UPDATE
Module 1707

This module covers:

- Physiology and risk factors for osteoarthritis
- Presenting symptoms and assessment of the condition
- Management and likely prognosis
- Treatment options, including lifestyle advice, exercise and analgesics

June »
Musculoskeletal month

Sprains and strains	June 7
Osteoporosis	June 14
Lower back pain	June 21
Osteoarthritis	June 28*

**Online-only for Update and Update Plus subscribers. Next month is fertility and sexual health month, starting with fertility on July 5*

Managing osteoarthritis

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Arthritis refers to a group of diseases that affect the joints, causing pain and disability. Two of the most common forms are osteoarthritis and rheumatoid arthritis. Arthritis can affect people of all ages; what causes arthritis is unknown, and there is presently no cure.

Fortunately, there is plenty of advice pharmacists can give patients to help them manage their condition so they can lead a full and active life. *Standards of Care for People with Osteoarthritis*, published by the Arthritis and Musculoskeletal Alliance, identifies community pharmacists as key providers of information and advice.

This article focuses on osteoarthritis, which is the most common form of arthritis. One third of people aged 45 years and over in the UK have sought treatment for osteoarthritis, and it is estimated that osteoarthritis causes joint pain in 8.75 million people in the UK. The risk of osteoarthritis increases between the ages of 45 and 75 years. Osteoarthritis is also the most common cause of disability in the UK. Rheumatoid arthritis, an inflammatory disease that mainly affects joints and tendons, is outside the scope of this article.

What is osteoarthritis?

Osteoarthritis is a degenerative or mechanical arthritis of synovial joints, involving focal areas of damage to the cartilage that covers the ends of bones. Healthy cartilage enables a joint to move smoothly; in osteoarthritis the cartilage becomes thinner and rougher. The bone underneath then tries to repair this damage, but sometimes overgrows, altering the shape of the joint. Bony outgrowths (osteophytes) form at the outer edges of the joint making it look knobbly, the synovial membrane and joint capsule thicken and the space inside the joint narrows.

These changes mean the joint is stiff and painful to move, and it can sometimes be inflamed. Part of the cartilage may break away from the bone leaving the bone ends exposed; these may then rub against each other, straining and weakening the ligaments, causing considerable pain and altering the shape of the joint.

Osteoarthritis in the hands particularly affects older people and can make day-to-day tasks difficult

Osteoarthritis reduces movement in affected joints and often causes significant limitations in everyday activities. Many sufferers experience persistent pain. Osteoarthritis can affect every aspect of a person's daily life and their overall quality of life. Osteoarthritis of the large joints reduces mobility and can make it difficult to climb stairs or walk. If small joints such as the hands and fingers are affected, it can make ordinary tasks difficult and painful.

Osteoarthritis is more common in older people and particularly affects the joints that get heavy use, most commonly the hips, knees, hands and feet. Osteoarthritis can also result from previous damage to a joint, for example a fracture or inflammation in a joint. There is a wide variation in clinical presentation and outcome between different people, and also at different joints in the same person.

Risk factors

Osteoarthritis has multiple risk factors but only a few of these are modifiable. Heritability estimates for hand, knee and hip osteoarthritis are about 40 to 60 per cent, but the responsible genes are unknown. Constitutional factors are ageing, being female and obesity. High bone density is a risk factor for the development of osteoarthritis, and low bone density is a risk factor for the progression of knee and hip osteoarthritis. Biomechanical risk factors include joint injury, occupational and recreational stresses on joints, reduced muscle strength, joint laxity and joint malalignment.

Presentation and diagnosis

Osteoarthritis usually presents in patients aged 45 years or over, with patients reporting activity-related joint pain, and either no morning joint-related stiffness or morning

stiffness that lasts no longer than 30 minutes.

X-rays or other tests are not required to confirm osteoarthritis, as these are not useful for diagnosing osteoarthritis or deciding on its treatment. As part of the initial assessment, patients should be asked how they are coping on a daily basis, and how their work, social life, relationships, mood and sleep are being affected. Patients should also be asked about how they feel about their arthritis symptoms, and whether they have anyone who supports them. Comorbidities should be taken into account.

In osteoarthritis, joint pain is exacerbated by exercise and relieved by rest, although rest and night pain can occur in advanced disease. Knee pain due to osteoarthritis is usually bilateral and felt in and around the knee. Hip pain due to osteoarthritis is felt in the groin and thigh, and can be referred to the knee and, in males, to the testicle on the affected side. Sufferers report joint stiffness in the morning or after rest, and reduced function.

The signs of osteoarthritis include a reduced range of joint movement, pain on movement of the joint or at the extremes of joint movement, joint swelling/synovitis (warmth, effusion, synovial thickening), tenderness around the joint, a grating or crackling sound or sensation in the joint, bony swelling and deformity due to osteophytes, joint instability and muscle weakness or wasting around the affected joint. There would not be any systemic features such as fever and rash.

