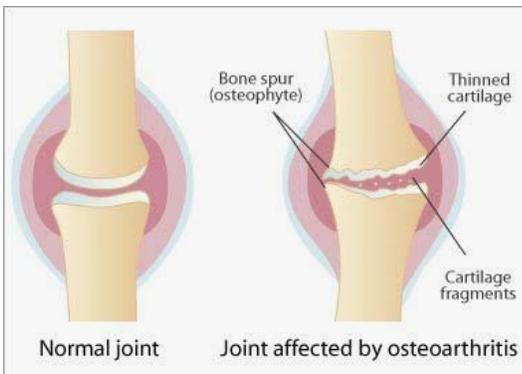


# ARTHRITIS

## OSTEOARTHRITIS (DEGENERATIVE JOINT DISEASE)

**Definition:** Chronic arthritis characterized by degenerative changes in articular cartilage and bony overgrowth at the joint margins<sup>1</sup>.

**Pathophysiology:** Caused by mechanical, dystrophic, and genetic factors. Degenerative changes in articular cartilage are more common and more severe with advancing age, in weight bearing joints (ex. knee, hip), joints that have become incongruent, or have been used abnormally. The cartilage in the joint loses some of its ability to withstand mechanical stresses. The cartilage undergoes splitting, fibrillation, gradual thinning, and wide spread degeneration. In the late stages, the underlying bone may become denuded.<sup>1,2</sup>



**Affected people/population:** Commonly found in middle aged and elderly people. In people over 45 years of age have greater susceptibility if their parents have suffered arthritis late in life.<sup>1</sup>

**Medications:** Analgesics (ex. ibuprofen, aspirin, mefenamic acid) are used to relieve pain. Steroids have no permanent value and

antiarthritic drugs with harmful side effects should be avoided.<sup>1,3</sup>

**Surgery:** Operations are used primarily to relieve pain on motion and secondary to correct deformity, restore mobility, or provide stability. (ex. Osteotomy to improve alignment, Arthroplasty to replace part/s of the joint)<sup>1,2</sup>

**Physical Therapy Treatment:** Physical therapy proves helpful in relieving the symptoms, maintain joint mobility, and improve body mechanics<sup>1</sup>. Heat in form of hot packs, whirlpool, or paraffin baths<sup>6</sup>, or diathermy is beneficial<sup>1</sup>. Active, non-weight bearing exercises are helpful in preventing muscle atrophy<sup>4,5,6</sup>

## REFERENCES:

1. Handbook of Orthopaedic Surgery 10<sup>th</sup> Ed. By Brasher and Raney
2. Physical Rehabilitation by O'Sullivan 3<sup>rd</sup> Ed.
3. MIMS (Medical Index of Medical Specialties) 2<sup>nd</sup> Quarter 2006
4. Rehabilitation Medicine De Lisa and Ganz 3<sup>rd</sup> Ed.
5. Therapeutic Exercise by Kissner 4<sup>th</sup> Ed.
6. Clayton's Electrotherapy by Kitchen and Bazin 10<sup>th</sup> Ed.

## ARTHRITIS

## RHEUMATOID ARTHRITIS

**Definition:** A connective tissue disease characterized by chronic inflammatory changes in the synovial membranes and other structures, by migratory swelling and stiffness of the joints in its early stage, and by a variable degree of deformity, ankylosis, and invalidism in its late stage.<sup>1,2</sup>

**Pathophysiology:** The fundamental pathologic lesion is an inflammatory process beginning in the synovial membrane. The inflammation of the synovial membrane is characterized by vascular dilatation, edema, and fibrinous exudates. In the early stages, the affection is limited to the synovium and remission commonly occurs and results in subsidence of the inflammation. However, in chronic and long standing cases, permanent destruction of the cartilage and fibrosis of the periarticular tissues occur.<sup>1,2</sup>

