Heart Attack vs Sudden Cardiac Arrest, Understanding the Difference in Simple, Everyday Terms

WINDSOR LOCKS, CT, UNITED STATES, November 18, 2025 / EINPresswire.com/ -- Most people use the terms heart attack and sudden cardiac arrest as if they mean the same thing—but they are very different emergencies. One is a plumbing problem; the other is an electrical problem. To understand the difference, it helps to think of your heart the same way you think about your home: your house has a plumbing system that moves water, and an electrical system that moves power. Your heart works the same way.

1. The Heart's Plumbing System

> An AED will only shock someone that needs to be shocked."
>
> *Douglas Comstock*

Just like pipes in your home move water, the plumbing system of the heart moves blood.

Main Parts of the Heart's "Plumbing":

The Heart Muscle – the pump that keeps blood circulating.

Arteries – carry oxygen-rich blood from the heart to the rest of the body.

Veins – bring blood back to the heart after the oxygen is used.

Capillaries – tiny vessels where oxygen is delivered to the cells.

What Is the Plumbing System's Job?

To push oxygen-rich blood throughout the body so your organs, muscles, and brain can function.

What Happens During a Heart Attack?

A heart attack occurs when one of the coronary arteries becomes blocked, cutting off oxygen to a part of the heart muscle. The heart is still beating, but part of it is starving for oxygen.

Think of it like a clogged pipe—the pump is trying to work, but the flow has been interrupted.

What Will an AED Do During a Heart Attack?

An AED analyzes the electrical rhythm of the heart.
Because a heart attack is a plumbing blockage, not an electrical breakdown:

□□ The AED will say “NO SHOCK ADVISED.”

The heart is still producing a rhythm—it’s just struggling because of the oxygen shortage.

How Are Blockages Treated?

Blockages are treated medically, not electrically. Common treatments include:

Medications to break up clots

Stents to open blocked arteries

Bypass surgery to reroute blood flow

A heart attack is a medical emergency—but it is not the same as cardiac arrest.

2. The Heart’s Electrical System

If the plumbing keeps blood flowing, the electrical system keeps the heart beating.
At the center of this system is the SA Node, often called the heart’s natural pacemaker. It acts like the home’s power plant—constantly sending out electrical signals that tell the heart when to beat.

What Happens During Sudden Cardiac Arrest (SCA)?

In a sudden cardiac arrest, the electrical system malfunctions.
Instead of beating normally, the heart can suddenly start:

Fibrillating (shaking like a bowl of Jell-O)

Quivering instead of pumping

Producing no meaningful circulation

This is like the wiring in your house short-circuiting—the power shuts down.

The Heart Stops Pumping Blood

When the heart enters a chaotic rhythm like ventricular fibrillation (VF), it can't push blood to the brain or body.

Within seconds, a person collapses.
Within minutes, without intervention, the person will die.

3. The Only Thing That Can Stop Fibrillation: A Defibrillator

When the heart's electrical system is out of control, CPR alone cannot fix it. CPR only keeps some blood moving.

The only thing capable of stopping the chaotic electrical storm is:

□□ A defibrillator (AED).

An AED delivers a brief electrical shock that resets the heart's electrical system, giving the SA node a chance to take over and restore a normal rhythm.

Think of it like rebooting a frozen computer—the shock stops the chaos so the system can restart. For every minute a patient is cardiac arrest, the chance of survival drops by 10%. The key is early defibrillation. An AED will only shock a person that needs to be shocked. You cannot accidentally shock a person

4. Key Takeaways

Heart Attack (Plumbing Problem)

Caused by blocked arteries

Heart is usually still beating

Person may be awake

Treated with medical intervention, not electricity

AED will say NO SHOCK ADVISED

Sudden Cardiac Arrest (Electrical Problem)

Caused by electrical malfunction

Heart stops pumping effectively

Person collapses and becomes unresponsive

Requires immediate CPR and an AED

A shock is the only thing that can stop fibrillation

Why This Matters

Knowing the difference can save a life.

1. Without an AED close by the chance of surviving a Sudden Cardiac Arrest (SCA) is less than 5%. With an AED close by survival rates can exceed 70%
2. 365,000 people nationwide lose their life to SCA annually.
3. A heart attack is dangerous, but a sudden cardiac arrest is deadly within minutes.
4. Understanding both—and knowing how and when to use an AED—gives bystanders the power to act with confidence.
5. 1 in 5 AEDs will fail at point of rescue because of improper management and maintenance.

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