Atypical features, such as a history of trauma, prolonged morning joint-related stiffness, rapid worsening of symptoms or the presence of a hot swollen joint may indicate alternative or additional diagnoses. Important differential diagnoses include gout, other inflammatory arthritides (for example, rheumatoid arthritis), septic arthritis and malignancy (which causes bone pain).

Prognosis

It is commonly thought that osteoarthritis is a part of ageing, that it always gets worse and cannot be treated. But osteoarthritis does not always worsen with age. There are treatments available and changes patients can make to their lifestyle that can help to reduce pain and other symptoms.

Most people affected by osteoarthritis do not become severely disabled. Hand osteoarthritis has a particularly good prognosis; interphalangeal joint osteoarthritis usually becomes asymptomatic after a few years, although permanent swellings remain. Osteoarthritis of the base of the thumb has a poorer prognosis, with some people having continuing pain and lasting disability.

Hip osteoarthritis has a poorer prognosis than hand or knee osteoarthritis, with a significant number of people requiring hip replacement within five years of diagnosis. However, some hips do heal spontaneously. Knee osteoarthritis is very variable in its outcome, but many cases deteriorate over a 10-year period.

Core treatments and self-management

Patients with osteoarthritis can lead a healthy, active life. Information on osteoarthritis and advice on self-management should be offered repeatedly by healthcare professionals.

Lifestyle alterations reduce the risk of developing joint pain and osteoarthritis and alleviate joint symptoms and disability. Exercise will help to build muscle strength and endurance, and can lead to reduced pain and an improved range of movement. Exercise should include muscle strengthening as well as aerobic exercise. The type of exercise that is appropriate depends on the patient's comorbidities and pain levels; exercise that is appropriate for each individual will not make their arthritis worse. Physiotherapy may be useful.

Patients who are overweight should be encouraged to lose weight to reduce the load on their joints and help to improve pain. Up to half of all knee osteoarthritis is theoretically preventable by weight reduction and up to a third is preventable by following advice about joint protection when taking part in activities that could lead to joint injury and development of osteoarthritis.

Treatments and devices for people with osteoarthritis include:

- applying hot or cold packs to the joint
- using a TENS (transcutaneous electrical nerve stimulation) machine
- using a joint support and/or special shoe insoles
- using equipment to help with walking (such as a walking stick) and with other activities (for example, tap turners)
- manual therapy, which involves manipulation and stretching techniques that can be useful for osteoarthritis of the hip
- pain management programmes, which may include cognitive behavioural therapy, relaxation training and how to pace activities.

Self-management alone may be sufficient for many people, provided they can get information on how to manage symptoms and exercise effectively, and they understand when it is necessary to seek medical advice. There is evidence that promoting self-management strategies helps people to manage the unpredictable course of joint pain and osteoarthritis.

Patients with osteoarthritis can protect their joints from further damage by rethinking how everyday tasks are done. Larger, stronger joints can be used to carry out tasks, for example, pushing doors open with a shoulder rather than a hand, or using the forearms or elbow joints to pick up items. The weight of an object can be spread over many joints by using both hands to carry shopping or by using a shoulder bag. Gripping things too tightly should be avoided and items should be held as loosely as possible or the grip expanded with padding. Some items can be shifted rather than lifted, for example, sliding heavy pans along a kitchen unit.

Pharmacological management

Nice is reviewing its 2008 recommendations on the pharmacological management of osteoarthritis. Nice's Guideline Development Group (GDG) has drawn attention to the findings of the evidence review on the effectiveness of paracetamol, which was presented in the consultation version of the new guideline.

This review identified reduced effectiveness of paracetamol in the management of osteoarthritis compared to what was previously thought. The GDG believes that this information should be taken into account in routine prescribing practice until the planned full review of evidence on the pharmacological management of osteoarthritis is published.

Medication for use alongside the above core treatments:

- Paracetamol and/or topical non-steroidal anti-inflammatory drugs (NSAIDs) should be considered first
- If paracetamol or topical NSAIDs are insufficient for pain relief, the addition of opioid analgesics should be considered, taking into consideration risks and benefits, particularly in older people.

Topical treatments:

- Topical NSAIDs should be considered for pain relief in addition to core treatments for people with knee or hand osteoarthritis
- Topical capsaicin should be considered as an adjunct to core treatments for knee or hand osteoarthritis
- Rubefacients should not be used for treating osteoarthritis.

NSAIDs and highly selective Cox-2 inhibitors:

- Where paracetamol or topical NSAIDs are ineffective for pain relief for people with osteoarthritis, then substitution with, or addition of, an oral NSAID/Cox-2 inhibitor should be considered
- Oral NSAIDs/Cox-2 inhibitors should be used at the lowest effective dose for the shortest possible period of time
- The first choice should be either a standard NSAID or a Cox-2 inhibitor (other than etoricoxib 60mg). In either case, they should be co-prescribed with a proton pump inhibitor.
- If a person with osteoarthritis needs low-dose aspirin, other analgesics should be considered before substituting or adding an NSAID or Cox-2 inhibitor if pain relief is ineffective or insufficient.

