Stroke Rehabilitation

Stroke rehabilitation is a critical aspect of stroke treatment and recovery. Whether mild or severe, strokes injure the brain and can result in an array of impairments and difficulties. Recovery from a stroke often takes time, and patients might need ongoing rehabilitation both in the hospital and after returning home.

The goal of stroke rehabilitation is to provide comprehensive support that gets every patient to his or her best quality of life after a stroke. We work with patients to successfully transition them back to life at home, at work, and in the community.

Stroke survivors may require:

- Speech therapy
- Physical therapy and strength training
- Occupational therapy (re-learning skills required for daily living)
- Psychological counseling

The Different Types of Stroke Therapy

Speech and Swallow Therapy

Stroke survivors may have trouble speaking, finding words, or understanding what other people are saying. Speech and Language therapists will work on assisting survivors in relearning and rebuilding various types of communication skills. The condition of a survivor

depends on the area that has been affected, which can lead to any or all issues such as Aphasia, Apraxia, Dysarthria and Dysphagia. Therapy may include repeating words as well as reading and writing exercises. Technology also plays a role with speech therapy applications that are being integrated into relearning speech.

Speech and swallowing are skills that require thinking about the action while coordinating muscles. Both skills use muscles of the face, mouth, tongue and throat. Speech problems are often expected after a stroke, while swallowing problems are usually more of an unpleasant surprise for stroke survivors and their loved ones.

A speech and swallow evaluation is typically done in the hospital, within days after a stroke. As you recover from your stroke, your speech and swallowing abilities might begin to get better on their own.

Speech is important for communication. Speech requires the use of language to understand what people are saying. Speech also requires the use of language to communicate with others. Speech therapy is focused on understanding words as well as on producing words that others can clearly understand. Sometimes, speech therapy involves flashcards, pictures, and, of course, practice and repetition with speaking.

Swallowing is important for a number of reasons. Nutrition is a vital part of life, and that doesn't change after a stroke. Swallowing ability is necessary for maintaining good nutrition. However, properly coordinated swallowing is important for other health issues, in addition to nutrition. When swallowing muscles do not move as they should, choking on food is one of the dangerous consequences.

Choking can cause an infection called aspiration pneumonia, which is a bigger problem among stroke survivors than most people realize. Choking on food can also result in a dangerous lack of oxygen, which can cause brain damage and even brain death.
The consequences of a swallowing disability are not something to be ignored. Fortunately, there is a whole system in place for swallow therapy to help stroke survivors avoid these serious and scary complications of stroke.

Physical Therapy

Stroke can cause problems with movement. Paralysis, or loss of muscle function, is common after stroke — especially on one side of the body. Physical therapy can help stroke survivors regain strength, coordination, balance, and control of movement.physical therapy is effective for helping stroke survivors improve mobility (the ability to get around,) walk at a faster pace, function more independently and have better balance. Researchers estimated the ideal dose of physical therapy to be approximately 30-60 minutes 5-7 days per week. Physical therapy was also found to be more effective when the sessions were initiated shortly after the stroke.

Occupational Therapy

Occupational therapists or rehabilitation nurses can help stroke survivors relearn some of the skills they will need to care for themselves after a stroke.
Rehabilitation nurses may help stroke survivors manage their personal care, such as bathing and washing.
They can also help with therapy to regain continence (control of bladder and bowel movements) after a stroke.
Occupational therapists may help stroke survivors relearn how to do activities such as preparing meals, cleaning the house, and driving.

Psychological Counseling

Stroke can cause chemical changes in the brain that affect the way a person thinks, feels, and behaves.
At the same time, stroke rehabilitation can be a long and difficult process.
Even after rehabilitation is complete, most stroke survivors will live with some minor to moderate disabilities.
Many stroke survivors will require mental health counseling and medications to help address issues such as depression, anxiety, frustration, and anger.
It's important to identify and treat mental health issues such as depression early in the recovery process.
Stroke survivors that are depressed may be less likely to follow through with stroke rehabilitation and treatment plans.

Visual Therapy

Visual therapy and balance therapy are often scheduled in combined rehabilitation sessions for stroke survivors. That is because vision partially relies on good balance and balance partially relies on good vision. The areas of the brain that control these two functions are separate, but they depend on each other as they interact. This is why it makes sense that post stroke balance exercises incorporate visual skills.
A recent medical research study that involved a collaboration between researchers from Memphis, Tennessee and from Denmark concluded that 60 percent of the stroke survivors who participated in combination vision therapy and balance therapy were employed, compared with only 23 percent of stroke survivors who did not participate in the therapy.

Cognitive Therapy

Cognitive therapy is still a fairly new concept in stroke rehabilitation. Cognitive therapy involves interventions that are designed to improve thinking skills and problem solving abilities. There is a range of cognitive disability after a stroke. Stroke survivors who are recovering from a large cortical stroke often have more cognitive issues than stroke survivors recovering from a small vessel subcortical stroke. Left sided cortical

strokes cause somewhat different cognitive deficits than right-sided cortical strokes, and this can impact your road to recovery as a stroke survivor.

Cognitive therapy approaches such as using video games, virtual reality techniques and computer generated rehabilitation therapy are currently being studied as ways to improve cognitive function after a stroke. Among the various interventions for post stroke cognitive deficit, the best type of cognitive therapy has not yet been established. However, so far, the conclusion is that stroke survivors who participate in cognitive therapy recover better than stroke survivors who do not participate in cognitive therapy.

