

CARDIOPULMONARY RESUSCITATION (CPR) STATISTICS

There are no reliable national statistics on CPR because no single agency collects information about how many people get CPR, how many don't get it who need it, how many people are trained, etc. Many studies have examined CPR in specific communities. While they show varying rates of success, all are consistent in showing benefits from early CPR.

These statements are fair generalizations:

- Early CPR and defibrillation (de-fib"rih-LA'shun) within the first 3–5 minutes after collapse, plus early advanced care can result in high (greater than 50 percent) long-term survival rates for witnessed ventricular fibrillation (ven-TRIK'u-ler fib"rih-LA'shun).
- The value of early CPR by bystanders is that it can "buy time" by maintaining some blood flow to the heart and brain during cardiac arrest. Early bystander CPR is less helpful if EMS personnel equipped with a defibrillator arrive later than 8–12 minutes after the collapse.

Sudden cardiac death (S.C.D.)

- Sudden cardiac death from coronary heart disease occurs over 917 times per day in the United States. The risk in adults is estimated to be about 1 per 1,000 adults 35 years of age and older per year.
- Sudden cardiac death in the young (people less than 35 years old) is much less common than in adults, occurring in only 0.5 to 1 child per 100,000 per year.
- A review of published studies that report initial heart rhythms during cardiac arrest in children indicates that the majority (40–90 percent) have asystole (a-SIS'to-le) or pulseless electrical activity when first evaluated. However, ventricular fibrillation or ventricular tachycardia (ven-TRIK'u-ler tak"eh-KAR'de-ah) is found in about 7–14 percent of all children in cardiac arrest in the prehospital setting.

Automated external defibrillators (AEDs)

- AEDs are computerized devices that are now about the size of a laptop computer. They can be used by healthcare providers (such as Emergency Medical Response providers) and by lay rescuers. They are attached to victims who are thought to be in cardiac arrest, and they provide voice and visual prompts to lead rescuers through the steps of operation. AEDs analyze the victim's heart rhythm, determine if a defibrillation shock is needed, then prompt the rescuer to "clear" the victim and deliver a shock.
- Lay rescuer AED programs (also known as Public Access Defibrillation or PAD programs) train lay rescuers such as security guards, police and firefighters in CPR and use of an AED and equip the rescuers with automated external defibrillators (de-FIB'rih-la-torz).
- The first out-of-hospital defibrillation device weighed 110 pounds; today they weigh less than 8 pounds.

Increased survival with CPR and AEDs

- Studies have repeatedly shown the importance of immediate bystander CPR plus defibrillation within 3–5 minutes of collapse to improve survival from sudden VF cardiac arrest.
- In cities such as Seattle, Washington, where CPR training is widespread and EMS response and time to defibrillation is short, the survival rate for witnessed VF cardiac arrest is about 30 percent.
- In cities such as New York City, where few victims receive bystander CPR and time to EMS response and defibrillation is longer, survival from sudden VF cardiac arrest averages 1–2 percent.
- Some recent studies have documented the positive effect of lay rescuer AED programs in the community. These programs all ensure adequate training, and a planned response to ensure early recognition of cardiac arrest and EMS call, immediate bystander CPR, early defibrillation and early advanced care. Lay rescuer AED programs consisting of police in Rochester, Minn., security guards in Chicago's O'Hare and Midway airports, and security guards in Las Vegas casinos have achieved 50–74 percent survival for adults with sudden, witnessed, VF cardiac arrest. These programs are thought to be successful because rescuers are trained to respond efficiently and all survivors receive immediate bystander CPR plus defibrillation within 3–5 minutes.