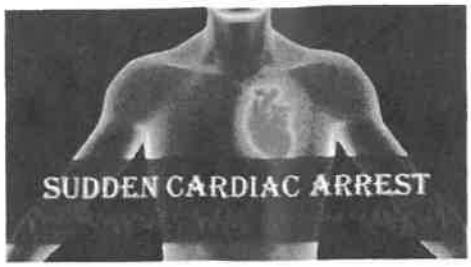



# SUDDEN CARDIAC ARREST

**Sudden Cardiac Arrest (SCA) is the abrupt loss of heart function, breathing, and conciousness. The condition usualy results from a problem with the hearts electrical system, which disrupts your heart's pumping action and stops blood flow to your body.**

**Sudden cardiac arrest isn't the same as a heart attack when blood flow to a part of the heart is blocked. However, a heart attack can sometimes trigger an electrical disturbance that leads to sudden cardiac arrest.**

**If not treated immediately, sudden cardiac arrest can lead to death. Survival is possible with fast, appropriate medical care. Cardiopulmonary resuscitation (CPR), using a defibrillator — or even just giving compressions to the chest — can improve the chances of survival until emergency workers arrive.**

**Sudden cardiac arrest is the leading cause of death in young athletes while training or participating in sport competition. Even athletes who appear healthy and have a normal preparticipation screening may have underlying heart abnormalities that can be life threatening.**

**SCA is more likely to occur during exercise or physical activity, so student-athletes are at greater risk. While a heart condition may have no warning signs, studies show that many young people do have symptoms but neglect to tell an adult. This may be because they are embarrassed, they do not want to jeopardize their playing time, they mistakenly think they're out of shape and need to train harder, or they simply ignore the symptoms, assuming they will "just go away."**
**Additionally, some health history factors increase the risk of SCA.**

**In Wisconsin, our Legislature passed 2021 Wisconsin Act 210, which takes effect on July 1, 2022. The law requires educating athletic coaches and pupil athletes and their parents or guardians about the nature and risk of sudden cardiac arrest during youth athletic activities. The information provided shall include the following:**

a) **Information about the risks associated with continuing to participate in a youth athletic activity after experiencing one or more symptoms of sudden cardiac arrest, including fainting, difficulty breathing, chest pains, dizziness, and abnormal racing heart rate.**
b) **Information about electrocardiogram testing, including the potential risks, benefits, and evidentiary basis behind electrocardiogram testing.**
c) **Information about how to request, from a pupil's health care provider, the administration of an electrocardiogram, in addition to a comprehensive physical examination required to participate in a youth athletic activity, at a cost to be incurred by the pupil's parent or guardian.**

Source: Wisconsin Association of School Boards Publication Vol.44 No. 9, April 2022; Wisconsin Act 210; WIAA Website, Section: Health/Sudden Cardiac Arrest

# SUDDEN CARDIAC ARREST

## What Is Sudden Cardiac Arrest?

**Sudden Cardiac Arrest (SCA) is a life-threatening emergency that occurs when the heart suddenly stops beating. It strikes people of all ages who may seem to be healthy, even children and teens. When SCA happens, the person collapses and doesn't respond or breathe normally. They may gasp or shake as if having a seizure. SCA leads to death in minutes if the person does not get help right away. Survival depends on people nearby calling 911, starting CPR[1], and using an AED[2] (if available) as soon as possible.**

*[1]CPR: Cardiopulmonary resuscitation is when you push hard and fast on the center of the chest to make the heart pump. Compressions may be given with or without rescue breaths.*

*[2]AED: Automated external defibrillator is a device that analyzes the heart and if it detects a problem may deliver a shock to restart the heart's normal rhythm.*

**What are the symptoms/warning signs of Sudden Cardiac Arrest?**

1. Fainting/blackouts (especially during exercise)
2. Dizziness
3. Unusual fatigue/weakness
4. Chest pain
5. Shortness of breath
6. Nausea/vomiting
7. Palpitations (heart is beating unusually fast or skipping beats)
8. Family history of sudden cardiac arrest at age < 50

**What are ways to screen for Sudden Cardiac Arrest?**

1. The American Heart Association recommends a pre-participation history and physical including 12 important cardiac elements.
2. Additional screening using an electrocardiogram and/or an echocardiogram is readily available to all athletes but is not mandatory.

