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Guidelines for pharmacy

Supporting patients with joint pain in community pharmacy

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SUPPLEMENT

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Introduction

Community pharmacists are the most easily accessible of healthcare professionals and are well used to managing patients with chronic conditions.

Most people will experience joint pain at some point in their lives; for some, it will be minor and of little consequence, but for others it may be destructive and damaging, affecting mobility and sleep. The core skills of the community pharmacist are in managing the pain associated with this, in addition to promoting lifestyle modifications and directing to appropriate specialties and patients support groups, such as Versus Arthritis.

What is osteoarthritis and how common is it?

Osteoarthritis (OA) is a common, long-term, chronic condition characterised by the deterioration of cartilage in joints which results in bones rubbing together and creating stiffness, pain, and impaired movement. It can affect any joint in the body, but it is more likely to occur in the joints that bear most of the weight, such as the knees, feet, and spine. It is also relatively common in shoulder and hip joints, and in joints used in everyday life, such as the hand.[1]

OA is one of the most common causes of disability in older adults;[2,3] While it is related to ageing, it is also associated with a variety of modifiable and non-modifiable risk factors, including obesity, lack of exercise, genetic predisposition, bone density, occupational injury, trauma, and gender.[1]

Key points

- OA is a chronic condition and may be managed by community pharmacists
- Patients should be encouraged to maintain mobility, and exercise is vital in this respect
- Maintaining a healthy body weight is desirable, pain can decrease significantly if obesity is managed
- Topical treatment is usually first line, with oral medications such as paracetamol and NSAIDs as second line[2]
- Herbal medications may be taken concurrently with prescribed medications, be aware of potential drug interactions
- Pharmacists may on occasion refer patients to other members of the multidisciplinary team such as physiotherapists, occupational therapists etc
- Any "red flags" or suspicion of a more serious underlying cause should necessitate immediate GP referral

OA=osteoarthritis; NSAID=non-steroidal anti-inflammatory drug.

Cartilage is a smooth elastic tissue covering the end of long bones, giving them protection and helping movement. In a healthy joint, cartilage allow the bones to move against each other without friction (see Figure 1). In people with OA, the cartilage in some joints becomes thinner and the surface becomes rougher, and as a result the joint cannot move as smoothly as it previously did, the bones start to rub against each other, and they can eventually wear away (see Figure 2).

Figure 1: Schematic of a healthy joint[1]

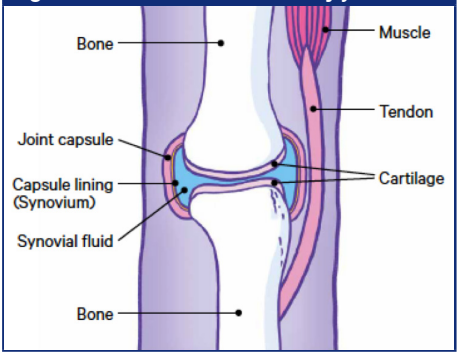
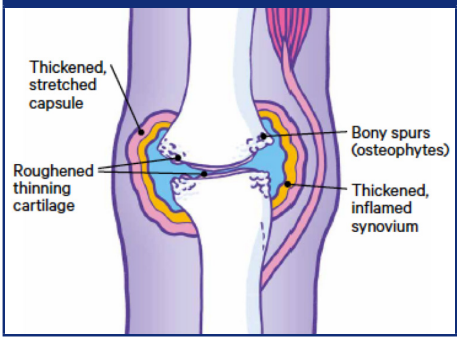


Figure 2: Schematic of a joint affected by osteoarthritis[1]



In this pathological situation, the tissues in the joint become more active than normal, as the body tries to repair the damage. These processes often change the structure of the joint, but also allow movements without any pain or stiffness. Growing older, nearly everybody will develop OA in some joints, though a lot of people may not even be aware of it. However this is not always the case, and the changes to the structure of the joint can sometimes cause or contribute to symptoms such as pain, swelling, or movement impairment.[1]

This is because the repair processes may lead to:[1]

- extra bone formation at the edge of the joint (osteophytes), that can restrict movement or rub against other tissues; in some joints (e.g. in fingers) these growths may be visible as firm, knobbly swellings
- thickening of the lining of the joint capsule (synovium) and over production of fluid, that may cause swelling of the joint
- stretching of the tissues surrounding and supporting the joint, causing the joint to become less stable.

OA is estimated to affect 10–15% of adults aged over 60, and is more common in women than in men.[3] Due to ageing of the population and increase in risk factors such as obesity, the prevalence of OA is increasing stably and it is predicted that, by 2050, 130 million people will suffer from OA worldwide, and of these 40 million will be severely disabled.[3]

While protective factors such as exercise and healthy diet can be addressed, many risk factors such as gender, age, and genetics are not modifiable. The pain and loss of functional capacity caused by severe OA reduces people's quality of life and increases the risk of further morbidity. Although devices and palliative medicines that help relieving the pain and improving the quality of life are widely available, there is no pharmaceutical product that can stop or undo the onset of OA.[3]

Symptoms of osteoarthritis

Patients may present with any of the following symptoms:[1,4]

- pain that is mechanical in nature—it occurs with activity and relieves with rest
- pain with insidious onset

- no morning stiffness or morning stiffness that lasts less than 30 minutes—usually described as gelling (short periods of stiffness after inactivity)
- in severe OA, pain that is present at night and at rest (late disease)
- crepitus—patient may complain of "creaky joints"
- joint swelling
- reduction in joint's range of motion
- buckling/giving way of the lower limb's joints
- Heberden and Bouchard nodes—bony swelling of the distal interphalangeal joint (Heberden) or of the proximal interphalangeal finger joint (Bouchard), see Figure 3.

