What Is a Stroke?

A stroke is an injury that is caused when an area of your brain fails to get adequate blood supply. This may happen for various reasons. The two most common types of stroke include:1

Ischemic stroke. This type of stroke occurs when a blood vessel in your brain becomes blocked by a clot. The clot prevents blood from getting to a certain area of your brain and causes a stroke.
Hemorrhagic stroke. This type of stroke occurs when a weakened blood vessel ruptures and prevents blood from getting to your brain.
Another type of cerebral ischemia is called a transient ischemic attack (TIA). This occurs as the result of a temporary mini clot that prevents blood from getting to your brain. A TIA is often called a mini-stroke and should be considered a warning sign of a possible major stroke.

Symptoms of Stroke

There are many different symptoms of a stroke. Since the injury occurs to your brain, which is the body's headquarters, you may experience a variety of signs and symptoms if you have a stroke. Common ones may include1:

Sudden onset of numbness or weakness in your face, arm, or leg. This typically occurs on one side of the body.
Sudden onset of double vision or trouble seeing.
Sudden onset of confusion or difficulty speaking.
Difficulty walking, dizziness, or loss of coordination and balance.
Sudden onset of a severe headache.
Keep in mind that a stroke is a brain injury, so any symptom that signals a change in your neurological status should be taken seriously.

If you suspect you are having a stroke, you should go to the hospital right away. It is essential that you get the right care immediately to have the best possible outcome.

Health Care Progress Map After Stroke
If you have a stroke, you will like move through various health care settings as you progress with your healing. These settings may include:

Acute care hospital
Rehabilitation hospital
At home
Outpatient clinic
Home care services after a stroke may include nursing care, speech language pathology therapy (SLP), occupational therapy (OT), and physical therapy.

Initiating PT Services at Home

When you leave the hospital or rehab center after getting care for a stroke, there will likely be a

professional who can help you navigate the care you receive upon going home. He or she can help you set up home care physical therapy services. Typically the physician who discharges you from the hospital will order home-care physical therapy.

If no one has helped you initiate PT services at home after your stroke, you may have to seek out and contact your local visiting nurse association. They should be able to help you set up a physical therapy evaluation at home.

Not everyone who has a stroke qualifies for home-care treatment from physical therapy. To qualify for home physical therapy after stroke, your doctor may need to attest that leaving the house for health care would be considerably burdensome or dangerous. Your current functional mobility status and difficulty with moving may make travel from your home impossible. In that case, home-care physical therapy services after stroke will likely be authorized by your health insurance plan.

Evaluation at Home After Stroke

Your first session with a physical therapist at home after stroke will be an initial evaluation. During this session your PT will meet with you at your home and determine your current functional status.

Your PT will discuss with you and your family the nature of your injury, the course of care you have received so far, and your previous level of function and mobility. A review of your past medical history will be performed.

The home-care physical therapist will likely perform various tests. These may include:

- Range of motion
- Tone and muscle spasticity
- Strength
- Bed mobility
- Transfer ability (from a bed to a chair or from a chair to standing)
- Walking ability
- Assistive device use
- Managing stairs
- Balance and safety assessment

Your physical therapist will use the information about your impairments and current functional status to develop an appropriate plan of care for rehab. He or she will work with you (and your family) to develop goals of physical therapy. These goals may be to improve mobility, increase strength, and improve the way you are able to move about your house. The overall goal of physical therapy at home after stroke is to help you regain maximal functional mobility so you can return to your previous level of activity.

Physical Therapy Treatment at Home After Stroke

Physical therapy treatment at home after stroke will be based on the results of your initial

evaluation. The treatment you receive should be specific to your needs. Physical therapy treatments at home after stroke may include various components.

Gait Training

Learning to walk again after stroke is one of the main goals of home PT after stroke. Your physical therapist will work with you to improve how you are able to walk and move around your home. He or she will also determine the correct assistive device to use. This may be a walker, quad cane, Canadian crutches, or a standard cane. He or she can also ensure the assistive device is properly sized.

Specific gait exercises may also be done. High stepping, sideways stepping, and backward steps may be done to practice moving in different directions. Exercises to work on lower extremity coordination may also be done.

Your PT will also teach you to climb and descend stairs at home after stroke. If one of your legs is weak or affected by your stroke, you may have to alter the way you manage stairs. In general, the rule is to use your strong leg to step up the stairs and lead with your weak leg to descend stairs. Your PT will likely say, "Up with the good, down with the bad" to help you remember this.

