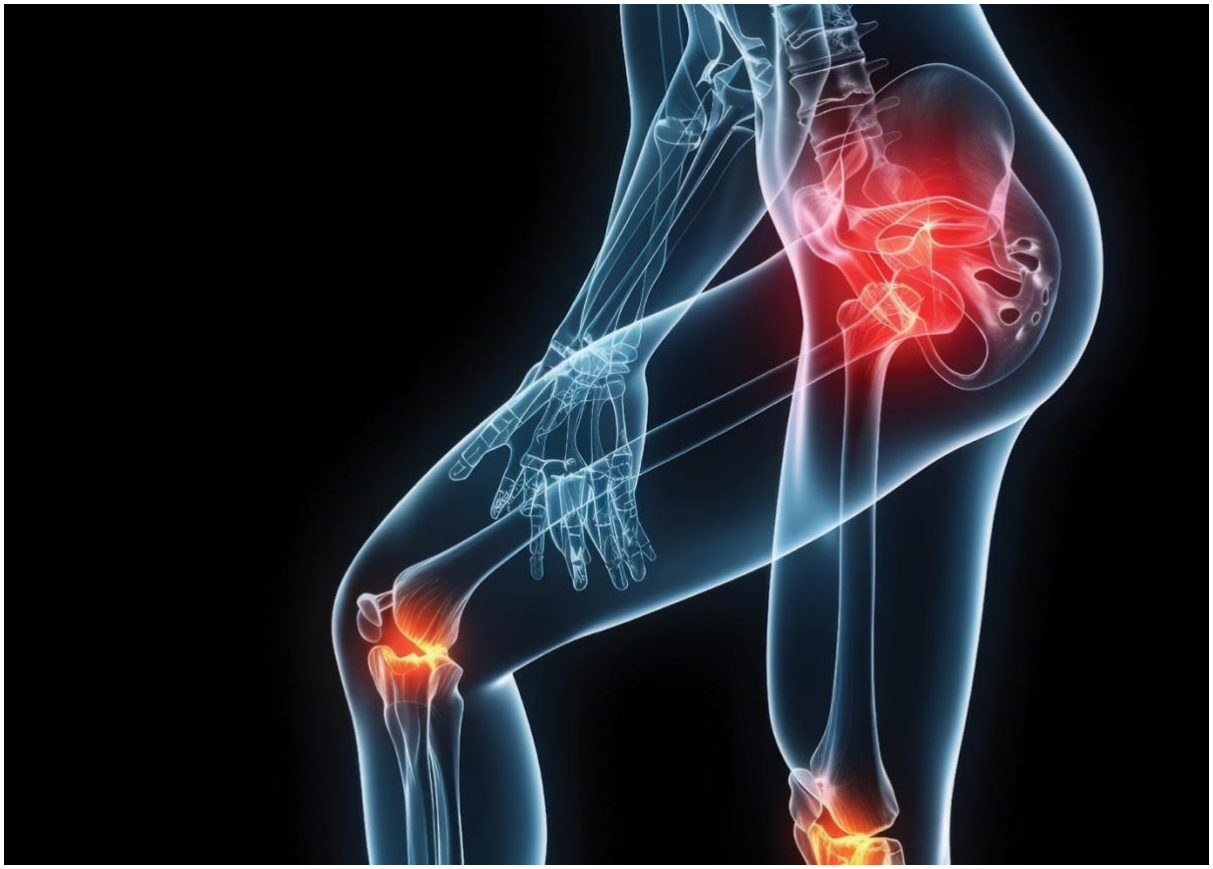
Non-operative management of hip and knee osteoarthritis

Dr Arash Taheri · January 17, 2025



Hip and knee osteoarthritis (OA) affects millions globally, significantly impairing their quality of life. Non-operative management strategies have garnered attention for their potential to enhance patient care without the risks associated with surgery, reflecting an updated perspective on OA treatment.

It is important to recognise that we still do not have an all-encompassing single aetiology for primary OA, often being multi-factorial or ‘idiopathic’. Additionally, radiographic markers of OA do not always correlate with symptomatic OA. Thus, it is imperative to tailor the management to individual patient psychosocial, physical and medical needs, and expectations in a holistic way.

