



American Stroke Association®

A division of the American Heart Association.

Together to End Stroke®

Post-Stroke Pain

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What is Post-Stroke Pain?

- Pain is one of the most poorly understood complications after a stroke and is commonly under-reported, under-diagnosed and undertreated. It's estimated to affect about 30%–40% of stroke survivors.
- Up to 42% of survivors report pain 4-6 months after a stroke and up to 21% report pain a year or more after a stroke.
- Post-stroke pain can include headache, muscle and joint pain, shoulder pain and neuropathic (nerve) pain.
- Patients are often poorly informed about post-stroke pain and may stop treatment too early.





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Symptoms of Post-Stroke Pain

- Numbness
- Tingling
- Burning
- Aching
- Decreased range of motion
- Changes in skin color





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Risk Factors of Post-Stroke Pain

Various characteristics have been identified as risk factors for the development of post-stroke pain (PSP):

- **Demographics:** being a female and having had a stroke at older age
- **Before stroke:** alcohol use, statin use, depression and peripheral vascular disease
- **Post-stroke conditions:** spasticity, reduced upper extremity movement, sensory deficits
- **Stroke-related:** ischemic stroke survivors





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Types of Post-Stroke Pain

Central post-stroke pain: Is a chronic, painful condition which typically develops 3-6 months after a stroke and affects between 7%-8% of stroke survivors. It is a constant pain caused by an injured pain nerve and described as a burning sensation or aching or shooting pains. The entire pain system acts as a nerve ending and sometimes just a light touch may cause an intense episode.



Changes in sensation: Increased sensitivity often occurs in the affected area, in which light touch, normal physical contact and use is experienced as very painful.



Changes in skin temperature, skin color or swelling of the affected limb: The injured arm or leg may feel warmer or cooler than the opposite limb. Skin on the affected limb may change color, become blotchy, blue, purple, gray, pale or red.



Changes in skin texture: Over time, insufficient delivery of oxygen and nutrients can cause skin in the affected limb to change texture. In some cases, it becomes shiny and thin, in others thick and scaly. Avoiding contact or washing painful skin contributes to this buildup.



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Types of Post-Stroke Pain



Headaches: Can affect between 6%–44% of stroke survivors and are still poorly understood. Most headaches experienced by patients are tension-type headaches, are moderate to severe and may become chronic in nature.



Spasticity: Is a common condition after a stroke affecting 25%–43% of survivors. It's like a charley horse that never ends. Symptoms include painful, stiff, rigid muscles, involuntary contractions or muscle spasms, and overactive reflexes.



Contractures: Sometimes, the muscle tone becomes so reduced that joints, like an arm, hands, wrist or toes, get stuck in one position. About 60% of stroke patients experience contractures, which can make daily activities such as grooming, dressing, standing and walking difficult.



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Types of Post-Stroke Pain

Shoulder pain is a common complication after a stroke, with incidence during the first year of 1%-22%. It has been shown to interfere with recovery after a stroke, slowing down rehabilitation and causing significant distress. There are two main types of shoulder pain:



Shoulder subluxation: A partial dislocation of the shoulder joint. Subluxation can cause pain, swelling, weakness and difficulty moving, and a sensation that the shoulder is out of joint. Ligaments, muscles and tendons can become overstretched. This can lead to other problems with the shoulder, such as reduced range of motion.



Frozen shoulder: Sometimes, the tissue that surrounds the shoulder thickens and creates scar tissue in post-stroke patients and produces less fluid. As a result, shoulder movement is limited and painful.



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Diagnosis

Evaluation by your health care professional may include review of your health reports, additional information gathering, almost like an interview, and physical examination. Your health care professional will be checking if you are reporting symptoms in the following 4 pain areas:

- Increased sensitivity
- Skin color changes
- Asymmetrical (uneven) sweating on different sides of the body
- Decreased range of motion

Patients must also experience continuous pain on the affected side following stroke.





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Coping Techniques

Aerobic exercise may play an important role in improving aerobic fitness, cardiovascular fitness, cognitive abilities, walking speed and endurance, balance, quality of life and mobility in stroke survivors.





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Coping Techniques

Strength exercise, such as with light weights, has been shown to improve functionality, mood and overall quality of life for post-stroke patients.





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Coping Techniques

Flexibility exercise can improve muscle tightness, motor function, range of motion and prevent contractures.

Stretching exercise can also prevent joint contractures, muscle shortening, decrease spasticity, reduce joint stiffness and improve overall function.





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Coping Techniques

- Excess body weight and obesity are linked with an increased risk of high blood pressure, diabetes, heart disease and stroke.
- Eating well after stroke is very important for recovery. A healthy diet and lifestyle are the keys to preventing and managing your health.
- Losing as little as 5 to 10 pounds can improve your health, so every step in the right direction counts!





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Coping Techniques

Manage stress.

Research has shown that stress tends to impede post-stroke recovery. Mindfulness meditation, yoga and breathing exercises have all shown some potential for reducing stress in stroke patients





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Coping Techniques

Distraction

Focusing attention away from negative or painful images can alleviate pain. Reading a book, calling a friend or watching a funny movie are all things that can help.





