AED (Automated External Defibrillator) FAQ

Public Access Defibrillation and AEDs: Frequently Asked Questions

What is sudden cardiac arrest?
Sudden cardiac arrest (SCA) simply means that the heart unexpectedly and abruptly stops beating. This is usually caused by an abnormal heart rhythm called ventricular fibrillation (VF).

Is SCA the same as a heart attack?
No. A heart attack is a condition in which the blood supply to the heart muscle is suddenly blocked, resulting in the death of the heart muscle. Heart attack victims usually (but not always) experience chest pain and usually remain conscious. Heart attacks are serious and sometimes will lead to SCA. However, SCA may occur independently from a heart attack and without warning signs. SCA results in death if not treated immediately.

Who is at risk for SCA?
While the average age of SCA victims is about 65, SCA is unpredictable and can strike anyone, anywhere, at any time.

What is VF?
VF is an abnormal heart rhythm often seen in SCA. This rhythm is caused by abnormal and very fast electrical activity in the heart. VF is chaotic and unorganized; the heart quivers and cannot effectively pump blood. VF is short lived and will deteriorate to asystole (a flat line) if not treated promptly.
How is VF treated?

The only effective treatment for VF is an electrical shock called defibrillation. Defibrillation is an electrical current applied to the chest. The electrical current passes through the heart with the goal of stopping the VF and providing an opportunity for the heart's normal electrical system to take control. This current helps the heart reorganize the electrical activity so it can pump blood again. An automated external defibrillator (AED) can defibrillate the heart.

What is an AED?

An AED (automated external defibrillator) is a device that analyzes and looks for shockable heart rhythms, advises the rescuer of the need for defibrillation, and delivers a shock if needed.

Will I hurt the victim by using an AED?

When used on people who are unresponsive and not breathing, the Food and Drug Administration has found all AEDs available in the U.S. market to be safe and effective. Therefore the probability of harming an unresponsive victim who is not breathing is significantly outweighed by the probability of saving such a victim.

What if I forget the steps for using an AED?

The steps for shocking an SCA victim are simple and straightforward. The ZOLL® AED Plus® provides visual and audio prompts to guide you through the entire resuscitation process. The most difficult part is recognizing the need for defibrillation.

Should I perform CPR first or apply electrode pads from the AED?

Start CPR immediately. Once the AED is present, apply the electrode pads to the victim's bare chest, and follow the AED's voice prompts and messages. It will tell you when to resume CPR.

If defibrillation is so important, why should I do CPR?

CPR provides some circulation of oxygen-rich blood to the victim's heart and brain. This circulation delays both brain death and the death of heart muscle. CPR also makes the heart more likely to respond to defibrillation.

Can I be sued for using an AED?

In the US it's not possible to prevent being sued. However, most states have passed "Good Samaritan" legislation protecting the lay rescuer from lawsuits.

Can I accidentally shock another rescuer or myself?

AEDs are extremely safe when used properly. The electric shock is designed to go from one electrode pad to another through the victim's chest. Basic precautions, such as verbally warning others to stand clear and visually checking the area before and during the shock, can maximize the safety of rescuers.

What if the victim has a medication patch on where I want to place the electrode pads?
Never place AED electrode pads directly on top of medication patches, such as nitroglycerin. Patches should always be removed and the skin wiped dry before placing electrode pads on the skin.

**Do I need to remove the electrode pads before performing CPR?**

No. The electrode pads remain on throughout the resuscitation and until the victim is transferred to advanced care providers such as paramedics. If the electrode pads are in their correct locations on the victim's chest, they will not interfere with proper hand placement or compressions.

**Should I use the AED if the victim has a pacemaker or is pregnant?**

Yes, never withhold AED use from a person in SCA.

**Can I defibrillate on a wet surface?**

Yes, as long as the usual safety rules are observed. Be sure the victim's chest is wiped dry. Keep the electrode pads away from a damp or conductive surface.

**Can I defibrillate on or near a metal surface?**

Yes, as long as the usual safety rules are observed. Keep the electrode pads away from contact with the conductive surface. Be sure not to allow anyone to touch the victim when a shock is delivered.

**How much of the victim's clothing should be removed to carry out defibrillation?**

The chest should be exposed to allow placement of the disposable electrode pads. A woman's bra should be removed. Clothes may need to be cut off.

**Why is it so important to be sure that the electrode pads are firmly adhered to a clean, dry chest?**

Successful defibrillation requires electricity to flow from one electrode pad to the other through the chest. If the electrode pads are not firmly adhered and there is sweat or another conductive material between the electrode pads, the electricity will be more likely to flow across the chest rather than through it. This will result in ineffective defibrillation and an increased chance of sparks and fire.

**Is it okay to place the electrode pads directly on a hairy chest?**

Electrode pads must come in direct contact with the skin. If the chest hair is so excessive as to prevent good adhesion of the electrode pad, the hair must be removed quickly.

**What if I have a child victim?**

You should use pediatric electrode pads, which carry a lower charge to the child in SCA. If no pediatric pads are available, the Guidelines say to use adult pads instead.

**After I have successfully defibrillated the victim, do I keep the electrode pads on?**
Yes, even after a victim has been successfully defibrillated, he/she is at risk of developing VF again. The AED will continually monitor the victim for the return of VF. If VF is suspected, the AED will automatically begin to analyze the victim after two minutes of CPR is complete. The AED should be left on until emergency personnel assume responsibility for the victim.

**What if the victim regains a pulse but is not breathing or is breathing slowly?**

You should give rescue breaths at a rate of 1 every 5 seconds or 12 per minute.

**I used an AED on an SCA victim and the AED always prompted "No Shock Advised." Even with CPR the victim did not survive. Why didn't the AED shock this victim?**

Although VF is the most common rhythm in cardiac arrest, it is not the only one. The AED is designed to shock VF or VT (ventricular tachycardia), which is a very weak but fast heart rhythm. There are other heart rhythms associated with SCA that are not treated with defibrillation shocks. A "No Shock Advised" message does not mean that the victim's heart rhythm is back to normal.

**I shocked a woman in SCA within minutes after she collapsed. I heard later that she did not survive. Did I do something wrong?**

Unfortunately, because of other underlying medical or heart problems, a victim of SCA who is in VF may not survive even if defibrillation is done promptly and correctly.

**What if I don't perform all the steps of CPR and defibrillation perfectly?**

Treating SCA is a high-stress situation. Even experienced health care providers do not do everything perfectly. During SCA, performing CPR and using an AED can only help the victim.

**What if I'm not certain whether or not I need to use an AED?**

Remember this rule: Only use an AED on someone you would do CPR on—unresponsive and not breathing.

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