

Joints of the Body

Athology: The study of joints

Allow for the movement of body parts

Looser fit of joint equals more movement and the converse is true

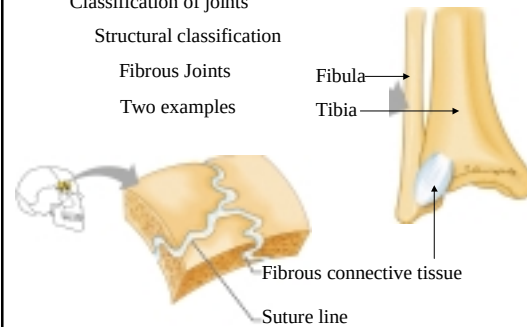
ARTICULATIONS OF BONES

Classification of joints

Structural classification

Fibrous Joints

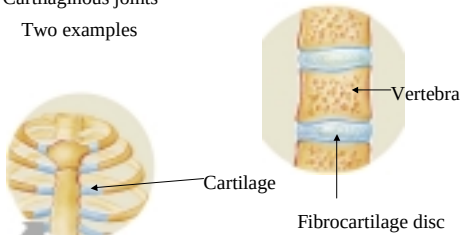
Two examples



Structural classification

Cartilaginous joints

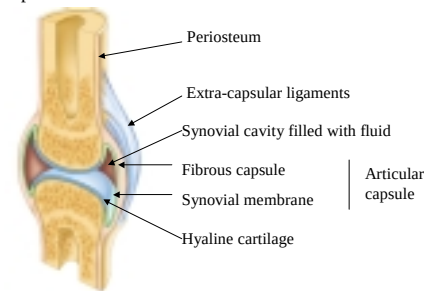
Two examples



Structural classification

Synovial joints

Example



Functional classification of joints

Synarthrosis: An immovable joint

Examples: Sutures of the skull
Teeth in alveoli

Amphiarthrosis: Bones held together by connective tissue
Permitting slight movement.

Examples: Distal articulation between tibia and fibula
Pubic symphysis

Functional classification of joints

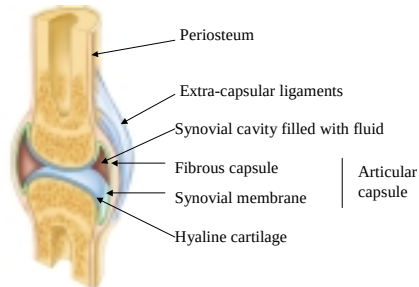
Diarthrosis: Freely movable joint

Two distinguishing features

Fluid filled cavity between bones, the **synovial cavity**

Cartilage covers the articulating surfaces of the bones

Structural of Diarthrosis



Movement of diarthrosis

Factors that limit movement of diarthrosis

Bone structure

Hinge joint (elbow)

Ball and socket (hip)

Joint ligaments

Degree of tension on ligaments

Hormones

Pubic symphysis; effects of relaxin

Types of diarthrosis

Gliding joint (plane joint)

Characterized by flat articulating surfaces

Articulation of vertebra with other

Bones of ankle and wrist



Types of diarthrosis

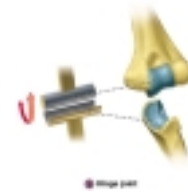
Hinge joint

Characterized by movement in one plane where convex surface of one bone fits into concave surface of second bone

Movements permitted:

Flexion

Extension



Types of diarthrosis

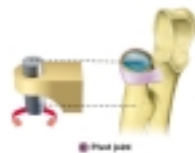
Pivot joint

Permits rotational movement

Round surface of one bone articulating with ring or Concave surface of second bone

Atlas and axis

Radius and ulna



Types of diarthrosis

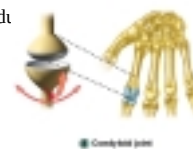
Condylod joint

Oval condyle of one bone fits into elliptical cavity of second bone

Permits movement in two planes

flexion/extension

abduction/adduction



Types of diarthrosis

Saddle joint

Saddle shaped articular surface of one bone fits into U-shaped surface of second bone

Joint between trapezium and metacarpal of thumb

Permits opposition
Of thumb



Types of diarthrosis

Ball and socket

Permits movement in three planes

Flexion/extension

Abduction/adduction

Rotation/circumduction

Shoulder

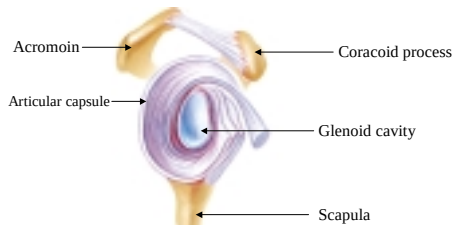
Hip



Shoulder joint

Joint with very free movement

Juxtaposition of the scapula and humerus



Shoulder joint

Numerous ligaments and tendons

Tendons of five muscle and five ligaments – all join humerus to scapula

Rotator cuff muscles

Supraspinatus

Infraspinatus

Teres Minor

Subscapularis



Rotator cuff injury

Tendon of supraspinatus vulnerable to injury as it runs between head of humerus and acromion

Head of humerus



Knee joint

Largest joint in body

Three articulating surfaces

Two tibiofemoral

Patellofemoral

Numerous ligaments and tendons

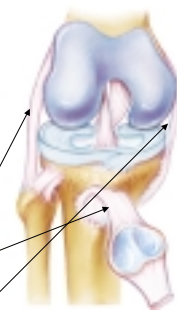
Secure joint

Extracapsular ligaments

Patellar

Tibial (medial) collateral

Fibular (lateral) collateral



Knee joint

Intracapsular ligaments

Posterior cruciate

Ant. lat condyle of tibia to
med. condyle of femur

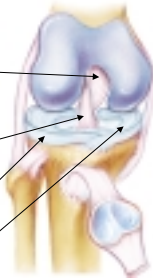
Anterior cruciate

Ant. med condyle tibia to
post of lat condyle of femur

Articular discs

Lateral meniscus

Medial meniscus



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