

Osteoarthritis is the most common form of arthritis. It develops slowly and usually does not cause severe disability, especially with appropriate guidance from your physiotherapist. Almost half of people over 60 and virtually all over 80 years of age have osteoarthritis, but it has also been found in a few people under 21.

Osteoarthritis has been called 'wear and tear' or 'degenerative' arthritis. It occurs as a result of the mechanical breakdown of the structures of the joints. This happens most often in the large weight-bearing joints – the knees, hips and spine. It also often affects the hands.



HEALTHY JOINT
Smooth cartilage
protects bone surfaces.



OSTEOARTHROTIC JOINT
Rough, worn cartilage
results in joint damage.

HOW DOES IT AFFECT JOINTS?

- In a healthy joint, a firm rubbery material called cartilage covers the end of each bone. This cartilage acts as a cushion, or shock absorber, and provides a smooth, slippery surface between the bones.
- The bones of the joints are held together by ligaments and tendons, which act as strong flexible cables and allow movement in the right directions. These are all completely enclosed in a capsule and the joint is lined by a thin synovial membrane which releases a lubricating fluid into the enclosed joint space.
- The first major change in osteoarthritis is softening and pitting of the smooth cartilage surface. With time, sections of cartilage may be worn away completely, leaving the ends of the bones unprotected (see right hand picture).
- Without their normal gliding surface, joints become painful and difficult to move. As the cartilage continues to break down, the joint loses its shape, and the bone underneath thickens and grows out at the sides, further reducing movement.

WHAT CAUSES OSTEOARTHRITIS?

- For years, osteoarthritis was thought to be a result of normal wear and tear during a person's lifetime. But researchers now recognise that several factors lead to its development. These are biological factors, age, joint damage by injury or by long term obesity, and a family history of osteoarthritis.
- An injury such as a fracture or torn cartilage may result in osteoarthritis later in life. It may follow unusual or prolonged strain on a joint, either in work or sport. Being overweight over a long period of time is also thought to speed up the process.
- Some forms of osteoarthritis do run in families, especially the form that affects the finger joints. However, in general, heredity is not a major reason for having osteoarthritis.
- The precise causes and mechanisms leading to osteoarthritis are still unknown.

SYMPTOMS OF OSTEOARTHRITIS

Osteoarthritis is often very mild and does not always have many symptoms even though x-rays may show joint changes. Alternatively, you may have periods with joint instability and severe pain, interspersed with long periods of stability.

Most older people experience some twinges of joint pain which soon go away or are fully eased by rest and a little warmth. Sometimes, however, the symptoms are more pronounced and may include any or all of the following:



- **PAIN AND STIFFNESS**
Pain in a joint tends to increase with use and to decrease with rest. Stiffness, however, usually occurs when the joint has been rested.
- **SWELLING**
This occurs when irritation of the synovial membrane causes an outpouring of extra joint fluid – just as your eye produces tears when irritated. But in the joint, the extra fluid cannot escape as easily, and so it causes swelling. This most often occurs in the weight-bearing joints in the hips, knees and spine.
- **BONY GROWTHS**
A fairly common complication of osteoarthritis is the appearance of bony growths (called nodes) in the finger joints. These occur more commonly in women and sometimes occur as early as age 40. Sudden redness, swelling, tenderness and aching may occur. Sudden change such as this may indicate another problem, such as infection or gout, and you should get this checked by your doctor without delay.

Although these nodes may make the finger joints painful, most people continue to have good use of their hands. The pain can be relieved by appropriate treatment in the early stages. Some people do not feel any pain with these nodes and many people with this kind of osteoarthritis never have serious problems with any other joints.

DIAGNOSIS

There are no specific blood tests for osteoarthritis, but tests may be made to exclude other forms of arthritis. Your doctor will ask you to describe any physical stress or injury that may have led to your pain. A physical examination will be carried out with close attention to your affected joints.

X-rays help the diagnosis but are not a good guide to the severity of future symptoms. They may show extensive change, but this does not always mean great pain or disability will result.

PHYSIOTHERAPY TREATMENT

Treatment cannot reverse the changes that have already taken place in the joints, but there is still much that can be done, especially to slow down the disease process and control the symptoms. It is important to gain proper medical attention so the most disabling effects of the disease can be avoided. Neglect and delay are the worst enemies in overcoming osteoarthritis.

Your doctor is likely to advise a treatment that takes into account the severity of the disease, what joints are affected, your symptoms, other medical problems, your age, occupation and everyday activities. Treatments may include rest and guided exercise, weight loss, heat/cold treatment, pain control or anti-inflammatory drugs, or injections into a joint with steroids to reduce inflammation or a lubricant substance. If it is needed, hip or knee surgery can bring real improvements and should not be feared.

Physiotherapy can be effective in relieving pain and improving function, in particular your physiotherapist can advise you on specific strengthening exercises that will help to support and unload the knee joint. Manual therapy is defined as an approach utilizing skilled, specific hands-on techniques, including but not limited to manipulation/mobilization. Its use in osteoarthritis is for the purpose of modulating pain; increasing range of motion (ROM) and improving function. Research has shown that a combination of strengthening and manual therapy produces greater results than either treatment used alone.

LIVING WITH OSTEOARTHRITIS

People with osteoarthritis can benefit by taking responsibility for their wellbeing. It is important first to accept any limitations and to learn to use your body in a different way, to protect the joints (an occupational therapist can be of help here).

Most of the disability in the early stages of osteoarthritis can be reversed with a programme of low-impact exercises and by keeping a healthy bodyweight. Pain control and relaxation are also important to allow you to perform such activity.