

Ischemic stroke

Patient education

What is an ischemic stroke?

An ischemic stroke is the sudden death of brain tissue caused by a lack of blood flow to a specific area of the brain. This is different from a hemorrhagic stroke, which is bleeding in the brain.

An ischemic stroke is a medical emergency that must be treated immediately. An ischemic stroke can result in temporary or permanent brain damage. This damage can cause issues with how various parts of the body function.

What causes an ischemic stroke?

An ischemic stroke occurs when part of the brain is damaged from lack of oxygen and blood. This can be due to:

- A blood clot, from
 - A condition called Atrial Fibrillation, which causes an irregular heart beat
 - Anything that causes a hypercoagulable state, which is when the body forms blood clots easier than it should. This can include pregnancy or autoimmune conditions
 - Damage to the artery wall, called a dissection
 - Other sources of embolism, which is when a clot forms in another part of the body and then travels to the brain
- Cholesterol buildup, most often from untreated high blood cholesterol levels
- Abnormal thickening of the blood vessels in the head or neck due to conditions such as Fibromuscular Dysplasia or MoyaMoya Disease
- Inflammation of arteries in the brain, caused by things such as infection

What increases the risk of ischemic stroke?

The highest risk conditions include hypertension (high blood pressure), high cholesterol, smoking, diabetes, a blood clotting disorder, and atrial fibrillation. Other risk factors include:

- Heart disease
- A hole in the heart, called a patent foramen ovale
- Obesity
- The use of cannabis
- Abuse of alcohol and drugs
- Physical inactivity
- Age >60
- A medical and family history of strokes or high blood pressure

Some of these risk factors can be significantly improved with diet or lifestyle changes, other require treatments with medications or surgery.

What are some signs of ischemic stroke?

- Weakness or numbness of one side of your body (you can experience weakness to the entire side or a part, such as a hand)
- Facial weakness and numbness on one side, including facial drooping
- Loss of balance or vertigo
- Slurred speech
- Difficulty communicating what you would like to say
- Trouble understanding what others are saying to you
- Trouble reading or writing
- Vision change including loss of vision or double vision

These symptoms typically develop **suddenly** and can either have a short duration (ex. minutes to hours) or be permanent depending on how severe the damage is.

Even if your symptoms resolve on their own, you should still go to the emergency department as soon as possible.

How is an ischemic stroke treated?

This depends on where in the brain the stroke or clot is, the cause of the stroke, and how much time has passed since stroke onset. The sooner you present to hospital, the more treatment options you may have. Treatment can include:

- Thrombolytic (this can help to dissolve a blood clot)
- Thrombectomy or carotid stenting (opens the blood vessel with surgery)
- Anticoagulant or antiplatelets (blood thinner)

Depending on the cause of your stroke, you may also need treatment of cholesterol, blood pressure, or blood sugar with medications or diet and lifestyle changes. While in hospital, you may receive an IV or oxygen therapy.

Please get help immediately if you are experiencing any of the following:

- Dizziness, sudden trouble walking, or loss of balance
- Trouble seeing or a sudden change in vision
- Sudden weakness or numbness of the face, or the face or eyelid drooping on one side
- Weakness or numbness in an arm.
- Trouble speaking, slurred speech, or trouble understanding what people say
- Reoccurrence of symptoms

What do I do if I think I am having a stroke?

The most important thing you can do is come to the emergency department.

Remember, **TIME IS BRAIN!** The faster you get to the hospital, the more of your brain may be saved from damage.

If you are unsure if you are having a stroke, you can use the following acronym which covers some (but not all!) symptoms:



- F (Face) → Is the face drooping?
- A (Arms) → Can you raise both arms?
- S (Speech) → Is speech slurred, or jumbled?
- T (Time) → Time to call 9-1-1.

If you are still unsure, the safest thing to do is to present to the hospital for assessment.

Where can I get more information?

Stroke | Heart and Stroke Foundation: heartandstroke.ca/stroke

Reference: Ischemic Stroke. (2021, June 08). Elsevier Inc: ClinicalKey for Nursing.
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