

Promoting self care of joint pain

Joint pain is a common condition and pharmacists are ideally placed to provide advice to patients on managing the condition.

John Dickson discusses joint pain, its causes, cases for referral and treatments available

Joint pain is a common condition requiring a multi-faceted approach. Psychological factors can have as much impact as physiological ones and a self-care approach to joint pain may be beneficial. This article aims to provide a practical and relevant guide to help pharmacists facilitate self care of joint pain.

Joint pain is a huge problem in the UK, with almost nine million people (19 per cent of the population) visiting their GP in the past year with arthritis and related conditions. It is a major cause of disability and the second most common cause of days off work for both men and women.

Joint pain is the main symptom of many different musculoskeletal conditions, including all types of arthritis, connective tissue disease, back pain, osteoporosis and soft tissue rheumatism. The most common joint disease in the UK is osteoarthritis (OA), which can vary from mild to debilitating and is often associated with flare-ups followed by periods of remission. In addition, many people suffer joint pain of a non-specific origin, which they may attribute to overuse, ageing or even the weather. Patients with joint pain from all causes may seek advice and treatment recommendations in the pharmacy.

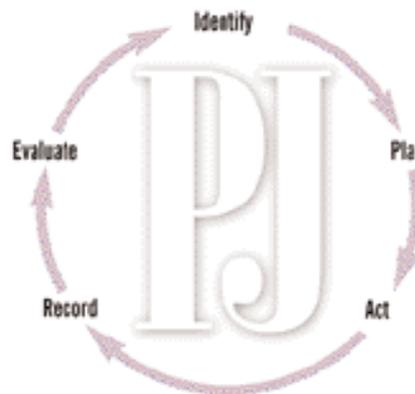
Self care

In many cases, successful management of joint pain can be achieved through self care. This is particularly true for joint pain of a chronic or relapsing nature, although patients may initially be reluctant to take this approach due to psychological factors or lack of information.

Self care is different from managing alone. It has been defined by the Proprietary Association of Great Britain as “the action individuals take for themselves and their families to stay healthy and manage minor and chronic conditions, based on their knowledge and the information available”. It is about



Low impact physical activity is recommended for sufferers of joint pain



Identify knowledge gaps

1. What joint or muscular-related symptoms require referral to a GP?
2. Suggest two exercises that might assist patients with joint pain.
3. What are the analgesia options for joint pain?

Before reading on, think about how this article may help you to do your job better. The Royal Pharmaceutical Society's areas of competence for pharmacists are listed in “Plan and record”, (available at: www.rpsgb.org/education). This article relates to “common disease states” and “health education and promotion” (see appendix 4 of “Plan and record”).

people taking responsibility for managing their health themselves, in conjunction with health care professionals (when needed) and other information and support services.

The Department of Health recognises the benefits of self care for both patients and health care providers. Its forthcoming document on musculoskeletal health may encourage pharmacists to act as facilitators of self care and gatekeepers to other health professionals. Musculoskeletal health is not currently mentioned in the “Quality and outcomes framework” of the recent GP contract. It is clear that pharmacists can play an important role in supporting self care of joint pain.

Joint pain in the pharmacy

It is not within the scope of pharmacy to diagnose the causes of joint pain. Indeed an accurate diagnosis may require radiographic evidence, but is not always necessary for treatment. It is interesting to note that joint pain is often unrelated to the condition of the joint. Many people with seriously impaired joints have no pain; conversely, people with anatomically healthy joints may have serious pain.

Many patients will have an existing diagnosis from a doctor. Provided that alarming symptoms are ruled out and GP referral is rec-

Characteristics of osteoarthritis

Age	>45 years of age — usually older
Gender	Predominantly female
Common site	Knee is the most commonly affected joint
Other sites	Hands, hips, big toe, spine
Rarely affected sites	Elbows, wrists, shoulders, clavicular joints
Shape	Joints become squarer and larger
Pain	Sharp when joints are used or exercised Dull or aching, especially if nocturnal pain
Flares	More severe, intense pain aggravated by use, can last for days or even a few weeks
Muscles	Muscle wasting around affected joints. Classically, loss of quadriceps if knees affected
Comment	Those sufferers who cannot sleep, walk or work require referral to GP and then be considered for joint replacement

ommended when appropriate, pharmacists can advise on the management of joint pain and encourage informed self care.

Alarm symptoms and when to refer

Children under 12 years of age with any musculoskeletal pain should be seen by a GP. Adults or children over 12 years with undiagnosed joint pain and the following symptoms should also be referred to their GP:

- Severe, shooting or persistent pain
- Loss of feeling, or pins and needles
- Analgesic-related adverse effects
- Taking analgesics for more than one week

Acute joint injury

Rest, ice, compression and elevation (the well-known RICE mnemonic) is the best advice for people with acute joint pain due to injury. This should be combined with analgesia as outlined below.