My passion is empowering patients with strategies to avoid joint replacement. Approximately 80% of my new patients will receive some variation of the modalities outlined here, some often avoiding joint replacement for many years. There is much satisfaction in this journey of guided self-improvement for our patients, and I encourage you all to consider trying as many of these as you can within your time constraints.

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Analgesics and supplements

Non-operative OA management often starts with simple analgesics. Paracetamol is recommended for initial pain management due to its efficacy at prescribed dosages and safety profile compared to NSAIDs, which offer significant pain relief, but require caution due to gastrointestinal risks.

Emerging evidence highlights the anti-inflammatory properties of palmitoylethanolamide (PEA), while the efficacy of glucosamine and chondroitin remains debated. However, I still suggest trialling them as there are very little negative side effects. Fish oil and curcumin are recognised for their inflammation-reducing effects, and novel drugs promise innovative approaches to OA pain management.

Injectables such as corticosteroids provide immediate pain relief, albeit temporarily. Visco supplementation with hyaluronic acid (HA) faces controversy, underscoring the importance of careful patient selection. I use HA only in patients with mild to moderate OA, as sufficient cartilage is necessary for effective hydration.

Current research on platelet-rich plasma (PRP) tempers its widespread use due to mixed efficacy results. Similarly, stem cell therapy shows promise, but requires more substantial evidence to justify its cost for routine use in OA treatment.

Lifestyle changes

Pro-inflammatory diets are often high in calories, sugars, and unhealthy fats, leading to weight gain, obesity, and metabolic dysfunction. Excess adiposity and metabolic abnormalities, such as insulin resistance and dyslipidaemia, are known risk factors for OA development and progression as well as poorer outcomes.

The evidence suggests that pro-inflammatory diets may contribute to the exacerbation of symptoms in osteoarthritis patients through their effects on systemic inflammation, metabolic health, joint pathology and cartilage degradation.

Promoting anti-inflammatory dietary patterns rich in fruits, vegetables, whole grains, lean proteins, and healthy fats may help mitigate inflammation, improve symptom management, and slow disease progression in OA patients. I recommend formal dietetics review for all obese patients.

Weight management plays a pivotal role in alleviating OA symptoms. The reason is simple – physics! For instance, the knees endure up to 20 times the body weight, while the hips face up to 15 times the body weight. Consequently, even modest weight loss can dramatically reduce joint loads.

I aim to avoid operating on individuals with a BMI over 35, and actively support patients in achieving this target before considering surgery. Many negate the requirement for surgery when they lose the weight.

Intermittent fasting is a strategy I both personally practise and encourage, with a myriad of benefits. The most relevant is the potential anti-inflammatory effects and improvements in metabolic health. Novel pharmaceuticals, including drugs such as semaglutide, offer new avenues for weight control. For severe cases, bariatric surgery may be considered, with evidence supporting its positive impact on OA symptomatology.

Physiotherapy, emphasising strengthening and flexibility, remains a cornerstone of non-operative OA management. Hydrotherapy offers a unique benefit by reducing joint stress during exercise, making it a valuable treatment modality for OA patients seeking pain relief and improved mobility.

In the pool, joint reaction forces are reduced to only three to four times body weight in the knees, allowing patients to elevate their heart rates while minimising stress on their arthritic joint(s). This creates a synergistic effect that facilitates weight loss.

Other options

As an avid practitioner of transcendental meditation and meditating for over a decade, I can personally attest to the vast benefits one receives. I have been exploring alternative therapies studied in the literature including mindfulness and meditation, shown to positively influence pain perception in OA patients.
Sound therapy, using specific solfeggio frequencies, rhythms and binaural beats, aims to reduce stress and alleviate pain. Techniques focusing on breath work and positive thinking further enrich the arsenal against OA pain.

Cognitive Behavioural Therapy (CBT) addresses the psychological aspects of chronic pain, emphasising the importance of mental health in OA management outcomes.

Recognising the limits of non-operative management is crucial. When conservative measures prove inadequate in alleviating symptoms and their disability increases, referral for surgical evaluation becomes necessary, ensuring patients receive the most appropriate and effective treatment.

Key messages

- Research efforts will likely continue to explore the intricate interplay between psychosocial, genetic, mechanical, inflammatory, metabolic, and age-related factors in OA pathogenesis
- Better understanding the complex aetiology of primary OA will pave the way for personalised, targeted therapeutic strategies aimed at preventing or slowing disease progression.

Author competing interests – nil