It is important to remember, however, that although OA is the most common cause of joint pain, other potentially serious causes for joint pain include gout, septic arthritis, fractures, malignancy, infection; therefore, patients with inflamed and swollen joints, early morning stiffness for more than 30 minutes, rapid worsening of symptoms, and trauma should be referred for medical advice promptly if there is any degree of suspicion.[5]

Exercise and osteoarthritis

Patients are often concerned about exercise, fearing that it may worsen joint damage. However, this is not the case; exercise should be encouraged, and patients should be advised to maintain, and not avoid, movement. Both aerobic and strengthening exercises are useful.[6]

Aerobic exercise, in addition to strengthening the heart and improving lung efficiency, can also reduce fatigue and pain, and improve sleep, while simultaneously helping with weight control. Walking, jogging, cycling, swimming, and dancing are all effective and safe.[6]

Walking is easy on the joints. As well as having cardiovascular benefits, walking is also important as a weight bearing exercise, slowing the loss of bone mass.[6]

Aquatic exercise is particularly useful for people who are over-weight, as the buoyancy of the water helps relieve the pressure of the body weight on the affected joints, particularly the knees and hips. This does not necessarily involve swimming, and simple water-based exercises can help relieve pain and improve function if carried out on a regular basis.[6]

The weekly recommendation is for 150 minutes of moderate activity per week, and it should be easily attainable for most patients.[6]

Strengthening exercises can also help reduce pain and improve mobility. Knee OA is a good example of where muscle strengthening can improve mobility and reduce pain. Balance training exercises can also help improve balance and is useful where there is an increased tendency to fall. Patients will sometimes complain that their knee 'just gives way and results in a fall', and a lower limb programme may be of great benefit in these patients.

The importance of weight management

Many people who are overweight experience joint pain, particularly in the knee. In many cases losing weight can substantially reduce pain, as carrying extra weight puts extra pressure on the joints. Each extra pound carried equates to an extra four pounds of pressure on the knees. That means that if you lose 10 pounds, there will be 40 pounds less weight in each step for your knees to support.[7]

Figure 3: Heberden and Bouchard nodes in a hand affected by osteoarthritis

Weight loss should therefore be encouraged by pharmacists for overweight and obese patients. Patients may be directed to local weight loss services or to dieticians, and pharmacists may be asked for advice on weight loss medications such as orlistat, or for advice on bariatric surgery in extreme cases.

Pharmacological management of osteoarthritis

The main goal of pharmacological treatments is the relief of pain. NICE intends to undertake a full review of the pharmacological management of OA but at the time of writing this has not yet occurred.

Topical non-steroidal anti-inflammatory drugs (NSAIDs) are often bought over the counter or prescribed for joint pain. These can sometimes provide adequate relief and are considered to be very safe. Capsaicin, which is the active ingredient in chilli peppers, can reduce sensitivity to pain, and is sometimes used for knee or hand pain. It can however cause intense burning on application, and care needs to be taken when applying.[8]

Oral treatment for joint pain includes NSAIDs where appropriate, and simple analgesia such as paracetamol, or paracetamol in combination with codeine.[5]

NICE recommends that topical NSAIDs for knee or hand OA, with or without paracetamol, are considered ahead of oral NSAIDs, Cox 2 inhibitors, or opioids.[2] NICE also recommends that oral NSAIDs/Cox 2 inhibitors should be used at the lowest effective dose for the shortest possible time.[2] They should be co-prescribed with a proton pump inhibitor.[2] Individual risk factors should be considered, including age, cardiovascular risk factors, and co-existent asthma.

Intra-articular joint injections may sometimes be offered, and are especially useful where there is an element of inflammation in the joint. A joint should not be injected more often than every three to four months.

Intra-articular injections of hyaluronan have been used in the past particularly for knee OA, however their use is not recommended by NICE.

OA may progress to the stage where joint surgery/ joint replacement is necessary.

Other ways of relieving pain

Heat/Cold

Heat packs may be useful and recommended for muscle aches and pains, and ice (cold packs or frozen peas wrapped in a towel) may be useful to reduce joint swelling.[5]

Splints and joint supports

These may be particularly useful if OA has affected the alignment of the joint, and may be recommended by occupational therapy (particularly to help improve hand function)

or by physiotherapy. Patients often derive a degree of comfort from wearing a joint support.[2,5]

Walking aids

Walking sticks or walking aids may improve confidence and reduce fear of falling, particularly if there is a feeling that the lower limbs may give way.[2]

Footwear and podiatry support

Good sturdy footwear is important, and patients with OA of the hip, knees, or feet, may benefit from podiatry intervention, and often from gait analysis and use of orthotics.[2]

Herbal and "natural" remedies

Patients may often seek herbal remedies in addition to prescribed medicines for pain relief. There is a notion that herbal is safe, but this is not necessarily the case.

Chondroitin, for example, may interact with warfarin,[9,10] as may Devil's Claw.[10]

Turmeric has recently increased in popularity for treating joint pain. Its main active component is curcumin, and this has anti-inflammatory properties.[10]

Conclusion

In conclusion, OA is a chronic condition that can be managed in community pharmacy. Patients will often have other comorbidities which need to be managed concurrently. Alongside medicines there is much more that the pharmacist can offer in management of these patients, and referral to groups such as Versus Arthritis or National Rheumatoid Arthritis Society may be beneficial to help patients develop an understanding of their condition. Patients who are well informed tend to be more compliant with management.

Conflicts of interest

Hilary McKee received an honorarium to write this supplement; she also received consultancy fees from other pharmaceutical companies, which may include GSK UK, for activities other than writing this article.

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