**Appropriate community pharmacy management and referral of patients with chronic peripheral joint pain**

Learning Piece 2 – Commissioned Article for The Pharmaceutical Journal

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**Introduction**

Alongside dispensing medications and supporting medication use, community pharmacists play an important front-line health professional role in managing chronic diseases and supporting healthy living. In addition to providing information, advice and education, this expanded role may include supporting behaviour change and referral or signposting to other services(1,2).

Chronic peripheral joint pain, defined as mechanical (activity-related) pain of any joint (excluding the spine), lasting for at least three months, with or without loss of function, is common within the community. In patients aged 45 years and over, such pain is often caused by osteoarthritis(3), and is frequently associated with other co-existing physical and mental health problems(4) and reduced quality of life(5). The impact of mechanical joint pain on daily activities varies between individuals and also depends on the joint affected. For example stairs may be problematic for those with knee or hip pain whilst thumb based pain can impact grip. Furthermore, in addition to peripheral joint abnormality, there are person-specific central factors (e.g. anxiety, depression, catastrophising trait, non-restorative sleep) that can modify pain experience and degree of participation restriction within an individual.

Although osteoarthritis is the commonest musculoskeletal condition causing chronic peripheral joint pain, other potentially serious causes of joint or bone pain to consider include gout, other inflammatory arthritides, infective causes, fractures, malignancy, and radicular or neuropathic pain(3). Prolonged morning joint-related stiffness (over 30min), hot swollen joints, rapid worsening of symptoms, systemic upset and a history of trauma or cancer are ‘red-flags’, which raise suspicion of a more serious underlying cause and are indications for a prompt medical review.

**Best practice recommendations**

In those aged 45 years and older presenting with activity-related joint pain and no features suggesting an alternative diagnosis, it is appropriate to apply the National Institute for Health and Care Excellence (NICE) osteoarthritis guideline treatment recommendations (3).

**NICE core treatments**

Core treatments are non-pharmacological and are recommended for all patients whatever their age, comorbidity, pain or disability(3) and can all be provided in the pharmacy setting. Resources to support delivery of these treatments are provided in the *Signposting…* section below.

**Patient information:**  Clear and accurate verbal and written information to help people with osteoarthritis to understand the nature of their condition, its causes and possible consequences and its treatment options. Individualisation of this information and discussion of illness perceptions is recommended.

**Exercise:** Advice to maintain, rather than avoid, movement through sensible “pacing” of activities, and to carry out both aerobic exercise (exercise that increases pulse and breathing rates)) and strengthening exercises. Aerobic exercise can reduce pain and improve function, well-being and sleep quality, and is also beneficial for comorbidities that commonly accompany OA. Local strengthening exercise also improves pain and function and can and can reverse some of the negative impacts of knee joint pain such as reduced muscle strength, proprioception and balance and increased tendency to fall.

The effect of exercise on pain and function, if undertaken regularly over three months, is very safe, and may reduce requirement for analgesia(6-8). There are very few absolute contraindications to exercise, for example: acute fever or infection, certain cardiac conditions (e.g. obstructive cardiomyopathy or severe valve disease, myocarditis, arrhythmias (particularly if uncontrolled or exercise-induced)), and other unstable conditions (e.g. angina, diabetes, hypertension). If you suspect such problems, or you are uncertain about the safety of, or approach to, advising exercise in the presence of another problem, signpost the patient to their GP or specialist for advice.

Any exercise is better than none at all. Patients can undertake adequate exercise without any special equipment. Helping patients to build exercise into their daily routine can equip them to make changes straight away. For example, walking when travelling short distances rather than using transport. Linking exercise to a daily activity can also be helpful, for example, undertaking ten minutes aerobic activity before having their morning shower, doing strengthening exercises while waiting for the kettle to boil or the tea to brew or making the exercise part of daily activity such as planning to do ten minutes of gardening every day.

**Weight management:** Support weight loss foroverweight or obese patients. Tips to give patients could include suggesting that they eat breakfast every day, to be mindful of intake of calories contained within drinks, eat slowly to enable the body to recognise when it is full and monitor your weight once a week. In addition to providing advice verbally you could signpost to online NHS advice (www.nhs.uk), local weight loss services and, where appropriate, discuss pharmacological (e.g. orlistat) or surgical approaches(9).

Weight loss has beneficial effects on both pain and function associated with chronic joint pain (10). People may be more likely to maintain weight loss if they combine diet with regular exercise.

**Advice about appropriate footwear (if hip, knee or foot joint pain)**: Patients’ footwear should have thick but soft soles, no raised heel, broad forefoot and deep soft uppers.

