

REFLEX SYMPATHETIC DYSTROPHY

COMPLEX REGIONAL PAIN SYNDROME TYPE I (CRPS)

Complex Regional Pain Syndrome Type 1 is a pain disorder often developing unpredictably following a variety of injuries. Commonly the condition may follow a fracture or crush injury of a hand or a foot. It can also come on after local spinal strain or injury.

WHAT CAUSES THE PAIN?

The pain in CRPS Type I is usually out of proportion to the initial injury. It is thought that there is an overly sensitive central nervous system that causes sensitisation of nerves within the spinal cord, causing a short-circuit type of reaction within the spinal cord resulting in excessive firing of neurones within the central nervous system.

The net effect of all this is that the area of the body that becomes involved becomes overly sensitive to even light sensations. Sensations such as light touch or stroking of the skin now become painful, sometimes causing electric shock or burning types of pains. At other times the overly sensitive nervous system detects sensations which are not there, such as a sensation of ants crawling over the skin.

Psychological factors:

Extensive medical research has shown that there is no personality or psychological make-up that predisposes a person to develop CRPS Type I. However, after the syndrome has been present for some time, the effect of chronic pain often leads to secondary psychological disturbances including anger, anxiety and depression. Sometimes these secondary psychological factors become overwhelming, and in themselves need direct separate treatment. Once established, there is no doubt that increased anxiety or stress will tend to perpetuate the condition.

Symptoms:

The main symptom associated with CRPS Type 1 is pain. Pain is often spontaneous, with a burning quality and is located deep within the extremity. It is often associated with sensitisation of the skin and changes in temperature. Often the affected limb would be cold and may change colour to blue or white. At other times there may be increasing temperature with the area becoming red and swollen. Other symptoms may include pins and needles or loss of sensation in the area. As well as skin colour and temperature changes, the area may have increased or decreased sweating.

Comprehensive spinal and joint care

Investigations:

There is no simple or reliable test to diagnose CRPS Type 1. The diagnosis is made based on the clinical presentation. If there are temperature changes in the limb then this can be detected by touching and comparing from one side of the body to the other. In the later stages of CRPS Type 1, there may be osteoporosis or thinning of the bones associated with loss of use of the limb. In the early stages, the changes in circulation in the bones may be detected on nuclear bone scan.

Management:

The mainstay of treatment is early recognition and intervention. Generally speaking, treatment within the early stages results in a much better prognosis than delayed management. Important aspects of treatment are to encourage use of the limb even if it causes pain. Touching and gentle massage of the affected area can promote circulation, and stretching exercises can help reduce long term stiffness.

Medications may be helpful, including:

- tricyclic anti-depressant group of drugs, to help improve quality of sleep,
- analgesic tablets to help reduce pain
- anti-epileptic type medications to help reduce nerve-related pain (e.g. Tegretol, Epilim)

Psychological support in the form of relaxation training to help improve sleep quality is certainly of value.

Physical therapy is aimed at restoring flexibility and mobility to the joints, and gradually improving muscle function over time. Mobilisation and stretching of the neck and back can also assist in improving circulation in the limbs. Hydrotherapy and other land-based exercises are most important to encourage function back towards normal. The important thing here is not to be too over-protective of the painful area.

Specialised nerve blocks:

Sympathetic nerve blocks are commonly used to treat CRPS Type I. It is the sympathetic nervous system that controls the blood flow to the distal parts of the limbs. In particular, if there is excessive sympathetic nerve activity, then the circulation is shut down to the hands and feet, and those areas will become white, cold and painful. This is the basis of chilblains. Blocking the sympathetic nerves can improve circulation and thereby reduce the pain. Sometimes the effect is temporary but it often allows the area to be mobilised and got moving.