## Out With The Juke Box, In With The "Shock Box": How Defibrillators Are Saving Lives

by David Goodman

911 dispatch: "Ambulance 2176, you are being dispatched to 1478 Greenbrook Rd. for a child who is not breathing." "10-4, we're on our way." Sirens blaring.

## At the scene ...

But it's too late ...

"I need an IV STAT. Push harder, push faster, make those chest compressions count (30:2). Quick, I need the epinephrine and lidocaine, the defibrillator is charging, everyone stand clear." Shock delivered.

"Okay, continue CPR."



cancer, prostate cancer, colorectal cancer, traffic accidents, gun-related deaths and AIDS combined. Annually, approximately 40,000 Canadians – 10,000 of them in Ontario alone – experience SCA.

We should all be concerned, because nine out of 10 Canadians have at least one risk factor for heart disease or stroke, including smoking, alcohol use, physical inactivity, obesity, high blood pressure, high blood cholesterol and diabetes.

his is a real-life situation I was called to as a paramedic that had a tragic end. It turned out the young boy had an undiagnosed heart problem. If there had already been a defibrillator on site, it may have bought him precious time until we arrived.

Sudden cardiac arrest (SCA) is one of the leading causes of death in North America. It does not discriminate against age, gender, race or fitness level. More people die from SCA every year than from breast

## **Sobering Statistics**

- Over 17,000 Canadians die each year as the result of a heart attack.
   Most of these deaths occur out of hospital.
- 80% of cardiac arrests occur in homes and public places, and 35% to 55% are witnessed by a family member, co-worker or friend.
- Every 12 minutes, one Canadian dies from SCA.
- Approximately 95% of SCA patients die before reaching hospital.
- An individual experiencing an out-of-hospital SCA has less than a 5% chance of survival.



- If bystander CPR is not provided, a SCA patient's chance of survival plummets. This risk increases by 10% for every minute of delay until defibrillation.
- Brain cells begin to die four to six minutes after SCA, with irreversible brain damage occurring between eight and 10 minutes.
- The average response time for Emergency Medical Services is nine to 11 minutes in urban centres and even more in rural settings.
- Approximately 5,000 to 7,000 children in the United States succumb to SCA annually.
- The majority of people who witness a cardiac arrest do not perform CPR.

Despite these grim statistics, there is light at the end of the tunnel (no pun intended!) There is hope for individuals who experience an out-of-hospital SCA. That hope comes from a little user-friendly device known as an automated external defibrillator (AED) – or as I like to call it, the "shock box."

An AED is a small portable device that analyzes the non-beating heart to determine whether administering a shock will be beneficial. If indicated, a shock will be delivered.

If an AED is attached to a SCA patient in less than five minutes and proper CPR is administered immediately, the chance of survival is 76 per cent. Another piece of good news is that you don't have to be a medical professional to use these devices. AEDs can be used by anyone in situations where an individual is unconscious and not breathing.

Legal liability is often a concern for potential buyers of AEDs. The Chase McEachern Act, passed in Ontario in 2007, protects owners and occupiers of premises on which AEDs are installed from liability. That provides even more incentive to invest in an AED.

Time is of the essence when treating these medical emergencies. Given the long response times of EMS in Toronto and surrounding areas, AEDs are invaluable additions to all condominiums, businesses and individual residences.

By investing in an AED today, you may have already saved a life!

David Goodman is a paramedic and founder of Heaven Can Wait Emergency First Aid Training, which is approved by the Workplace Safety and Insurance Board, the Heart and Stroke Foundation of Canada and the federal government.

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