Right-side Stroke
(Stroke, Right-side; Right Hemisphere Stroke; Stroke, Right Hemisphere)

Definition

The cerebrum is the largest part of the brain. It is made of a left and a right hemisphere. The right hemisphere is in charge of the functions on the left-side of the body and many cognitive functions.

A right-side stroke happens when the blood supply to the right side of the brain is interrupted. Without oxygen and nutrients from blood, the brain tissue quickly dies.

The Cerebrum

Lateral (side) view of the brain

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There are 2 main types of stroke: ischemic and hemorrhagic. An ischemic stroke is the most common type of stroke.
Causes

An ischemic stroke is caused by a blockage of the blood flow, which may be due to:

- A clot from another part of the body like the heart or neck. The clot breaks off and flows through the blood until it becomes trapped in a blood vessel supplying the brain.
- A clot that forms in an artery that supplies blood to the brain.
- A tear in an artery supplying blood to the brain—arterial dissection.

A hemorrhagic stroke is caused by a burst blood vessel. Blood spills out of the broken blood vessel and pools in the brain. This interrupts the flow of blood and causes a build up of pressure on the brain.

Hemorrhagic vs. Ischemic Stroke

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Risk Factors

Certain factors increase your risk of stroke but can not be changed, such as:

- Race—People of African American, Hispanic, or Asian/Pacific Islander descent are at increased risk.
- Age: Older than 55 years of age.
- Family history of stroke.

Other factors that may increase your risk can be changed, such as:

- Drug abuse from cocaine, amphetamines, or heroin use
• Smoking
• Physical inactivity

Certain medical condition that can increase your risk of stroke. Management or prevention of these conditions can significantly decrease your risk. Medical conditions include:

• High blood pressure
• High cholesterol levels—specifically high-LDL cholesterol
• Low bone mineral density, especially in women
• Obesity and metabolic syndrome
• Sleep apnea
• High blood homocysteine level
• Atherosclerosis
• Type 2 diabetes or impaired glucose tolerance
• Atrial fibrillation
• Blood disorders such as sickle cell disease and polycythemia
• Vascular dementia
• Disease of heart valves, such as mitral stenosis
• Prior stroke or cardiovascular disease, such as heart attack
• Peripheral artery disease
• Transient ischemic attack (TIA)—a warning stroke with stroke-like symptoms that go away shortly after they appear
• Conditions that increase your risk of blood clots such as:
  o Cancer
  o Certain autoimmune diseases
• Migraine with aura
• Having a blood vessel abnormality

Risk factors specific to women include:

• Previous pre-eclampsia
Use of birth control pills, especially if you are over 35 years old and smoke

- Long-term use of hormone replacement therapy
- Menopause
- Pregnancy—due to increased risk of blood clots

**Symptoms**

Symptoms occur suddenly. Exact symptoms will depend on the part of the brain affected. Rapid treatment is important to decrease the amount of brain damage. Brain tissue without blood flow dies quickly.

Call for emergency medical help right away if you notice any of the following:

- Sudden weakness or numbness of face, arm, or leg, especially on the left side of the body
- Sudden confusion
- Sudden trouble speaking or understanding—aphasia
- Sudden trouble seeing in one or both eyes
- Sudden lightheadedness, trouble walking, loss of balance, or coordination
- Sudden severe headache with no known cause
- Difficulty understanding or expressing the tone of language
- Difficulty with learned movements
- Lack of attention to the left side of the body

Longer-lasting effects of the stroke may include problems with:

- Left-sided weakness and/or sensory problems
- Speaking and swallowing
- Vision, including an inability of the brain to take in information from the left visual field
- Perception and spatial relations
- Attention span, comprehension, problem solving, and judgment
- Emotions
- Interactions with other people
- Activities of daily living, such as going to the bathroom
- Mental health, including depression, frustration, and impulsivity
**Diagnosis**

You will be asked about your symptoms and medical history. A physical exam will be done to look for muscle weakness, visual and speech problems, and movement difficulty.

Images may be taken of your bodily structures. This can be done with:

- CT scan
- MRI scan
- **Magnetic resonance angiography** (MRA)
- CT angiogram (CTA)
- Doppler ultrasound

Blood tests can also help determine if there is a bleeding problem.

**Treatment**

Immediate treatment is needed to:

- Dissolve or remove a clot causing an ischemic stroke
- Stop bleeding during a hemorrhagic stroke

**Oxygen therapy** may be needed.

**Medications**

For an ischemic stroke, medication may be given to:

- Dissolve clots and prevent new ones from forming
- Thin blood
- Control blood pressure
- Treat an irregular heart rate
- Treat high cholesterol

For a hemorrhagic stroke, medication may be given to:

- Work against any blood-thinning drugs you may regularly take
• Prevent seizures
• Reduce how your brain reacts to bleeding
• Control blood pressure

**Surgery**

For an ischemic stroke, procedures may be done to:

• Reroute blood supply around a blocked artery
• Remove the clot or deliver clot-dissolving medication
• Remove fatty deposits from arteries in the neck—**carotid endarterectomy**
• Widen the carotid artery and add a mesh tube to keep it open—**atherectomy of noncoronary vessel**

For a hemorrhagic stroke, the doctor may:

• Place a clip or tiny coil in the aneurysm to stop it from bleeding
• Remove a piece of the skull to relieve pressure on the brain—**craniotomy**

**Rehabilitation**

A rehabilitation program focuses on:

• Physical therapy—to regain as much movement as possible
• Occupational therapy—to assist in everyday tasks and self-care
• Speech therapy—to improve swallowing and speech challenges
• Psychological therapy—to help adjust to life after the stroke

**Prevention**

Many of the risk factors for stroke can be changed. Lifestyle changes that can help reduce your chance of getting a stroke include:

• Exercise regularly.
• Eat more **fruits, vegetables**, and **whole grains**. Limit dietary **salt** and **fat**.
• If you **smoke**, talk to your doctor about ways to quit.
• Increase your consumption of fish.
• Limit alcohol to 1-2 drinks per day.
• Maintain a healthy weight.
- **Check blood pressure frequently.** Follow your doctor’s advice for keeping it in a safe range.
- Take aspirin if your doctor says it is safe.
- Keep chronic medical conditions under control. This includes high cholesterol and diabetes.
- Talk to your doctor about the use of a statins. These types of drugs may help prevent certain kinds of strokes in some people.
- Seek medical care if you have symptoms of a stroke, even if symptoms stop.
- If you use drugs, talk to your doctor about rehabilitation programs.

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