

## Central Poststroke Pain

**Condition:** Central poststroke pain (CPSP) is a chronic, painful condition that may develop following a stroke, generally in the same part of the body affected by the stroke.

**Background:** About 8% of stroke patients develop CPSP in the weeks to months after incurring a stroke. CPSP usually emerges gradually, starting within the first month of a stroke, but occasionally occurring immediately post-stroke. Onset more than 6 months after a stroke is rare.

**Risk Factors:** The exact mechanism of CPSP continues to be an ongoing discussion. However, a known risk factor for the process is a lesion at the level of the sensory pathways of the brain, such as a stroke in the region called the thalamus.

**History and symptoms:** CPSP is typically described as a burning sensation, or sometimes as aching or shooting pains. Patients may have either increased or decreased sensitivity to light touch, painful stimulation, vibration, and temperature (especially to cold temperature stimulation).

**Physical Exam:** Since many other painful conditions may co-exist in a patient, the first step in diagnosing CPSP is to rule out all other possible causes of pain. There are no clear-cut physical signs that characterize CPSP. Supportive signs, however, include impairments in sensory examination (to light touch, 2-point discrimination, proprioception, vibratory sense, pain sensation), including the face.

**Diagnostic Process:** No laboratory tests are available to accurately diagnose CPSP. Imaging studies with MRI or CT may be helpful in pinpointing the damaged areas of the brain that are the source of the pain. Certain areas of the brain, such as involvement of the thalamus, can be more consistent with the development of CPSP.

**Rehab Management:** Treatment usually involves a combination of pharmacologic therapy and non-pharmacologic interventions aimed at reducing but not eliminating symptoms, preserving function, and preventing further complications. Selecting the optimal combination of drugs and other therapies for each patient is determined through trial and error. Drugs may include antidepressants, anticonvulsants, anesthetics, and, if needed, opioid analgesia. Additional treatments may include desensitization techniques, relaxation, biofeedback, or one of a number of procedures that stimulate areas of the brain where the pain signals are originating. The presentation of a patient's CPSP may start in the inpatient setting and continue upon discharge. Therefore, treatment plans may need to be periodically re-evaluated and adjusted. The physical medicine and rehabilitation (PM&R) physician is optimally equipped with the knowledge to manage this condition both in the inpatient and outpatient setting. PM&R physicians can continue to manage this pain syndrome outside of the hospital given their training in proper medicines, physical modalities and their expert ability to design comprehensive, patient-centered treatment plans. Frequent reassessment with adjustment of both medical and physical interventions provides the PM&R physician the best opportunity to reduce symptoms and improve function in patients presenting with CPSP. This allows the patient to have an improved quality of life and minimize interference with participation with rehabilitation and potential complications including spasticity, contractures and functional decline.

**Other Resources for Patients and Families:** Family education and involvement in the rehabilitation program is an important step in the treatment plan given the potential for CPSP to be a long-term complication. Patients and families should be clearly educated on the disease process including the goals the treatment. These goals include reducing (not eliminating) symptoms, preventing further functional decline and improving quality of life. Family training and participation in treatment strategies such as psychological and desensitization interventions can be beneficial for the long-term management of the patient.

## Frequently Asked Questions

### What is PM&R?

Physical medicine and rehabilitation (PM&R), also known as physiatry, is a primary medical specialty that aims to enhance and restore functional ability and improve quality of life to those with injuries, physical impairments or disabilities affecting the brain, spinal cord, nerves, bones, joints, ligaments, muscles and tendons. PM&R physicians, known as physiatrists, evaluate and treat the whole body, maximize patients' independence in their daily life and are experts in designing comprehensive, patient-centered treatment plans to empower patients to achieve their goals. By taking the whole body into account, they can accurately pin-point problems, decrease pain, assist in recovery from devastating injuries and maximize overall outcomes and performance with non-surgical and peri-surgical options. To learn more, visit [www.aapmr.org/aboutpmr](http://www.aapmr.org/aboutpmr).

### What makes PM&R physicians unique?

PM&R physicians' training focuses not just on treating medical conditions, but on enhancing the patient's performance and quality of life in the context of those medical conditions. They focus not only on one part of the body, but instead on the development of a comprehensive program for putting the pieces of a person's life back together – medically, socially, emotionally and vocationally – after injury or disease. PM&R physicians make and manage medical diagnoses, design a treatment plan and prescribe the therapies that physical therapists or other allied therapists perform or that are carried out by the patients themselves. By providing an appropriate treatment plan, PM&R physicians help patients stay as active as possible at any age. Their broad medical expertise allows them to treat disabling conditions throughout a person's lifetime.

### Why see a PM&R physician?

A PM&R physician will thoroughly assess your condition, needs, and expectations and rule out any serious medical illnesses to develop a treatment plan. By understanding your condition and goals, you and your PM&R physician can develop a treatment plan suited to your unique needs.

### How do I find a PM&R physician near me?

Visit [www.aapmr.org/findapmrphysician](http://www.aapmr.org/findapmrphysician) or contact your primary care physician for a referral.