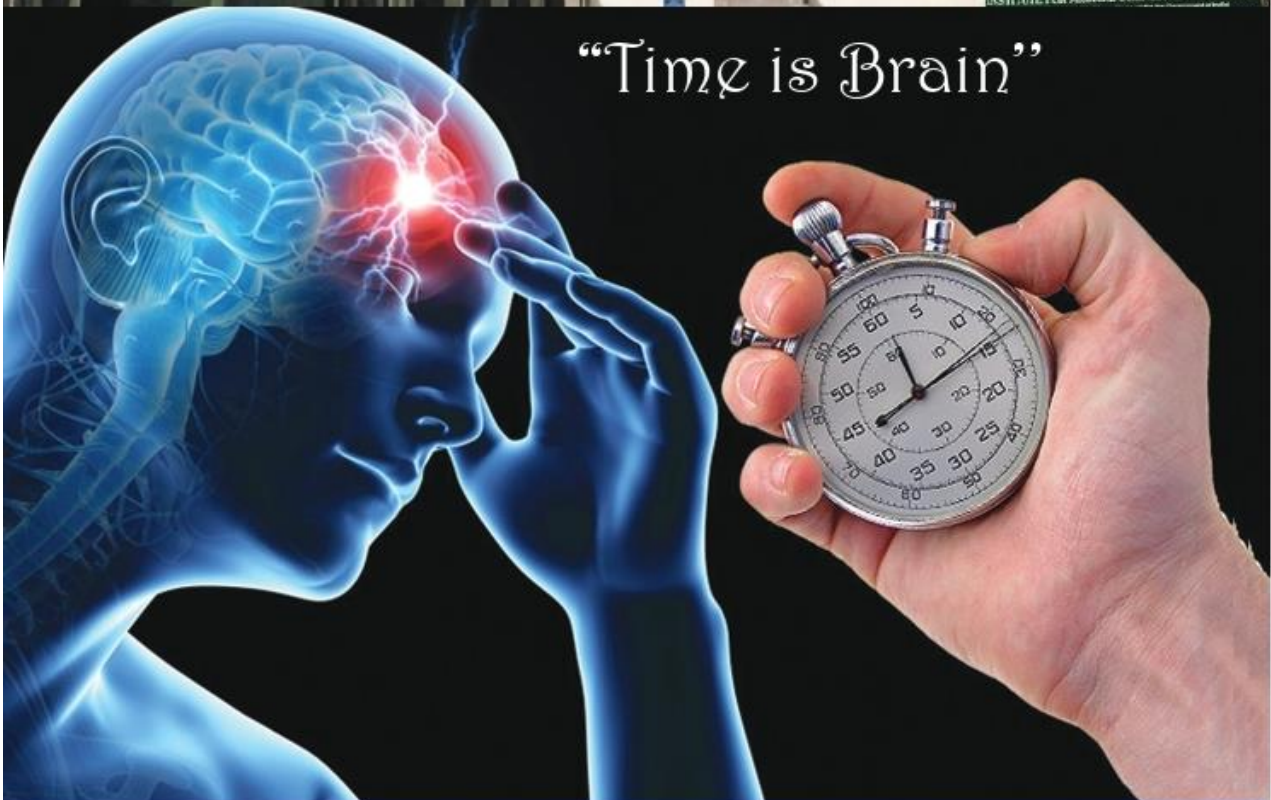




“Time is Brain”



# STROKE



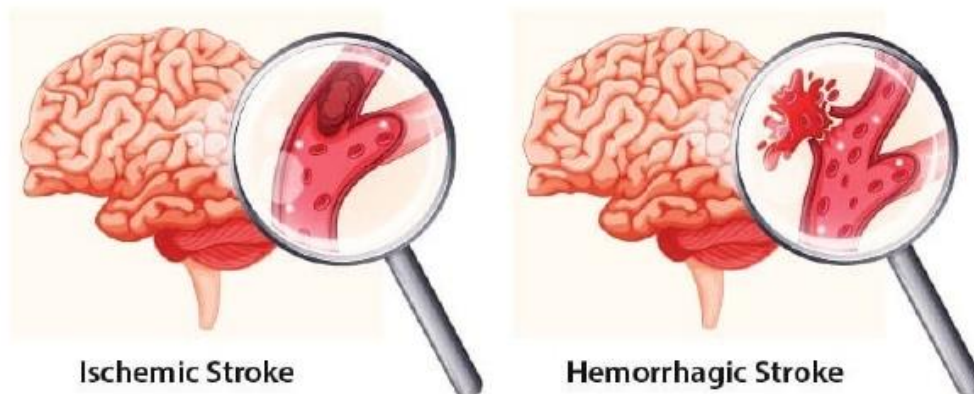
**Comprehensive Stroke Care Centre**  
**Sree Chitra Tirunal Institute for**  
**Medical Sciences and Technology**  
Thiruvananthapuram, Kerala

## What is stroke ?

A stroke occurs when the blood supply to part of the brain is interrupted or reduced, which reduces oxygen and nutrients supply to the brain cells. Brain cells begin to die in minutes. The cells in specific areas of brain controls the functions which includes thinking process, vision, speech, memory, movement, and so on. The damage of brain cells will result in loss of function.

