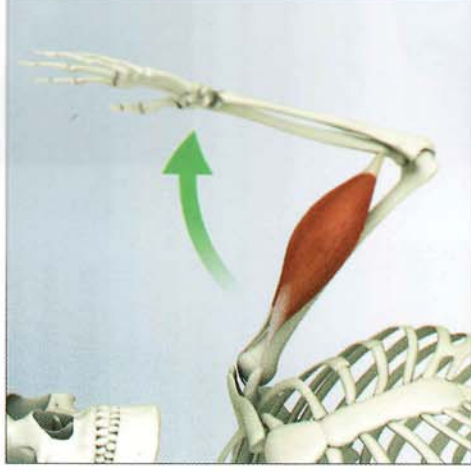
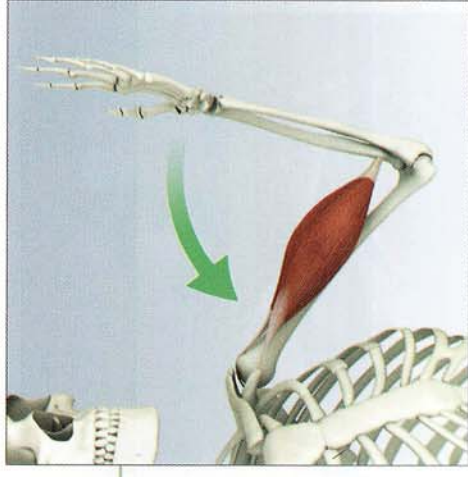
Utthita Trikonasana

Types of Muscle Contraction

There are three types of muscle contraction:

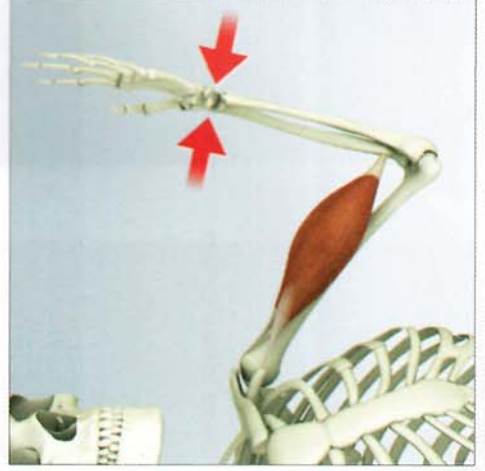
Concentric (isotonic) contraction:

The muscle shortens while maintaining constant tension through a range of motion.



Eccentric contraction

The muscle contracts while lengthening.



Isometric contraction

The muscle generates tension but does not shorten, and the bones do not move.