

POSITION PAPER

NATIONAL ASSOCIATION OF EMS PHYSICIANS

EARLY DEFIBRILLATION

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Sudden cardiac death is a major public health problem, claiming as many as 350,000 lives each year in the United States.¹ Many who suffer sudden cardiac arrest can be successfully resuscitated if certain critical actions such as 9-1-1 access, bystander cardiopulmonary resuscitation, rapid defibrillation, and prehospital advanced life support are accomplished in a timely and effective manner. Since rapid defibrillation is the most critical of these interventions,² strategies to enhance survival should focus on reducing the interval from collapse to defibrillation.

The development of the automated external defibrillator (AED) has made it feasible to train and equip basic-level emergency responders with defibrillators and thus make early defibrillation more readily achievable. Available data indicate that AEDs can generally be effective when used by traditional (emergency medical services [EMS] and fire service)³ and some nontraditional (police, security, or

flight attendant)^{4,5} first responders.

Increased survival has been postulated if other nontraditional first responders (building managers or health club employees, for example) and minimally trained or untrained bystanders have access to AEDs. The use of AEDs by this group is a concept that holds promise, despite insufficient data to demonstrating effectiveness or safety. One important concern is that providing these groups with access to AEDs could result in potential delays in activation of the EMS system that may be detrimental to patient outcome.⁶

The vision of the National Association of EMS Physicians (NAEMSP) is that all victims of sudden cardiac arrest should have rapid defibrillation available. Each community must perform a needs assessment and make appropriate resource allocations to identify optimal AED deployment strategies. To explore the role of nontraditional AED providers, NAEMSP strongly encourages continuing scientific studies of the effectiveness, safety, and costs of AED programs. To enable cost-effective and appropriate public health policy decisions, cardiac arrest should be subject to the same epidemiologic scrutiny as are other reportable public health events.

Making AEDs available to nontraditional responders or minimally trained or untrained bystanders may be an effective strategy for achieving early defibrillation in certain communities. Regardless of the deployment strategy, there must be strong medical direction

for each AED program, and each community must also ensure these AED programs are integrated into the local EMS system and included in quality assurance activities. Integration of AED programs into existing EMS systems is essential to ensure there are minimal delays in activating and transitioning care to the EMS system. State and federal governments must support persons who do not have a "duty to respond" by developing or revising Good Samaritan laws to protect them from liability for good faith use of AEDs.⁷

References

1. Nichol G, Hallstrom AP, Ornato JP, et al. Potential cost-effectiveness of public access defibrillation in the United States. *Circulation*. 1998;97:1315-20.
2. Valenzuela TD, Roe DJ, Cretin S, Spaite DW, Larsen MP. Estimating effectiveness of cardiac arrest interventions. A logistic regression survival model. *Circulation*. 1997;96:3308-13.
3. Auble TE, Menegazzi JJ, Paris PM. Effect of out-of-hospital defibrillation by basic life support providers on cardiac arrest mortality: a metaanalysis. *Ann Emerg Med*. 1995;25:642-8.
4. White RD, Asplin BR, Bugliosi TF, Hankins DG. High discharge survival rate after out-of-hospital ventricular fibrillation with rapid defibrillation by police and paramedics. *Ann Emerg Med*. 1996;28:480-5.
5. Valenzuela TD, Bjerke HS, Clark LL, Hardman R, Spaite DW, Nichol G. Rapid defibrillation by nontraditional responders: the casino project [abstract]. *Acad Emerg Med*. 1998;5:414-5.
6. Nichol G, Hallstrom AP, Kerber R, et al. American Heart Association report on the second public access defibrillation conference, April 17-19, 1997. *Circulation*. 1998;97:1309-14.
7. Ornato JP, Hankins DG. Public-access defibrillation. *Prehosp Emerg Care*. 1999;3:297-302.

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