# Osteoarthritis

## *Executive summary*

## Introduction

Osteoarthritis (OA) is a common condition resulting in mechanical and biological dysfunction of joints leading to loss of cartilage, sclerosis and eburnation of the subchondral bone, osteophytes, and subchondral cysts. It is characterized by joint pain, stiffness, and functional limitation. Key risk factors include age over 50 years, female sex, obesity and occupation.

## Target users

* Nurses
* Doctors

## Target area of use

* Gate Clinic
* OPD

## Key areas of focus / New additions / Changes

This guideline provides information on the diagnosis and treatment of osteoarthritis. Patients with typical presentation do not require further workup. Treatment involves both non-pharmacologic and pharmacological measures.

## Limitations

Physical and occupational therapy services are not available in our facility. Surgical therapy is available privately within The Gambia**.**

## Presenting symptoms and signs

* Pain relating to physical activity and weight bearing activity.
* Functional difficulties such as knee giving way.
* Commonly affects knees, hips, hands, lumbar and cervical spine.
* Unlikely to involve the ankles (which helps in differential diagnosis)
* Morning stiffness is rare and would require further investigation (if present for more than 30 minutes.)

## Examination findings

## OA can cause pain along the joint line.

* Crepitus (palpable & sometimes audible creaking of joint in active and passive movement.)
* Bony deformity (especially in the hands there is enlargement of the proximal interphalangeal (PIP) and distal interphalangeal (DIP) joints. In advanced knee osteoarthritis there may be new bone formation causing bony swelling.)

### Differential diagnoses

**Rheumatoid arthritis** - small joint symmetrical polyarthritis, with prolonged morning stiffness. Exacerbations can be associated with malaise and feeling generally unwell. May have raised ESR, raised CRP and erosive changes on X-ray.

**Psoriatic arthritis** – Associated with psoriasis but can occur without skin lesions. It usually affects DIP joints (asymmetrical) and shows erosive changes on X-ray.

**Gout & Pseudogout** – Normally more acute onset with hot, swollen, tender joints. Gout affects first metatarsophalangeal joint (big toe pain), while pseudogout most commonly affects wrist and knee. Aspiration of the joint can diagnose this.

**Avascular necrosis** –Consider if patients with history of corticosteroid use or young adults with sickle cell disease. Half of these cases will have associated effusion.

**Bursitis** (Greater trochanteric gives pain over lateral aspect of the hip, pes anserine bursitis gives pain over medial aspect of the knee.)

## Investigations

Generally, no investigations are required if ALL the following are true

* Over 50
* No morning stiffness (or less than 30 minutes.)
* Crepitus
* Joint line tenderness
* Bony enlargement (in knee) or classical Heberden or Bouchard nodes (in hands)
* No palpable warmth

Where there is doubt:

1. X-ray of affected joint – Will show new bone formation (osteophytes), joint space narrowing, and subchondral sclerosis and cysts.
2. ESR: ordered if inflammatory arthritis is suspected. In OA, ESR should be less than 40 mm/hour
3. Rheumatoid Factor (RF) – If inflammatory arthritis is suspected.

Uric acid is not generally indicated but may be worthwhile in conjunction with joint aspiration when calculating risk of gout over septic arthritis in hot, red swollen joint.

## Management

### Non pharmacological management

Weight loss (goal of loss of 5-10% of overweight or obese results in 50% reduction in pain) and exercise e.g. muscle strengthening, walking, cycling, yoga, hamstring stretches, aquatic exercises, Tai Chi are key aspects of management. Running or jumping is discouraged to avoid further joint damage.

Physiotherapy including quadriceps exercises is helpful.

Occupational therapy – supportive footwear, knee brace and stick/cane on contralateral side of arthritic joint.

### Pharmacological

1st line: Topical NSAIDs – Diclofenac gel two to four times daily + non-pharmacological management

2nd line: Oral treatment – NSAIDS for shortest possible duration (Ibuprofen 200-400mg TDS) + paracetamol + 1st line measures. (Consider gastroprotection with omeprazole when prescribing NSAIDS) .

3rd line: Codeine (15-60mg QDS) + NSAIDS + paracetamol + 1st line measures.

* Opioids only used for a short duration in patients with severe and disabling symptoms due to potential side effects e.g. nausea, dizziness and drowsiness.

4th line: May include the addition of stronger opioids – such as Morphine Slow-Release Tablets (MST).

Paracetamol has only negligible, non-clinically significant benefits for pain relief compared to placebo. Combined with the risk of harm, long-term use is not recommended.

Intra-articular methylprednisolone injections during any line of management is not routinely recommended due to its short duration of effects (approximately 4 weeks) and evidence it may have deleterious effects on hyaline cartilage and may accelerate OA progression. These may be available in some private clinics locally.

In addition, there is a lack of clear evidence recommending insoles or nutritional supplements e.g. glucosamine, chondroitin, vitamin D, diacerein, calcium or fish oil.

Patients unable to gain adequate/ acceptable pain control with functional impairment may wish to seek referral for surgical management i.e. total joint replacement which is available privately.

## Key Issues for Nursing care

* Patients should be advised about weight loss and exercise.
* Anyone with red, hot , or swollen joint should be seen/discussed with a doctor in OPD

## References

Badlissi F. Osteoarthritis. BMJ Best Practice. May 2018. Available from: <https://bestpractice.bmj.com/topics/en-us/192> Accessed: June 2018

National Institute of Clinical excellence (NICE) clinical guideline [CG177] Osteoarthritis Care and Management February 2014

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|  | Name: Caryssa Yan | Date: 6 July 2020 |
|  | Name: Bubacarr Susso | Date: 14 July 2020 |
| **Version:** | **Change history:** | **Review due date:** |
| 1.0 | New document | 31 July 2020 |
| 1.1 | Executive summary added | 31 July 2020 |
| 2/.0 | Update to the management | 01 November 2022 |
| Review Comments (*if applicable)* |  |  |