Clinical Guidelines for Post-stroke Gait Training

In joint clinical guidelines for recovery after stroke, the American Heart Association and American Stroke Association strongly recommend intensive, repetitive, mobility- task training for all individuals with gait limitations after stroke. The groups also recommend ankle-foot orthosis after stroke for people with remediable gait impairments (eg, foot drop) to compensate for foot drop and to improve mobility and paretic ankle and knee kinematics, kinetics, and energy cost of walking.2

Bed Mobility Training

You may be having difficulty moving around in bed after stroke, and your PT may work on bed mobility in your home. This may include various movements in bed such as:

Rolling
Scooting
Sitting up

Special exercises may be done to help improve your overall bed mobility. Bridges and straight leg raises may help improve hip strength, and upper extremity range of motion exercise can help you use your shoulders more effectively to move around in bed.

Transfer Training

Transferring is the ability to move from one chair or surface to another. Your muscle spasm, weakness, or lack of coordination may make transferring difficult after stroke. Your home-care physical therapist may work with you to improve your ability to transfer. The types of transfers done may include:

Sit to stand and stand to sit
Chair to bed and bed to chair
Chair to another chair
Sometimes it is necessary to use a slide board to help transfer from one surface to another. Your PT will bring that to your home to practice using it. If it is effective for helping you safely transfer, your PT can help you obtain one for permanent use at home.

Exercise

Exercise should be a main component of PT at home after a stroke. Exercise can help improve range of motion, strength, coordination, and balance. Your PT may perform exercises during your home-care sessions. He or she may also prescribe a home exercise program to do independently. Common exercises done at home after stroke may include:

Straight leg raises. These exercises improve hip strength and function. To perform straight leg raises, lie on your back and slowly lift one leg up off the bed about 12 inches. Hold this position for a few seconds, and then slowly lower. Repeat 10 times.

Bridges. Bridges can improve hip strength and help with bed mobility. To perform a bridge, lie on your back and bend both knees with your feet flat on the bed. Lift your bottom up in the air about 6 inches, and then slowly lower. Repeat 10 times.

Supine toe taps. Lie on your back with your knees bent. Tighten your abdominals and slowly lift one leg up. Then lower slowly and tap your toe on the bed. Repeat 10 times for each leg.

Ankle pumps. This exercise is important to do to help keep blood flowing from your legs to your heart. It may help to decrease the chance of a blood clot. To perform this, simply lie in bed and pump your ankles up and down about 15 times. This can also be done in a seated position.

Seated leg extensions. Sit upright in a chair and slowly straighten one leg as far as possible. Repeat 10 to 15 repetitions on each leg.

Seated marching. Sit in a chair and slowly march in place. Repeat for 10 to 15 marches on each leg.

Standing balance exercises. While holding onto a stable object like a kitchen counter, simply left one leg up and hold it for 10 seconds. Repeat for the other leg. (This exercise should only be done under the close supervision of your PT to maintain safety.)

Upper extremity range of motion exercises. Often after a stroke, your shoulder or shoulders may become stiff or weak. To improve arm mobility, simply lie in bed and clasp your hands together. Bring both arms up overhead as far as possible. Lower back down slowly and repeat for 10 to 15 repetitions.

Weight-bearing lean. This exercise is good practice for improving your ability to bear weight through your arm or arms. To do this, simply stand at a kitchen counter and lean onto your outstretched arm and hand. Hold for a few seconds and then rock to the other arm. This can also be done is a sitting position on a bed by placing your hand on the bed to your side and leaning onto it.

you are able to move your body. Some of these motions may be passive; your PT will move your body for you. Other motions are active; you use your muscles to move in coordinated ways to improve overall functional mobility.

Orthotics Use

After a stroke, you may require specific orthotics and braces to help you move better. These may include:

Ankle foot orthosis (AFO)
Knee ankle foot orthosis (KAFO)
Sling
Wrist bracing and hand positioning orthosis

The device used should be specific to your needs and should be used to help your body move more efficiently or to optimize the position of your body for functional tasks and comfort. Your home-care physical therapist can determine which orthotics are needed and can help you obtain them.

Sometimes after a stroke, you may require services from both physical therapy and occupation therapy. Your therapists may coordinate your care to visit your home at the same time. That way, your OT and PT can work together to improve your mobility and your functional activities of daily living.

Next Steps After Home Physical Therapy

As you progress with rehab at home after a stroke, you hopefully will find that moving around is easier and you can be more independent with functional tasks. Your home-care physical therapist can assess your progress and determine if you are achieving your goals.

Once you have achieved your goals (or it is determined that you have reached the maximal benefit from home PT), your therapist may recommend discontinuing services. He or she should discuss with you and your physician a discharge plan. This plan may include an updated home exercise program, follow up care with your physician, or continued physical therapy in an outpatient clinic.

Since the outcome of a stroke may be variable, it is impossible to tell how long you will require home-care PT and what your specific discharge plan will be. Be sure to work closely with your PT and physician to understand your specific prognosis.