


Unit VII – Problem 5 – Clinical: Osteoarthritis



- **Definition:** chronic, progressive, non-inflammatory, degenerative disease of articular cartilage of weight-bearing joints especially in:
 - Hips (more common in Europe).
 - Knee (common in our region).
 - Spine.
- **Etiology:**
 - **Primary:** occurring for unknown reason.
 - **Secondary:** follows a known cause:
 - ✓ Congenital (genu varum & genu valgum)
 - ✓ Traumatic.
 - ✓ Inflammatory and infection.
 - ✓ Metabolic.
- **Clinical manifestations:**
 - Pain.
 - Stiffness (rigidity of the joint).
 - Swelling and wasting of muscles.
 - Deformity.
 - Restriction of joint movement.
- **Management:**
 - **Diagnosis:**
 - ✓ History taking.
 - ✓ Clinical examination:
 - ❖ **Look:** compare sides (for symmetry), shape, position & skin.
 - ❖ **Feel:** temperature, anatomical landmarks, tenderness and muscles.
 - ❖ **Move** (active, passive & against resistance): mainly flexion-extension in addition to slight rotation (when the knee is flexed).
 - ❖ **Measurements:** girth and length.
 - ❖ **Special tests**
 - ✓ Investigations: plain radiographs will show:
 - ❖ Diminished joint space.
 - ❖ Sub-chondral increased density.
 - ❖ Osteophytes.
 - ❖ Loose bodies.
 - ❖ Cyst formation.
 - ❖ Deformity.
 - **Treatment:**
 - ✓ Conservative: aims to:
 - ❖ **Relieve pain:** by using NSAIDs and injection (oil injections: containing hyaluronic acid and provide lubrication. Another type of injections is intra-articular corticosteroids injection).
 - ❖ **Reduce the load:** this is achieved by providing walking aids, modifying activities, reducing weight, periods of rest, suitable shoes and physiotherapy.
 - ❖ **Improve joint mobility (movement) and stability.**
 - ✓ Operative:
 - ❖ **Conservative operative procedures:**
 - ✚ Joint debridement: smoothing the rough, fibrillated surface of articular cartilage; removing torn menisci; shaving tibial osteophytes and removal of loose bodies which interfere with the motion of the joint (minor synovectomy is done to remove inflamed synovium).
 - ✚ Articular cartilage restoration
 - ❖ **Osteotomies:**
 - Re-alignment osteotomy.



 Fusion (removing the knee joint and fusing the femur and tibia together converting them to one bone. This leads to function loss).



❖ **Replacement arthroplasty.**

- **Rehabilitation.**

- **Knee injuries can happen to:**

- **Bones:** mainly fractures which can be:
 - ✓ Extra-articular: lower femur, upper tibia or patella.
 - ✓ Intra-articular: gap, step, comminutions or combinations.
- **Cartilage:** depends if injury to menisci is in the white (no healing) or red (fast healing) components.
- **Ligaments and capsule:** classified to 1st (minimal rupture), 2nd (partial rupture) and 3rd (complete rupture) degrees.