

Drones deliver AED's = more lives saved quicker

Out-of-hospital cardiac arrest affects approximately 600,000 persons in the United States and Europe annually, and although survival averages 10%, it can be increased if an automated external defibrillator (AED) is used within minutes after onset. Given that most cardiac arrests occur at home, where AEDs are typically unavailable, new methods for the faster delivery and use of AEDs are warranted. A recent feasibility study in Sweden showed that drones can be used to deliver AEDs in cases of suspected out-of-hospital cardiac arrest.

On December 9, 2021, a 71-year-old man with a history of myocardial infarction, heart failure, and atrial fibrillation had a cardiac arrest while he was shoveling snow outside his home. He was found by his wife, and chest-compression-only resuscitation was initiated by an emergency physician who happened to pass by. The dispatch center alerted EMS (ambulance and fire department personnel), and a smartphone was used to dispatch volunteer lay responders (citizens with training in cardiopulmonary resuscitation) and an AED-equipped drone to the scene. The responding ambulance crew consisted of two registered nurses with advanced life-support competence, including AED capability. The drone flew autonomously out of sight for 673 m and, at 3 minutes 19 seconds after dispatch, safely delivered an AED in the snow 10 m from the patient before EMS had arrived. A camera onboard the drone showed the delivery and retrieval of the AED by a second bystander (a neighbor).

The AED was immediately attached to the patient by the emergency physician and was used to defibrillate ventricular fibrillation. The first shock was delivered by the emergency physician just before the arrival of ambulance personnel at the patient's side. After the arrival

of ambulance personnel, a LUCAS (Lund University Cardiopulmonary Assist System) chest-compression device for the delivery of consistent and uninterrupted automatic chest compressions was attached to the patient, and advanced life support, including epinephrine and amiodarone, was administered. The patient woke up en route to the hospital after another three defibrillations.

This type of emergency care, AED drone delivery, for out-of-hospital emergency care is likely to make it to urban communities in the US at some point in the future. With early CPR, compressions only and or compressions and breaths, as well as defibrillation, on site or delivered by drone, the victim has a better chance of survival with additional advanced treatment by the responding 911 EMS providers.



2025 Training Schedule Reminder

It's a new year with new challenges and opportunities. This is a reminder to get on the First Aid Depot training calendar to secure the dates and times which are most convenient for you and your team for CPR/AED and or First Aid recertification.

Although we offer a 2-year certification, there's no downside to training more frequently. Why train more frequently, because if CPR/AED and First Aid are not part of your normal work place process, your team may forget important knowledge?

First Aid Depot also suggests that in addition to

classroom instruction in skill practice and important knowledge it may be valuable to modify your training to include drill practice. Using your facility and resources we create real world scenarios (drills) to better simulate what would happen in your facility and how it would be managed to potentially offer improvement and or response suggestions.

A new year is also a good reminder to check the expiration dates on supplies such as AED batteries and AED pads, aspirin, and other items which carry an expiration date. Also consider checking smoke/CO2 batteries and the charge on your fire extinguishers.

Winter Emergencies

Cold Exposure

When a victim is exposed to long periods of cold, they can suffer hypothermia and or frost bite. Treatment includes, removing them from the environment, remove wet clothing, rewarm slowly, if the victim can drink, only warm non alcoholic, non caffeine beverages are recommended, and call 911. If frost bite is suspected in the extremities, wrap fingers and toes separately and don't over handle.

Slips and Falls

Snow, ice, and water can cause a person to lose their footing and fall. After the fall, it's appropriate to assess the victim's ability to move before you consider assisting them. If the victim is experiencing any loss of

movement, pain, deformity, discoloration, bleeding, etc. don't move them, stabilize and call 911.

Driving

Make the decision that driving is necessary. If so, drive slower, increase following distance, choose well traveled routes, and carry first aid and emergency supplies.



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