## Types of stroke

Ischemic stroke occurs when a blood vessel to the brain is blocked. Hemorrhagic stroke occurs when a blood vessel to the brain ruptures.



## Symptoms of stroke

- Sudden weakness or numbness of one side of the body.
- Difficulty in speaking or to understand.
- Blurred vision or double vision.
- Deviation of the face to one side.
- Sudden loss of balance while walking and falling to one side.
- Sudden severe headache, especially for no apparent reason.
- Sudden onset of drowsiness.



## FAST is the term used to easily remember the symptoms of stroke



**Face.** When we ask the patient to smile, one side of his face will deviate

**Arms.** When we ask the patient to raise their arms, it will drift downwards due to lack of strength.

**Speech.** When we ask the patient to speak, the speech may be slurred or confused or unable to speak.

**Time.** If the answer to any of these questions is yes, it's time to reach the nearest hospital with acute stroke care facility.

The stroke can be suspected if any of the symptoms are present. The patient may have one or more symptoms. All the symptoms may not be present together during the onset of stroke. The stroke is a medical emergency, and prompt treatment is crucial. Early treatment can reduce brain damage and other complications.

### **Transient Ischaemic attack**

The transient ischemic attack (TIA) often called a mini stroke usually lasts only a few minutes to hours and recovers fully after sometime (within 24 hours). It may be a warning sign for a stroke in future. So TIA needs to be taken seriously and treated urgently. There is 10 - 20% chance of a major stroke after TIA. In majority of the cases a stroke will occur within the first 48 hours after a TIA.

The diagnostic evaluation and treatment for TIA can save you or your relative from a major stroke.

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## Acute management of Stroke

There will be significant damage of brain cells within 3 hours of stroke onset.

- Provide necessary arrangements so that the patient gets immediate medical care and attention.
- rtPA – recombinant tissue plasminogen activator can be administered within four and a half hours of onset of stroke symptoms. This will help to dissolve the clot.
- Mechanical thrombectomy is an interventional procedure for removing a blood clot (thrombus) from a blood vessel. This procedure can be administered up to 6 hours from the onset of stroke symptoms. In some cases, this procedure can be done up to 24 hours of the patient last seen normal. In such cases advanced imaging is required to decide on the treatment.
- People with hemorrhagic stroke should be treated to control the hypertension.

## Risk factors of stroke

Modifiable risk factors are

- Blood pressure
- Diabetes
- Hyperlipidemia
- Smoking
- Alcoholism

If these risk factors are uncontrolled, it will lead to the development of small plaques within the blood vessel and may narrow the blood vessels. The plaque inside the blood vessel may rupture and causing the blood to clot within the blood vessel. This clot may move from one site to the other and completely block the blood vessel.

## Other causes of stroke

In young patients stroke may develop due to other causes. (For example, dissection is a tear in the inner layer of the wall of an artery which affects the blood flow through the artery.)



The blood clot formed inside the heart circulates through blood stream and block the vessels of brain resulting in cardioembolic stroke. The most common causes of developing clot within the heart are damaged heart valves, artificial valves, atrial fibrillation(an altered rhythm of heart beat which causes the formation of blood clots that travel from the heart to the brain),weakness of the heart muscles, heart failure etc .

## **How to deal with the consequences of a stroke**

**Physiotherapy:** It deals with treating disabilities related to motor and sensory impairments. It helps to restore physical functions by treating problems with movement, balance, and coordination. The physiotherapy program includes exercises to regain range of motion, strengthen muscles, and improve coordination which helps the person to use the affected limb to regain movement and function.

**Speech therapy:** It helps to relearn how to use language or develop alternative means of communication and improve the ability to swallow.

**Occupational therapy:** It helps to relearn skills needed to manage activities of daily living (personal grooming) and extended activities of daily living (return to previous work/ alternate work).

## **Instructions to family members of stroke survivors**

- Be aware of the symptoms of stroke.
- Make treatment available to the patient as soon as possible by a specialist doctor.
- Give medications regularly.
- Provide physiotherapy and speech therapy which can ensure maximum recovery.
- Continue to give the care and recognition patient deserves.

## How to prevent recurrence of stroke

- Control high blood pressure, diabetes and cholesterol through treatment.
- Quit smoking completely.
- Use blood thinners as prescribed by your doctor.
- If your doctor finds that there is a blockage in the blood vessels in the neck through appropriate tests, that block can be removed by an operation called carotid endarterectomy or by a procedure called carotid stenting.

### Comprehensive Stroke Care Centre Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST) Thiruvananthapuram

#### Services available:

- Patients arriving at the hospital within the first 4 ½ hours of stroke may be given thrombolytic therapy. It is a treatment that dissolves blood clots by administering the drug rtPA or tenecteplase intravenously. This is done after a CT scan.
- The patients with large clots in the blood vessel, when they reach within 24 hours, mechanical thrombectomy can be done and clot can be removed by special devices like solitaire or penumbra.
- Diagnostic and preventive treatment involving various departments (carotid endarterectomy, carotid stenting)
- Physiotherapy
- Speech therapy
- Occupational therapy
- Stroke clinic- Every Friday

**SCTIMST, Stroke emergency help line : 0471-2524333**

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