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Coping Techniques

Attend support groups.

- By being here, you're already taking a positive step!
- Speaking to others who are experiencing similar issues can be a big help to both survivors and caregivers. Support groups can provide information and community to help you reclaim your life and develop more independence.





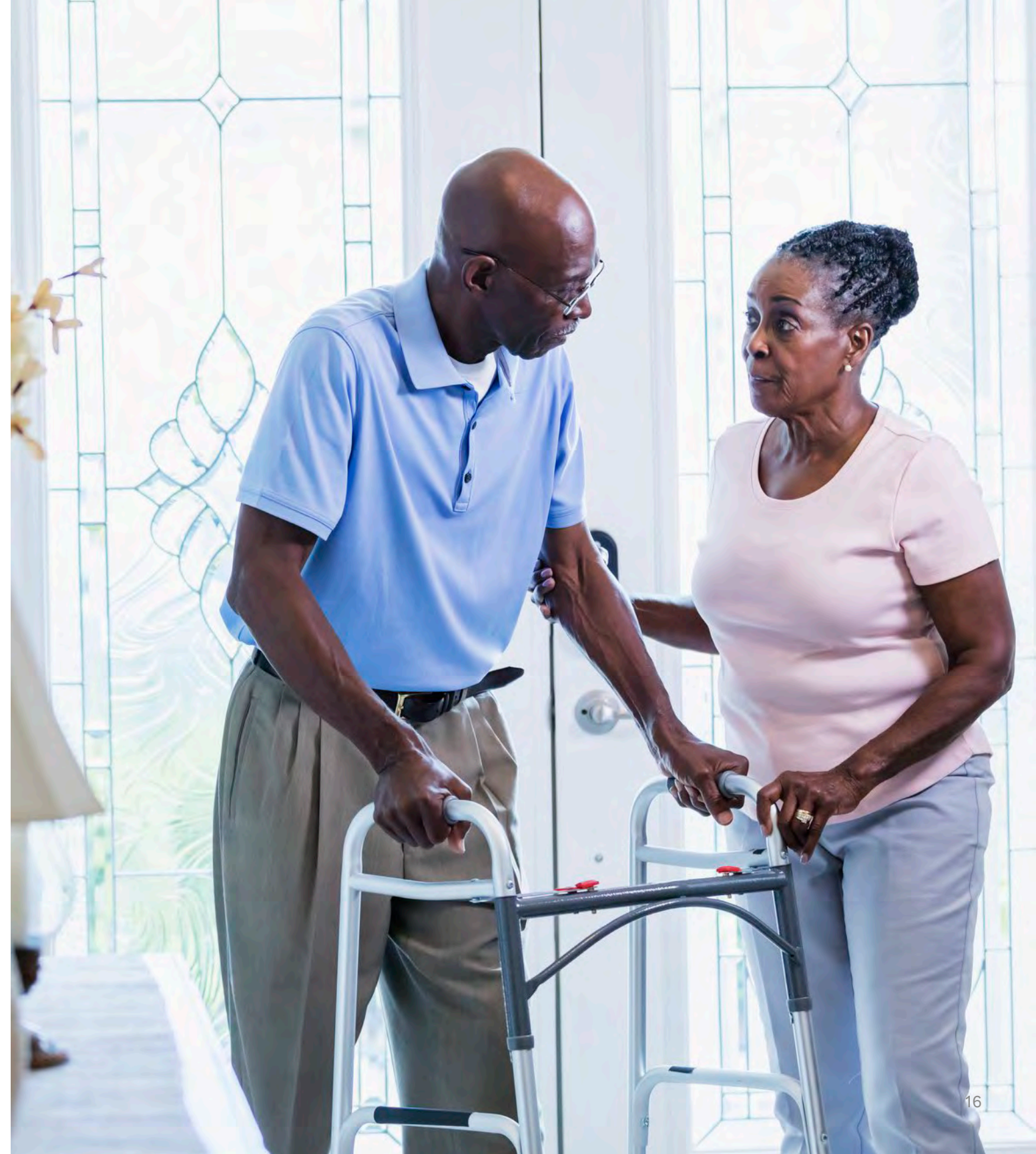
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Coping Techniques

Adaptive equipment can help stroke survivors resume their daily activities:

- Wheelchairs, walkers and canes can help survivors get around more easily
- Dressing, bathing, and grooming devices
- Cooking and feeding devices





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Coping Techniques

Assistive technology can help with communication, using a computer, operating household devices and driving.

