

Skeletal Articulations and Body Movements

Fibrous (synarthroses - immovable)

- bones joined by fibrous connective tissue

sutures - between skull bones

syndesmoses - distal end of tibia and fibula

gomphoses - roots of teeth in sockets

Cartilaginous (most are amphiarthroses - slightly moveable)

- bones joined by some kind of cartilage

sympheses (composed of fibrocartilage) - intervertebral joints and pubic symphyses

synchondroses (composed of hyaline cartilage) - costal cartilages between ribs and sternum and epiphyseal plates

Synovial (diarthroses - freely moveable)

- moveable joints containing an articular (joint) capsule; synovial membrane; articular (hyaline) cartilages; most with ligaments and bursae; many contain fibrocartilage pads (menisci) within the joint capsule

Uniaxial (diarthroses that permit movement around 1 axis and in only 1 plane)

Hinge Joints (articulating ends of bone form hinge-shaped unit):

- allows **flexion/extension** only
- eg. elbow, interphalangeal joints

Pivot Joints (projection of 1 bone articulates with ring or notch in another):

- allows **rotational** movements and **pronation/supination**
- eg. between axis and atlas and head of radius with radial notch of ulna

Biaxial (diarthroses that permit movement around two perpendicular axes in two perpendicular planes)

Condyloid Joint (a condyle fits into an elliptical socket):

- allows **flexion/extension** and **abduction/adduction**
- eg. wrist and metacarpal phalanges

Saddle Joint (articulating ends of bone resemble reciprocally shaped saddles):

- eg. between thumb metacarpal and trapezium of wrist, allows thumb to "oppose" fingers

Multiaxial (permits movement around three or more axes in three or more planes)

Gliding Joint (relatively flat articular surfaces allow limited movement in all directions)

- allows **inversion/eversion**
- eg. intercarpals, intertarsals, vertebrocostal joints

Ball and Socket (ball shaped head of one bone fits in concave depression of another)

- allows **circumduction, flexion and extension, and abduction/adduction**
- eg. shoulder and hip joints