



Saint Louise Regional Hospital
Your Neighbor for Life

What is a Stroke? What Causes a Stroke?

Stroke is the third leading cause of death in America and a leading cause of adult disability.

Up to 80% of strokes are preventable; you can prevent a stroke!

A stroke or "brain attack" occurs when a blood clot blocks an artery (a blood vessel that carries blood from the heart to the body) or a blood vessel (a tube through which the blood moves through the body) breaks, interrupting blood flow to an area of the brain. When either of these things happens, brain cells begin to die and brain damage occurs.

When brain cells die during a stroke, abilities controlled by that area of the brain are lost. These abilities include speech, movement and memory. How a stroke patient is affected depends on where the stroke occurs in the brain and how much the brain is damaged.

For example, someone who has a small stroke may experience only minor problems such as weakness of an arm or leg. People who have larger strokes may be paralyzed on one side or lose their ability to speak. Some people recover completely from strokes, but more than 2/3 of survivors will have some type of disability.

Ischemic Stroke

In everyday life, blood clotting is beneficial. When you are bleeding from a wound, blood clots work to slow and eventually stop the bleeding. In the case of stroke, however, blood clots are dangerous because they can block arteries and cut off blood flow, a process called ischemia. An ischemic stroke can occur in two ways: embolic and thrombotic strokes

Embolic Stroke

In an embolic stroke, a blood clot forms somewhere in the body (usually the heart) and travels through the bloodstream to your brain. Once in your brain, the clot eventually travels to a blood vessel small enough to block its passage. The clot lodges there, blocking the blood vessel and causing a stroke. The medical word for this type of blood clot is embolus.

Thrombotic Stroke

In the second type of blood-clot stroke, blood flow is impaired because of a blockage to one or more of the arteries supplying blood to the brain. The process leading to this blockage is known as thrombosis. Strokes caused in this way are called thrombotic strokes. That's because the medical word for a clot that forms on a blood-vessel deposit is thrombus.

Blood-clot strokes can also happen as the result of unhealthy blood vessels clogged with a buildup of fatty deposits and cholesterol. Your body regards these buildups as multiple, tiny and repeated injuries to the blood vessel wall. So your body reacts to these injuries just as it would if you were bleeding from a wound; it responds by forming clots. Two types of thrombosis can cause stroke: large vessel thrombosis and small vessel disease (or lacunar infarction.)

Large Vessel Thrombosis

Thrombotic stroke occurs most often in the large arteries, so large vessel thrombosis is the most common and best understood type of thrombotic stroke. Most large vessel thrombosis is caused by a combination of long-term atherosclerosis followed by rapid blood clot formation. Thrombotic stroke patients are also likely to have coronary artery disease, and heart attack is a frequent cause of death in patients who have suffered this type of brain attack.

Small Vessel Disease/Lacunar Infarction

Small vessel disease, or lacunar infarction, occurs when blood flow is blocked to a very small arterial vessel. The term's origin is from the Latin word lacuna which means hole, and describes the small cavity remaining after the products of deep infarct have been removed by other cells in the body. Little is known about the causes of small vessel disease, but it is closely linked to hypertension (high blood pressure).

Hemorrhagic Stroke

Strokes caused by the breakage or "blowout" of a blood vessel in the brain are called hemorrhagic strokes. The medical word for this type of breakage is hemorrhage. Hemorrhages can be caused by a number of disorders which affect the blood vessels, including long-standing high blood pressure and cerebral aneurysms. An aneurysm is a weak or thin spot on a blood vessel wall. These weak spots are usually present at birth. Aneurysms develop over a number of years and usually don't cause detectable problems until they break. There are two types of hemorrhagic stroke subarachnoid and intracerebral.

In an intracerebral hemorrhage, bleeding occurs from vessels within the brain itself. Hypertension (high blood pressure) is the primary cause of this type of hemorrhage.

In a subarachnoid hemorrhage (SAH), an aneurysm bursts in a large artery on or near the thin, delicate membrane surrounding the brain. Blood spills into the area around the brain which is filled with a protective fluid, causing the brain to be surrounded by blood-contaminated fluid.

For more information, please call our Stroke Coordinator (408) 848-4946 or visit The National Stroke Association website at: <http://www.stroke.org>