



Stroke Emergency Treatment

**University of
Pittsburgh
Medical Center**

*Information
for Patients*

A stroke occurs when the blood supply to the brain is interrupted or there is bleeding in the brain. Within minutes, brain cells begin to die. **It is urgent to seek emergency care at the first sign of a stroke.** Early treatment saves many lives and reduces the effects of stroke.

Stroke warning signs

These are the warning signs that you or someone you know may be having a stroke:

- numbness, weakness, or paralysis of the face, arm, or leg (on one or both sides of the body)
- vision that suddenly blurs or decreases (in one or both eyes)
- trouble speaking or understanding
- dizziness, loss of balance, or a fall that is unexplained
- difficulty swallowing
- sudden, severe, unexplained headache
- sudden confusion

Learn the warning signs of stroke, and seek emergency care at the first sign of a stroke.

In the emergency room

Special procedures are followed as soon as a stroke patient arrives in the emergency room. The patient gets a physical exam. Then tests are done to learn the cause and the extent of the stroke. These tests are called diagnostic (die-ag-NOS-tik) tests.

A CT scan is one of the most important tests. “CT” stands for computed tomography (tuh-MOG-ruff-ee). A CT scan is an x-ray that helps detect the kind of stroke the patient has had. The doctor needs to know the type of stroke to decide on the best treatment for the patient. The stroke patient also may have blood tests and an EKG (electrocardiogram). (More tests may be done over the next few days to learn the extent and the effects of the stroke.)

The patient may have an intravenous (IV) line inserted. Oxygen also may be given. The patient’s blood pressure and body fluid balance are watched closely. Stroke may lead to increased pressure on the brain. The patient is watched for confusion, drowsiness, and headache, which are early symptoms of increased brain pressure. The patient may be given medicine to prevent or treat this condition.

A stroke can affect the ability to swallow. A stroke patient is not allowed to take anything by mouth until it is clear that he or she is able to swallow.

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Emergency drug therapy

The most common type of stroke is ischemic (iss-KEY-mik) stroke. This type of stroke occurs when a clot blocks a blood vessel in the brain and blood flow is stopped. When a CT scan shows no signs of bleeding, many patients with ischemic stroke can safely receive drug therapy.

Powerful drugs called “clot busters” can dissolve blood clots that caused the stroke. Clot buster therapy **must begin** within 3 hours after the start of a stroke. This is one reason it’s urgent to get to a hospital emergency room immediately for stroke symptoms.

T-PA (Activase)

One of the clot buster drugs is t-PA. It’s short for tissue plasminogen (plaz-MIN-oh-jin) activator. The brand name is Activase. T-PA helps restore blood flow to the damaged area of the brain. For many patients, t-PA can stop or lessen brain damage from the stroke.

There is some risk for bleeding with t-PA. A patient receiving t-PA must be monitored in the intensive care unit (ICU). The drug is given by an IV line over 1 hour.

Intra-arterial t-PA

A newer method gives t-PA directly where the damage has occurred. This allows lower doses of t-PA to be used because the drug is inserted directly into the affected artery. The method is called intra-arterial (IN-truh-ar-TEER-ee-ol) t-PA. The drug is given during a procedure called an arteriogram (ar-TEER-ee-oh-gram). This procedure takes about 3 hours. Only staff with special medical training can give t-PA in this way.

Drug research

Researchers are working to create new drugs that can slow down or stop brain cells from dying after a stroke. In the hours or days after a stroke, nerve cells near the part of the brain where the stroke occurred can still become damaged. It is hoped that new drugs will protect brain cells that are at risk for stroke damage that spreads. These drugs would reduce the disabling effects of a stroke. Newly created drugs are tested by research studies. Some of these drug research studies are conducted at UPMC hospitals.



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Pittsburgh, PA, USA
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SYS217990JS/QS ORIG 08/03
Form # 7165-82190-0803

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