Complex Regional Pain Syndrome

Complex Regional Pain Syndrome (CRPS) is a nerve disorder that occurs at the site of an injury. It occurs especially after injuries from high-velocity impacts such as those from bullets or shrapnel. However, it may occur without apparent injury. The arms or legs are usually involved.

SYMPTOMS

CRPS is a chronic condition characterized by:

- Severe burning pain.
- Changes in bone and skin.
- Excessive sweating.
- Tissue swelling.
- Extreme sensitivity to touch.

One visible sign of CRPS near the site of injury is warm, shiny, red skin that later becomes cool and bluish. The pain that patients report is out of proportion to the severity of the injury. The pain gets worse, rather than better, over time. Eventually the joints become stiff from disuse and the skin, muscles, and bone atrophy. The symptoms of CRPS vary in severity and duration. The cause of CRPS is unknown. The disorder is unique in that it simultaneously affects the:

- Nerves.
- Skin.
- Muscles.
- Blood vessels.
- Bones.

CRPS can strike at any age but is more common between the ages of 40 and 60. However, the number of CRPS cases among adolescents and young adults is increasing. CRPS is diagnosed primarily through observation of the symptoms. Some physicians use thermography to detect changes in body temperature that are common in CRPS. X-rays may also show changes in the bone.

TREATMENT

Treatments include:

- Physicians use a variety of drugs to treat CRPS.
- Elevation of the extremity and physical therapy are also used to treat CRPS.
- Injection of a local anesthetic.
- Applying brief pulses of electricity to nerve endings under the skin (*transcutaneous electrical stimulation* or *TENS*).
- In some cases, interruption of the affected portion of the sympathetic nervous system (*surgical or chemical sympathectomy*) is necessary to relieve pain. This involves cutting the nerve or nerves. Pain is destroyed almost instantly, but this treatment may also destroy other sensations.

WHAT WILL HAPPEN

Good progress can be made in treating CRPS if treatment is begun early. Ideally treatment should begin within 3 months of the first symptoms. Early treatment often results in remission. If treatment is delayed, the disorder can quickly spread to the entire limb, and changes in bone and muscle may become irreversible. In 50 percent of CRPS cases, pain persists longer than 6 months and sometimes for years.

RESEARCH BEING DONE

Researchers are studying new approaches to treat CRPS. Scientists are studying how signals of the sympathetic nervous system cause pain in CRPS patients. Researchers are able to record and measure neural activity in single nerve fibers. Researchers hope to discover the unique mechanism that causes the spontaneous pain of

CRPS. They hope that this discovery may lead to new ways of blocking pain. **Research is continually being done to learn more about this problem.**

Provided by: The National Institute of Neurological Disorders and Stroke

Document Released: 12/08/2003 Document Re-Released: 03/14/2011
ExitCare® Patient Information ©2011 ExitCare, LLC.