



What is osteoporosis?

Osteoporosis occurs when the struts which make up the mesh-like structure within bones become thin causing them to become fragile and break easily, often following a minor bump or fall. These broken bones are often referred to as 'fragility fractures'. The terms 'fracture' and 'broken bone' mean the same thing. Although fractures can occur in different parts of the body, the wrists, hips and spine are most commonly affected. It is these broken bones or fractures which can lead to the pain associated with osteoporosis. Spinal fractures can also cause loss of height and curvature of the spine.

What is osteoarthritis?

One of the common types of arthritis is osteoarthritis; a painful condition that can affect the joints, especially the hips, knees, neck, lower back, or hands and feet. When osteoarthritis develops in a joint the cartilage (the soft tissue that protects the surfaces of the bone) begins to thin and roughen. This loss of a protective cushion between the ends of the bones can cause them to rub together and result in joint damage.

The joints can become painful and swollen as the body tries to repair the damage. Over time this can sometimes lead to bony outgrowths called spurs or 'osteophytes' developing on the ends of the bones which may also cause damage to the soft tissues around the joint including the ligaments (the tough bands that hold the joint in place). Gradually, smooth movement of the joint becomes difficult.

The cartilage damage and other osteoarthritic changes may occur slowly with ageing or can follow a previous injury in or near a joint. Joints injured by overuse from performing a repeated task or playing sport may be more likely to be affected. Being overweight can also put a strain on the joints but in many people the exact cause of the osteoarthritis isn't known.

Although the condition can occur at any age, osteoarthritis appears to be more likely between

the ages of 45 and 75 years. Women are more likely than men to be affected and the risk of developing osteoarthritis is higher if there is a family history of the disease.

When osteoarthritis affects the neck and back it is called spondylosis. Changes occur in the bones of the spine and the cushioning discs that separate each of the spinal bones. These changes are similar to those caused by osteoarthritis in other joints and can lead to back pain and difficulty with everyday activities. If the osteoarthritis causes the nerves exiting the spinal canal to become pinched, a feeling of numbness or weakness in the legs may occur. In more severe disease the shape of the spine may change leading to further pain and limited normal movement. The areas of the spine most likely to be affected are the neck and the lower back.

What are the symptoms of osteoarthritis?

The main symptoms of osteoarthritis are pain and stiffness. Pain related to osteoarthritis is usually worse following exercise or activity. The pain can prevent people from sleeping well which can cause tiredness and lead to some people feeling low in mood.

The symptoms of osteoarthritis may vary, perhaps for no clear reason. There may be times of feeling well followed by a worsening of symptoms before feeling better once more.

Changes in the joints may make the normal activities of living more difficult. When knee and hip joints are affected, activities such as walking, climbing stairs and lifting objects can be more of a problem. Osteoarthritis in the finger and hand joints may cause difficulty with gripping, holding objects and also the ability to undertake fine movements.

Spondylosis of the neck may reduce movement in the neck joints and restrict the ability to turn the head. There can also be associated muscle spasm in the neck and pain or 'pins and needles' which can sometimes be felt in the shoulders and arms.

If the lower back is affected this may cause pain when bending or lifting and create difficulties carrying out everyday activities. Pain from the lower back may also be felt in the hips and legs.

How is osteoarthritis diagnosed?

The diagnosis of osteoarthritis is usually made on the basis of symptoms and also an examination of the affected joints by a doctor or other health professional. A blood test can exclude other types of arthritis and X-rays are sometimes undertaken. For many people though, the diagnosis can be made without the need for an X-ray.

How is osteoarthritis treated?

Current treatments for osteoarthritis are aimed at relieving the symptoms of pain and stiffness that it causes. Such treatment may include pain relieving tablets or creams, or non-steroidal anti-inflammatory drugs (known as NSAIDs); appropriate exercises or physical therapy and joint splinting. For many people such treatment is sufficient to control their symptoms. An injection of glucocorticoid drugs ('steroids') into the joints is sometimes given to provide pain relief when initial therapy is ineffective. For people with severe pain and significant joint damage surgery may be considered such as for example replacement hip or knee joints.

There are currently no drug treatments that either prevent osteoarthritis from developing or progressing. Weight loss is usually recommended to people who are overweight in order to reduce the pressure on affected joints, particularly if the osteoarthritis affects the back or lower limb joints, and may help reduce progression of the disease.

