
Sudden Cardiac Death in Young People

Each year in the United States, over 400,000 Americans die unexpectedly due to cardiac arrhythmias. Approximately 4,000 of them are young people under age 35. Sudden cardiac is the result of unexpected heart functioning, often due to overlooked abnormalities. These deaths usually occur during or immediately after physical activity. Fortunately, there are screening tests to see if you are at risk for sudden cardiac death and precautions you can take to protect yourself.

What are the most common causes?

The cause of sudden cardiac death can vary, but is usually associated with an abnormal heart rhythm known as ventricular fibrillation. The heart begins to quiver instead of adequately pumping blood throughout the body. This problem is often caused by a structural defect in the heart that can go unnoticed for many years.

Some specific causes of sudden cardiac death in young people include:

- Hypertrophic cardiomyopathy (HCM) – This genetic disorder is characterized by an abnormal thickening of the heart muscle, making it harder for it pump blood. The disease is not fatal in most people, but can develop gradually over years. It is the most common cause of death in athletes.
- Coronary artery abnormalities – This means that the blood vessels which feed the heart itself (coronary arteries) are connected abnormally to the heart. They can be compressed during exercise and prevent proper blood flow to the heart.
- Long QT syndrome – an inherited disorder that results in electrical abnormalities of the heart which cause fast, chaotic heartbeats. The heart rhythm can become so erratic that it can cause sudden death.

Less common causes of sudden cardiac death include myocarditis (acute inflammation of the heart muscle), Marfan's syndrome (an inherited disorder that affects heart valves and major arteries), and dilated cardiomyopathy (an unexplained enlargement of the heart chambers).

Are there any red flags to pay attention to?

Warning signs include fainting, dizziness, lightheadedness (especially during exertion), palpitations, chest pain at rest or during exertion, fatigue more quickly than peers, and shortness of breath. If you or your child experiences any of these symptoms or have a family history of unexplained sudden death in a young person, you should be seen by your physician.

Can sudden death be prevented?

Your doctor may recommend specific screening tests to determine if you are at high risk for sudden cardiac death, such as Microvolt T-Wave Alternans Testing. Depending on your underlying condition, medical or surgical treatment options can be discussed. Your doctor may also suggest avoiding competitive sports.