



## OPERATION HEARTBEAT



Costa Mesa Fire Department has partnered with the **American Heart Association** in its fight against heart disease and stroke in a program known as *Operation Heartbeat*, which is designed to decrease deaths from sudden cardiac arrest (SCA).

Cardiovascular disease (CVD) is the number one killer of both men and women in the United States. In fact, CVD kills more people than cancer, AIDS, and the other top five causes of death *combined*. One of the primary mechanisms of death from CVD is sudden cardiac arrest, which is a condition where the heart suddenly loses its ability to effectively pump blood through the body. Tragically, the national survival rate from SCA is only 5%, which means that 95% of all SCA victims die. However, in cities with a strong *Chain of Survival* the survival rate is dramatically higher. The *Chain of Survival* represents the sequence of events that must occur in order to survive sudden cardiac arrest, though the concept applies to heart attack, stroke, and other medical emergencies:

1. **EARLY ACCESS** – “Early Access” means recognizing the signs of heart attack and cardiac arrest, and then activating the EMS (Emergency Medical Services) system *immediately* by calling 911.
2. **EARLY CPR** – CPR “buys time” by maintaining circulation to the brain. The sooner a bystander begins CPR, the greater the chance of survival. In fact, the probability of survival nearly *doubles* when someone performs early CPR.
3. **EARLY DEFIBRILLATION** – Most sudden cardiac arrests are due to an abnormal electrical rhythm of the heart called V-Fib (ventricular fibrillation). In V-Fib, the heart quivers (fibrillates) chaotically and is unable to pump blood. The only treatment for V-Fib is **defibrillation**, in which the heart receives an electrical shock to restore normal electrical and mechanical activity. For every minute without defibrillation, there is a 10 % less chance of survival (if CPR is not performed, there is up to a 20% less chance of survival).
4. **EARLY ADVANCED CARE** – Paramedics must administer life-saving medications and perform advanced procedures in order to resuscitate and stabilize patients.

Costa Mesa Fire Department and the American Heart Association are working hard to strengthen the *Chain of Survival* in the City of Costa Mesa with such Operation Heartbeat programs as:

- ❖ **Working Together to Save Lives** – This is a joint effort with the city of Newport Beach to teach CPR to high school students in the Mesa-Newport Unified School District. These classes are taught by members of the Costa Mesa and Newport Beach fire departments. The program also includes *Project Wipeout*, which is designed to prevent spinal injuries at the beach and other swim areas.
- ❖ **Public Access Defibrillation** – Although the entire *Chain of Survival* is important, the two critical factors in surviving sudden cardiac arrest are early bystander CPR and rapid defibrillation. Although in the past only paramedics had the ability to defibrillate, a new and easy-to-use device called an **AED** (Automated External Defibrillator) allows *anyone* to defibrillate so long as they have completed the simple **Heartsaver AED** course. Costa Mesa Fire Department is working with city officials to place AEDs at all public facilities. In addition, the Department provides information, guidance and support to private businesses who wish to join us in our efforts in fighting sudden cardiac arrest by implementing a Public Access Defibrillation program.

**To learn CPR or how to use an AED, call 1-888-4HEARTS  
(443-2787)**

