



# Staying Alive

Paramedical Services Pty Ltd

*in conjunction with*



## SCHILLER

www.schiller.com.au

## Is it time Australian Dentists had AEDs available?

*Prepared by Dale Armstrong, Intensive Care Paramedic and Manager, Staying Alive Paramedical Services Pty Ltd.*

Considering the changes to the basic management of the Sudden Cardiac Arrest (SCA) patient over the past decade, has the time come for Automated External Defibrillators (AED) to be placed within Australian Dental practices?

In order to answer that question, Australian Dentists need to consider several questions:

1. [What is the risk of SCA occurring?](#)
2. [What is the possible outcome if SCA does occur?](#)
3. [What is the accepted standard of practice?](#)
4. [What are the community expectations?](#)
5. [Conclusion](#)

## 1. What is the risk of SCA occurring?

Sudden Cardiac Arrest (SCA) kills more Australians each year than breast cancer, shootings and road crashes combined. It is estimated that more than 30,000 Australians suffer from SCA each year, with fewer than 5% surviving, often because help did not reach them in time. (Dingsdag, 2009) (Ambulance Victoria)

SCA occurs when the heart's normal rhythm suddenly becomes chaotic. As a result the heart stops pumping blood effectively and the victim becomes unconscious, stops breathing normally, and will have no pulse. Underlying coronary heart disease is the most common cause of SCA, but it can also occur due to many other unrecognised heart conditions and can affect anyone of any age, gender, race or level of fitness. This has been highlighted over the past twelve months by the tragic deaths of young amateur football players in Victoria. Most victims of SCA were unaware they had any condition that placed them at risk of SCA. (Sudden Cardiac Arrest Association)

It is virtually impossible to predict who, when and where a SCA will occur, however it is possible to calculate areas that carry a higher risk. (Lazar, AEDs in Dental Offices, 2007) Consistent with Australian demographics, Dentists are seeing an increasingly elderly and medically compromised population. An Australian study found that about 1 in 7 dentists surveyed have had to resuscitate a patient. (Chapman, 1997) These facts indicate that SCA is likely to occur within Australian dental practices.

## 2. What is the possible outcome if SCA does occur?

The only effective management of SCA is early CPR and defibrillation. It is the time until defibrillation that is the key factor to survival. For every minute defibrillation is delayed, there is 10% reduction in the chances of survival. After 10 minutes without defibrillation, the victim has very little chance of survival. (Sunde, et al., 2010) (Ambulance Victoria) (Australian Resuscitation Council, 2010) Over the past decade, the development of Automated External Defibrillators (AED) has resulted in an improvement in survival rates from SCA to as high as 85% where AEDs are available. (Wassertheil, Keane, Fisher, & Leditschke, 2000)

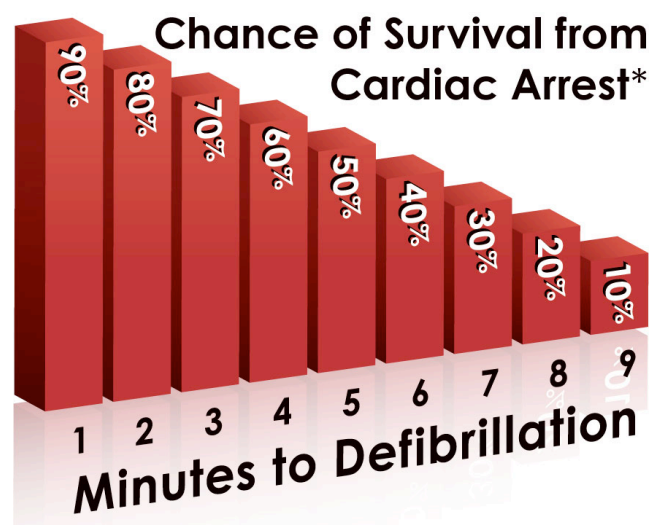


Figure 1 Every minute defibrillation is delayed, the chances of survival decrease by 10%

With a survival rate of a mere 5% when no AED is available, the outcome of SCA is likely to be fatal. However if the dental practice has been equipped with an AED, the outcome is likely to be more positive, with survival rates as high as 85% from SCA if early defibrillation is employed. (Wassertheil, Keane, Fisher, & Leditschke, 2000)

### **3. What is the accepted standard of practice?**

Over a dozen states in the USA require dentists have an AED on site if they provide conscious sedation, and some require all dentists have an AED onsite regardless of the use of sedation. (Lazar, AEDs in Dental Offices, 2007)

New York State and Illinois require all dentists regardless of the use of sedation, to have an AED available in their practice. This legislation was strongly supported by the American Red Cross and the American Heart Association. (New York State Dental Association, 2011)

The Australian Dental Association Inc. guidelines for good practice in Emergencies in Dental Practice recommend “early defibrillation” in the event of cardiac arrest. (Australian Dental Association Inc., June 2005) The Australian Resuscitation Council has adopted the most recent changes from International Consensus Committee on Resuscitation by altering its initial steps of resuscitation from DRABC to DRSABCD, the S representing ‘Send for Help’ and the D for ‘Early Defibrillation.’ (Australian Resuscitation Council, 2010)

### **4. What are the community expectations?**

If they are doing their job properly, every first aid and CPR instructor is highlighting to their participants the importance and ease of use of early defibrillation using an AED. Within the community there is an increasing deployment of AEDs to public areas such as airports, sporting stadiums, transport hubs, and shopping centres.

In recent years within Victoria there have been a number of deaths of young sports people from SCA reported in the media, leading to lobbying by community groups for AEDs to be placed within sporting clubs. After all this public awareness of the importance of AEDs, there is a possibility of an increased expectation for AEDs to be ‘everywhere’, especially in the practices of health care professionals.

