**CLASSIFICATION OF JOINTS**

**FIBROUS**
- Skull sutures
- Interosseous membranes
- Inferior tibiofibular
- 11th, 12th costotransverse

**CARTILAGINOUS**
- Primary
  - Costochondral
  - 1st sternochondral
  - Sphenoo-occipital
- Secondary
  - Midline symphyses
  - Intervertebral
  - Hyaline cartilage

**ATYPICAL SYNOVIAL**
- Articular surface covered with fibrocartilage
- Temporomandibular
- Sternoclavicular
- Acromioclavicular
- 2-7 sternochondral

**TYPICAL SYNOVIAL**
- Articular surface covered with hyaline cartilage
- All other synovial joints

**MOVEMENTS IN SYNOVIAL JOINTS**
- **PLANE**
  - Gliding
  - Tarsus & carpus

**HINGE**
- Interphalangeal
  - Flexion
  - Extension

**MODIFIED HINGE**
- Knee
  - Flexion
  - Extension
  - Rotation with flexed knee

**CONDYLOID**
- Metacarpophalangeal
  - Flexion
  - Extension
  - Adduction
  - Abduction
  - Circumduction

**SADDLE CONDYLOID**
- 1st Carpometacarpal
  - Flexion
  - Extension
  - Adduction
  - Abduction
  - Circumduction
  - “Controlled” rotation = opposition

**PIVOT**
- Both ends of radius
  - Atlanto-axial
    - Rotation (Uni-axial)

**BALL AND SOCKET**
- Hip
- Shoulder
  - (Sternoclavicular
    - Talocalcaneonavicular - many features of one)
  - Flexion
  - Extension
  - Adduction
  - Abduction
  - Circumduction
  - “Free” rotation
PRINCIPLES OF MOVEMENTS AT JOINTS - SHOULDER

Subscapularis
- Internal rotation only
- Crosses anteriorly at level of joint

Infraspinatus
- External rotation only
- Crosses posteriorly at level of joint

Teres minor

Latissimus dorsi

Pectoralis major

Teres major
- Internal rotation & adduction
- Crosses both anteriorly & inferior to level of joint

Combinations of several muscles
- External rotation & adduction
- Crosses both posteriorly & inferior to level of joint

Supraspinatus
- Abduction only
- Crosses superorly at level of joint

Deltoid

PRINCIPLES OF MOVEMENTS AT JOINTS - SHOULDER

Subscapularis
- Internal rotation only
- Crosses anteriorly at level of joint

Infraspinatus
- External rotation only
- Crosses posteriorly at level of joint

Teres minor

Latissimus dorsi

Pectoralis major

Teres major
- Internal rotation & adduction
- Crosses both anteriorly & inferior to level of joint

Combinations of several muscles
- External rotation & adduction
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- Abduction only
- Crosses superorly at level of joint

Deltoid