



# Stroke

Stroke is a leading cause of death and disability in the United States. Preventing and managing secondary conditions such as hypertension, diabetes, obesity, and heart disease supports overall health and helps lessen the risk of stroke.



## Q: What is stroke?

Stroke occurs when blood flowing to the brain is blocked or from sudden bleeding in the

brain.

There are two types of strokes: ischemic and hemorrhagic.

**Ischemic strokes** are the most common, accounting for 87% of strokes. These occur when blood vessels in the brain are blocked (by clots or a buildup of fatty deposits and cholesterol).

**Hemorrhagic strokes** occur when a blood vessel bursts in the brain and puts pressure on the surrounding brain tissue.

### **Q: How can I recognize the symptoms of a stroke?**

Symptoms emerge suddenly and can include numbness or weakness, especially on one side of the body; facial drooping; slurred or difficult speech; confusion and trouble understanding speech; vision problems in one or both eyes; dizziness, loss of balance or coordination; vomiting or nausea; lethargy; and severe headache with no known cause.

**If you experience any of these symptoms, call 911 immediately. Successful treatment depends on quick response.**

### **Q: How is a stroke treated?**

A stroke requires urgent medical attention and likely hospitalization. The course of care will be determined by the type of stroke, how much time has passed since the onset of symptoms, and whether other medical conditions are present.

An ischemic stroke is typically treated with a combination of surgery and medicine to break up blood clots. Depending on how quickly treatment begins, either plasminogen activator (tPA) or anticoagulants will be given to break up clots or prevent them from growing bigger, or a thrombectomy to remove the clot and open the arteries may be performed. If the stroke was caused by a buildup of plaque, a carotid endarterectomy may also be performed to remove the plaque in the neck artery.

Hemorrhagic stroke treatment will depend on the location and amount of bleeding. Emergency surgery to block or contain the rupture, and drain excess blood from the brain, is likely. Medication to decrease blood pressure and reduce pain may also be given after surgery.

### **Q: What increases the risk of stroke?**

Risk factors that significantly increase the risk of having a stroke include high blood pressure, smoking, heart disease, diabetes, high blood cholesterol levels, high red blood cell count, obesity, heavy alcohol consumption and drug use, physical inactivity, abnormal heart rhythm, and damaged heart valves.

### **Q: What happens after a stroke?**

Depending on the severity of a stroke, a wide range of functions may be damaged, including movement, speech, eating and swallowing; bowel and bladder; and the ability to regulate emotions and think clearly.

After initial emergency treatment, some combination of physical therapy, occupational therapy, and speech therapy may be needed. Rehabilitation may take weeks, or even years; some people recover fully from strokes, while others experience permanent loss of function and disability.

### **Q: How can I prevent a stroke?**

Many of the factors that lead to a stroke are within our control. Monitor and control high blood pressure. Stop smoking. Eat a healthy diet that is low in saturated fats and cholesterol and high in fiber. Maintain a healthy weight. Exercise regularly. Limit alcohol intake.

### **Q: Are there clinical trials for stroke?**

Yes. To find current trials for stroke, visit ClinicalTrials.gov (<https://clinicaltrials.gov>), a searchable website for publicly and privately supported clinical studies maintained by the National Library of Medicine at the National Institutes of Health (<https://www.nih.gov>).

*Sources: National Heart, Lung, and Blood Institute, American Stroke Association, Johns Hopkins Medicine, Centers for Disease Control and Prevention.*

#### **Need to talk to someone?**

Our Information Specialists are available to answer your questions.

Call toll-free 1-800-539-7309 Mon-Fri, 9 am-8 pm EST.

Or schedule a call or ask a question online at

<https://www.ChristopherReeve.org/Ask>.

## **Resources for Stroke**

### **American Stroke Association**

<https://www.stroke.org/en/>

7272 Greenville Ave.

Dallas, TX 75231

1-888-4-STROKE or 1-888-478-7653

The American Stroke Association provides information and resources about stroke prevention, recovery, and caregiver information for families and health care professionals.

### **American Heart Association: Heart Disease and Stroke Statistics**

[http://www.heart.org/HEARTORG/General/Heart-and-Stroke-Association-Statistics\\_UCM\\_319064\\_SubHomePage.jsp](http://www.heart.org/HEARTORG/General/Heart-and-Stroke-Association-Statistics_UCM_319064_SubHomePage.jsp)

Statistics on heart disease, stroke and other vascular diseases in the United States including disease morbidity; mortality and risks; quality of care; medical procedures and operations; and costs associated with the management of these diseases.

**American Heart Association: Heart Disease and Stroke Statistics 2023**

<https://www.ahajournals.org/doi/10.1161/CIR.0000000000001123>

**Brain Aneurysm Foundation**

<http://www.bafound.org>

269 Hanover Street, Building 3

Hanover, MA 02339

Phone: 781-826-5556, 888-272-4602

Email: [office@bafound.org](mailto:office@bafound.org)

The Brain Aneurysm Foundation works to increase awareness, education, and research to reduce the incidence of brain aneurysm ruptures. The website provides information on symptoms, diagnosis and treatment for stroke and has a patient resource directory and links to support groups.

**Inspire: Stroke Support Group**

<http://www.inspire.com/groups/stroke/>

Online support group for stroke survivors, families, friends, and caregivers.

