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 **0845 130 3076** (general enquiries)

 **0845 450 0230** (Helpline)

 **www.nos.org.uk**

 **Camerton, Bath BA2 0PJ**

# Osteogenesis imperfecta and osteoporosis

## What is osteoporosis?

Osteoporosis literally means 'porous bones'. It occurs when the struts which make up the mesh-like structure within bones become thin causing bones to become fragile and break easily following a minor bump or fall. These broken bones are often referred to as fragility fractures. The terms 'fractures' and 'broken bones' 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.



**Strong  
dense  
bone**



**Fragile  
osteoporotic  
bone**

## What is osteogenesis imperfecta?

Osteogenesis imperfecta (OI) is an inherited condition. It is caused by abnormalities in the genes controlling the production of collagen, the fibrous framework of bone, which is important for its strength. This leads to an increased likelihood of broken bones (fractures).

Abnormalities in other areas of the body containing collagen lead to additional problems in some people, such as lax joints, fragile teeth, blue or grey sclera (whites of eyes) and bruising. Some people with OI are short in stature and some develop deafness, particularly in the teenage years or their twenties.

OI can vary in severity from mild, in which the person may not be correctly diagnosed and children may simply be thought to be accident prone, through to >>



This leaflet covers specific information on osteogenesis imperfecta. If you would like more general information on osteoporosis, please ask us for a copy of our publication *All About Osteoporosis*.

severe, in which babies have multiple fractures even before birth. In both sexes and in all types of OI, the fracture rate tends to diminish in the teenage years. It can rise again in women after the menopause when bone density falls due to low levels of the hormone oestrogen. Bone density is the quantity of bone that, when measured, helps to indicate bone strength.

### **How is OI treated?**

There is no specific drug therapy for OI, but there have been a number of reported case studies where drugs from the bisphosphonate family have been given intravenously to treat children with severe OI. All of the bisphosphonates work by slowing down the activity of bone cells that naturally break down bone.

Initial results have shown improvement in bone density and a reduction of bone pain. Further research is needed to assess the benefits of treating children with OI with this group of drugs. Fractures need to be treated but the immobilisation period should be kept to a minimum as activity allows muscles and bones to stay as strong as possible.

It is important for someone with OI to have a well-balanced diet with adequate calcium. Genetic counselling can help assess the risk of OI in future pregnancies.

### **Is OI the same as osteoporosis?**

No. OI is an inherited condition in which bone is abnormal. People with OI may have a lower than normal bone density as part of the problem. In osteoporosis, bone is normal but there is less of it than there should be. In both conditions there is an increased risk of fracture.

OI can first come to light during or just after pregnancy and be confused with osteoporosis in pregnancy. It may also be confused with idiopathic juvenile osteoporosis (IJO), which is osteoporosis of no known cause in children. (For more information see our leaflets *Pregnancy and osteoporosis* and *Osteoporosis in children*.)



## Useful contacts

### **The Brittle Bone Society**

Grant-Paterson House  
30 Guthrie Street  
Dundee DD1 5BS

**Tel: 08000 282459** (freephone helpline  
open 9.00am-4.30pm, Monday-Friday)

**[www.brittlebone.org](http://www.brittlebone.org)**

### **Join the National Osteoporosis Society today**

Become a member and support the only UK-wide charity dedicated to improving the diagnosis, prevention and treatment of osteoporosis.

You can join today for just £15.

Either call us or visit our website:

 **01761 473119**

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

### **Our publications are free of charge but we would welcome a donation**

You can support the work of the National Osteoporosis Society by making a single or regular donation:

 **01761 473138**

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

Factors which can help to maintain healthy bones are a well-balanced diet with adequate calcium-rich foods; regular weight-bearing exercise; avoiding smoking and keeping alcohol consumption within the recommended limits.