The CPS concept was created by Jennifer Chap (Strata Verve or SV), an SCAF Advisor, Martha Lopez-Anderson (PHW), and Mary Newman (SCAF) in 2017. Messaging is based on research conducted by SV for SCAF in 2015 and 2017. This research also led to development of a tested layperson-friendly definition of sudden cardiac arrest, written at an 8th grade level, which is part of the campaign.

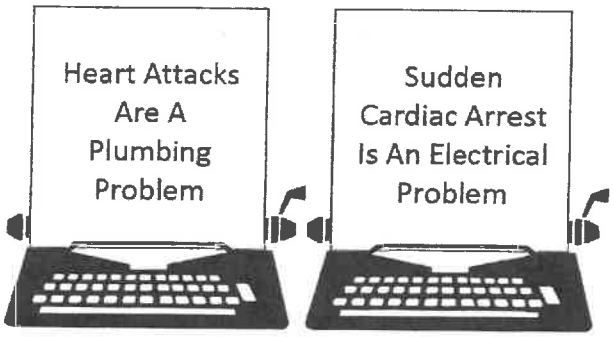
Wisconsin Amateur Hockey Association, Inc.

# SCA or Heart Attack???

## Sudden Cardiac Arrest and Heart Attack: Understanding the difference

It's a common misconception that Sudden Cardiac Arrest (SCA) and Heart Attack are the same thing. In reality, they are quite different.

Understanding the difference could save your life—or the life of someone you love.





### Am I At Risk for a SCA?

How do you know whether you are at risk for SCA? Here are some risk factors:

- A previous heart attack
- A previous episode of cardiac arrest
- A low (<35%) ejection fraction or EF (the heart's ability to pump blood)
- Underlying heart conditions such as coronary artery disease, congenital heart disease (e.g., hypertrophic cardiomyopathy), electrophysiological abnormalities (e.g., Long QT syndrome, Wolff-Parkinson-White disease, Brugada syndrome)
- Severe heart failure
- Marked changes in electrolytes in the blood
- A tendency to faint
- Hyperthyroidism
- Drug abuse
- A family history of heart disease or stroke.

If you have one or more of these risk factors, you may be a candidate for SCA. If you think you may be at risk, you should see a cardiologist or heart rhythm specialist (i.e., electro-physiologist, or EP) for an evaluation. The specialist may recommend a wearable defibrillator, implantable cardioverter defibrillator, medications, or other measures to prevent sudden death.

Source: Sudden Cardiac Arrest Foundation

# Sudden Cardiac Arrest, A Fact Sheet For Athletes And Parents/Guardians

## What You Know Could Save Your Life!

## What is Sudden Cardiac Arrest?

**Sudden Cardiac Arrest (SCA)** is a life-threatening emergency that occurs when the heart suddenly stops beating. It strikes people of all ages who may seem to be healthy, even children and teens. When SCA happens, the person collapses and doesn't respond or breathe normally. They may gasp or shake as if having a seizure. SCA leads to death in minutes if the person does not get help right away. Survival depends on people nearby calling 911, starting CPR and using an AED (if available) as soon as possible.

### How Common is SCA?

As the leading cause of death in the US, SCA is the #1 killer of student athletes and the leading cause of death on school campuses.

## Know the Cardiac Chain of Survival

**Recognize**

Victim has collapsed, is unresponsive and not breathing normally

**Call 9-1-1**

Call 9-1-1 and follow emergency dispatcher's instructions

**Start CPR**

Push hard and fast in the middle of the chest, 100-120 pumps per minute

**Shock**

Use an AED, if one is available and shock the person's heart.

