



Exercise & diet for knee arthritis – why bother?

There are good reasons for a multifaceted approach to treating OA of the knee. Orthopaedic surgeon **Dr Daniel Meyerkort** explains.

Australia, like much of the developed world is gripped in two pandemics, one being COVID-19, the other is linked to obesity, painful knee arthritis.

Of knee replacements in Australia, 59% of patients have a BMI greater than 30 at the time of surgery. Obesity is linked to surgical complications, particularly infection.

While the public's imagination is easily captured by 'robotic surgery', despite a current paucity of evidence to show it clearly improves outcome, it is harder to convince patients that lifestyle modifications will be beneficial to their knee health.

Arthroscopy challenged

It is now widely published that knee arthroscopy should not be first line treatment for knee arthritis, having a similar success rate to placebo surgery.

This now includes patients with degenerative, horizontal-type meniscal tears. Knee replacement is a good option for moderate to severe disease, however, significantly higher dissatisfaction rates have been reported when surgery has been performed for early disease.

A RCT comparing total knee replacement with multimodal physiotherapy (a 12-week muscular strengthening program + patient education + dietary advice + analgesics) demonstrated that this combination program provided patients with about 50% of the improvement compared with total knee replacement.

The study population was patients booked for joint replacement (i.e. their disease was severe enough for surgery) and over the 12-month study period 74% of patients in the conservative group was able to postpone surgery.

A muscular strengthening exercise program should be a core treatment of all patients



with knee arthritis. A randomised trial of muscular strengthening physiotherapy vs paracetamol demonstrated superiority of physiotherapy for symptoms related to knee osteoarthritis at 12 months follow-up.

Smaller improvements were also seen in pain, activities of daily living and quality of life measurements. Recently the Good Life with OsteoArthritis in Denmark (GLA:D) program has been gaining popularity in Australia.

GLA:D is an educational program with supervised muscular strengthening exercise delivered over eight weeks for patients with hip and knee osteoarthritis. Published results from this study of 9825 patients demonstrated significantly decreased pain intensity and improved quality of life scores at three months.

Maintaining progress

Interestingly, these good results were maintained at the 12-month follow-up despite no further intervention past three months.

Independent exercise outside of the structured clinical environment should also be encouraged in patients with knee arthritis. Importantly patients should be educated that exercise will not cause accelerated damage to the knee.

Both land-based exercise (walking, cycling, strength training, yoga, Pilates, tai chi) and aquatic exercise have been shown to be beneficial

for pain relief and functional improvement.

Patients should be encouraged to do sufficient frequency and intensity as better outcomes have been shown with higher participation rates.

Weight Management

Weight loss has been shown to improve knee pain and function with a direct correlation shown in patients with a BMI over 28. A minimum of 2.5% weight loss has demonstrated pain relief, with less physical disability with weight loss over 5%.

Combination of dietary change and exercise has been shown to provide greater pain relief than dietary change alone. Interestingly in addition to the clinical benefits on knee function, weight loss has been shown to slow cartilage degradation on MRI imaging.

In patients who have failed conservative weight loss measures and with a BMI > 40 (or >35 with additional co-morbidities), bariatric surgery may have a role in management. A systematic review of 13 studies with 3837 patients demonstrated decreased pain, improved function and range of motion post bariatric surgery.

Accessible weight loss

It can be hard to find time to talk to patients in detail about weight loss. It is my current practice to recommend patients obtain a copy of the CSIRO Low Carb Diet Series. Published data shows patients lose 4% of their body weight over six weeks and 6% over 12 weeks on this diet.

It simply recommends healthy eating with higher vegetable/lean protein intake and the carbohydrate equivalent of around four slices of bread per day. Specific weight loss services targeted at patients with knee arthritis are also available, some of which are supported by health funds. [mf](#)