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Osteoarthritis

Management options in general practice

Background

Osteoarthritis, characterised by joint pain and stiffness, is a common and significant chronic disease, reducing mobility and causing considerable impact on quality of life. Multiple evidence based management options are available.

Objective

The aim of this article is to summarise the main management options suggested in The Royal Australian College of General Practitioners *Guideline for the non-surgical management of hip and knee osteoarthritis* and to also highlight those that are not recommended.

Discussion

Following diagnosis based primarily on history and examination, management focuses on optimising quality of life by providing self management advice combined with appropriate pharmacological and nonpharmacological strategies, aiming to reduce acute exacerbations, prevent complications and delay progression.

Keywords: osteoarthritis; chronic disease therapy; musculoskeletal diseases; pain, chronic (disease)

CPD

Osteoarthritis (OA) is a significant chronic disease and a common presentation in general practice. Over 50% of people over the age of 65 years have radiological evidence of disease and approximately 10% of men and 18% of women have symptomatic OA.[1] Joint pain and reduced mobility cause considerable impact on quality of life. With no current cure for this condition, general practitioners are left with a range of management options aimed at optimising quality of life and self management, preventing acute episodes, delaying complications and preventing progression of the condition.

To assist the GP in deciding which of the many possible pharmacological and nonpharmacological options to recommend to their patients, The Royal Australian College of General Practitioners (RACGP) published the *Guideline for the non-surgical management of hip and knee osteoarthritis* in 2009.[2] While the recommendations in this guideline focus on the hip and knee, many of the recommendations are relevant to OA in other sites.

Diagnosing osteoarthritis

Diagnosis is usually based on patient history and examination. Weight bearing radiographs may be used to confirm the diagnosis but the findings are often nonspecific. Features suggestive of OA include:

- increased age
- symmetrical joint pain and stiffness
- decreased joint mobility
- joint swelling, and
- crepitus.

Alternative causes of joint pain should be considered and excluded.[2]

As the prevalence of OA increases with age, it is often associated with comorbidities. The assessment of a patient with OA should therefore focus not only on the musculoskeletal system but also include assessment of obesity (a risk factor for both development and progression of OA)[3,4] and other conditions that may impact on the management of OA. These conditions are outlined in *Table 1*.

Management of osteoarthritis

As OA is a chronic condition the management should focus both on proactive and reactive care. Planned care provides a structure to:

- optimise quality of life
- encourage and support self management

Table 1. Conditions impacting on osteoarthritis

- Cognitive impairment
- Cardiovascular disease
- Peptic ulcer disease
- Renal disease
- Diabetes
- Asthma
- Allergies
- Liver disease
- Depression and anxiety (more common in patients with chronic conditions)
- Falls risk
- Medications (especially polypharmacy and potential drug interactions)[3–6]

- manage acute episodes
- prevent or delay complications, and
- prevent progression.[7]

The importance of multidisciplinary care and goal setting in this context is emphasised in the guidelines. The development of a management plan (*Table 2*) should be tailored to the individual patient's circumstances and preferences, as well as the evidence of effectiveness for specific interventions. Multidisciplinary collaboration allows the patient to access the broad range of nonpharmacological interventions used in OA treatment. These can be provided by healthcare providers such as physiotherapists, occupational therapists, massage and manual therapists, personal trainers, exercise physiologists, dieticians and nurses. Providers involved in pharmacological management include GPs, pharmacists, rheumatologists, and orthopaedic surgeons. Seeking care from an appropriately trained provider is a component of effective and safe therapy.[8]

A practice nurse or allied health professional can provide valuable assistance across a range of areas when considering a care plan. They can assist with patient assessment and documentation; provision of patient education and self management support; preparation of the plan, contacting appropriate services, referral and review, advising the patient about likely expenses, facilitating communication between providers, and providing copies to all involved (including the patient).

Optimising quality of life

Nonpharmacological therapies should form the basis of management, with the aim of decreasing pain and improving function for all patients. Evidence supports assisting all patients to achieve optimal weight by at least two of the following methods: nutritional education, cognitive behaviour therapy, low energy diet and exercise (either land based exercises and/or aquatic therapy for patients with OA).[3,9] Exercise provides benefit even if weight loss is not achieved or required, and has a role in both symptom management and as a preventive strategy. Patients may prefer organised instruction when using exercise to manage OA.[10] Patients who believe that exercise is harmful to their joints are less likely to participate in exercise,[11] so specific advice to exercise alongside education about the benefits and appropriate referral by GPs may assist in overcoming this barrier to exercise participation. Referral using initiatives such as team care arrangements[12] may reduce financial barriers to allied health involvement. While weight reduction and exercise have the strongest supportive evidence, allied health interventions are not only limited to these modalities.

There is some evidence to support the use of multimodal physical therapy (which includes a range of different therapeutic strategies and usually incorporates manual therapy such as muscle stretching and passive range of movement strategies), tai chi, thermotherapy (cold therapy), transcutaneous electrical nerve stimulation (TENS) and acupuncture. Weak evidence suggests that patellar taping, massage therapy, low level laser therapy, magnetic bracelets and leech therapy may be of some benefit.[2]

Table 2. Example of GP Management Plan for OA[2]

Patient, carer and GP details

Assessment: date, site and severity of weight bearing X-ray, body mass index, waist circumference, number of falls in past 12 months

Past medical history, family history, medications (note any self management issues), allergies

Patient's concerns, actions, importance, support and review date:

