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NON-SURGICAL TREATMENTS FOR OSTEOARTHRITIS of the KNEE

The knee is the largest joint in the body, and is also the joint most commonly affected by osteoarthritis.

There are many factors that contribute to the development of osteoarthritis. Such factors include family history, injury, obesity, overuse, malalignment, certain sporting activities, and occupational considerations.

Treatment for osteoarthritis of the knee depends on the stage and severity of the condition, and the age and physical requirements of the patient.



X-ray of a normal knee

In general, the initial treatment for early osteoarthritis is **non-operative**. As the condition progresses, and it usually does, surgical treatments may be required. Surgical treatments range from minor procedures such as arthroscopy to major operations involving total joint replacement.

The treatments that I employ and recommend in the management of the painful, arthritic knee are personally selected for each patient, according to their symptoms, needs and requirements, and are modified as required according to the individual patient's response.

Osteoarthritis of the Knee



Osteoarthritis often causes deformity and bowing of the legs



*X-ray of an arthritic knee
Note the lack of joint space on the medial side.*

TREATMENT of the ARTHRITIC KNEE

Treatments for the arthritic knee include the following:

Conservative (non-operative) Treatments

This is always a good place to start, and often leads to satisfactory results in the treatment of the early stages of osteoarthritis. Successful conservative treatment can put off the need for surgery.

Recommended treatments include the following;

Do regular **quadriceps** (thigh muscle) strengthening exercises. Leg raising or leg extension exercises using ankle weights to strengthen the quadriceps muscle group can help support the knee joint during load and lead to better function and reduced symptoms. 1 to 2 kg ankle weights will usually suffice. At least 100 repetitions per leg per day (25 at a time) are required.

Have a course of **physiotherapy**. A good physiotherapist can help with strengthening exercises and other physical techniques to help maximise knee function and mobility.

Take up a **low impact exercise programme**. Swimming, walking and stationary cycling are excellent ways to keep mobile and retain function of the knees. Joint surface cartilage is nourished by synovial fluid which requires movement for optimal penetration to the cartilage cells in the deeper layers. Movement is vital for joint function. Join an exercise class.

Reduce your weight if you are overweight. More than half of Australian adults are overweight. Excess weight places enormous stress on the knees, and leads to early arthritis. Your body/mass index (BMI) is calculated by dividing your weight in kilograms by your height in metres squared and should ideally be below 25, for example if you weigh 85kg and are 1.75 metres in height your BMI will be $85/1.75 \times 1.75 = 27.8$ which is too high and needs attention. If you are overweight you should speak to your GP for advice on dieting, exercise, and possibly medication. It may be helpful to seek advice from a dietician. Remember, sensible weight reduction is definitely beneficial if you have osteoarthritis.

Try a course of **cartilage supplements**. Glucosamine Hydrochloride and Chondroitin Sulphate are cartilage building blocks that are available in tablet or powder form from chemists, health food stores and some supermarkets. There are many reports of patients benefiting from taking these compounds, and the chance of suffering side-effects appears to be very small. The exact mechanism of action of these compounds remains unknown.

Anti-inflammatory medications are very useful in treating the symptoms of arthritis although they do not appear to affect the underlying condition. It is reasonable to take anti-inflammatories as long as complications and side effects do not occur. Common side effects of non-steroidal anti-inflammatory drugs (NSAID's) include dyspepsia, reflux oesophagitis, stomach and duodenal ulcers, fluid retention, hypertension, and asthma in susceptible individuals. Some patients tolerate NSAID's for years without suffering complications.

Cox 2 inhibitors (Celebrex, Mobic). This is a relatively new class of drug that gives relief of pain and symptoms of arthritis. Gastro-intestinal side effects are less common with this class of drugs than with traditional NSAID's. Recent reports, however, have suggested a link between these medications and cardiac problems, so caution a cautious approach is warranted. These medications can also cause elevated blood pressure and should be avoided in patients with hypertension and renal disease.

Treatments delivered by injection

Cortisone injections into the arthritic knee may reduce inflammation and relieve symptoms for a while but do not affect the underlying disorder. Nevertheless cortisone injections are sometimes appropriate in patients who wish to delay surgery and those who are unfit for anaesthesia.

Visco-supplementation with **hyaluronic acid** based joint fluid substitutes (e.g. **Synvisc, Osteoartz**) may give relief of symptoms of arthritis for several months or longer and may put off the need for surgery in some patients.

Surgery

As the arthritis in your knee progresses the treatments listed above are likely to become less effective in relieving symptoms. In such instances surgical treatments may be required.

Surgical options range from minor operations conducted on an outpatient such as arthroscopy to major procedures such as partial or total knee replacement.

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