**National Institute of Neurological Disorders and Stroke (NINDS)**

<http://www.ninds.nih.gov/>

NIH Neurological Institute

PO Box 5801

Bethesda, MD 20824

Phone: 800-352-9424

NINDS is part of the National Institutes of Health. Its website offers information on the medical aspects of stroke, risk factors, biomedical research, therapies, and rehabilitation.

**National Institute of Neurological Disorders and Stroke (NINDS): Know Stroke**

<https://www.stroke.nih.gov/>

This site offers a wide range of materials about stroke prevention, treatment, and rehabilitation.

**National Institute of Neurological Disorders and Stroke (NINDS): Post-Stroke Rehabilitation booklet**

<https://catalog.ninds.nih.gov/publications/post-stroke-rehabilitation>

**Stroke Channel**

[www.TheStrokeChannel.TV](http://www.TheStrokeChannel.TV)

This website was created to help raise awareness about the signs of stroke as well as to provide support to those who have survived a stroke. It offers access to support groups, a radio podcast called “Life After Stroke” and videos from stroke survivors.

**Stroke Network**

<http://www.strokenetwork.org>

The Stroke Network is an online stroke support organization that provides information and support services including daily chat sessions, instant messages, blogs, and a message board. Information resources include a monthly newsletter, book shop, articles, links, webcasts, and a Stroke Caregiver Handbook.

### **World Stroke Organization**

<http://www.world-stroke.org/>

Rue Francois Versonnex 7

Geneva 1207, Switzerland

Phone: + 41 22 906 9166

Email: [admin@world-stroke.org](mailto:admin@world-stroke.org)

The World Stroke Organization promotes stroke prevention, education, and clinical research, as well as care of persons with stroke and vascular dementia.

### **Pediatric Stroke**

#### **American Stroke Association: Stroke in Children**

<https://www.stroke.org/en/about-stroke/stroke-in-children>

This site has information on strokes in infants and children, as well as links to support groups and other resources for parents and caregivers.

#### **Children’s Hemiplegia and Stroke Association (CHASA)**

<http://www.chasa.org>

4101 West Green Oaks

Suite 305, #149

Arlington, TX 76016

CHASA offers counseling, grants, and scholarships to families of children who have hemiplegia, hemiparesis, or hemiplegic cerebral palsy. Its website provides information about medical conditions, rehabilitation, daily living, finances and more.

#### **HemiKids**

<https://chasa.org/hemikids/>

Email discussion group operated by CHASA for families of children who have hemiplegia due to pediatric stroke or other causes.

#### **Pediatric Stroke Awareness**

<http://www.chasa.org/you-can-help/pediatric-stroke-awareness/>

Informational site about strokes operated by CHASA.

#### **Pediatric Stroke Network**

<http://www.pediatricstrokenetwork.com>

The Pediatric Stroke Network connects friends and families of infant or childhood stroke survivors from around the world. The website provides information on childhood stroke, and rehabilitation.

#### **Stroke in Young Adults**

**American Heart Association: Deadly type of stroke increasing in younger and middle-aged adults**

<https://www.heart.org/en/news/2022/02/04/deadly-type-of-stroke-increasing-among-younger-and-middle-aged-adults>

**Evidence-Based Review of Stroke Rehabilitation (EBRSR): The Rehabilitation of Younger Patients Post Stroke**

<http://www.ebrsr.com/evidence-review/21-rehabilitation-younger-patients-post-stroke>

**New York Times: Too Young to Have a Stroke? Think Again**

<http://well.blogs.nytimes.com/2012/09/03/too-young-to-have-a-stroke-think-again/>

**Stroke in Young Adults: A Resource for Patients and Families**

[https://www.canadianstroke.ca/sites/default/files/resources/Stroke\\_Young\\_FINAL.pdf](https://www.canadianstroke.ca/sites/default/files/resources/Stroke_Young_FINAL.pdf)

A 2015 resource from the Heart and Stroke Foundation Canadian Partnership for Stroke Recovery.

**Strokes in Young Adults: Epidemiology and Prevention** Vascular Health Risk Management 2015; 11: 157-164.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4348138/>

**UpToDate: Ischemic Stroke in Children and Young Adults: Etiology and Clinical Features**

<http://www.uptodate.com/contents/ischemic-stroke-in-children-and-young-adults-etiology-and-clinical-features>

**WebMD: Strokes and the Toll They Take on Younger Adults**

<http://www.webmd.com/stroke/news/20141001/strokes-younger-adults>

**Constraint-Induced Movement Therapy (CIMT)****CHASA: Constraint Induced Movement Therapy and Hand-Arm Bimanual Intensive Therapy**

<https://chasa.org/treatment/constraint-induced-movement-therapy/>

**Cleveland Clinic Children’s Hospital for Rehabilitation Constraint-Induced Movement Therapy Program**

<https://my.clevelandclinic.org/pediatrics/departments/constraint-induced-movement-therapy>

2801 Martin Luther King Jr. Dr.

Cleveland, OH 44104

Phone: 216-636-5437

The Cleveland Clinic CIMT program is a three-week session of intensive outpatient occupational therapy services that seeks to improve upper extremity function.

**Apps**

## Constant Therapy

[www.ConstantTherapy.com](http://www.ConstantTherapy.com)

Constant Therapy is a customizable iPad application, offering 60+ tasks with up to 10 challenge levels, designed to support the rehabilitation efforts of stroke survivors.

## Magazines

### Stroke Connection e-news

<https://www.stroke.org/en/stroke-connection>

A free, monthly online publication from the American Stroke Association for stroke survivors and caregivers.

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