**Advanced Care**

Designate a bystander to direct EMS to victim for quick transport to hospital

Source: Eric Paredes Save A Life Foundation

## Recognize The Warning Signs

- ✓ Fainting/blackouts (especially during exercise)
- ✓ Dizziness
- ✓ Unusual fatigue/weakness
- ✓ Chest pain
- ✓ Shortness of breath
- ✓ Nausea/vomiting
- ✓ Palpitations (heart is beating unusually fast or skipping beats)
- ✓ Family history of sudden cardiac arrest at age < 50

Wisconsin passed law designed to protect students participating in youth sports activities. SCA training is required of all coaches and empowers them to remove an athlete who exhibits fainting or other signs or symptoms of a cardiac condition. This Fact Sheet is designed to provide information to athletes and parents/guardians. It is important that you familiarize with this info and be aware of the location of an AED in any rink or facility where you participate.

# Sudden Cardiac Arrest A Coaches Fact Sheet

## You Can Save A Life!

### What is Sudden Cardiac Arrest?

**Sudden Cardiac Arrest (SCA)** is a life-threatening emergency that occurs when the heart suddenly stops beating. It strikes people of all ages who may seem to be healthy, even children and teens. When SCA happens, the person collapses and doesn't respond or breathe normally. They may gasp or shake as if having a seizure. SCA leads to death in minutes if the person does not get help right away. Survival depends on people nearby calling 911, starting CPR and using an AED (if available) as soon as possible.

**Recognize The Warning Signs**

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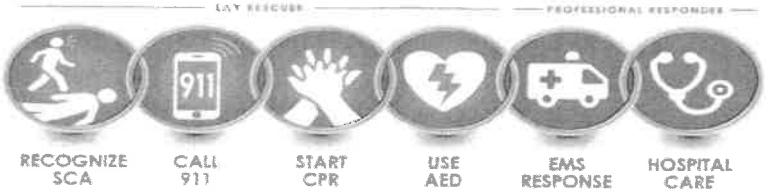
## KNOW THE CHAIN OF SURVIAL




1. **Recognize SCA:** If a person is unresponsive and not breathing normally, call 911.
2. **Call 911:** Call 911 to get help. Follow the emergency dispatcher's instructions.
3. **Start CPR:** Start CPR to triple the chance of survival. Push hard and fast in the center of the chest (100-120 pumps/minute).
4. **Use AED:** Use an automated external defibrillator (AED) to restart the heart. Follow the step-by-step audio/visual instructions.
5. **EMS response:** Transfer care to emergency medical services professionals, who will provide advanced life support.
6. **Hospital care:** Hospital professionals will continue integrated post-cardiac arrest care, including mild therapeutic hypothermia.

Source: Eric Paredes Save A Life Foundation

# CPR Can Make A Difference

CPR increases the possibility of surviving a sudden cardiac arrest. But it's not just trained professionals who can jump in to perform CPR. There are simple, lifesaving steps any bystander can take.

"We think it should be a basic life skill," such as knowing to call 911 when there's a fire, said Dr. Clifton Callaway, a professor and executive vice chair of emergency medicine at the University of Pittsburgh.

He gives this simple guidance: If someone is unconscious and does not appear to be breathing properly, it's time to start CPR chest compressions.

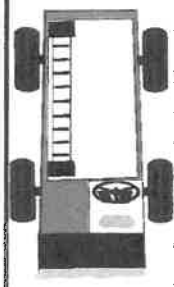
Cardiac arrest is when the heart stops beating. Some 350,000 cases occur each year outside of a hospital, and the survival rate is less than 12 percent. CPR can double or triple the chances of survival.

For years, performing CPR meant checking the airway and doing mouth-to-mouth resuscitation in addition to chest compressions. Experts now advise chest compressions alone can keep the heart pumping and maintain blood flow for a few minutes until emergency workers arrive.