**NICE additional treatments**

Many of the additional treatments recommended by NICE, which have a positive impact on pain and/or function, are available over-the-counter within community pharmacies.

Non-pharmacological first line strategies include supports and braces and transcutaneous electrical nerve stimulation (TENS) machines(3). Thermotherapy (use of heat or cold) can be valuable for patients(3).

Pharmacological treatments are adjunctive and purely for pain relief. First line pharmacological treatment for most joints (but not deep joints such as shoulders or hips) is topical non-steroidal anti-inflammatories (NSAIDs(3)). For patients with hand and knee pain, topical NSAIDs may be just as effective as oral NSAIDs and, apart from occasional local skin reactions, are extremely safe(6). Similarly, topical capsaicin can be used as an alternative topical treatment for knee and hand pain (see Box for instructions for topical drug administration). Second line pharmacological treatments are oral medications: NSAIDS, paracetamol and the over-the-counter opioid, co-codamol (8mg/500mg)(3). Only consider these if first line options are not appropriate or effective, and if the potential benefit outweighs the risks for the individual patient. Recent evidence on risks and benefits of paracetamol (suggesting it is not as safe as previously thought and has a very low effect size for pain relief in OA) has placed this as second line rather than first line therapy (3). Naturally, before recommending any pharmacological treatments it is important to be fully aware of the patient’s current medication use (all prescribed and over the counter medicines), other medical conditions (e.g. kidney disease or asthma if considering oral NSAIDs) and important lifestyle factors (e.g. occupation and driving status if considering opioids) that may affect their individual risk profile. NICE osteoarthritis guidelines also recommend that all patients taking oral NSAIDS take a gastro-protective agent (specifically a proton pump inhibitor) to reduce the risk of upper gastrointestinal bleeding.

Other over-the-counter treatments, for example glucosamine and rubefacients, are **not** recommended by NICE.

**Implementing best practice recommendations in community pharmacy**

Patients with joint pain will be visiting community pharmacies, but may not specifically seek help for their joint pain. Opportunities for pharmacists to proactively support patients with chronic peripheral joint pain may arise through existing activities, for example, Medicines Use Reviews (MURs)(11) with patients prescribed regular analgesia. MURs present an opportunity to establish whether patients have tried core treatments, are aware of the risks of their existing medication(6), whether the risks outweigh the benefits, and to suggest adjuncts or alternatives.

Affected patients may seek help directly about a previously diagnosed chronic joint pain or come to you as first line professionals. In either case, it is important to exclude any ‘red flags’, as described in the *Introduction*, and, not to assume that they have already received evidence-based recommendations. We know that advice provided by primary care health professionals and physiotherapists is often suboptimal and may not entirely align with evidence-based recommendations(12-17). Further, even if they have received evidence-based advice before, our experience suggests that patients seem to better trust advice if they hear it from different sources. Figure 1 provides a flowchart to assist community pharmacists to support patients according to their needs.

**[Insert Figure 1 Here]**

When advising patients on both the core and adjunctive treatments for chronic peripheral joint pain, to help you to tailor your advice to the individual it is important to establish the patients’ priorities, preferences for treatment and previous experience(2). Often patients with chronic peripheral joint pain seek help or pursue action due to the associated pain and functional limitations. For example, difficulties walking the dog, playing with their grandchildren or doing the gardening. Seek to employ the evidence-based recommendations as practical solutions to the patient’s specific problems, for example, using heat (e.g. hot baths or heat packs) for muscle pain/aches and ice (e.g. frozen peas wrapped in damp tea towel or cold packs) after exercise or in the presence of swelling. Be clear that it is appropriate to experiment to find out what works for them(18).

Whilst NICE does not recommend treatments such as acupuncture glucosamine or herbal treatments (such as rosehip and turmeric capsules), some patients perceive benefit from these approaches. Negotiating the benefits, harms (including costs and potentially unregulated strength and purity(3)) and alternatives are therefore important. For example, if a patient wants to take glucosamine and the potential harms are perceived as low, focussing on encouraging the addition of exercise into their daily routine, rather than persuading them to stop something they have good faith in may be appropriate. However, discussions must be balanced and evidence-based. The full NICE guidelines(3) provide the research evidence to inform such discussions.

**The multidisciplinary team**

Pharmacists are part of the community multidisciplinary healthcare team. In addition to providing expert advice about the safe use of medicines, as a first point of contact, pharmacists can opportunistically detect potentially problematic joint pain and signpost for timely medical review, refer to appropriate exercise (e.g. physiotherapist) and/or weight loss specialists, and, where appropriate, signpost to podiatrists for assistance with lower limb joint pain problems.