Are osteoarthritis and osteoporosis related?

Osteoporosis and osteoarthritis are different conditions. Osteoporosis causes bones to become fragile and prone to fracture, while osteoarthritis is a disease where damage occurs to the joints at the end of the bones. Both however can cause back pain and height loss, especially in older people. Sometimes doctors will arrange a 'back X-ray' to help them understand whether pain is the result of spinal compression fractures (usually osteoporosis) or degeneration of the spinal joints and reduction in the disc spaces (osteoarthritis). In many people both conditions occur together and it can be sometimes difficult to know which is causing the symptoms of back pain.

It is important to mention that osteoarthritis in the

spine can also cause bones to look denser on a bone density scan than they actually are and this would need to be taken into account when a person is assessed for their risk of breaking a bone (a fracture risk assessment). Accurate bone density scanning of older people can be difficult for this reason.

Some studies have shown that if you have osteoarthritis you might be less likely to develop osteoporosis. People with osteoarthritis often have larger bones with a higher bone density which helps to give bones better strength and makes fractures less likely. However this is not always the case and as outlined many older people will have both conditions.

I have both conditions. What does this mean for me?

Some treatments and advice are useful for both conditions in terms of pain relief. The right type of exercise can strengthen the muscles which support and protect the joints of the back.

Improved muscle strength in the back can also help to reduce the chronic (long-term) pain caused by spinal fractures.

Similar strategies to manage chronic pain can be helpful for both osteoarthritis and fractures caused by osteoporosis, especially in the spine (see the book *All about Osteoporosis* for more information).

People with both osteoarthritis and osteoporosis worry that it might be difficult to have a successful joint replacement operation for osteoarthritis. Surgeons are, however, skilled at using appropriate techniques if bones are fragile and are doing this regularly to help repair broken hips, so usually there are no problems.

How do treatments and advice for the two conditions differ?

Osteoporosis is treated with specific drug treatments, such as bisphosphonates like alendronic acid that work to strengthen bones and reduce the risk of fractures (including compression fractures in the spine). There are no drugs that are licensed to prevent osteoarthritis occurring.

Exercise, particularly to build and maintain bone strength in our early years, needs to be weight bearing including high impact exercise to maximise the pull on the bones, to keep them strong and reduce the risk of osteoporosis. With osteoarthritis exercise can help to maintain flexibility and movement in the joints but will also aim to reduce extra strain that may cause 2

them damage. Higher impact exercise may therefore not be recommended. A referral to a physiotherapist may be helpful to advise about appropriate exercises, especially if you have both conditions.

Living with osteoarthritis

The organisations listed below may be helpful for additional information and advice, particularly on pain and symptom management. Some NHS Services and charities such as Arthritis Care offer selfmanagement courses.

Useful contacts

Arthritis Care

Floor 4, Linen Court
10 East Road
London N1 6AD

Tel: 0808 800 4050 (Helpline)

www.arthritiscare.org.uk

Arthritis Research UK

Copeman House
St Mary's Gate
Chesterfield
Derbyshire
S41 7TD

Tel: 0300 790 0400

www.arthritisresearchuk.org

BackCare

Monkey Puzzle House
69-71 Windmill Road
Sunbury-on-Thames
TW16 7DT

Tel: 0208 977 5474

www.backcare.org.uk

The **National Osteoporosis Society** is the only UK-wide charity dedicated to improving the prevention, diagnosis and treatment of osteoporosis and fragility fractures. The Charity receives no Government funding and relies on the generosity of individuals to carry out its vital work.

For osteoporosis information and support contact our Helpline:

 **0808 800 0035**

 **nurses@nos.org.uk**

To become a member or make a donation:

 **01761 473 287**

 **[join online at www.nos.org.uk](http://www.nos.org.uk)**

To order an information pack or other publications:

 **01761 471 771**

 **info@nos.org.uk**

or download from our website at www.nos.org.uk

This fact sheet is one of a range of publications produced by The National Osteoporosis Society. If you would like more general information about osteoporosis see our booklet *All about Osteoporosis*.

This information reflects current evidence and best practice but is not intended to replace the medical advice provided by your own doctor or other health professional.