

Neighbors Saving Neighbors in The Springs

Frequently Asked Questions

1. What is sudden cardiac arrest?

The heart stops beating normally and enters a state called fibrillation, a rapid fluttering that fails to maintain the circulation of freshly oxygenated blood throughout the body.

2. How does sudden cardiac arrest kill the victim?

The human brain needs a constant flow of oxygen to function; when that flow is interrupted, brain cells begin to die almost immediately. The victim loses consciousness and stops breathing. Unless revived within 3-5 minutes, the victim will die or suffer severe impairment.

3. Can a sudden cardiac arrest victim be revived?

Yes, if CPR is started promptly and an Automatic External Defibrillator (AED) is used within minutes. The blood supply in a human contains some residual oxygen. Consequently, CPR as practiced today can sustain a helpful although greatly reduced blood circulation but only the administration of a shock to the heart by an AED will restore normal heart function.

4. How many cardiac arrests occur each year?

Sudden cardiac arrest claims about 400,000 victims each year in the US, making it the leading cause of death in this country. The fatality rate is highest in residential areas where 80% of the cases occur; less than 10% are successfully revived.

5. Why is the fatality rate so high in residential areas?

The key to reviving a sudden cardiac arrest victim is timely arrival of help. Neighbors who have been trained in CPR and the use of an AED and are made aware of a sudden cardiac arrest emergency in their neighborhood have been shown to be capable of responding quickly and beginning CPR/use of an AED within minutes of being notified.

6. Why isn't it enough just to call 911?

The witness to a sudden cardiac arrest should always call 911 immediately. When the EMS teams are stationed very close by and can arrive within 3-5 minutes, that may be sufficient. On average nationwide, EMS teams arrive in just over 8 minutes.

7. What was the purpose of the recent University of Arizona study in Green Valley?

Doctors in the Department of Cardiology of the Sarver Heart Center designed the study to determine whether a coordinated effort of alerting trained neighborhood volunteers simultaneously with 911 activation of professional EMS providers would provide earlier CPR and defibrillation in such communities.

8. How was the study conducted?

Twenty mock cardiac arrest trials were conducted in The Springs (12 trials) and other parts of Green Valley (4 trials). In twelve of the 20 trials, volunteers were alerted to the mock event by text messages at the same time as the fire department. In four of the mock trials, only the volunteers were alerted. Arrival times of all responders were observed and recorded.

9. Why was The Springs chosen for the study?

The Springs is the Green Valley community that is furthest from the nearest fire station which is 3.3 miles away. It was selected as a good test of the value of a volunteer program. Trials were also conducted in parts of Green Valley closer to the assigned fire station.

10. What were the results of the study?

Volunteers living in The Springs took between 1 and 3 minutes to respond to a mock event; the closest fire department took on average 7.3 minutes to arrive at each mock emergency. In a real emergency, the doctors estimated the possibility of a 240% increase in successful resuscitations, from 25% to 85%. In the mock events elsewhere in Green Valley in which volunteers and the fire department were roughly the same distance away, the fire department always arrived first.

11. Are the volunteers who respond protected by Good Samaritan laws?

Yes, good Samaritan laws at the state level in Arizona and at the Federal level cover anyone who attempts to provide assistance to any kind of victim, including sudden cardiac arrest.

12. What kind of training will be provided to the volunteers?

Green Valley Recreation provides a formal training program lasting two hours that covers CPR and the use of an AED. All volunteers would be expected to complete this training. In addition, volunteers will receive training regarding when and how they should respond, generally only when they are already in The Springs and can travel safely to the emergency.

13. How will volunteers be alerted to emergencies in The Springs?

Volunteers will only receive alerts in cases that are coded as cardiac arrest by 911 dispatchers. Alerts will be passed to distribution software that matches the address of the emergency as transmitted by the 911 system to addresses of residents who have "opted in" to the service. If there is a match, alerts will be sent from the distribution software to all volunteers.

14. How many volunteers are needed for the program to be a success?

The study just completed in The Springs was based on alerting between 9 and 15 volunteers. In 16 trials conducted specifically in The Springs at random times of day over time windows as long as two weeks, the minimum number of volunteer responders was three and the largest number that showed up was 7.

15. How many AEDs are needed for the program?

The study noted above did not notice a significant difference in arrival times when AEDs were made available in six locations versus only one. As a result, two AEDs appear to provide sufficient coverage in The Springs program. Each AED and outdoor cabinet costs ~\$1,500.

16. What else is needed to implement and operate the program?

The primary initial activity is educational outreach to the community to offer each resident the opportunity to understand the program and to opt in or out (some residents have documented medical directives such as “Do Not Resuscitate”). A data base will be created and maintained that lists all participating addresses in The Springs and contains current contact information for all volunteers. A simple interface to the 911 center computer aided dispatch (CAD) system used by Pima County will be implemented to enable the program to receive and match alerts to covered addresses and notify volunteers. Creating and maintaining the data base, associated alerting software, and an interface to 911 dispatch systems is available for a monthly charge.

17. Are we the first community to consider operating a program like this?

No, over 125 communities in Florida with a demographic similar to Green Valley have set up neighborhood volunteer response programs with similar goals. Approximately 16,000 homes in The Villages participate. The program touts an average 90 second volunteer response time to real cardiac arrest emergencies.

18. What are the benefits of such a program to The Springs?

In addition to providing an extra layer of life saving protection, such a program will differentiate The Springs from other neighborhoods and enhance the already strong sense of community pride among our residents. Implementing such a program also enables The Springs to be designated a HeartSafe Community and post signs at the entrance announcing that achievement.