

## **Hemorrhagic Stroke Fact Sheet**

Stroke is a “brain attack” cutting off vital supplies of blood and oxygen to the brain. Each year, 795,000 Americans will have a stroke and 160,000 people will die as a result.

### **The majority of strokes occur in two ways:**

- Ischemic stroke occur when arteries are blocked by blood clots or by the gradual build-up of plaque and other fatty deposits. About 87 percent of all strokes are ischemic.
- A hemorrhagic stroke occurs when a blood vessel in the brain breaks leaking blood into the brain. Hemorrhagic strokes account for about fifteen percent of all strokes, yet are responsible for more than thirty percent of all stroke deaths.

### **How are hemorrhagic strokes diagnosed?**

Immediate medical attention is extremely important following any stroke. Once a patient arrives at the hospital, doctors are likely to use a computer-imaging test such as a computed tomography (CT) scan or magnetic resonance imaging (MRI). These tests determine the type of

stroke and the area of the brain that is affected. If doctors suspect a blood vessel abnormality, they may perform an angiogram, an x-ray test that provides a picture of the blood vessels in the brain.

### **What is an intracerebral hemorrhage (ICH)?**

ICH is the most common type of hemorrhagic stroke. It occurs when a blood vessel inside the brain ruptures and leaks blood into surrounding brain tissue.

### **What are the symptoms of an ICH ?**

A feature common to most ICH cases is a sudden onset of symptoms. However, the signs that accompany this type of stroke are not always the same. Depending on the location and amount of bleeding in the brain, ICH symptoms may include:

- > Partial or total loss of consciousness

- > Vomiting or severe nausea, when combined with other symptoms
- > Sudden numbness or weakness of face, arm or leg, especially on one side of the body
- > Sudden severe headache with no known cause

*Call 911 if you see or have any of these symptoms.  
Treatment can be more effective if given quickly.*

### **How are intracerebral hemorrhages treated?**

Treatment of ICH involves a variety of medical and surgical techniques, depending on the exact cause and size of the stroke. In cases where ICH is caused by high blood pressure, doctors try to reduce the blood pressure. They then address the swelling or pressure that often builds up inside the head after the blood vessel ruptures. In some cases, surgery may be needed to limit the damage to brain cells.

### **What is a subarachnoid hemorrhage (SAH)?**

While an ICH causes blood to leak into the brain itself, a subarachnoid hemorrhage occurs when blood spills into the space surrounding the brain. This type of hemorrhage has many possible causes, but is usually the result of a ruptured

aneurysm. An aneurysm is a balloon-like bulging of an artery's wall. As it enlarges, the vessel becomes weak and more likely to break.

### **What are the symptoms of SAH?**

Typically, there are no warning signs of an SAH. Occasionally, an aneurysm is detected through a warning leak. These small leaks may cause headaches prior to a more damaging SAH.

The symptoms of a SAH include:

- > Sudden severe headache – often described as the “worst headache of my life”
- > Vomiting or nausea, especially when combined with other symptoms such as headache
- > Intolerance to light
- > Stiff neck
- > Loss of consciousness, especially when combined with a severe headache

### **How are subarachnoid hemorrhages treated?**

Treatment of SAH targets the cause of bleeding and its related complications. Ruptured aneurysms are generally repaired through direct surgery to clip the aneurysm or treating the aneurysm from

inside the vessel. Operating on the aneurysm from the inside, called embolization, is done by guiding a small metal coil through the brain artery until it reaches the aneurysm. Once there, the coil allows for a clot to form and prevent more blood from entering.

A vessel-narrowing condition called vasospasm is also a common cause of death and disability following a SAH. Vessels in vasospasm become irritated by blood and begin to spasm. As the vessels narrow, it becomes more difficult to supply surrounding brain tissue with enough blood to survive. This condition occurs in at least thirty percent of all subarachnoid hemorrhages. It generally lasts for two or more weeks after the first vessel rupture. Vasospasm treatment often includes the use of the oral medication, nimodipine. Taking the medication exactly as prescribed is critical to control the condition. Doctors may also manage vasospasm by closely monitoring the pressure, volume and concentration of blood in the brain.

### What are the risk factors for hemorrhagic stroke?

- **High blood pressure** is the most common cause of ICH, responsible for about sixty percent of all cases. It is the most important controllable stroke risk factor. Have your blood pressure checked regularly. If it is consistently more than 135/85, speak with your healthcare provider about treatment options.
- **Excessive alcohol and drug use** have been associated with higher incidences of ICH and SAH. About 85-90 percent of drug-associated ICH cases occur in people in their 20s or 30s. If you drink alcohol, do so only in moderation.
- **Blood anti-clotting medication** may prevent ischemic stroke. But, if your blood becomes too thin, you may be at risk for an ICH. Check with your doctor for guidance about anti-clotting medication.
- If you have any type of **blood clotting disorder** such as hemophilia or sickle cell anemia, be sure to speak with your healthcare provider.



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There are ways you can  
control it to decrease your  
stroke risk.

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