Looking for tips to get the most out of your MURs? Try C+D's popular MUR Zone
chemistanddruggist.co.uk/mur-zone

Intra-articular injections:

- Intra-articular corticosteroid injections should be considered as an adjunct to core treatments for the relief of moderate to severe pain in people with osteoarthritis
- Intra-articular hyaluronan injections should not be used for the management of osteoarthritis.

Although topical capsaicin has been recommended as a treatment option, there is little evidence that herbal remedies are effective.

Arnica gel probably improves symptoms as effectively as a gel containing an NSAID and comfrey extract gel probably improves pain. There has been no strong evidence for capsicum extract gel. Glucosamine, chondroitin and their combination have not been shown to reduce joint pain or have an impact on the narrowing of the joint space. Glucosamine is not recommended for the treatment of osteoarthritis.

All people with symptomatic osteoarthritis should have regular reviews. Patients with troublesome joint pain, more than one joint with symptoms, more than one comorbidity or who are taking regular medication for their osteoarthritis should have an annual review.

Resources for patients

Patients can find information about osteoarthritis, its treatment and self-management from:

- Nice publication *Osteoarthritis: Understanding* Nice guidance, www.nice.org.uk
- Arthritis Care, 0808 800 4050, www.arthritiscare.org.uk
- Arthritis Research UK, 0870 850 5000, www.arthritisresearchuk.org
- NHS Choices, www.nhs.uk
- Arthritis and Musculoskeletal Alliance, www.arma.uk.net

References

- NHS choices: www.nhs.uk/conditions/arthritis/pages/introduction.aspx
- Nice pathways: www. pathways.nice.org.uk/pathways/osteoarthritis#content=view-node%3Anodes-diagnosis
- Patient.co.uk: www. patient.co.uk/health/osteoarthritis-leaflet
- Patient.co.uk: www. patient.co.uk/doctor/osteoarthritis-pro
- Arthritis care: www. arthritiscare.org.uk/AboutArthritis/visiting-a-pharmacist/Repeatprescriptions
- Arthritis Research UK: www. arthritisresearchuk.org/arthritis-information/conditions/arthritis/causes.aspx
- Nice Clinical Knowledge Summaries (CKS): http://cks.nice.org.uk/osteoarthritis#!topicsummary
- Arthritis and Musculoskeletal Alliance: arma.uk.net/wp-content/uploads/pdfs/oa06.pdf

5 minute test

■ Sign up to take the 5 Minute Test and get your answers marked online: chemistanddruggist.co.uk/update

Take the 5 Minute Test

1. One third of people aged 45 or over in the UK have sought treatment for osteoarthritis. **True or false?**
2. Osteoarthritis is the most common cause of disability in the UK. **True or false?**
3. Osteoarthritis most commonly affects the hips, knees, hands and feet. **True or false?**
4. Hand and knee osteoarthritis have a poorer prognosis than hip osteoarthritis. **True or false?**
5. X-rays are required to confirm a diagnosis of osteoarthritis. **True or false?**
6. With osteoarthritis, joint pain is exacerbated by rest and relieved by exercise. **True or false?**
7. Hip pain due to osteoarthritis is felt in the groin and thigh, and can be referred to the knee. **True or false?**
8. For pain relief, paracetamol and/or topical NSAIDs should be considered first. **True or false?**
9. Rubefacients should not be used for treating osteoarthritis. **True or false?**
10. Intra-articular hyaluronan injections can be used for the relief of moderate to severe pain in people with osteoarthritis. **True or false?**

Tips for your CPD entry on managing osteoarthritis

Reflect **What are the risk factors for osteoarthritis? Which medications should be tried first for pain relief in osteoarthritis? What topical treatments are not recommended for osteoarthritis?**

Plan **This article describes osteoarthritis and includes information about its causes, risk factors, prognosis, symptoms and diagnosis. Core treatments and self-management as well as pharmacological management are also discussed.**

Act **Read the Update article and the suggested reading (below), then take the 5 Minute Test (above). Update and Update Plus subscribers can then access their answers and a pre-filled CPD logsheet at chemistanddruggist.co.uk/mycpd.**

Find out more about osteoarthritis from the NHS Choices website
tinyurl.com/osteoarthritis1

Revise your knowledge of the drugs used in osteoarthritis from the BNF section 10.1 Drugs used in rheumatic diseases and gout

Find out about advice that you can give to patients with arthritis on coping with normal day-to-day activities on the Arthritis Research UK website
tinyurl.com/osteoarthritis2

Read more about dietary advice for arthritis sufferers on the Arthritis Research UK website at
tinyurl.com/osteoarthritis3

Find out more about exercises suitable for those with arthritis by reading the booklet on the Arthritis Care website
tinyurl.com/osteoarthritis5

Evaluate **Are you now confident in your knowledge of osteoarthritis and its symptoms and diagnosis? Could you give advice to patients about its management and signpost them towards sources of further self-help information?**

ASK THE EXPERT

June is musculoskeletal month and our expert is on hand to answer your queries. Email your questions to: **pooja.sisodia@ubm.com**