- Audio books can help those who have difficulty reading
- Word-predicting programs can help survivors with severe aphasia
- Special keyboards let survivors type with one hand
- Electronic card shufflers and page-turners help people enjoy games and books



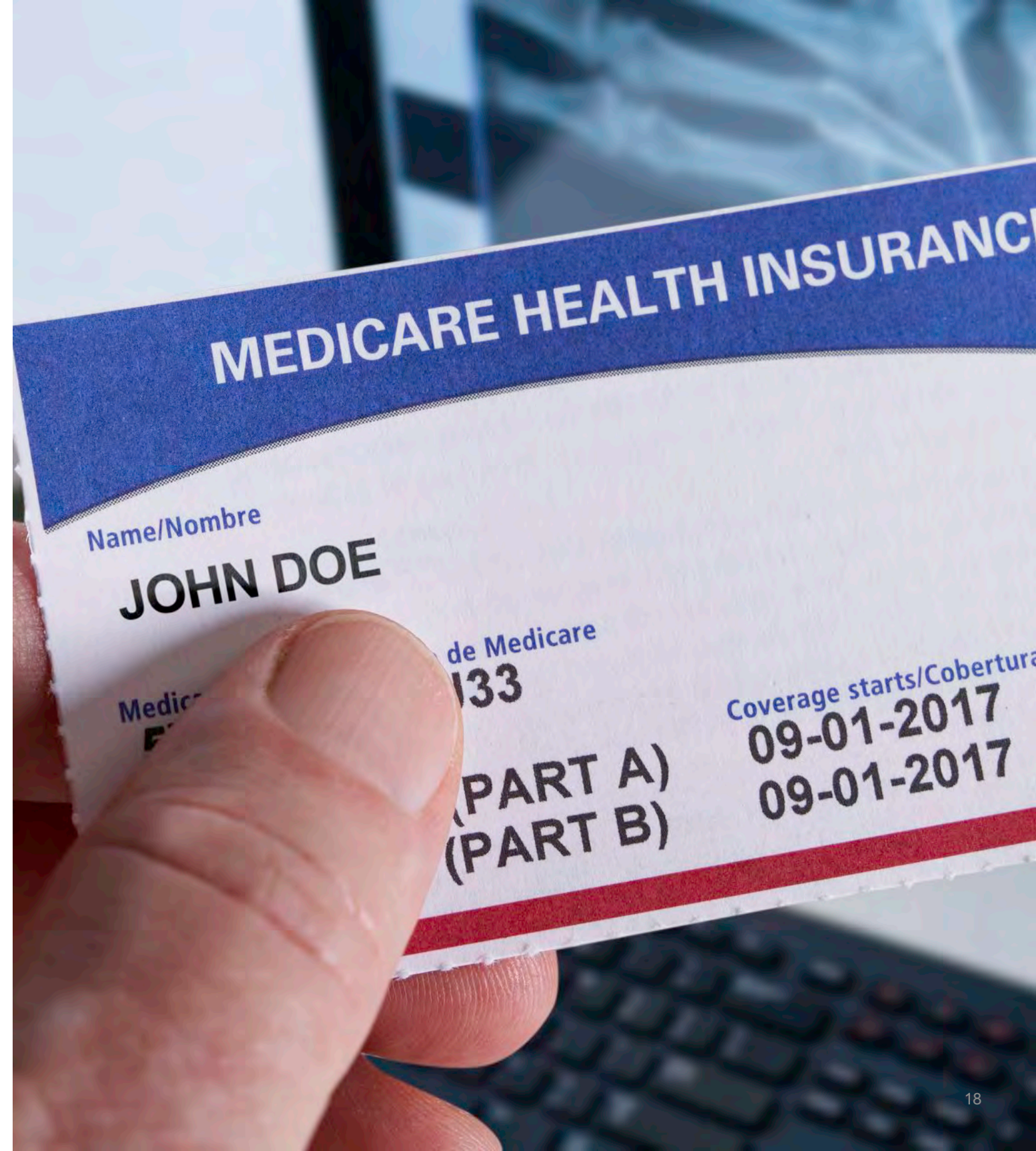


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Coping Techniques

Much of adaptative equipment is often covered under Medicare, individual states' Medicaid regulations, disability insurance and private insurance.





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Post-Stroke Pain Treatment

Physical and occupational therapies are a critical part of post-stroke recovery. Benefits include:

- Improved overall strength and mobility
- Prevention of muscle atrophy
- Regained use of impaired limb
- Help the brain rewire itself, so that it can correctly communicate with your affected muscles, and can ease pain related to spasticity and shoulder problems
- Better quality of life
- Greater independence

Botulinum toxin

An injectable treatment that temporarily relaxes stiff muscles after stroke.





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Post-Stroke Pain Treatment

Electrical stimulation

Motor cortex stimulation can provide relief for central post-stroke pain for up to 2 years.

Pain medication

Treating post-stroke pain with prescription medication has generally not been very effective. Their use should be tailored to the patient's needs, their response to therapy and any side effects.

Surgical treatment

With surgical treatment, many patients with post-stroke neuralgia can reduce their pain by 50% or more.





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Talking to Your Health Care Professional

One of the most important things you can do when you experience post-stroke pain is to talk with your health care professional.

- Keep your follow-up appointments.
- Follow the recommended treatment and management and talk to your doctor before making any changes.
- Make it clear that pain you are experiencing only started after your stroke.





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Group Discussion



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What are some of the symptoms that may suggest that someone is suffering post-stroke pain?





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**In your own words, how would you describe
post-stroke pain and its impact?**





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What's important for you to convey to your health care professional to accurately evaluate and diagnose post-stroke pain?





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What are some suggested techniques you will try to help manage your post-stroke pain?





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For more resources on
post-stroke pain and life after stroke,
visit **stroke.org**

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