

# Premature Ventricular Contractions (PVCs)

## Overview

Premature ventricular contractions, or PVCs, are extra heartbeats that begin in one of the heart's two lower pumping chambers (ventricles). These extra beats disrupt the regular heart rhythm, sometimes causing a sensation of a fluttering or a skipped beat in the chest.

PVCs are a common type of irregular heartbeat, also known as an arrhythmia.

PVCs are also called:

- Premature ventricular complexes
- Ventricular premature beats
- Ventricular extrasystoles

Occasional PVCs in people without heart disease usually aren't a concern and likely don't need treatment.

Treatment may be needed if the premature ventricular contractions are very frequent or bothersome, or if you have an underlying heart condition.

## Symptoms

PVCs often cause few or no symptoms. But the extra beats can cause unusual sensations in the chest, such as:

- Fluttering
- Pounding or jumping
- Skipped beats or missed beats
- Increased awareness of the heartbeat

## Causes

To understand the cause of PVCs, it can help to learn more about how the heart typically beats. The heart is made of four chambers — two upper chambers (atria) and two lower chambers (ventricles). The heart's rhythm is controlled by a natural pacemaker (the sinus node) in the right upper chamber (atrium). The sinus node sends electrical signals that typically start each heartbeat. These electrical signals move across the atria, causing the heart muscles to squeeze (contract) and pump blood into the ventricles.

Next, the signals arrive at a cluster of cells called the AV node, where they slow down. This slight delay allows the ventricles to fill with blood. When the electrical signals reach the ventricles, the chambers contract and pump blood to the lungs or to the rest of the body. In a typical heart, this heart signaling process usually goes smoothly, resulting in a resting heart rate of 60 to 100 beats a minute.



PVCs are irregular contractions that start in the ventricles instead of the atria. The contractions usually beat sooner than the next expected heartbeat. The cause of premature ventricular contractions isn't always clear. Certain things, including heart diseases or changes in the body, can make the cells in the lower heart chambers electrically unstable. Heart disease or scarring may cause the heart's signals to be misrouted.

Premature ventricular contractions may be caused by:

- Certain medications, including decongestants and antihistamines.
- Alcohol or drug misuse.
- Stimulants such as caffeine or tobacco.
- Increased levels of adrenaline in the body due to exercise or anxiety.
- Injury to the heart muscle due to disease.

## Diagnosis

To diagnose PVCs, doctors listen to the heart, check the patient's overall health, and do some tests. Many PVC tests look at the heart's electrical signals as it beats to see the heart working. These tests are painless. They include:

- Electrocardiogram (ECG or EKG): This test takes a snapshot of the heart's electrical activity.
- Echocardiogram: This ultrasound looks at the size and make-up of the inside of the heart.
- Holter monitor: This small device records the heart's electric signals while a patient wears it for 24 to 72 hours.
- Exercise testing: A machine records the heart's electric signals while the patient exercises.

## Treatment

Most children with PVCs have healthy hearts and do not need special care. If your child has heart problems or gets PVCs often, your cardiologist may prescribe medicine to make them happen less often.

For a few kids who have heart disease and PVCs, a heart procedure called an ablation can help. Ablation destroys or scars a tiny area of tissue where the early heartbeat starts.

## Can Premature Ventricular Contractions Be Prevented?

PVCs can't be prevented, but you and your child can take action, so they don't get worse:

- Make your home and car smoke-free and ask others not to smoke near your child. If anyone in your household smokes, have them ask their doctor for help quitting.
- Teens should not drink alcohol or use marijuana.
- Some kids get PVCs from caffeine. Caffeine is in drinks like coffee, tea, soda, and energy drinks. If your child drinks these, suggest changing to non-caffeinated drinks.
- Ask your cardiologist if your child should avoid any medicines, supplements, or herbs.