Joints in action

The foundation of chronic joint pain management is exercise. Joints are made to move, but a common response to pain is to reduce movement of the affected area. Many people think that by resting a joint, they will somehow stop it from wearing out. In fact, inactivity is bad for joints, causing muscle weakness, osteoporosis and joint stiffness.

Low-impact exercise and physical activity are specifically recommended in OA management guidelines^{1,2} and studies have shown that quadriceps-strengthening and aerobic exercises are of proven benefit to patients with knee pain.³ Pain affecting the hip, shoulder and hand joints can also be reduced with specific exercises and encouraging this is one of the aims of physiotherapy.

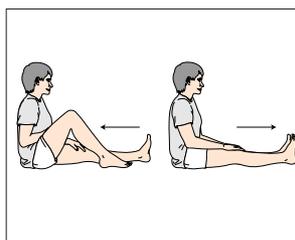
In addition, physical activity produces many other benefits such as weight loss, improved cardiovascular function, self confidence and social interaction — important factors for the self care of joint pain.

It is important to start any exercise programme slowly and then gradually increase the intensity as appropriate. Walking, swimming and cycling are all good exercises, but for more severe joint pain it may be better to start with non-weight-bearing exercises.

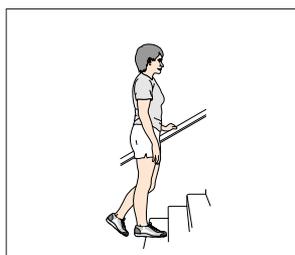
Pharmacists can encourage people to perform specific exercises for their affected joints. Exercise sheets are available from the “Arthritis research campaign” and “Arthritis care” websites (see Resources), which can be freely distributed to patients. In addition, local physiotherapists or sports centres may run exercise classes suitable for people with joint pain. See Exercises 1 and 2 for examples of exercises that may help your customers.

Analgesia guidelines

The cornerstone analgesic for joint pain is paracetamol.⁴ Guidelines from professional bodies around the world recommend paracetamol as the first-line analgesic for joint^{1,2} and back⁵ pain on the basis of its efficacy, suitability and cost. Paracetamol has a low risk of ad-



Exercise 1: Sit on the floor, sofa or bed with your legs outstretched. Keeping your foot on the floor, sofa or bed slowly bend one knee until you feel the knee is comfortably stretched without it hurting. Hold this position for 3–4 seconds. Straighten your leg as far as you can and hold this for 5 seconds. Repeat until you have done 10 bends. Repeat the exercise with the other leg.



Exercise 2: Place your right foot on the bottom step of the stairs, using the banisters for support. Keeping this leg on the step, step up and down with the left leg. Count and record the number of step-ups you perform in one minute. Rest for one minute, then repeat the exercise, keeping your left leg on the step. As the number of step-ups you can perform per minute increases, increase the height of the step (ensuring you are stable and safe) to a maximum of about 45cm.

Illustrations reproduced, with permission, from “An exercise in knee pain self-management”, Hands On No. 6, June 2005, by Mike Hurley, ARC reports on the rheumatic diseases, Series 5, published by the Arthritis Research Campaign (www.arc.org.uk).

verse events, no significant drug interactions, other than with warfarin, and is suitable for most people with concomitant conditions.⁴ Dose is important, and patients should be encouraged to take two 500mg paracetamol tablets three to four times a day for a few days before other analgesics are tried.

Although not mentioned in professional guidelines, the formulation of paracetamol should be considered. Some patients report improved pain relief with soluble or fast-acting preparations. However, no clinical studies have yet assessed this in joint pain.

Adding caffeine to paracetamol has been proven to enhance efficacy,⁶ but should only be used to manage short-term pain or flare ups in pain, since it is not appropriate for long-term use.

Paracetamol with opioids are recommended in professional guidelines for patients requiring additional analgesia.^{1,2} Combinations of codeine and paracetamol can be sold over the counter and are licensed for mild to moderate musculoskeletal pain.

Topical analgesics are also referred to in professional guidelines as being helpful, either when used alone, or in addition to paracetamol for joint pain.^{1,2} Topical non-steroidal anti-inflammatory drugs have a good safety record and one large case-control study has found no association between topical NSAIDs and upper gastrointestinal bleeding or perforation.² However, topical NSAIDs are not recommended for use at the same time as oral NSAIDs. Topical diclofenac has been found to be as effective as the oral formulation (50mg three times daily).⁷

Oral NSAIDs are suggested in professional guidelines for people who do not get adequate relief from paracetamol and non-pharmacological therapy.¹ Ibuprofen at doses of 400mg up to three times daily can be recommended by pharmacists after evaluation of an individual’s NSAID risk factors (gastrointestinal, cardiovascular and renal).

