

STROKE HEALTH

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"Our mission is to empower and educate people about the changes their bodies go through and teach them how to reconnect on a neuromuscular level and heal themselves in a way that allows them to optimize their function and restore their core foundation so they can return to their desired fitness levels safely and with better long term results."

A stroke occurs when a blood vessel in the brain is blocked or ruptures and the blood flow in the brain stops. Stroke is the third leading cause of death in the United States. It also is a leading cause of serious and long-term disability. A stroke can happen at any time to people of any race, gender, or even age. More women than men have a stroke each year. African Americans have almost twice the risk of a first-time stroke as Caucasians. About two-thirds of those who experience a stroke are over age 65. Nearly 800,000 people in the U.S. have a stroke each year. Physical therapists provide treatments for people who have had a stroke to restore movement and walking ability, decrease disability, and improve function.

TYPES

There are two types of stroke:

An **ischemic stroke** is the most common type. It occurs when a blood vessel is blocked. A blood clot or a buildup of fatty deposits (arteriosclerosis) in the blood vessels that supply the brain can lead to blocked blood vessels. Ischemic stroke accounts for 87% of all strokes. The most common cause of ischemic stroke is fatty deposits lining the blood vessel walls.

A **hemorrhagic stroke** occurs when a weakened blood vessel leaks or ruptures. When a blood vessel bursts in the brain, blood builds up and damages surrounding brain tissue. The most common cause of hemorrhagic stroke is high blood pressure. Hemorrhagic stroke also can occur in people with a tangle of abnormal vessels connecting arteries and veins in the brain. This tangle is called brain arteriovenous malformation. AVM may disrupt blood flow and result in bleeding in the brain.

Both types of stroke damage brain cells. The damage causes symptoms that start to show in the parts of the body and functions controlled by those brain cells.

HOW DOES IT FEEL?

A stroke is a serious medical condition that requires emergency care. It is important to know the signs of a stroke and get help quickly if you or someone you are with shows any signs of stroke. Medical treatment is most effective when started immediately.

If you have one or more of the following symptoms, call 911 right away for an ambulance:

- Sudden numbness or weakness of the face, arm, or leg, especially on one side of the body.
- Sudden confusion or trouble speaking or understanding.
- Sudden trouble seeing in one or both eyes.
- Sudden trouble moving or walking.
- Sudden dizziness or loss of balance or coordination.
- Sudden, severe headache with no known cause.
- Sudden nausea or vomiting not caused by infection or viral illness.
- Loss or change of consciousness, confusion, or seizures with no known cause.

Emergency treatment with a clot-buster drug called t-PA can help reduce or even eliminate problems from stroke. The drug must be given within three hours of when symptoms start.



Stroke can cause a range of long-term problems, such as:

- Trouble moving or not being able to move one side of the body.
- Severely limited movement or stiffness in the arms and legs.
- Balance problems.
- Weakness on one side of the body.
- Off-and-on numbness.
- Loss or lack of sensation (feeling).
- Sensitivity to cold.
- Memory loss.
- Slowed or slurred speech.
- Problems remembering words.

Spot a Stroke, Warning Signs and ACT fast

B  Loss of Balance, Headache or Dizziness

E  Blurred Vision

F  Face Droop on 1 side

A  Arm or Leg Weakness

S  Speech Slurred or Jumbled

T  Time to call 911



HOW CAN A PHYSICAL THERAPIST HELP?

Physical therapists are part of the stroke recovery team. Physical therapy begins very soon after a stroke, most often while you are still in the hospital. Your physical therapist's main goal is to help you return to your activities at home, at work, and in your community.

Evaluation is very important for guiding the treatment of stroke. Your physical therapist will conduct a thorough assessment that includes:

- Taking a health history.
- Discuss your symptoms in detail.
- Detecting risk factors associated with the condition.
- Reviewing lab tests and X-rays or other images.
- Observe your ability to move, stand, walk and do other movements.
- Conducting a hands-on physical assessment.

After conducting an exam and evaluating your condition, your physical therapist will develop a treatment plan specific to your needs, challenges, and goals. They will work with you to help you achieve the best possible quality of life. Your treatment plan will focus on:

- Improving your ability to move.
- Addressing any pain you might have.
- Offering guidance on ways to prevent problems that may occur after a stroke.

One of the first things your physical therapist will teach you is how to move safely from your bed to a chair and do exercises while in bed. As you become more mobile, your physical therapist will teach you strengthening exercises and functional activities.

Later, your physical therapist will:

- Help you improve your balance and walking ability.
- Fit you with a brace or a wheelchair, if needed.
- Provide training to your family and caregivers.
- Teach you how to use devices that can help you stay mobile when a stroke has affected your ability to move, walk, or keep your balance. These can include orthoses, prostheses, canes, walkers, wheelchairs, and perhaps even robotics.

