

VENTRICULAR FIBRILLATION & SUDDEN CARDIAC ARREST

What is Ventricular Fibrillation (V-fib)?

V-fib is an abnormal rhythm of the lower chambers of the heart (ventricles) that causes death if it isn't treated within minutes. The electrical signals controlling the ventricles become abnormally fast, causing the ventricles to quiver.

The heart stops beating and pumping blood as a result. Doctors call it **sudden cardiac arrest**. V-fib is the most common cause of sudden cardiac arrest.

What causes V-Fib?

- Heart attack: The most common cause of V-fib is a heart attack. In a heart attack one or more of the arteries that brings blood to the heart gets blocked, and heart muscle dies. V-fib often happens within a few days of a heart attack but sometimes V-fib is the first sign of a heart attack
- Heart failure: this is when the heart doesn't pump blood as well as it should
- Cardiomyopathy: thickening of the heart muscle
- Lung problems
- Severe injury
- Illegal drugs such as cocaine, heroin or methamphetamine

Symptoms

- Loss of consciousness/passing out
- No pulse or heartbeat
- V-fib rhythm is confirmed on cardiac monitor by EMS or doctor in hospital

Warning signs

Most people do not have any warning before a sudden cardiac arrest, but some people do. They may experience:

- Chest pain or trouble breathing
- Feeling of heart racing or rapid palpitations
- Feeling weak or dizzy

How is V-Fib treated?

- Immediate life-saving treatment is necessary
- The only way to stop V-fib is **defibrillation**. This involves sending a shock to the heart to restart it and get a normal rhythm reestablished.
- **CPR**: This involves chest compressions where another person presses on the chest hard and fast, repetitively, to get blood and oxygen moving throughout the body for someone whose heart has stopped beating.
- Look for the cause and treat the cause. To do this the doctor may do several tests including:
 - An electrocardiogram (ECG)
 - A chest X-ray
 - Blood tests
 - An echocardiogram (echo): this is an ultrasound of the heart that looks at the structure and function of the heart
 - Other imaging tests
 - Cardiac catheterization: if a heart attack was the cause, a cardiac catheterization can be done to look at the arteries in your heart and unblock a clogged artery

- Medication may be given to help change the rhythm back to normal or given long term to prevent further episodes
- An Implantable Cardioverter Defibrillator (ICD): An ICD is a device implanted under the skin just below the collar bone. It can sense when abnormal dangerous heart rhythms like V-fib occur and can treat it with an electric shock. Most people who have experienced V-fib are treated with an ICD

If you come across an adult who is passed out, tap the person forcefully and ask, “Are you OK?” If the person does not respond, is not breathing, or is breathing abnormally (gasping), **dial 9-1-1 for an ambulance** (in the US and Canada). **Then start CPR.**

The American Heart Association (AHA) last updated guidelines about how to do basic CPR in 2015. To learn more about CPR and find training centers in the United States or internationally, go to www.heart.org