

---

## Stroke risk factors and prevention

### Definition

A stroke is an interruption of the blood supply to any part of the brain. A stroke is sometimes called a "brain attack."

There are two major types of stroke: ischemic stroke and hemorrhagic stroke.

When a blood vessel that supplies blood to the brain is blocked by a blood clot, this is called an *ischemic stroke*. A blocked artery may happen in two ways.

- A clot may form in an artery that is already very narrow. This is called a thrombus. If it completely blocks the artery, it is called a thrombotic stroke.
- A clot may break off from somewhere in your body and travel up to the brain to block a smaller artery. This is called an embolism. It causes an embolic stroke.

A second major cause of stroke is bleeding in the brain. This is called a *hemorrhagic stroke*. It can occur when small blood vessels in the brain become weak and burst. Some people have defects in the blood vessels of the brain that make this more likely. The flow of blood that occurs after the blood vessel ruptures damages brain cells.

See also:

- Stroke
- Stroke recovery

### Alternative Names

Stroke prevention; Preventing strokes

### Information

Men have more strokes than women.

#### RISK FACTORS FOR STROKE

Risk factors for atherosclerosis and narrowing of the arteries, which can lead to stroke, include:

- High blood pressure
- Smoking increases the risk of most types of stroke. People who smoke one pack a day have over two times the risk of stroke compared to non-smokers.
- Diabetes
- Heart disease
- High cholesterol
- Heavy alcohol use
- Kidney disease, especially when dialysis is needed
- Cocaine abuse
- Family history of stroke
- Increasing age

Risk factors that can make your blood more likely to clot, which can lead to stroke, include:

- Birth control pills can increase the chance of blood clots, especially in women who smoke and who are older than 35
- Blood clotting disorders
- Cancer
- Rheumatoid arthritis, systemic lupus erythematosus, vasculitis, and ulcerative colitis
- Pregnancy -- women have a higher risk of stroke during pregnancy and the weeks immediately after pregnancy

Risk factors for strokes caused by blood clots (emboli) that develop in the heart include:

- Man-made or infected heart valves
- Inflammation of the inside lining of the heart chambers and heart valves (endocarditis)
- A heart muscle that is not beating strongly or regularly -- this may cause blood to stay in the heart area, leading to a clot. The clot can break off and travel to the brain

- Irregular heart rhythms such as atrial fibrillation
- Congenital heart defects, such as patent foramen ovale, which is a flap like opening between the chambers of the heart (may not cause any symptoms until a stroke occurs)

Risks for a stroke caused by bleeding in the brain (hemorrhagic stroke) include:

- High blood pressure (although on rare occasions low blood pressure may cause a stroke)
- Weak areas in an artery wall (aneurysm)
- Abnormal connections between arteries and veins (arteriovenous malformation, or AVM)
- Cancer, particularly cancer that spreads to the brain from the breast, skin, and thyroid)
- Conditions or medications (such as aspirin or Warfarin) that can increase the chance of bleeding
- Use of illicit drugs such as cocaine
- Cerebral amyloid angiopathy

Risk factors for stroke secondary to carotid dissection include:

- Marfan syndrome or fibromuscular dysplasia
- Injury to the neck from trauma or during a medical procedure such as an arteriogram

## STROKE PREVENTION

The following lifestyle changes may help prevent a stroke:

- Avoid fatty foods. Follow a healthy, low-fat diet.
- Do not drink more than 1 to 2 alcoholic drinks a day.
- Exercise regularly: 30 minutes a day if you are not overweight; 60 - 90 minutes a day if you are overweight.
- Quit smoking.
- Get your blood pressure checked every 1 - 2 years, especially if high blood pressure runs in your family. If you have high blood pressure, heart disease, or have had stroke, you need to have it checked more often. Ask your doctor.
- Everyone should keep their blood pressure below 140/90 mmHg.
- If you have diabetes or have had a stroke, your blood pressure should probably be less than 130/80 mm/Hg. Ask your doctor what it should be.
- Have your cholesterol checked and treated.
- Adults should have their cholesterol checked every 5 years. If you are being treated for high cholesterol, you will need it checked more often.
- If you have diabetes, heart disease, or hardening of the arteries, your LDL "bad" cholesterol should be lower than 70 mg/dL.
- Follow your doctor's treatment recommendations if you have high blood pressure, diabetes, high cholesterol, and heart disease.

Your doctor may suggest taking aspirin or another drug called clopidogrel (Plavix) to help prevent blood clots from forming in your arteries or your heart. These medicines are called antiplatelet drugs. DO NOT take aspirin without talking to your doctor first. Your doctor may suggest using one of these drugs:

- To prevent a first stroke in women over 65 who are at risk for a stroke
- After a stroke, often combined with a drug called dipyridamole
- If you have had a transient ischemic attack (TIA) or stroke in the past
- If you have heart failure or an irregular heart beat (such as atrial fibrillation)

Warfarin (Coumadin), an anticoagulant ("blood thinner") drug, may be used to prevent strokes if you have:

- Atrial fibrillation
- An artificial (man-made) heart valve

A type of surgery called carotid endarterectomy may help prevent new strokes from occurring in persons with large blockages in their neck arteries. See: Carotid artery surgery

## References

Goldstein LB. Prevention and management of stroke. In: Libby P, Bonow RO, Mann DL, Zipes DP, eds. *Libby: Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine*. 8th ed. Saunders; 2007: chap 58.

Zivin JA. Hemorrhagic cerebrovascular disease. In: Goldman L, Ausiello D, eds. *Cecil Medicine*. 23rd ed. Philadelphia, Pa: Saunders Elsevier; 2007: chap 432.

Chung CS, Caplan LR. Stroke and other neurovascular disorders. In: Goetz, CG, eds. *Textbook of Clinical Neurology*. 3rd ed. Philadelphia, Pa: Saunders Elsevier; 2007:chap 45.



A.D.A.M., Inc. is accredited by URAC, also known as the American Accreditation HealthCare Commission ([www.urac.org](http://www.urac.org)). URAC's accreditation program is an independent audit to verify that A.D.A.M. follows rigorous standards of quality and accountability. A.D.A.M. is among the first to achieve this important distinction for online health information and services. Learn more about A.D.A.M.'s editorial policy, editorial process and privacy policy. A.D.A.M. is also a founding member of Hi-Ethics and subscribes to the principles of the Health on the Net Foundation ([www.hon.ch](http://www.hon.ch)).

The information provided herein should not be used during any medical emergency or for the diagnosis or treatment of any medical condition. A licensed medical professional should be consulted for diagnosis and treatment of any and all medical conditions. Call 911 for all medical emergencies. Links to other sites are provided for information only -- they do not constitute endorsements of those other sites. © 1997- 2011 A.D.A.M., Inc. Any duplication or distribution of the information contained herein is strictly prohibited.

