

## **Sudden Cardiac Death**

Sudden cardiac death (SCD) is a sudden, unexpected death caused by loss of heart function (sudden cardiac arrest). It is the largest cause of natural death in the U.S.

- Sudden cardiac arrest occurs when the electrical system to the heart malfunctions and suddenly becomes very irregular. The heart beats dangerously fast. The ventricles may flutter or quiver (ventricular fibrillation), and blood is not delivered to the body. In the first few minutes, the greatest concern is that blood flow to the brain will be reduced so drastically that a person will lose consciousness. Death follows unless emergency treatment is begun immediately.
- Emergency treatment includes cardiopulmonary resuscitation (CPR) and defibrillation. CPR is a manual technique using repetitive pressing to the chest and breathing into the person's airways that keeps enough oxygen and blood flowing to the brain until the normal heart rhythm is restored with an electric shock to the chest, a procedure called defibrillation. Emergency squads use portable defibrillators and frequently there are public access defibrillators (AEDs, ambulatory external defibrillators) in public locations that are intended to be available for use by citizens who observe cardiac arrest.
- Sudden cardiac arrest is NOT a heart attack (myocardial infarction) but can occur during a heart attack. Heart attacks occur when there is a blockage in one or more of the arteries to the heart, preventing the heart from receiving enough oxygen-rich blood. If the oxygen in the blood cannot reach the heart muscle, the heart becomes damaged.

### **Symptoms of Sudden Cardiac Arrest**

- Racing heartbeat
- Dizziness
- In over half of the cases, however, sudden cardiac arrest occurs without prior symptoms

### **Causes of Sudden Cardiac Death**

- Most sudden cardiac deaths are caused by abnormal heart rhythms called arrhythmias. The most common life-threatening arrhythmia is ventricular fibrillation, which is an erratic, disorganized firing of impulses from the ventricles (the heart's lower chambers). When this occurs, the heart is unable to pump blood and death will occur within minutes, if left untreated.

### **Risk Factors of Sudden Cardiac Arrest**

There are many risk factors that can increase a person's risk of sudden cardiac arrest and sudden cardiac death, including the following:

- Previous heart attack with a large area of the heart damaged (75% of SCD cases are linked to a previous heart attack).
- A person's risk of SCD is higher during the first 6 months after a heart attack.
- Coronary artery disease (80% of SCD cases are linked with this disease).
- Risk factors for coronary artery disease include smoking, hypertension, family history of heart disease, and high cholesterol.