Innovative Physical Therapy

New types of therapy include mirror therapy, electrical therapy and music therapy. Stroke survivors who participate in research studies that use new and innovative rehabilitative therapies tend to test better on measures of stroke outcomes and usually do not experience negative effects caused by experimental rehabilitation. The preliminary data on recovery after a stroke are promising, but research scientists always consider the possibility of a 'placebo effect.' A placebo effect is the likelihood that a person who is having an intervention will improve due to the preconceived belief that the intervention will help. A placebo effect can make an intervention appear to be beneficial even if the intervention is useless. There is probably a degree of placebo effect and a degree of usefulness when it comes to most of the innovative rehabilitation techniques that are currently under research.

Where do I go for Physical Therapy?

Inpatient rehabilitation units

Inpatient facilities may be freestanding or part of larger hospital complexes. Patients stay in the facility, usually for 2 to 3 weeks, and engage in a coordinated, intensive program of rehabilitation. Such programs often involve at least 3 hours of active therapy a day, 5 or 6 days a week. Inpatient facilities offer a comprehensive range of medical services, including full-time physician supervision and access to the full range of therapists specializing in post-stroke rehabilitation.

Outpatient units

Outpatient facilities are often part of a larger hospital complex and provide access to physicians and the full range of therapists specializing in stroke rehabilitation. Patients typically spend several hours, often 3 days each week, at the facility taking part in coordinated therapy sessions and return home at night. Comprehensive outpatient facilities frequently offer treatment programs as intense as those of inpatient facilities, but they also can offer less demanding regimens, depending on the patient's physical capacity.

Nursing facilities

Rehabilitative services available at nursing facilities are more variable than are those at inpatient and outpatient units. Skilled nursing facilities usually place a greater emphasis on rehabilitation, whereas traditional nursing homes emphasize residential care. In addition, fewer hours of therapy are offered compared to outpatient and inpatient rehabilitation units.

Home-based rehabilitation programs

Home rehabilitation allows for great flexibility so that patients can tailor their program of rehabilitation and follow individual schedules. Stroke survivors may participate in an intensive level of therapy several hours per week or follow a less demanding regimen. These arrangements are

often best suited for people who require treatment by only one type of rehabilitation therapist. Patients dependent on Medicare coverage for their rehabilitation must meet Medicare's "homebound" requirements to qualify for such services; at this time lack of transportation is not a valid reason for home therapy. The major disadvantage of home-based rehabilitation programs is the lack of specialized equipment. However, undergoing treatment at home gives people the advantage of practicing skills and developing compensatory strategies in the context of their own living environment. In the recent stroke rehabilitation trial, intensive balance and strength rehabilitation in the home was equivalent to treadmill training at a rehabilitation facility in improving walking.
we address a wide range of problems associated with stroke, including:

- Cognitive difficulties, such as thinking and memory
- Swallowing
- Language
- Balance and walking
- Daily living activities, such as bathing and eating

The integrated patient team will work with you during rehab to help improve:

- Communications and swallowing problems
- Mobility
- Physical function
- Skills for daily living

The goal of treatment is to allow you to return to your community.

What to expect when Testing for Swallowing Disorders

Testing for Swallowing Disorders

Someone who has had a stroke may have swallowing disorders.
The speech-language pathologist:

- Will work with you see if you have such a disorder
- Can do the evaluation at your bedside
- May recommend you have an instrumental swallowing test

The two main types of instrumental swallowing tests are:

- Modified barium swallow studies
- Fiberoptic endoscopic examinations of swallowing

Modified barium swallow study

This test x-rays the swallowing process. It is done with a speech-language pathologist and a radiologist.

A moving x-ray watches the swallowing process and lets the clinicians see what happens to food as you swallow it.

What to expect

You will sit in a wheelchair or a specialized chair and then swallow foods with different consistencies; these can include:

- Barium liquids
- Barium pudding
- A small piece of cookie with barium

The speech-language pathologist and the radiologist watch to see where the food goes when you swallow.

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- If the food goes into the airway, the speech-language pathologist will make note if you cough. It is called a "silent aspiration" if you do not cough. Both types of aspiration can lead to aspiration pneumonia.
- The speech-language pathologist will make a recommendation to your doctor about the most appropriate diet.
- If the test shows that you should not take food or liquid by mouth, you may need a nasogastric tube or a percut aneous endoscopic gastrostomy (PEG) tube until you can safely swallow.

Fiberoptic endoscopic examination of swallowing

This test is a minimally invasive way to find out what happens before and after you swallow. A doctor and a speech-language pathologist perform the test.

What to expect

- The doctor first uses a topical anesthetic and a decongestant inside your nose so that an endoscope can be put into the nasal cavity and the back of the throat.
- The physician looks at the structures in the larynx, including the vocal folds.
- Clinicians then give you small amounts of food – which has food coloring in it – for you to swallow. The food coloring makes it easier to see any food or liquid and helps determine whether you can safely swallow food and liquid.
- After testing, the doctor and a speech-language pathologist will discuss an appropriate diet for you.
- If the test shows that you cannot safely swallow, they will talk to your referring physician about beginning an alternative form of nutrition and hydration.

Family Involvement in the Rehabilitation Process

Family and caregivers who are involved in rehabilitation from the first day of admission and participate in training are better prepared to take on the physical and emotional responsibilities of caregiving.
Progress made in rehabilitation can be more effective if caregivers are trained in all aspects of patient care.

Family members can help in the following ways:

- Attend occupational, physical, and speech therapy sessions.
- Spend time with the nurses to understand medication schedules.
- Encourage and help your loved one practice new skills he or she learned in therapy.
- Visit the patient and do the things he or she enjoys, such as:

    - Relaxing
    - Listening to the radio
    - Playing cards
- Participate in activities and meals.
- Learn what the patient can do alone, and what he or she needs help doing.
- Ask the doctors, nurses, and therapists questions.
- Eat well, get enough rest, and take breaks from caregiving as needed.