Hands-only CPR is part of an effort to get more people to take action. The steps are: Call 911 and immediately begin chest compressions when someone is unconscious and having difficulty breathing. If you need guidance, an emergency operator can explain what to do. Using a cell phone, it may be possible to perform CPR and speak with the 911 dispatcher at the same time.

Compression-only CPR is best suited for adults and teens. You should press hard and fast in the center of the chest, down at least 2 inches with the full weight of your body. "In general, people don't push hard enough because they're afraid," Callaway said. But "you're pumping blood. You're replacing the heartbeat."

The optimum rate of compression is 100 to 120 beats per minute. It may come naturally, but if you need help gauging it, thinking of a song may help.



Learning conventional CPR is more involved. It includes compressions and mouth-to-mouth breaths. and is taught in person at training centers or online. In fact, it's more appropriate for children than hands-only CPR because they often suffer breathing difficulties connected to drowning or choking. That's why those who spend time around children, such as teachers or coaches or people who have children, are urged to learn it, Callaway said.

There are three main reasons someone may be hesitant to perform CPR, said Callaway, a volunteer on the AHA's Emergency Cardiovascular Care Committee:

1. Not recognizing CPR is needed. If a person is unconscious and breathing abnormally, even if it's a suspected drug overdose, begin CPR.
2. You're not trained, and you worry you might hurt the person. But it's better to help than do nothing. Don't be afraid to apply pressure.
3. For family members, assisting in an emergency is stressful. Some people report they "freaked out," Callaway said. But a 911 dispatcher can help refocus and get you going.

Source: American Heart Association News, Published June 22, 2018

Wisconsin Amateur Hockey Association, Inc.

# Electrocardiogram (ECG or EKG)

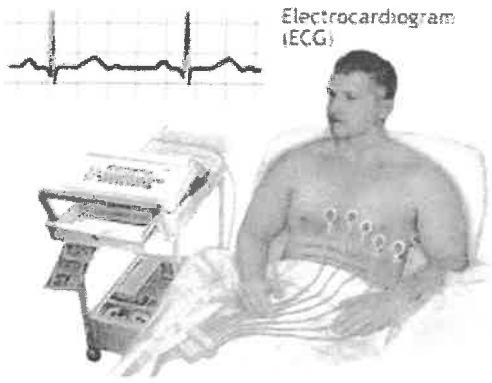
An electrocardiogram records the electrical signals in the heart. It's a common and painless test used to quickly detect heart problems and monitor the heart's health.

An electrocardiogram ---- also called ECG or EKG --- is often done in a health care provider's office, a clinic or a hospital room. ECG machines are standard equipment in operating rooms and ambulances. Some personal devices, such as smart watches, offer ECG monitoring. Ask your health care provider if this is an option for you.

## Why it's done

An electrocardiogram is a painless, noninvasive way to help diagnose many common heart problems. A health care provider might use an electrocardiogram to determine or detect:

- Irregular heart rhythms (arrhythmias)
- If blocked or narrowed arteries in the heart (coronary artery disease) are causing chest pain or a heart attack
- Whether you have had a previous heart attack
- How well certain heart disease treatments, such as a pacemaker, are working




You may need an ECG if you have any of the following signs and symptoms:

- Chest pain
- Dizziness, lightheadedness or confusion
- Heart palpitations
- Rapid pulse
- Shortness of breath
- Weakness, fatigue or a decline in ability to exercise

Before any youth participates in athletics, they should have a comprehensive physical examination, including asking the health care provider to conduct an ECG.

If symptoms tend to come and go, they may not be detected during a standard ECG recording. A health care provider might recommend remote or continuous ECG monitoring. There are several different types.

- **Holter monitor.** A Holter monitor is a small, wearable device that records a continuous ECG, usually for 24 to 48 hours.
- **Event monitor.** This portable device is similar to a Holter monitor, but it records only at certain times for a few minutes at a time. You can wear it longer than a Holter monitor, typically 30 days. You generally push a button when you feel symptoms. Some devices automatically record when an irregular rhythm is detected.