Patients requiring further analgesia should be referred to their GP, but pharmacists can inform them of the options that may be available to promote informed self care. GPs may prescribe local injections of corticosteroids or hyaluronic acid, COX-2-selective NSAIDs, stronger opioids, NSAIDs that are available over the counter, or stronger NSAIDs with gastro-protective agents to help mitigate the risk of NSAID-related adverse effects in susceptible patients.

Additional self-care options

Pharmacists wishing to optimise their role as self-care facilitators should be aware of the wide range of treatment options available to people with joint pain. Pharmacists should encourage patients to be more proactive in finding out what works best for them, since there is evidence to suggest that if patient expectation for a treatment is high then it is likely to be more effective in reducing their pain.⁸ This is particularly useful when the treatment choices are similar. Pharmacists should advise people to use any treatment

that has worked for them in the past. In addition, they can inform patients of treatments that they may not have been aware of.

Cognitive behavioural therapy

Depression, low morale and poor sleep can all lower the pain threshold. Negative thought patterns, inactivity and pain can form a vicious cycle that is often associated with chronic musculoskeletal pain (see Figure 1). Cognitive behavioural therapy is a psychological treatment based on the assumption that most of a person's thought patterns and emotional and behavioural reactions are learnt and therefore can be changed. The aim is to help the individual to learn more positive thought processes and reactions. This has been shown to be extremely beneficial for people with chronic joint pain.⁹

Pharmacists can inform their patients of this option and perhaps point them towards local groups that could help them.

Counter-irritants

The irritation of sensory nerve endings in the skin can alter or offset pain in the underlying joints that are served by the same nerves. Rubefacients and heat wraps applied to the affected area may reduce pain of this type and provide feelings of warmth and relaxation. Many rubefacients are available and contain ingredients such as salicylates, capsaicin and nicotinate esters. Heat wraps specifically for joint pain have recently been launched for sale in the UK and patients may find them helpful, particularly during flare-up periods.

Cartilage-modifying supplements

Glucosamine and chondroitin are found naturally in the body. Glucosamine is believed to play a role in cartilage formation and repair and chondroitin is part of a large protein molecule (proteoglycan) that gives cartilage its elasticity.

Although evidence on the efficacy of glucosamine and chondroitin supplements for joint pain caused by OA is conflicting, support appears to be growing,¹⁰ and they are now recommended in European OA guidelines for the knee. A recent randomised trial demonstrated a disease-modifying effect, improvements in pain and functioning, and an absence of long-term harm.¹⁰ The efficacy of chondroitin and glucosamine were found to be similar, with a slightly superior response from chondroitin.¹⁰ A significantly superior response was seen for a combination of the two treatments, but only in a sub-group of patients with moderate-to-severe pain.¹⁰

Doses of 1,500mg/day for glucosamine and 800–2,000mg/day for chondroitin have been studied most commonly.

As with many treatments for joint pain, people should be advised to see what works for them as individuals, starting with a low dose for a reasonable period of time (glucosamine takes about a month to exert its full effects) and then increasing the dose as required. If patients do not feel a reduction in pain from the highest recommended dose,

Inactivity is bad for joints, causing muscle weakness, osteoporosis and joint stiffness

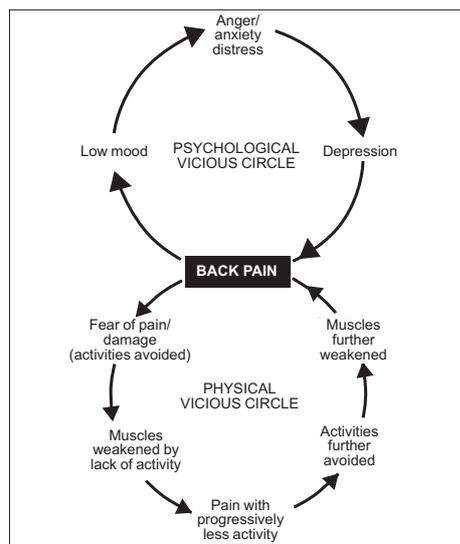


Figure 1: Cycle associated with chronic musculoskeletal pain

Illustration reproduced, with permission, from "Back pain — an information booklet", 2003, published by the Arthritis Research Campaign (www.arc.org.uk).

they should evaluate whether to continue supplementation.

