Complex regional pain syndrome 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.

This leaflet covers specific information on complex regional pain syndrome. If you would like more general information on osteoporosis, please ask us for a copy of our publication All About Osteoporosis.
What is complex regional pain syndrome (CRPS)?
(reflex sympathetic dystrophy syndrome)

CRPS is a condition which usually occurs in the hands, feet, wrist, ankle or knee but can spread up the limb and even over to the opposite limb. It is often triggered by a minor injury, such as a sprain or fall and can occur immediately after the injury or several days later. CRPS is the new name for reflex sympathetic dystrophy syndrome (RSDS). It is divided into two types; CRPS type I and CRPS type II. Type I is diagnosed when symptoms are seen, but there is no history of nerve injury. Type II is seen when pain can be traced to a specific nerve injury.
Symptoms include severe burning pain and swelling of the affected limb. Stiffness, redness and changes in skin colour and temperature can also occur as well as abnormal hair and nail growth. The pain associated with CRPS is not well understood and can be out of proportion to the injury that triggered it, and can continue for months and even years. In some cases, it may involve nerve damage that leads to loss of movement and function of the affected area. CRPS can occur in both adults and children of any age and ethnic background. A large proportion of those affected recover spontaneously with or without treatment and many are never diagnosed with CRPS by a doctor.

Some people may experience loss of bone density in the affected limb which may, therefore, be at increased risk of breaking. This is why there may be some confusion between CRPS and osteoporosis. CRPS only affects bone density in the affected limb whereas osteoporosis affects bone density throughout the skeleton.
How is it diagnosed?
Diagnosis can be difficult as there is no one blood test, x-ray or scan that can confirm CRPS.

A detailed history of any original injury, as well as the signs and symptoms the patient is experiencing, are needed. An x-ray may suggest a loss of bone density (that is the quantity of bone that when measured helps to indicate bone strength) in the affected limb. A bone density scan may also be undertaken (depending upon consultant preference and local policy) to find out how significant the bone loss is. Other investigations may be undertaken but it is the knowledge and experience of the consultant that is the key to gaining a quick diagnosis.
How is CRPS treated?

In most cases recovery is spontaneous, but treatment is centred on pain relief and physiotherapy. A team approach to treatment is required involving the general practitioner, pain consultant, rheumatologist, neurologist, physiotherapist, psychologist, occupational therapist etc. Pain control is often the biggest issue but others that need to be addressed include frustration, depression and the resulting disability that can occur as a result of this syndrome.

Painkillers such as paracetamol and codeine are often used as well as low-dose anti-epileptic drugs and anti-depressants, which can be useful for nerve pain.
Sometimes, a sympathetic nerve block is used to see if this is beneficial in relieving the pain.

Alternative pain relief options include hydrotherapy (physiotherapy done in a warm swimming pool), acupuncture and TENS (Transcutaneous electrical nerve stimulation) machines. Use of the affected limb is encouraged otherwise the condition deteriorates and the pain becomes worse. Living with a chronic painful condition can be very distressing and some people experience feelings of anxiety and depression. Psychological therapies can be useful to help them cope with their pain and some studies have shown that cognitive behavioural therapy can help. This involves training the person to react differently to the pain by using techniques such as relaxation or maintaining a positive attitude.
It appears that people with CRPS absorb less oxygen into the bloodstream than people without it. Further work is needed, but some studies are now looking into the effects of hyperbaric oxygen therapy (oxygen therapy in a high pressure chamber) on CRPS as a possible way of relieving pain.
Is CRPS a risk factor for osteoporosis?

No, in CRPS a localised loss of bone density occurs in the affected limb only. This does not mean that the individual has osteoporosis or is at an increased risk of developing osteoporosis at a later date; however, the affected limb will, to some extent, be more at risk of fracture.
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.
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Become a member and support the only UK-wide charity dedicated to improving the diagnosis, prevention and treatment of osteoporosis.

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0845 130 3076 (general enquiries)
0845 450 0230 (Helpline)
www.nos.org.uk
Camerton, Bath BA2 0PJ

National Osteoporosis Society

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