**Affected People/Population:** Varies little in differences in climate and occurs throughout the world. Women are affected almost 3 times as often as men; 80% of the cases begin in persons between 25-50 years of age.<sup>1</sup>

**Medications:** Salicylates are most helpful when alleviating pain and suppressing inflammation. Aspirin is the most common used drug for the relief of symptoms. Also used are gold salts and phenybutazone.<sup>1,2,3</sup>

**Surgery:** Operations are chosen with great regard for the qualifications and needs of individual patients. Examples of such operations are capsulectomy (surgical release of the constricted or adherent joint capsule) and arthroplasty (replacement of part/s of a joint)<sup>1,6</sup>

**Physical Therapy:** Local applications of hot packs, infrared radiation, whirlpool baths, or diathermy may alleviate the acute pain. To minimize joint stiffness and muscle atrophy, active exercise of the affected joints should be carried out. In case of severe acute pain, it is advisable to immobilize the part in a light splint or plaster cast. Exercise should be prescribed to develop muscles that overcome or resist potential deformities.<sup>1,2,4,5</sup>

**References:**

1. Handbook of Orthopaedic Surgery 10<sup>th</sup> Ed. By Brasher and Raney
2. Physical Rehabilitation by O'Sullivan 3<sup>rd</sup> Ed.
3. MIMS (Medical Index of Medical Specialties) 2<sup>nd</sup> Quarter 2006
4. Rehabilitation Medicine by De Lisa 3<sup>rd</sup> Ed.
5. Therapeutic Exercise by Kissner 4<sup>th</sup> Ed.
6. Merriam-Webster's Medical Dictionary

## **ARTHRITIS**

### **GOUTY ARTHRITIS**

**Definition:** A familial disorder of purine metabolism in which uric acid, the normal end product, is involved. Gout is characterized by hyperuricemia and the deposition of sodium urate in the tissue.<sup>1,6</sup>

**Pathophysiology:** The joint lesions consists of creamy or chalky deposits of sodium urate surrounded by foreign body inflammatory reaction, they occur in the synovium, ligaments, articular cartilage, and periarticular bone.

Such urate deposits are sometimes found in ears and may also occur in subcutaneous tissue, fascia, kidneys, heart and other viscera. In early stages of gout, there is acute monoarticular pain and inflammation and in the later stages by chronic deforming articular changes. The most common site involved are those of the foot, classically the first metatarsophalangeal joint.<sup>1</sup>



**Affected People/Population:** Approximately 90% of the patients are males and are usually past the age of 30. Secondary gout is found in diseases such as polycythemia, leukemia, and myeloma.<sup>1</sup>

**Medications:** Ibuprofen, indomethacin, phenylbutazone and colchicines may be given to relieve acute symptoms. Tophaceous deposits can be prevented or reversed by prolonged use of allopurinol and xanthine oxidase inhibitor.

**Surgery:** In late cases, large tophi may require surgical extirpation, and severe destructive arthritis occasionally necessitates surgical reconstruction.<sup>1,2</sup>

**Physical Therapy:** During acute attacks, application of modalities such as hot packs and T.E.N.S. can alleviate the symptoms. The patients are also advised to have a low purine diet, trauma and avoidance of excessive intake of alcohol to help prevent acute attacks.<sup>1,4,7</sup>

#### References:

1. Handbook of Orthopaedic Surgery 10<sup>th</sup> Ed. By Brasher and Raney
2. Physical Rehabilitation by O'Sullivan 3<sup>rd</sup> Ed.
3. MIMS (Medical Index of Medical Specialties) 2<sup>nd</sup> Quarter 2006
4. Rehabilitation Medicine by De Lisa 3<sup>rd</sup> Ed.
5. Therapeutic Exercise by Kissner 4<sup>th</sup> Ed.
6. Merriam-Webster's Medical Dictionary
7. Electrophysical Agents in Physiotherapy by Wadsworth and Chanmugan 2<sup>nd</sup>