

Osteoarthritis

The dreaded OA - the result of Old Age and a life of hard knocks. But is OA really the life sentence it is made out to be? Or are we creating further pain and loss of function through poor management of the condition?

Osteoarthritis – What is it?

Arthritis is an umbrella term for any disease which causes inflammation or break down of joint surfaces, leading to pain, stiffness and decreased range of motion. Osteoarthritis is the most common form of arthritis and is generally caused by mechanical wear and tear to cartilage. Cartilage is a thin protective coating on the ends of bone (approximately 100 times smoother than ice) that allows joint surfaces to move smoothly against each other. Chronic wear and tear on joints, particularly to joints that have had previous injuries or surgery, can lead to a break down in the integrity of the cartilage, creating an increase in the friction between bones. Unfortunately, blood supply to cartilage is generally non-existent, meaning that these surface break downs will not heal as would a normal muscle tear or bone fracture. As cartilage surface break down increases with age, the friction between the joint surfaces will increase, leading to pain, swelling and loss of function.

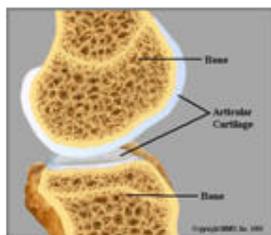
Symptoms

The symptoms of osteoarthritis are variable in their frequency and severity; however, most people will suffer:

- **Pain.** This is the earliest symptom and is usually worsened by use of the joint and relieved by rest. Pain from osteoarthritis of the hip is often felt in the groin or the front of the thigh to the knee. In osteoarthritis of the spine there may be pain and stiffness in the neck or lower back, and what is known as 'referred pain' down the arm or leg due to irritation of the nerves supplying the area.
- **Stiffness.** Particularly in the morning and during colder months. This will tend to go away after using the joint for five to 15 minutes.
- **Swelling and redness of the joint** may sometimes occur.
- **Weakness of the muscles around affected joints** giving rise to a feeling of joint instability.
- **Reduced mobility** from one or more of these symptoms.

Medical Management:

X-rays of the affected joints is generally the first step in the diagnosis of OA.



Normal Knee

OA Knee

The x-ray on the left shows a healthy joint, with a consistent space between the two bones and smooth edges. The x-ray on the right is of a knee damaged by OA, with the joint space uneven, along with a small bone fragment floating between the joints. These fragments can break off from the healthy bone surface due to increased friction and inflammation – leading to a 'locking' of the joint.

Once diagnosed, patients are generally prescribed paracetamol and anti-inflammatory medications to assist with pain and swelling. However, it is at this point that often patients are not given enough information – resigned to a lifetime of increasing pain and decreasing mobility. Whilst medications can offer short term relief from symptoms, conservative self management is far more important in the long term relief of pain.

So what goes wrong?

Generally, once diagnosed with OA, people will begin to decrease their activity levels to manage their pain. As the condition progresses, more medication is required to reduce greater levels of pain. As this continues, the body adapts to the increased medication and becomes resistant, requiring more pills to achieve pain relief.

It is important to know that only 1/3 of arthritis cases are progressive, however, many people report a constant increase in pain levels with time. This is generally due to the viscous circle of inactivity. As activity levels drop, muscle tissue will waste away, joint capsules will stiffen and swelling will increase due to decreased blood flow and movement of the joint. These all add up to a decrease in physical condition, and generally, an increase in weight. The greater the body weight, the greater the stress on joints, and the greater the pain felt by OA.

Conservative Management:

Exercise is very important for people with osteoarthritis, as it helps to decrease pain, keep joints mobile, increase muscle strength, strengthen bones and ligaments, prevent joint deformities, and increase fitness and wellbeing in general. Gentle exercises are best, such as walking and hydrotherapy (physiotherapy / exercise in the water to assist with buoyancy and joint motion).

Whilst weight bearing exercise is generally uncomfortable at the time, it helps to stimulate the synovial fluid in joints that provides nutrition to cartilage, thereby improving the condition of the remaining cartilage and preventing further damage.

Strengthening exercises are also used effectively to improve the stability of joints, decreasing mechanical stress – leading to decreased pain.

Keeping weight down also helps to decrease the mechanical stress on joints. Whilst there is yet to be a certain diet discovered that will cure OA, the correct nutrition will greatly assist in weight loss.

Minimising stresses on joints. This is achieved by being aware of activities and body positions that stress individual joints and aggravate the symptoms. It may mean modifying activities like house chores and leisure pastimes. There are many different aids and equipment available that can help maintain function and these can be arranged through your physiotherapist.

At the end of the day, there is **no cure for OA**, but the more proactive a person is in managing their condition, the less joint pain, stiffness and disability they'll experience.

The next step...

If conservative management methods have failed to make your condition bearable, surgery may be the

next best option to treat arthritis. The exact type of surgery depends upon many factors; your age, affected joint and underlying condition. In more common joints such as the hip and knee, a total joint replacement is a familiar and (generally) effective operation.

Joint replacement surgery involves cutting away the arthritic bone and inserting a prosthetic joint. All of the arthritic surfaces are replaced and the ends of the bone are replaced with the prosthesis, like capping a tooth. The prosthetic component is generally made of metal and plastic surfaces which are designed to glide smoothly against one another. Because of this, the surgery can be more likely seen as a joint resurfacing than a joint replacement.

After the Surgery:

Post operative physiotherapy and exercise is very important in the quality of your rehabilitation. Strengthening exercises are generally started from the first day after your operation. Most hospitals will have you up and walking the next day as well. Following discharge from hospital, regular physiotherapy is essential to ensure that you achieve the best results for your knee. Exercises to improve joint ROM improve the function of your new joint, along with further strengthening to increase function and progress off crutches.