

CIMS STROKE



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ABOUT STROKE

A stroke is sudden stoppage of blood supply to the brain, causing weakness of body parts. A stroke may also be called a Cerebral Vascular Accident (CVA), paralysis or hemiplegia.

TIAs (Transient Ischemic Attacks) are warning symptoms, when blood supply to the brain is reduced for a short time without causing permanent damage. It is also called "mini-stroke"; as symptoms may be the same; but recoverable in few minutes.

CAUSES

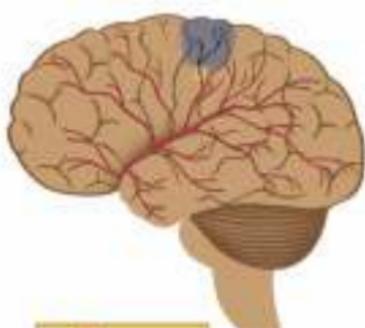
Two main reasons of blood not reaching the brain are:

1. Artery which carries the blood is blocked (ischemic).
2. It bursts open (haemorrhage).

An **ischemic stroke** is the most common type of stroke (80%). The blockage in the blood vessel may be caused by severe narrowing of artery (stenosis) or a thrombus (clot) that forms in a blood vessel or travels from another part of the body to the brain or neck.

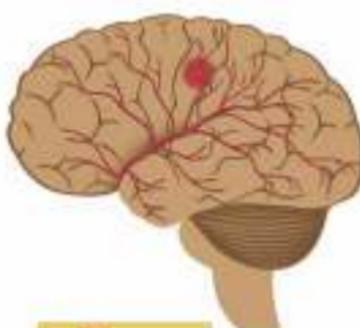
A **hemorrhagic stroke** occurs when an artery in the brain breaks and bleeds into the brain. The most common reason is high blood pressure.

Ischemic Stroke



A clot blocks blood flow to an area of the brain

Hemorrhagic Stroke



Bleeding occurs inside or around brain tissue

Any of the following factors can increase the risk of a stroke:

- High blood pressure
- Diabetes
- High cholesterol level
- Smoking
- Obesity (being overweight)
- Heart disease like valve disease, rhythm disorder, cardiomyopathy
- Hardening of the arteries (atherosclerosis, or fatty cholesterol deposits on artery walls)

SYMPTOMS

The symptoms of a stroke differ, depending on the part of the brain affected and the extent of the damage in the brain.

Symptoms following a stroke come on suddenly and may include:

- Weakness, numbness, or tingling in the face, arm, or leg, especially on one side of the body
- Difficulty in walking, dizziness, loss of balance
- Inability to speak or difficulty in speaking or understanding
- Trouble seeing with one or both eyes, or double vision
- Confusion or loss of consciousness.

Know the stroke symptoms



Face
Face look uneven ?



Arm
One arm hanging down ?



Speech
Slurred speech ?



Time
Call doctor

DIAGNOSIS

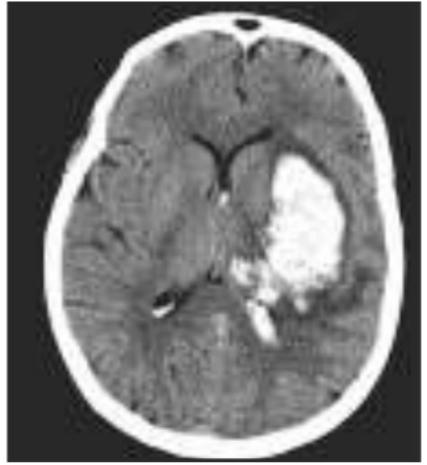
The following tests may be done:

- Blood tests
- Brain scan, such as a CT scan or MRI
- Carotid ultrasound or angiography (CTAngio, MRAngio or DSA) to look at blood flow in the carotid arteries in the neck
- Electrocardiogram (ECG) and 2D Echo, to see how well your heart is working

