Sudden Cardiac Arrest and Early Defibrillation

**Reason for Learning**
Rapid response to a collapsed person from sudden cardiac arrest increases the likelihood of a successful outcome.

**Core Learning Objectives**
- Upon completion of this training program, a student will be able to describe how to recognize and provide first aid treatment for sudden cardiac arrest.

Sudden cardiac arrest, or SCA, can occur without warning to anyone, at any time. It is one of the leading causes of death among adults in the United States. Sudden cardiac arrest happens when the normal electrical impulses in the heart unexpectedly become disorganized. Blood flow to the brain and body abruptly stops. The lack of blood and oxygen to the brain causes the person to quickly lose consciousness, collapse, and stop breathing. Brain tissue is especially sensitive to a lack of oxygen. When oxygen is cut off, brain death can occur quickly, within a matter of minutes. Without early recognition and care from a bystander, the person will not survive. Cardiopulmonary resuscitation, or CPR, allows a bystander to restore some oxygen to the brain through a combination of chest compressions and rescue breaths. By itself, CPR is only a temporary measure that can buy time until more advanced care can be provided.

The most effective treatment for ventricular fibrillation is defibrillation. To defibrillate, electrode pads are applied to the chest and an electrical shock is sent between the pads through the heart. This shock stops ventricular fibrillation, so the heart’s normal electrical activity can return and restore blood flow.

An automated external defibrillator, or AED, is a small, portable, computerized device that is simple for a minimally trained bystander to operate. Immediate, high-quality CPR and defibrillation with an AED from a bystander can double or even triple the chance for survival.