Symptom management for patients awaiting joint replacement surgery

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Background
Joint replacement surgery is a highly effective treatment option for patients with severe osteoarthritis (OA) of the hip and knee when other treatments have failed. Unfortunately, as a result of the COVID-19 pandemic, a temporary suspension of non-urgent elective surgery was implemented. Thousands of patients currently awaiting hip and knee replacements have been affected. Many of these patients will present to their general practitioners for symptom management during this interim period.

Objective
The purpose of this article is to summarise current recommendations for the non-operative management of patients with symptomatic OA.

Discussion
Non-operative treatment modalities for OA include education, lifestyle modification and exercise, mass reduction, physiotherapy, orthoses, psychology, pharmaceuticals and injections. Multimodal therapy is required for patients with severe symptoms. A number of useful online resources are presented, as access to public allied health services may be limited because of the COVID-19 pandemic.

OSTEOARTHRITIS (OA) of the hip and knee are common orthopaedic conditions, frequently causing pain and disability. The incidence of OA is steadily increasing.[1] Joint replacement surgery has revolutionised the management of OA but should be reserved for patients who have not responded to non-operative therapies. Joint replacement is very cost-effective and provides long-term improvements in pain, mobility and quality of life for most patients.[2,3]

In Australia, more than 105,000 primary and revision hip and knee replacements were performed in 2018, and approximately 35% of these operations were performed in the public sector.[4,5] The projected burden of primary total hip and knee replacement in Australia is expected to increase by 208% and 276%, respectively, by the year 2030.[6]

Unfortunately, as a result of the COVID-19 pandemic, a nationwide, temporary suspension of non-urgent elective surgery was implemented. Thousands of patients waiting for joint replacement surgery have been affected. Although the restrictions are being eased, patients may still experience delays as health services manage their waiting lists. Many affected patients will present to their general practitioners for symptom management in the interim period.

The purpose of this article is to discuss non-operative management options for patients with severe OA. Although prompted by recent elective surgery suspensions, the principles presented are equally applicable to patients who are unfit for surgery, or patients using the public system who may wait 365 days for their joint replacement, according to National Categorisation Guidelines.[7]

The management approach is essentially the same as for patients with milder symptoms; however, it may be necessary to use several treatment modalities.[8] Different treatment modalities are discussed in the remainder of this article.

Education

OA is a chronic condition, and patient education plays an important part in management.[9,10] Patients need to understand the natural history of the condition and treatment options available. Misconceptions about OA are common, particularly about the positive role of regular low-impact cardiovascular exercise and muscle-strengthening exercises, and these misconceptions should be corrected. Misconceptions about chronic pain are also common, and education plays an important part in management. Box 1 lists a number of online patient education resources that may be beneficial.

Many patients will be anxious and upset about the suspension of elective surgery. However, these decisions were not made lightly, and it is important to explain that they were made in the best interest of both the individual patient and our nation's healthcare. As restrictions ease, health services are focusing on reinstating patients on elective operating lists as expediently as possible.

Lifestyle modification and exercise

In general, avoidance of activities that significantly aggravate the patients' symptoms is advisable. For lower limb OA, avoiding high-impact activities may be

beneficial. However, there is a common misconception that weight-bearing activity and joint movement may cause further cartilage damage. In fact, there is evidence that regular low-impact cardiovascular exercise and regular peri-articular strengthening and range-of-motion exercises are beneficial for reducing the symptoms of OA.[11,12] GLA:D International (Good Life with osteoArthritis: Denmark) has produced a series of educational videos about home-based joint exercises; these videos are freely available on YouTube (Box 1).

Mass reduction

The link between obesity and knee OA is well established.[13] Even modest weight loss can reduce patients' symptoms.[14] For patients who are obese, weight loss may also reduce the risk of subsequent anaesthesia and major surgery. Engagement with a dietitian, exercise physiologist and/or physiotherapist to provide advice on healthy dieting and regular cardiovascular exercise may be beneficial.

