



Stroke Facts

Stroke is the third leading cause of death in America and the No. 1 cause of adult disability.¹ According to the National Stroke Association, more than 750,000 Americans have a new or recurrent stroke every year, and incidence is on the rise.² It is estimated that 5.4 million (or 1 in 55) Americans are living with the effects of stroke at any given time.³

Myth	Reality ⁴
Stroke cannot be treated.	Stroke requires emergency treatment.
Stroke only strikes the elderly.	Stroke can happen to anyone.
Stroke happens to the heart.	Stroke is a "brain attack."
Recovery from stroke only takes a few months.	Recovery from stroke can take the rest of the survivor's lifetime.
After-effects of stroke are seen immediately.	After-effects of stroke can appear up to one year later.

What is a stroke?

A stroke, or "brain attack," occurs when a blood clot blocks an artery or a blood vessel breaks, interrupting blood flow to an area of the brain. Brain cells can die from decreased blood flow and the resulting lack of oxygen.⁵

When brain cells die during a stroke, abilities controlled by that area of the brain are impaired. These abilities include speech, movement and memory. How a stroke survivor is affected depends on where the stroke occurs in the brain and how much of the brain is damaged. Some people recover completely from stroke, but more than two-thirds of survivors eventually have some type of disability.⁶

What are the physical and physiological effects of a stroke on a survivor?

Stroke can affect more than speech and mobility. The specific abilities that will be lost or affected by stroke depend on the extent of the brain damage and, most importantly, where in the brain the stroke occurred. Depression, memory loss, communication problems, difficulties in performing daily tasks, muscle tightness or spasticity, and pain – all of these may be among the conditions experienced by a stroke survivor.

What happens to the survivor, in terms of both immediate and long-term care, after a stroke?

Rehabilitation after stroke needs to begin in the hospital as soon as possible. The goal of rehabilitation is to improve function so that the stroke survivor may regain a level of independence. A recent supplement of *Archives of Physical Medicine and*

Rehabilitation points out that earlier rehabilitation post-stroke promotes better outcomes.

Most survivors are served in a variety of settings by a variety of healthcare professionals, including:

- primary care physicians
- neurologists
- physiatrists (physical medicine and rehabilitation)
- physical and occupational therapists
- nurses

These professionals work with survivors and caregivers to set realistic goals for rehabilitation.

What types of rehabilitation are available?

Thanks to better health education and medical advances, more people are surviving stroke. That means greater need for rehabilitation programs. Stroke rehabilitation varies from person to person. Survivors may be seen in a rehabilitation unit in the hospital, a sub-acute care unit, a rehabilitation hospital, or a long-term care facility providing therapy and skilled nursing care. Home therapy, or a combination of home and outpatient therapy, may also be rehabilitation options, depending on the stroke survivor's individual needs.

Recovery progress is also variable. For some, recovery may take a few weeks. For others, recovery may take months or years.

Those who have suffered from stroke can experience severe spasticity. Severe spasticity, which affects approximately 38 percent of stroke survivors,⁷ is tight or stiff muscles that make movement – especially of the arms and legs – difficult or uncontrollable. Early treatment can make a significant difference to how severely someone is affected and to the long-term outlook after stroke.⁸ Severe spasticity can interfere with an individual's function and/or comfort. It can be very painful and can make simple activities of daily living (e.g., walking, eating, dressing, bathing) time-consuming and difficult for both the individual and caregiver. When spasticity limits activity for long periods, it can cause additional medical problems such as sleep disturbances, pressure sores and pneumonia.⁹

For those who experience spasticity, physical or occupational therapy may be an option. There are also oral medications as well as injectable and implantable options available for those with severe spasticity, which may not appear until a year or more after a person sustains a stroke. Stroke survivors and caregivers are urged to ask their doctors about the latest rehabilitation therapies, which may improve their quality of life.

Managing spasticity can sometimes have dramatic and meaningful results on a stroke survivor's ability to complete basic activities of daily living, such as bathing, dressing and walking.

What can the caregivers of those who have had a stroke expect?

Stroke does not just affect the person who had the stroke. In fact, four out of five American families are affected by stroke and caring for a stroke survivor can be a source of stress for family members.¹⁰

Caregivers commonly worry that their loved one will have another stroke or may be placed in a nursing home. They may feel unprepared to face the responsibility of caring for their loved one.

Stroke recovery is a lifelong journey that can be filled with both achievements and setbacks. And rehabilitation doesn't just help the individual who suffered the stroke – it can be an important factor in helping the caregiver adjust to life after stroke as well. Caregivers can take steps to make the transition from hospital to home easier on everyone, such as encouraging independence, decision-making and participation in leisure activities. It is also important for caregivers to take an occasional break for themselves and to ask for help from family, friends or community organizations.

What are stroke recovery rates?

Stroke survivors experience a variety of outcomes based on age, severity of stroke, and success and timing of treatment. General recovery guidelines show:

- 10% of stroke survivors recover almost completely
- 25% recover with minor impairments
- 40% experience moderate to severe impairments requiring special care
- 10% require care in a nursing home or other long-term care facility
- 15% die shortly after suffering stroke¹¹

The majority of those who experience stroke will need some form of rehabilitation in their recovery process. The goals of rehabilitation are to help survivors become as independent as possible and to attain the best possible quality of life. While rehabilitation does not reverse brain damage, it can substantially help people achieve the best possible long-term outcome.¹²

¹ National Stroke Association Website: <http://info.stroke.org/site/PageServer?pagename=STROKE>

² Williams GR, Jiang JG, Matchar DB, Samsa GP. Incidence and Occurrence of Total (First-Ever and Recurrent) Stroke. *Stroke*. 1999;30:2523-2528.

³ Howard, VJ. Data Needs for Cardiovascular Events, Management, and Outcomes. As presented at the National Heart, Lung, and Blood Institute workshop, May 26-27, 2005. Available at: <http://www.nhlbi.nih.gov/meetings/workshops/cvd-events/howard.htm>. Accessed 6/22/06.

⁴ National Stroke Association Web site: <http://info.stroke.org/site/PageServer?pagename=MYTH>

⁵ National Institutes of Health, National Institute of Neurological Disorders and Stroke: Brain Basics: http://www.ninds.nih.gov/disorders/stroke/preventing_stroke.htm

⁶ National Stroke Association Web site: <http://info.stroke.org/site/PageServer?pagename=STROKE>

⁷ Watkins CL, Leathley MJ, et al. Prevalence of spasticity post stroke. *Clin Rehab* 2002;16(5):515-22

⁸ Ibid

⁹ Medtronic Web site:

http://wwwp.medtronic.com/Newsroom/LinkedItemDetails.do?itemId=1101744917491&itemType=fact_sheet&lang=en_US

¹⁰ National Stroke Association Web site: <http://www.stroke.org/site/PageServer?pagename=CARE>

¹¹ National Stroke Association Web site: <http://info.stroke.org/site/PageServer?pagename=REHABT>

¹² National Institutes of Health, National Institute of Neurological Disorders and Stroke: Post-Stroke Rehabilitation Fact Sheet: <http://www.ninds.nih.gov/disorders/stroke/poststroke rehab.htm#organizations>