CT SCAN



Ischemic Stroke



Hemorrhagic Stroke

CT ANGIOGRAPHY



Extracranial



Intracranial

TREATMENT

- ❑ **Immediate:** It is important to get to the hospital **as soon as possible** if you suspect a stroke. Many hospitals are now treating ischemic strokes with clot-dissolving medicines. These medicines can cause the symptoms to improve quickly. They can prevent long-term disability or death. This treatment works only if the medicines are given within the first 3 to 6 hours after the stroke began.
- ❑ **24-72 hours:** All strokes require careful observation, especially in the first 1-3 days. In addition to bed rest, you

will probably need an IV line and oxygen. Along with specific targeted drugs, underlying medical problems that may have caused the stroke, such as high blood pressure or heart rhythm problems, will be treated.

- ❑ **Rehabilitation:** It should start as early as possible. Most stroke rehab programs last several weeks to several months after you leave the hospital. The program consists of physical therapy, occupational therapy and, if needed, speech therapy.
- ❑ **Mechanical Thrombectomy :** In case of ischemic stroke, along with pharmacological clot dissolving drugs, newer mechanical treatments may be used to directly disrupting clot or retrieving the clot that is occluding the artery. This thrombolytic devices can remove a clot in a matter of minutes. The most recently developed devices, i.e. retrievable stents or stentriever, are showing very good recanalization rates and better patient outcomes.

PREVENTION

- ❑ If you have high blood pressure, it is essential that you control it with medicine, on a very regular basis with close monitoring.
- ❑ If you have diabetes, monitor and control your blood sugar.
- ❑ Antiplatelet medications like aspirin or clopidogrel are required in case of ischemic stroke, for most of the patients, probably for life time.
- ❑ Statins are lipid lowering drugs, often prescribed for stroke patients for secondary prevention.
- ❑ If you have an irregular or fast heart rate, you may need to take medicine such as warfarin.

- ❑ If you smoke, quit.
- ❑ Exercise every day according to your doctor's recommendations.
- ❑ Keep a healthy weight.

For **hemorrhagic stroke** or bleeding inside the brain:

- ❑ Control of blood pressure in initial period is of paramount importance.
- ❑ In initial 3-5 days, reducing swelling inside the brain is essential, as it may further deteriorate neurological problem.

RECOVERY

- ❑ Recovery depends primarily on the extent of the brain injury.
- ❑ Rehabilitation may include physical therapy to strengthen muscles, occupational therapy to teach such things as dressing and eating, and speech therapy, if needed. Some people continue to regain speech and muscle strength up to 1 year after a stroke.

SURGERY

Some people require surgery. Depending upon the stroke severity and the patient's condition, most surgeries may be required to be done within the first 48 to 72 hours after stroke.

- ❑ **Decompression:** If large stroke or swelling secondary to stroke causes significant rise in intracranial pressure, a procedure to open the skull and/or remove the blood may be carried out.
- ❑ **Carotid Endarterectomy:** If the ischemic stroke is due to a blocked artery in the neck (the carotid artery), a surgery may be performed to re-establish the flow and reduce the risk of recurrence of stroke.
- ❑ **Carotid Stenting:** As an alternative in the carotid artery blockade, stent placement is also an option.

ACT FAST

EVERY STROKE IS AN EMERGENCY

TIME IS BRAIN

FACE

Ask the person to smile. Does his face look uneven or droop on one side ?



ARM



Hold out both arms with eyes closed. Does the person have weakness or shift down his one arm ?

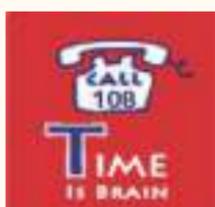
SPEECH

Does his or her speech sound strange ?
Is he having trouble in speaking clearly ?



Report if understanding or content of speech is abnormal or slurring is present.

TIME



If you notice any of these stroke signs,
You need to act FAST

NEUROLOGISTS

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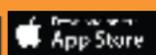
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