Education/self management

Self management course and written information

GP/practice nurse, physiotherapist, Arthritis Association

Pain and stiffness

Know more about how to manage this better

GP, physiotherapist, support group, pharmacist, rheumatologist

Weight

Healthy lifestyle and weight loss advice

GP, dietician, physiotherapist, exercise physiologist

Mood

How does OA impact on mood and how to manage this

GP, practice nurse, psychologist, partner/carer

Impact on daily activities

Learning how to make these easier

GP, occupational therapist

Medications

Most appropriate medications; improved understanding of actions and side effects

GP, pharmacist, Home Medicines Review

Managing flare-ups

Self management such as rest, ice packs, creams; increase pain medications; see GP

GP, nurse, physiotherapist, rheumatologist

Review date: 3–6 months

Braces and orthoses, electromagnetic fields and therapeutic ultrasound provide no additional benefit above placebo, and are therefore not recommended.[2]

The choice of pharmacological intervention should be guided by severity of symptoms, their impact on function and risk assessment.[5] Pharmacotherapy can be tailored according to disease severity and symptom response (*Table 3*). Simple analgesia is the basis of pharmacotherapy; if indicated by symptoms, other agents should be added to the regimen, with follow up to assess for effectiveness. Patients are not always aware of the place that long term regular paracetamol plays in the management of OA,[13] so education by GPs may improve adherence. Aiming for the fewest agents possible to achieve the desired symptom control will reduce potential risks.[5]

Patients will often want to try glucosamine products or other agents such as vitamins or herbs. There is conflicting evidence about the benefit of glucosamine products in the treatment of symptoms. Vitamins, herbs and other dietary therapies are of limited or no benefit in treating OA of the hip or knee[2] (see the article by Marie Pirotta on the use of complementary therapies in arthritic disease in this issue).

Those patients whose symptoms are not adequately controlled despite appropriate conservative therapy should be assessed for surgery: the RACGP has developed a tool to assist GPs assess patients for joint replacement surgery.[14–16]

Many patients with severe pain from OA do not consult their GP about their pain, despite visiting them about other health matters.[17] Opportunities to optimise quality of life and prevent progression may therefore be missed unless GPs adopt a strategy of opportunistically enquiring about pain and function in all patients with OA.

Supporting self management

Patients with OA should be provided with information about their condition and advised about appropriate support groups. Arthritis Australia (see *Resources*) provides a range of online resources (English and other languages) and also runs self management courses via local organisations in each state and territory.

Regular follow up and discussion about arthritis can improve symptoms via monitoring of recommended therapies and providing important social and self management support.[5] An individual's social situation and psychological state play an important part in pain perception. Patients with lower education levels or concurrent depression are more likely to perceive troublesome pain.[18] Social, environmental and psychological interventions may be appropriate depending on the patient's individual needs.

Managing acute episodes

Acute episodes can be managed by a stepwise approach to both pharmacological and nonpharmacological management. This involves adding pharmacological agents above the patient's baseline therapy. For example, for the patient on regular paracetamol at maximum recommended dosage, addition of short term topical therapy or oral nonsteroidal anti-inflammatory drugs (NSAIDs) should be considered (*Table 3*).

Intra-articular injection of corticosteroid provides rapid relief for approximately 4 weeks and is a useful strategy for those patients in whom oral NSAIDs are either not tolerated or are contraindicated. Repeated injections appear to be less useful.[5] It is recommended that GPs performing intra-articular injections receive training in the procedure.[2]

Local ice-packs and rest are appropriate initial nonpharmacological therapies for acute flares, as is appropriate referral for other therapy such as physiotherapy.

Preventing or delaying complications and progression

Lifestyle modification plays an important role in both the prevention and management of OA. Being overweight increases the risk of

Table 3. Pharmacological therapy in osteoarthritis

	Mild to moderate persistent symptoms	Moderate to severe persistent symptoms
Simple analgesia	Regular paracetamol (maximum 4 g/day)	
Topical therapy	Short term NSAIDs or capsaicin	
Oral NSAIDs	Trial short term after assessment of risk; monitor blood pressure and renal function; for patients at high risk add a proton pump inhibitor or prescribe a COX-2 inhibitor[6]	
Viscosupplementation (knee only)		Synthetic hyaluronic acid or hylan products via intra-articular injection. No benefit for hip osteoarthritis
Opioid therapy		Consider for severe symptoms if surgery contraindicated or delayed; commence at low dose, titrate dose and monitor for adverse events
Intra-articular corticosteroid injection	Acute flare of symptoms when trial of NSAIDs contraindicated or not effective	
Other agents	Role of glucosamine hydrochloride and glucosamine sulphate remains uncertain; chondroitin sulphate no clear evidence of benefit; vitamin, herbal and other dietary therapies of little or no benefit	

progression of OA, and evidence suggests that weight reduction reduces disability in patients with OA.[2] Exercise has a place in preventing progression and complications of OA as a component of weight management by improving general health and by preventing the development of functional disability, particularly in knee OA.[3]

Current evidence does not support a role for glucosamine or chondroitin in prevention of cartilage loss in OA.[2]

As discussed, GPs are well placed to provide long term care in patients with OA, including diagnosis, patient education and support, provision of pharmacological and nonpharmacological therapies and appropriate referral. Regular follow up of patients with established OA, including ongoing patient education, review of multidisciplinary care, medication review and behavioural modification, can reduce the risk of disease progression as well as prevent complications in at risk populations, including falls risk in the elderly.

Summary of important points

- Symptom severity should guide appropriate management.
- Develop a goal setting care plan based on need, evidence for effectiveness and patient preferences.
- Involve a multidisciplinary team in management.
- Promote and support patient self management.

Resources

- Arthritis Australia: www.arthritisaustralia.com.au
- National Prescribing Service: www.nps.org.au
- The RACGP: www.racgp.org.au
- Therapeutic Guidelines: www.tg.com.au.

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