

Heart Attack and Stroke

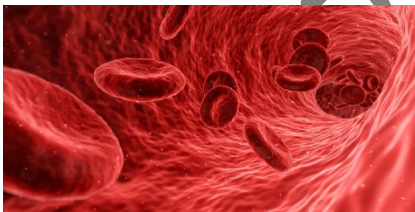


What Is a Heart Attack?

Heart attack, or myocardial infarction, occurs when part of the heart becomes blocked. This blockage prevents blood, and thus oxygen, from reaching that part of the heart, a condition called **ischemia**. Lack of oxygen can kill heart muscle. This muscle death is the heart attack. Heart failure and arrhythmias (irregular heartbeats) can result from heart attacks. In the United States, someone has a heart attack approximately every 40 seconds.

Did You Know?

Each person's heart is a different size, you can estimate how big yours is by holding your hands together.



Blockage in arteries causes heart attacks.

Why Do Heart Attacks Occur?

The main cause of heart attacks is **coronary heart disease**. This occurs when plaque, a waxy substance composed of fat, cholesterol, and other materials, builds up within **coronary arteries**, vessels that deliver blood to the heart. This build-up, called **atherosclerosis**, is slow, happening over several years. When plaque breaks apart, a blood clot develops on top of the plaque. A large clot can block an entire artery, preventing blood flow to the part of the heart serviced by that artery. Heart attacks can also be caused by **coronary artery spasms**, but this is less common. These occur when an artery tightens so much that it prevents blood flow. The reasons for such spasms are not clear but they may be related to cigarettes and other drugs, stress, pain, or extreme cold. An even rarer cause of heart attacks is a **spontaneous**

Reading Sample



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A hemorrhagic stroke occurs when a blood vessel within the brain leaks.

A hemorrhagic stroke occurs when a vessel in the brain leaks or an aneurysm (a bulging part of a blood vessel) bursts, which causes blood flow in the brain to decrease. It also causes swelling in the brain which harms brain tissue. Hemorrhagic strokes are much less common than ischemic, accounting for only 15% of all strokes.

However, they are usually deadly, comprising around 40% of stroke deaths. There are two types of hemorrhages that lead to hemorrhagic stroke: **intracerebral** and **subarachnoid**. Intracerebral

hemorrhages are the most common cause of hemorrhagic stroke, occurring when a blood vessel within the brain (“intra” = within, “cerebral” = brain) ruptures. This allows blood to leak out of the vessel and into the brain tissue, which leads to brain cell death. Old age and high blood pressure are the greatest risk factors for intracerebral hemorrhages. Subarachnoid hemorrhages occur in what’s called the **subarachnoid space**, the space between the brain and the membrane that covers it. A ruptured aneurysm is the most common cause, but head injury and blood thinners can also lead to a subarachnoid hemorrhage.

What Increases the Risk of Heart Attack and Stroke?

Despite the difference between these two health conditions, the risks of both are increased by the same things. These include family history, abnormal heart rhythm, a low-activity lifestyle, smoking, diabetes, high blood pressure, and high cholesterol.



Smoking can increase the risk of heart attack and stroke.

What Are the Signs of Heart Attack and Stroke?

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Reading Comprehension Questions:

1. What is a heart attack?
2. What
3. Why do heart attacks occur? List the three main causes from most to least common.
4. What is atherosclerosis?
5. What
6. What
7. What are the two types of blood clots that lead to thrombotic strokes?
8. What
9. What

Extension Questions:

10. List four changes you would suggest to someone wishing to decrease their risk of heart attack and stroke.
11. What

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References

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