Other dietary supplements

Many herbs and supplements are promoted for the relief of joint pain. These include devil's claw, fish oils, green-lipped mussel extract, methylsulfonylmethane and avocado-soybean unsaponifiables. There is only limited evidence to support the safety or efficacy of some of these treatments, which may make recommendation difficult. However, certain patients may wish to try different remedies and some may find them effective. Pharmacists should be in a position to answer queries based on the available information and may find it helpful to ask for feedback from individual patients.

Fish oil supplementation in adequate doses (40mg/kg/day) has been found to reduce joint tenderness and morning stiffness in rheumatoid arthritis. Omega-3 fatty acids in fish oils may affect prostaglandin and other inflammatory mediators.

Devil's claw is the root of *harpagophytum procumbens*, traditionally used in Africa to treat pain. Recent evidence suggests that it can reduce pain and improve function in knee and hip OA at doses of 2,610mg/day. Adverse effects are infrequent, but may include mild gastrointestinal problems. There is also a potential interaction with warfarin.

Green-lipped mussel (*Perna canaliculus*) comes from New Zealand and its extract is promoted for joint pain. As with many conventional medicines, several studies have found it helpful, while other studies have shown no helpful effect. Studies have used 210mg/day of a lipid extract or 1,050–1,150mg/day of freeze-dried powder and stabilised extracts may be more effective. It should not be recommended for people with a shellfish allergy.

Methylsulfonylmethane is a dietary supplement, taken by some people for joint pain. There is a paucity of evidence to support its

use. However, a recent short trial of 3g twice a day showed improvements in pain and physical function in patients with OA of the knee. Further investigation is required.

Avocado–soybean unsaponifiables refers to extracts derived from one-third avocado oil and two-thirds soybean oil after hydrolysis. Evidence is starting to appear that may support its use for the treatment of OA.

Magnetic or copper bracelets

A traditional folk remedy for arthritis, copper bangles have been sold in many pharmacies for years. However, there is no clinical research to support their use.

A recent study appears to show that magnetic bracelets can reduce joint pain in knee and hip OA. No mechanism is known for this effect. Magnetic plasters are now available and are likely to have similar efficacy to magnetic bracelets.

Acupuncture

Acupuncture is among the most frequently used complementary therapies for joint pain caused by OA and about half of all consultations with British acupuncturists are for osteoarthritic conditions. Recent clinical trials have demonstrated improvements in pain and joint function in patients with OA of the knee and hip, and also back pain.

Appliances

There are numerous appliances available to help people with various types of joint pain, for example, sticks, insoles and knee supports for knee pain, braces for backs and labour-

saving devices, like jar openers, and easy-grip utensils for people with pain and stiffness in the hand and wrist joints. Knee braces, insoles and elastic support bandages are specifically mentioned in European OA guidelines for the knee and have been demonstrated to reduce knee pain.²

Pharmacists are the ideal suppliers of appliances for joint pain and can advise patients on what is suitable for their particular needs.

Conclusion

Joint pain is a condition frequently presented in pharmacies and GP surgeries. Pharmacists can take an active role in encouraging self care of joint pain, whatever the underlying cause. While short-term joint pain, due to injury, can be treated with simple analgesics and RICE, people with chronic or relapsing joint pain may benefit from a more understanding and imaginative approach. Education is the first tenet of self care and pharmacists should be in a position to provide information on the varied approaches outlined in this article.

Resources

- Arthritis Research Campaign: www.arc.org.uk. Accessed 8 August.
- Arthritis Care: www.arthritiscare.org.uk. Accessed 8 August.
- Patient UK: www.patient.co.uk. Accessed 8 August.
- Primary Care Rheumatology Society: www.pcrsociety.org.uk. Accessed 8 August.

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Action: practice points

Reading is only one way to undertake CPD and the Society will expect to see various approaches in a pharmacist's CPD portfolio.

1. Next time you recommend a product for joint pain, ask the patient if they are currently doing any exercises for flexibility, strength or to increase their aerobic capacity.
2. Ask your patients with joint pain about the treatments that have worked and not worked for them in the past. Make sure that they are using analgesics at the correct dose and try to encourage them to use the most appropriate treatment for their condition.
3. Review the websites listed in "Resources" and consider how they could help your customers deal with their joint pain and whether any of the literature would be suitable for your pharmacy.

Evaluate

For your work to be presented as CPD, you need to evaluate your reading and any other activities.

Answer the following questions:

What have you learnt?

How has it added value to your practice? (Have you applied this learning or had any feedback?)

What will you do now and how will this be achieved?

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