**Signposting to local services and trusted online resources**

Community pharmacies are also ideally placed to signpost to local community/support groups relevant to people with joint pain(2), for example, walking and/or weight loss groups. A local directory or notice board of relevant services could be developed, in collaboration with customers and local organisations. Creation of Health and Wellbeing boards(19) have resulted in the development of community health initiatives (e.g. *Shropshire Together(20)*) in which health, council and third-sector organisations come together to support the health and wellbeing of the community through, for example, weight loss initiatives and mental health support.

It is important to use clear, professionally presented and evidenced based resources(2). High quality resources that can be easily and freely accessed online include:

* Versus Arthritis (previously known as Arthritis Research UK) *Keep Moving* leaflet(21), which provides a wealth of information to support patients to exercise including a poster (in the hard copy) outlining joint strengthening and range of movement exercises
* Versus Arthritis (previously known as Arthritis Research UK) *Protecting your joints* leaflet(22), which provides advice about ways to approach tasks and movements to protect joints, reduce pain and improve function
* Keele University Osteoarthritis Guidebook(18), an accessible guidebook written by patients for patients, which includes experiences of patients and solutions for pain and problems related to their joint pain
* Versus Arthritis *Osteoarthritis* booklet(23), which provides an overview of the condition from what it is, how it presents and how it can be managed
* NHS *Healthy Weight* webpage(24), which provides interactive tools for assessing weight and links to healthy eating and living advice

**Putting the stepwise management and referral pathway into action**

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| **Case Study:**  As Mrs Blake, a 64yr old women collects her husband’s large bag of medications, she sighs, ‘here we go again, after struggling home with this again my hands will be good for nothing for the next couple of hours’. You ask what she means. ‘My hands have been getting very uncomfortable over the last months, mainly this thumb and the ends of these fingers, carrying the shopping and this lot is so difficult’. You ask about red flags and decide Mrs Blake has got typical hand osteoarthritis. After discussion, you agree that she will read the *Protecting your joints* leaflet, will try some exercises using the *Keep Moving* leaflet, and she bought some NSAID gel.  The following month, she thanks you for your help, the gel has improved her pain, so she has started using it on her knee as well. Mrs Blake reported feeling low, with everything she has to contend with, her pains are just an extra problem. Not getting out as much and comfort eating had caused her weight to go up - ‘I feel dreadful’. After discussion, you agree she will see her GP to discuss her mood and will start doing the knee exercises in the *Keep Moving* leaflet she already has. You suggest she takes paracetamol half-an-hour before exercising and use ice after if the pain flares. You show her a poster about a local walking group, which may provide support and companionship for Mrs Blake as well as helping her to do exercise and lose some weight. You ask Mrs Blake to update you on her progress next month. |

***Examples of pharmacy support taken from research and implementation projects:***

**Enhanced pharmacy review:** within the TOPIK trial(25,26), a community pharmacist was supported to optimise patients’ pain control using predefined questions, an analgesic algorithm and a patient information leaflet. Patients’ medications were stepped-up according to the patients’ response/symptoms using three to six reviews over ten weeks. On average, one hour was spent with patients over three sessions. At three months, significant improvement in patients’ pain scores were noted and at six months, NSAID use had reduced.

**Supporting self-management:** an international implementation project (JIGSAW-E(27)) used four key healthcare service interventions previously tested in a research study (MOSAICS(28-31)) to support the self-management of patients with osteoarthritis. The original research was developed for use in the general practice setting, with GPs making the original diagnosis and practice nurses undertaking follow-up appointments. The interventions were i) the Keele University *Osteoarthritis Guidebook,* ii) an electronic template to prompt and support recording of high quality management, iii) a model consultation and iv) professional’s training. These approaches were successfully adapted for use in community pharmacies, who were equipped with hard copies of the OA guidebook and Arthritis Research UK exercise leaflets(21), supported by the flow-chart in Figure 1.

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| **How to apply topical joint pain creams and gels**  It is important to explain to patients that topical joint pain treatments do not take full effect on first application and that for both agents recommended within the NICE guidelines (NSAIDs and capsaicin), they can take up to two weeks to give maximum effect.   * Gently massage the cream in using the amount specified on the information leaflet, the action of massaging it can have some therapeutic benefit * Apply the cream regularly as directed on the packaging * It is quite normal for capsaicin creams to produce a burning/warming feeling on first application but with regular application this stops after a few days and the analgesic action starts to take effect * Do not touch sensitive areas such as eyes and genitals after applying capsaicin * Try alternatives if you do not like a particular agent, each are different in terms of stickiness and odour * Stop using immediately if you get any side effects (e.g. rash) and seek advice |

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**Conflicts of interest**

EC, CS, JQ, KD, SS and JA have no conflicts of interest.

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