There has been no known litigation in Australia relating to the availability or non-availability of an AED. However in the United States there have been a number of lawsuits relating to the lack of availability. Airlines were one of the first to face lawsuits relating to not having an AED available on flights. United Airlines eventually settled a case where a widow sued alleging they had failed to equip their aircraft with appropriate medical equipment. (Lazar, Lawsuits Involving Early Defibrillation: Adopting an AED Program Reduces Legal Risk, 2001)

In Florida a Theme Park was successfully sued for \$500,000 following the death of a 13 year old girl from SCA, largely because no AED was available. Also in Florida a sports club was ordered to pay \$2.25 million for failure to have an AED onsite after a 42 year old was left with virtually no brain function following a SCA. (Lazar, Lawsuits Involving Early Defibrillation: Adopting an AED Program Reduces Legal Risk, 2001)

## 5. Conclusion

It is now widely understood that effective chest compression and early defibrillation are the cornerstone of first aid management for Sudden Cardiac Arrest. Whilst the likelihood of a Sudden Cardiac Arrest occurring in any individual practice is remote, the risk is increasing in line with the general community's increasing average age and medical complexities. The likely outcome if no AED is available is catastrophic.

Any Dental Practice that does not have access to an AED may be at an increased risk of liability, should SCA occur. It would be difficult for the dentist to argue their position in the face of the accepted standard of practice within the Australian and International dental and health communities. Public expectation is increasing in relation to AEDs, through well documented and publicised facts relating early defibrillation and Sudden Cardiac Arrest.

## Works Cited

- Ambulance Victoria. (n.d.). *Sudden Cardiac Arrest*. Retrieved November 28, 2011, from Register My AED: [www.registermyaed.com.au/sudden\\_cardiac\\_arrest.htm](http://www.registermyaed.com.au/sudden_cardiac_arrest.htm)
- Australian Dental Association Inc. (June 2005). *Guidelines for Good Practice on Emergencies in Dental Practice GGP3*.
- Australian Resuscitation Council. (2010, December). *Guideline 7. Automated External Defibrillation (AED) in Basic Life Support (BLS)*. Retrieved February 1, 2011, from Australian Resuscitation Council Online: [http://www.resus.org.au/policy/guidelines/section\\_7/external-automated-defibrillation-in-basic-life-support.htm](http://www.resus.org.au/policy/guidelines/section_7/external-automated-defibrillation-in-basic-life-support.htm)
- Australian Resuscitation Council. (2010, December). *Guideline 8. Cardiopulmonary Resuscitation*. Retrieved December 8, 2011, from Australian Resuscitation Council Online: [http://www.resus.org.au/policy/guidelines/section\\_8/cardiopulmonary\\_resuscitation.htm](http://www.resus.org.au/policy/guidelines/section_8/cardiopulmonary_resuscitation.htm)
- Chapman, P. (1997). *Medical Emergencies in Dental Practice and choice of Emergency Drugs and Equipment: A Survey of Australian Dentists. Unpublished.*
- Dingsdag, D. (2009). Reliability, sustainability and effectiveness of automated external defibrillators deployed in workplaces and public areas. *Journal of Occupational Health & Safety*, 351-361.
- Hazinski, M. F., Nolan, J. P., Billi, J. E., Bottiger, B. W., Bossaert, L., de Caen, A. R., et al. (2010). Part 1: executive Summary. International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. *Circulation*, 122, S250-S275.
- Lazar, R. A. (2001). *Lawsuits Involving Early Defibrillation: Adopting an Aed Program Reduces Legal Risk*. Retrieved November 12, 2011, from National Center for Early Defibrillation: [http://www.early-defib.org/supplement/Lazar\\_article.pdf](http://www.early-defib.org/supplement/Lazar_article.pdf)
- Lazar, R. A. (2007, October 1). *AEDs in Dental Offices*. Retrieved November 28, 2011, from Dental Economics: <http://www.dentistryiq.com/index/display/article-display/310620/articles/dental-economics/volume-97/issue-10/features/aeds-in-dental-offices.html>

- New York State Dental Association. (2011, June 20). *New York State Dental Association News*. Retrieved December 5, 2011, from New York State Dental Association: [www.nysdental.org/news/details.cfm?ID=349](http://www.nysdental.org/news/details.cfm?ID=349)
- Shah, J., & Maisel, W. (2006). Recalls & safety alerts affecting automated external defibrillators. *JAMA*, *296*(6), 655-660.
- Sudden Cardiac Arrest Association. (2009, March). *On Site AED Placement Guide*. Retrieved February 1, 2011, from Sudden Cardiac Arrest Association: [http://associationdatabase.com/aws/SCAA/asset\\_manager/get\\_file/6063?ver=1319](http://associationdatabase.com/aws/SCAA/asset_manager/get_file/6063?ver=1319)
- Sudden Cardiac Arrest Association. (n.d.). *Educational Materials - SCA Risk Assessment*. Retrieved November 28, 2011, from Sudden Cardiac Arrest Association: [http://associationdatabase.com/aws/SCAA/asset\\_manager/get\\_file/36910?ver=267](http://associationdatabase.com/aws/SCAA/asset_manager/get_file/36910?ver=267)
- Sunde, K., Jacobs, I., Deakin, C., Hazinski, M., Kerber, R., Koster, R., et al. (2010). Part 6: Defibrillation: 2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. *Resuscitation*, *81*, e71-e85.
- Wassertheil, J., Keane, G., Fisher, N., & Leditschke, J. (2000). Cardiac Arrest Outcomes at the Melbourne Cricket Ground and Shrine of Remembrance using a tiered response strategy - a forerunner to public access defibrillation. *Resuscitation*, *44*(2), 97-104.