

## Osteoarthritis

### Key Facts:

- Most common form of arthritis. Knees, hands and hips most commonly affected.
- Rapidly growing in prevalence due to ageing and obesity.
- Occurs when articular cartilage wears down over time or gets damaged in trauma. Inflammatory mediators play an important role.
- It commonly co-exists as part of a multimorbidity picture and is associated with increased mortality.

Clinical features	Radiological features	Differential diagnoses
<ul style="list-style-type: none"> <li>• Pain in affected joints, joint stiffness, especially after a period of inactivity</li> <li>• Morning stiffness lasts &lt;30 mins</li> <li>• Typical onset is insidious, chronic, gradually worsening</li> <li>• Associated with obesity, advancing age, manual labour, female gender</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction of joint space</li> <li>• irregular articular surface osteophytes</li> <li>• subchondral cysts</li> <li>• subchondral sclerosis</li> <li>• subluxation</li> <li>• Obliteration of normal joint anatomy</li> </ul>	<p>Will depend on location as well as presence/absence of additional symptoms</p> <ul style="list-style-type: none"> <li>- Malignancy</li> <li>- Other arthritides: rheumatoid, psoriatic, gout, septic</li> <li>- Hip pain – referred pain from spine, lateral hip pain syndrome, impingement</li> <li>- Knee pain – medial collateral ligament strain, bursitis, patella problems, iliotibial band syndrome, meniscal pathology</li> </ul>

### Diagnosis

- Typically, a clinical diagnosis; *imaging is often overused*.
- Laboratory investigations if atypical signs and symptoms or **red flags** e.g. rapidly progressive pain and symptoms, weight loss, inflammatory features, bone pain, fever
- Radiology/Imaging:
  - Usually has poor sensitivity in early disease, and has poor correlation with symptoms in late disease
  - Occasionally useful in initial stages of joint pain when other diagnosis (e.g. neoplasia) is suspected
  - Helpful when evaluating extent of advanced disease
  - Discuss with consultant if considering an MRI or CT scan

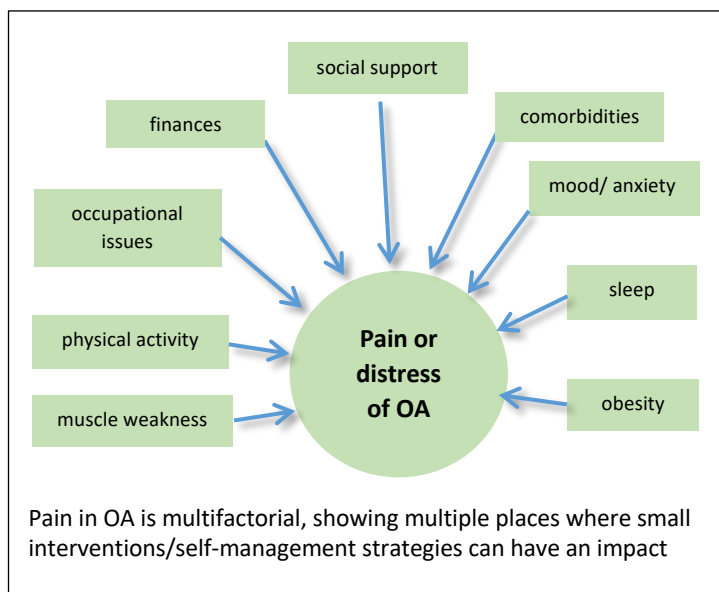
A working diagnosis of OA can be made **without an X-ray** if:

- Patient >45y.
- >3m joint pain that is worse with use.
- Any morning stiffness they might have lasts no more than 30 minutes
- An alternative diagnosis is unlikely – **exclude red flags!**

**Management** - Goals of care: minimise pain, optimize function, prevent/slow further joint damage

**Non-drug treatments** – biopsychosocial approach

1. **Information:** written and verbal information about OA to counter misconceptions. This should be ongoing. **See printable patient information & exercise sheet.**
2. **Exercise:** advice on exercise and physical activity; muscle strengthening/stretching as well as general fitness; referral to physiotherapy if possible
3. **Weight loss intervention** (if appropriate) – referral to nutrition and physiotherapy
4. Walking sticks can reduce pain and increase QoL (but need to be correctly fitted)
5. **Comorbidities** – check for hypertension, CV disease, diabetes, depression and other factors which could be contributing (see box)



**Pharmacological treatment:**

- There is no tablet that will cure OA.
- Exercises to strengthen the muscles supporting the knee and hip have greater benefits on pain and disability than any analgesia.

<b>Paracetamol</b>	First line – ensure adequate trial (e.g. >50kg: 1g 3 or 4 times daily) but stop if no benefit	NNT = 7 (CI 4-23)
<b>Topical NSAID</b> (note: gel is cheaper than spray)	First line (especially knee/hand) +/- paracetamol	NNT = 2-3
<b>NSAID or COX-2</b>	Second line (lowest dose, shortest duration) +/- paracetamol	Usually effective but use limited due to comorbidities or adverse effects (CV, renal, GI)
<b>Opioids</b>	Best to avoid as harms usually outweigh any benefit	-
<b>Joint injections</b>	Trial of steroid injection for appropriate joints e.g. in frail or elderly patients when joint replacement not possible <b>Refer to consultant if considering</b>	NNT = 5-8 however often benefit not sustained >3 months and long-term risk of joint deterioration
<b>Supplements</b>	Chondroitin, ASU and fish oil may have small effects on symptoms in mild disease; evidence for glucosamine, chondroitin, vitamin D and diacerein is weak to non-existent	

**Surgical Treatment:**

- For end-stage OA where pain and stiffness are no longer manageable without surgery; depends on impact on quality of life rather than scoring tools
- Dominated by total joint replacement. Highly effective in knee and hip OA

**References:**

UpToDate – accessed April 2022  
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 BMJ 2021;375:n2321  
 NICE 2014, CG177  
[www.versusarthritis.org](http://www.versusarthritis.org)