Physiotherapy

Musculoskeletal physiotherapists play an important part in the non-operative management of OA. Periarticular muscle strengthening, gait retraining and core strengthening are beneficial to both reduce symptoms pre-operatively and improve recovery postoperatively.[11,12] Physiotherapists can also provide mobility assessments and advise on the use of gait aids to minimise pain while weight bearing, improve ambulation and reduce the risk of falls.

Access to allied health services during the COVID-19 pandemic may be limited, particularly in the public sector. GLA:D International's instructional videos may be beneficial at this time.

Orthoses

Gait aids – including walking sticks, crutches and walking frames – can allow patients with severe OA to maintain a degree of mobility and independence.[15] When used correctly, these devices transmit weight from the affected lower limb to the upper limbs. In general, a walking stick should be used in the contralateral hand for hip and knee OA. A physiotherapist can prescribe an appropriate gait aid and train the patient in its correct use.

For patients with severe OA for whom any weight bearing is intolerable or unsafe, a wheelchair or motorised scooter may be used to maintain mobility. An occupational therapist can provide advice on these devices.

There is no evidence to support the use of knee braces or orthotics for the treatment of knee OA.[16]

Psychology

Patients with chronic pain due to OA commonly experience anxiety and depression.[17] The added stress of elective surgery suspensions, along with other stresses associated with the COVID-19 pandemic, may exacerbate these conditions. Proactively addressing these issues is advocated.

Pharmaceuticals

A stepwise approach to analgesia is recommended.[10] Non-opioid agents such as paracetamol and cyclooxygenase-2 (COX-2) selective nonsteroidal anti-inflammatory drugs (NSAIDs) should be used for appropriate patients. Opioids should be avoided where possible. However, these may be considered for patients in severe pain for whom surgery has been postponed.

Topical NSAIDs and capsaicin may be beneficial.[18,19]

Regarding complementary medicines, glucosamine and chondroitin sulphate are no more effective than placebo.[20,21] Fish oils and turmeric have mild anti-inflammatory effects, but there is insufficient evidence to support their use.[9]

Injections

Intra-articular injections of cortisone may provide temporary symptomatic relief for patients with OA.[9] These are commonly used in the knee and may be administered with or without imaging guidance. Intra-articular cortisone injections for the hip are less common and require imaging guidance. Pain relief after cortisone injections is variable, and any relief is generally temporary. Intra-articular injections of hyaluronic acid should not be recommended.[9]

Judicious use of cortisone injections may be considered for patients with significant symptoms when joint replacement surgery is temporarily unavailable. However, there is an increased risk of periprosthetic infection in joint replacements performed within three months of an intra-articular injection.[22,23] It is therefore not advisable to consider injections when surgery is likely to occur within three months. Communication with the local orthopaedic service is recommended.

At present, there is insufficient evidence to support the use of platelet-rich plasma or stem cell therapy for patients with OA, and these options are very expensive.

Box 1. Online patient education resources for osteoarthritis management

Understanding osteoarthritis

- Osteoarthritis Australia – My Joint Pain, www.myjointpain.org.au
- Osteoarthritis Research Society International (OARSI) – Patients, www.oarsi.org/patients

Chronic pain management

- NSW Government Agency for Clinical Innovation – Brainman Pain Management Resources, www.aci.health.nsw.gov.au/ie/projects/brainman
- This Way Up – Chronic Pain – Reboot, https://thiswayup.org.au/how-we-can-help/courses/chronic-pain

Home-based joint exercises

- GLA:D International YouTube channel, www.youtube.com/channel/UCP8RbOupT5GgQarss0Ybt8g/videos

Conclusion

The healthcare impact of the COVID-19 pandemic in other countries has been devastating. The Australian Government is actively implementing strategies to mitigate the impact of the pandemic in our country. One unfortunate consequence has been the temporary suspension of non-urgent elective surgery. Thousands of patients awaiting joint replacement surgery have been affected. Patients with severe OA will need multimodal non-operative management during this challenging time.

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Competing interests: None.

Funding: None.

Provenance and peer review: Not commissioned, externally peer reviewed.

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