

# Intracerebral Hemorrhage (ICH)

## What is it?

An intracerebral [in-truh-suh-REE-bruh] hemorrhage [HEM-rij], or ICH, is bleeding inside or around the brain, which can put pressure on the brain. An ICH robs the brain of oxygen, so it must be identified and managed right away. Other names for ICH are **cerebral hemorrhage** or **intracranial** [in-truh-KREY-nee-uh] **hemorrhage**.

ICH can happen because of trauma or as a result of no known cause (spontaneous ICH), which is a type of stroke called a **hemorrhagic** [hem-oh-RAJ-ik] **stroke**. In the U.S. each year, about 1 in 10 people who have strokes do so because of an ICH. Stroke is the leading cause of disability and the 5th-leading cause of death in the U.S.

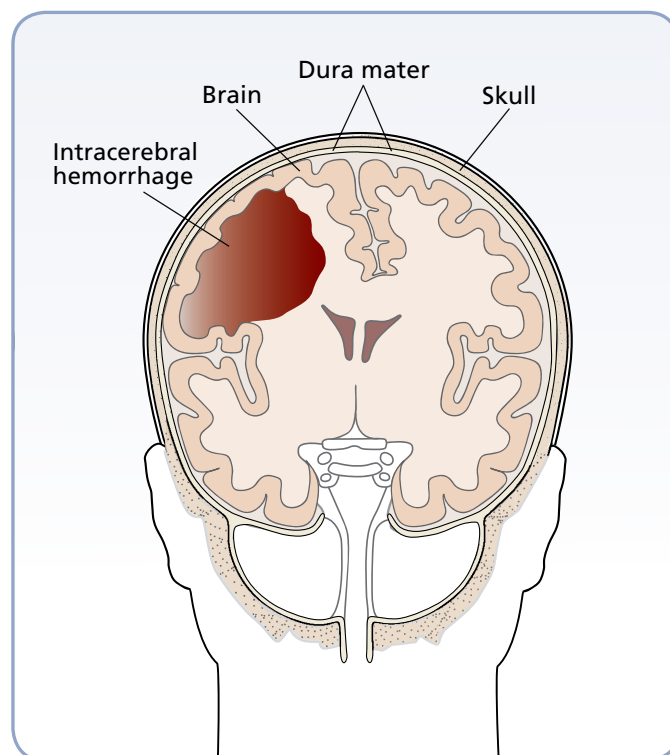
## What are the symptoms of spontaneous ICH?

Spontaneous ICH symptoms usually develop suddenly, without warning. Key symptoms can include a **SUDDEN** (see **BE FAST** on page 2):

- Loss of balance or coordination
- Change in vision
- Weakness of the face, arm, or leg
- Difficulty speaking

Other ICH symptoms can include:

- Severe headache with no known cause (patients often describe it as “the worst headache of my life”)
- Seizures
- Vomiting or severe nausea, when combined with other symptoms from this list
- Partial or total loss of consciousness



## What causes it?

An ICH is often caused by a **blood vessel leaking or breaking**. This can be the result of:

- High blood pressure that has damaged a blood vessel
- Smoking, overuse of alcohol, or use of illegal drugs such as cocaine or methamphetamine
- Diabetes
- Abnormal blood vessel proteins in the elderly

An ICH can also be caused by:

- Anticoagulant therapy (treatment with blood thinners)
- Problems with vein structure
- A brain tumor that bleeds
- Head injuries caused by a fall or accident

## How is it diagnosed?

Your doctor will explain what tests will be used to diagnose ICH, depending on your condition. Tests may include a neurological (brain/nerve) exam, blood tests, and imaging tests of the brain.

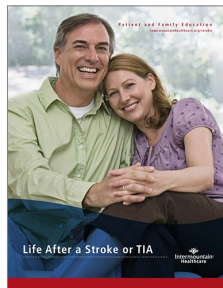
## How is it treated?

Your doctor will explain how the ICH will be treated. The best treatment depends on your condition.

- **Immediate treatments** may include medicines to control blood pressure, swelling, seizures, pain, or other symptoms or surgery, called a **craniotomy** (see box below), although most cases don't require this. Sometimes, a craniotomy is needed to remove the hemorrhage and decrease pressure in the brain.
- **Long-term treatments, such as physical rehabilitation**, may be needed to help you recover and regain the functions needed for daily living.

Depending on the treatment you need and the services available at your hospital, you might need to be transferred to a different hospital where more specialized equipment or a neurosurgeon (a doctor who specializes in nerve and brain surgery) is available.

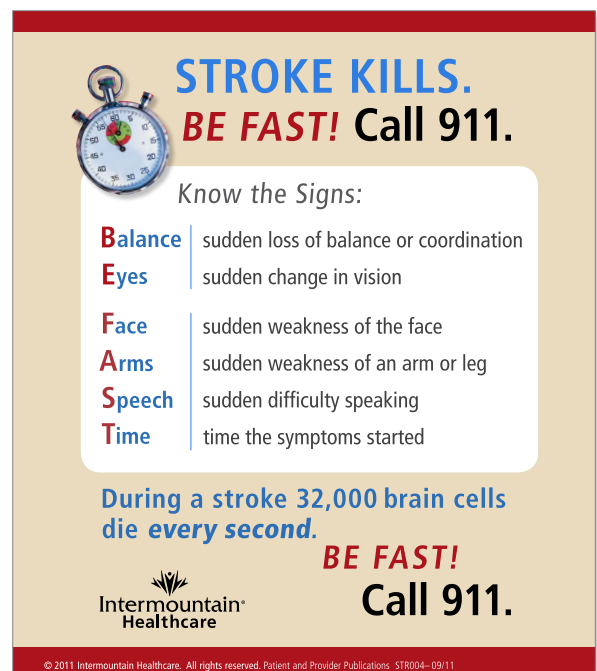
For more information on stroke recovery, see Intermountain's handbook *Life After a Stroke or TIA*.



## What can I expect afterward?

Your long-term outlook depends on the location and amount of bleeding during the ICH as well as your age and other medical conditions you may have. You may need to continue stroke rehab if you lost neurological function during the ICH. In addition, you may need to take medicines to prevent future complications or another hemorrhage as well as to control your blood pressure or diabetes.

There's a chance that an ICH can bleed again, so it's important to **know and act on the "BE FAST" signs**.



**STROKE KILLS.**  
**BE FAST! Call 911.**

Know the Signs:

<b>Balance</b>	sudden loss of balance or coordination
<b>Eyes</b>	sudden change in vision
<b>Face</b>	sudden weakness of the face
<b>Arms</b>	sudden weakness of an arm or leg
<b>Speech</b>	sudden difficulty speaking
<b>Time</b>	time the symptoms started

**During a stroke 32,000 brain cells die every second.**

**BE FAST!**  
**Call 911.**

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## What is a craniotomy?

A **craniotomy** is a surgery where an opening is made in the skull to expose and operate on the brain. Here's what to expect:

- 1 A neurosurgeon makes an incision through the skin and removes a small section of your skull, called a **bone flap**. The bone flap is removed to expose the brain underneath.
- 2 Pressure on the brain is relieved or a blood vessel repaired.
- 3 The bone flap is secured back in place, and the skin is closed back up with either **sutures** (stitches) or staples.
- 4 You are closely monitored in the ICU.

**NOTE:** The incision site on the head must be kept clean and dry. Your surgeon will discuss wound care issues with you.

