



# position statement on

## **PUBLIC ACCESS DEFIBRILLATION**

Early defibrillation is essential in the treatment of sudden cardiac arrest (SCA) and is a core component of the Chain of Survival.<sup>1</sup> Given that nearly one quarter of SCAs occur out-of-hospital, and the outcomes for victims are poor, St John Ambulance Australia believes that ensuring public access to Automated External Defibrillators (AED) is a key step in maximising the potential for survival.<sup>1,2</sup>

Bystander action can mean the difference between life and death, especially when AEDs are made rapidly accessible to the public in high traffic areas.<sup>3</sup> The placement of AEDs in communities via public access defibrillation (PAD) programs has been shown to improve survival from out-of-hospital cardiac arrest (OOHCA).<sup>4</sup> St John believes that the introduction of a national PAD Program in Australia is essential in preventing the needless loss of life and provides a vital link in the Chain of Survival. Currently, there is no statutory requirement for the provision of publically accessible defibrillators in the community.

### **BACKGROUND**

SCA is a condition associated with a disturbance of the heart's electrical activity.<sup>5</sup> In Australia, as many as 30,000 OOHCA occur each year, with a reported incidence of 113 events per 100,000 population.<sup>1</sup> Less than 10% of people experiencing OOHCA survive.<sup>1</sup> Often, the underlying cause of SCA is heart disease, however SCA can occur with no prior warning signs or symptoms.<sup>5,6</sup>

It is widely accepted that reducing delays to defibrillation leads to better outcomes for patients, and bystanders have long been considered part of the front line in responding to a casualty experiencing a OOHCA.<sup>1</sup> Those who receive bystander CPR are twice as likely to survive to hospital discharge (12% vs 6%).<sup>1</sup> Early defibrillation by a bystander using a public AED is associated with survival to hospital discharge rates of 49%, compared to 26% when defibrillated by paramedics.<sup>1</sup>

While the majority of SCAs occur in the home, evidence suggests that around 14% occur in public places—places of work, on streets and roads, in shops, vehicles and sporting/recreational facilities.<sup>1</sup> While there is around a 64% chance of casualty's experiencing SCA being recipients of bystander CPR, unfortunately, victims of OOHCA will only receive defibrillation by bystanders in around 10% of cases.<sup>1,6</sup> Every minute without defibrillation reduces the chance of survival by approximately 10%.<sup>4</sup>

Overall, ambulances will take longer than 8 minutes to respond to a cardiac arrest 50% of the time.<sup>1</sup> Response times are longer for rural and remote communities, or those communities where medical

**Making first aid a part of everybody's life.**

aid may be delayed.<sup>1</sup> This delays the time to defibrillation and consequently, reduces the likelihood of the victim surviving. As such, it is essential that the community is incorporated as part of the response through the provision of a national PAD Program.<sup>6,7</sup> Widespread PAD, coupled with public education (such as the United Kingdom's 'Shockingly Easy' campaign), have shown that survival is more likely in a public place than in the home.<sup>8</sup>

## DEFINITIONS

Automated External Defibrillator (AED)—is a medical device used to treat SCA. The AED analyses a person's heart rhythm and recognises a rhythm that requires a shock designed to restore the heart's normal rhythm. The device uses voice and/or visual prompts to tell the operator what steps to take. Any person can use an AED provided that they can read the AED text and follow voice prompts.<sup>3,5</sup>

Cardiopulmonary resuscitation—is a technique of compressions of the chest and inflation of the lungs aimed at maintaining the blood flow to the heart (keeping the blood oxygenated) for an unconscious, not responding and not moving casualty.<sup>5</sup>

Chain of Survival—encourages early access (calling the ambulance immediately), early CPR, early defibrillation and early advanced life support (e.g. treatment by a health care professional) to increase the chances of survival.<sup>1</sup>

High traffic locations—may include public places such as workplaces, casinos, fitness, athletic and sporting venues, facilities and clubs (including gyms and golf courses), community centres, schools, colleges and universities, shopping centres, popular tourist destinations and transport hubs (e.g. airports, train and bus stations).<sup>3</sup>

## POLICY POSITIONS

1. **ACCESS:** St John will continue to administer and maintain the St John AED Register (<http://aed.stjohn.org.au/>) to ensure that the Australian public has access to information on the location of AEDs in the community. This is part of St John's strategy to increase early defibrillation.
2. **ADVOCACY:** Adopting a national community response strategy to addressing this significant public health issue is essential if more lives are to be saved. St John will advocate for the legislation and regulation of PAD programs in high traffic locations in Australia. In addition, St John will advocate for the funding of PAD programs, including public awareness-raising campaigns and community first responder initiatives.
3. **TRAINING:** St John will fund and develop a targeted campaign, regarding the availability and use of publically accessible AEDs and the importance of CPR, to increase public confidence and dispel myths regarding providing assistance.
4. **COORDINATION:** St John will seek a nationally coordinated approach to PAD, working with governments, emergency services, corporate and community organisations to increase the availability of PAD in Australia.

## MONITORING AND REPORTING

Annually, the Chief Executive Officer of the Australian Office will report on progress against this Position Statement, and make recommendations regarding revision as required.

The National Board of Directors is responsible for monitoring and reporting against this Position Statement.

## CHAMPIONS

PAD in St John will be led by the Chancellor of St John Ambulance Australia and the Chief Executive Officer of the Australian Office.

### NOTES

1. Ambulance Victoria (2016). Victorian Ambulance cardiac arrest registry annual report 2014–2015. Ambulance Victoria: Doncaster, Victoria.
2. Viridi G, Picton S & Fothergill R (2015). Cardiac Arrest Annual Report: 2014/2015. London Ambulance Service NHS Trust: London. Retrieved on 6 June 2016 from [http://www.londonambulance.nhs.uk/about\\_us/publications.aspx#clinicalaudit](http://www.londonambulance.nhs.uk/about_us/publications.aspx#clinicalaudit)
3. <http://www.gov.mb.ca/health/aed/faq.html>.
4. Berdowski J, Blom MT, Bardai A, Tan HL, Tigsse JGP & Koster RE (2011). Impact of onside or dispatched Automated External Defibrillator use on survival after out-of-hospital cardiac arrest. *Circulation*, 124(20), 2225–32. Retrieved on 6 June 2016 from Ovid database.
5. St John Ambulance Australia (2015). Automated external defibrillation (4th ed.). St John Ambulance Australia Inc.: Deakin, Canberra.
6. ABS (2016). Causes of death, Australia, 2014 (3303.0). Australian Bureau of Statistics: Canberra.
7. Finn JC, Bhanji F & Lockey A et al (2015). Part 8: Education, implementation, and teams: 2015 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with treatment recommendations. *Resuscitation*, 95, e203–e224. Retrieved on 7 June 2016 from ClinicalKey database.
8. Mehta D, Curwin J, Gomes A & Fuster V (1997). Sudden death in coronary artery disease: Acute ischemia versus myocardial substrate. *Circulation*, 96, 3215–23. Retrieved on 6 June 2016 from <http://circ.ahajournals.org/content/96/9/3215.full>.