Treatment for people with stroke varies. Your specific treatment will depend on the results of your physical therapist's evaluation and on how long it's been since your stroke. Recovery from a stroke depends on:

- The size and location of your stroke.
- How quickly you received care.
- The severity of the brain damage at the time of your stroke.
- Your other health conditions.

TIPS FOR SUCCESSFUL RECOVERY

1. Don't compare progress. Every stroke is unique. Every brain is different, and the cause, location and size of every stroke is different.
2. Challenge yourself. Continue to challenge yourself and set new SMART goals. SMART goals are Specific, Measurable, Achievable, Realistic and Time-bound.
3. Take charge of your health. Monitor your blood pressure and share this information with your doctor. Your target blood pressure should be below 135/90.
4. Listen to your body. Fatigue is a common complaint after stroke. Your brain needs sleep and rest to heal. It is better to rest than to push yourself to do more when you are feeling tired.
5. Find balance. The art of stroke recovery is finding a way to push yourself and to rest and recover.
6. Eat healthy. It is important to reduce salt and cholesterol.
7. Get active. The recommended level of activity is a minimum of moderate exercises three times per week for 30 to 40 consecutive minutes.
8. Walk to recover.
9. Be careful with substances. Smoking, alcohol, herbal supplements, over the counter medications and illicit drugs can all negatively impact your recovery following a stroke. If you take any, be sure to discuss their impact in detail with your doctor and pharmacist.
10. Limit your stress. Stress negatively impacts recovery. The key is recognizing what causes you stress and learning healthy strategies for mitigating its effects. Exercise, mindfulness, meditation and socializing have all been shown to reduce the impacts of stress on the body.



HOW CAN A PHYSICAL THERAPIST HELP?+

Your physical therapist will help you regain functional skills to allow you to take part in your specific life activities. Relearning How To Use Your Upper Body, Walk, and Perform Daily Activities.

Your physical therapist will design an exercise and strengthening program based on tasks you need to do every day. Physical therapist researchers are at the forefront of innovating many techniques for stroke recovery. Your physical therapist will select the best treatment for your specific needs from a variety of available options, such as:

- Task-oriented and functional training. This type of training allows a person to practice tasks and functional activities they do in real-life situations. This can include activities such as getting up from a chair, walking, and climbing stairs.
- Strength training. Strength training can include traditional strength training that uses weights or a functional strength-training approach. Functional strength training involves practicing real-time tasks. For example, rising from a chair several times can be used to strengthen leg muscles. Reaching toward objects several times can be used to strengthen the arm muscles.
- Walking and balance training. Physical therapists use different training methods to help improve balance and walking. Balance training involves practicing activities that challenge balance. Gait training involves activities that help a person relearn how to walk and improve walking patterns. These may include bearing weight on the affected leg, walking on a treadmill, stepping onto a stair, and walking over different surfaces.
- Constraint-induced movement therapy. Physical therapists use CIMT to strengthen a person's arm that is affected by stroke. They will apply a mitten or a sling on your strong arm to keep you from fully using it. This constraint requires you to use the arm or hand affected by the stroke to perform daily tasks to help build back strength and control.
- Functional electrical stimulation. This treatment uses small electrical pulses to activate nerves and make weakened muscles move. It can help improve movement and enhance control in limbs affected by stroke.
- Motor imagery and mental practice. This technique uses tools to help strengthen the arms, hands, feet, and legs. Working with your physical therapist, you will "rehearse" a movement without actually performing it. This practice stimulates the part of your brain that controls the desired movement.
- Positioning. Proper positioning helps reduce any muscle pain, spasms, slowness, or stiffness resulting from a stroke. Your physical therapist will teach you how to safely move (transfer) from a sitting to a standing position. They also will show you how to properly support yourself when sitting or lying down, using foam wedges, slings, and other aids.
- Robotic, virtual reality, and interactive video games. These tools provide experiences that mimic real-life activities and situations. Your physical therapist will help you use a smart device or a robotic device to practice daily tasks. These exercises help to "rewire" your brain and nerve connections. Your physical therapist may teach you how to continue these activities at home.
- Bodyweight support. BWS is used to carry some of your weight and help support you as you walk, usually on a treadmill. Your physical therapist will gradually decrease the amount of support as your posture, strength, balance, and coordination improve.
- Biofeedback. This treatment helps make you aware of how your muscles work and how you might gain better control over them. Your physical therapist will attach electrodes to your skin to display measurements of your muscle activity on a monitor. They will work with you to help you understand and change those readings.

Your needs will change over time, and your physical therapist may consider using other treatments and tools to assist you in your recovery, such as:

- Aquatic therapy.
- Robotics.
- Braces.
- Support devices such as different types of walkers and canes.

Even after the initial recovery phase in a rehabilitation facility, your physical therapist will continue to see you as needed to:

- Assess your progress.
- Update your exercise program.
- Help you prevent further problems.
- Promote the healthiest possible lifestyle.

