

066.
Automated Defibrillation by Police First-Responders: Device and Operator Performance

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Purpose: We sought to describe device and operator performance during a three-year study of automatic external defibrillator (AED) use by police first-responders.

Methods: This was a prospective, consecutive case series of AED applications in seven suburban communities (population = 142,000). Two hundred police first-responders were trained to use the LifePak 300® semi-automatic defibrillator. We included AED uses by police from February 1992 through January 1995. We collected data from dispatch logs, EMS patient records, AED voice and EKG recordings, and police and EMS study data sheets.

Results: Police applied the AED to 128 patients. Four uses were excluded due to insufficient data. Three uses were inappropriate (two patients with pulses; one with major trauma). The AED failed to advise shock of VF in four cases

Operator Performance

<i>Critical Action</i>	<i>Correct/Total</i>
Airway management	106/124 (85%)
Pad placement	120/124 (97%)
Analysis within 2 min. of arrival	102/124 (82%)
Shock within 30 secs. of prompt	81/81 (100%)
“Clear” patient before shock	81/81 (100%)
Re-analysis within 15 seconds of shock	81/81 (100%)
CPR if “no shock” advised	83/124 (67%)

Device Performance

<i>Critical Action</i>	<i>Correct/Total</i>
Mechanical function	119/124 (96%)
Properly advise shock	81/85 (95%)
Properly advise “no shock”	256/256 (100%)
Motion detector function	338/339 (99%)

Conclusion: We found a low but significant number of AED device errors. Police performed six of seven critical actions properly >80% of attempts. Training should emphasize doing CPR after “no shock” advisory and prompt initial analysis. Defibrillation by police is feasible in selected communities.

065.
Law Enforcement Agencies and Out-of-Hospital Emergency Medical Care: A National Survey

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Purpose: Previous studies have demonstrated that law enforcement officers can be trained successfully to use automatic external defibrillators (AED) and reduce response time to cardiac arrests. We sought to determine the current level of interest and involvement by law enforcement agencies in working together with emergency medical services (EMS) to enhance out-of-hospital resuscitation capabilities.

Methods: A 20-question survey was mailed nationwide to 800 randomly selected police chiefs and sheriffs from an American Police Hall of Fame and Museum mailing list. Survey questions requested community and EMS system descriptions, indications of current agency EMS involvement, and attitudes regarding increased involvement as EMS first-responders.

Results: Of the 800 surveys mailed, 17 were returned by the post office, resulting in 783(N) received by the addressee. We received 414 completed surveys (53.9%). The respondents served a total population of 12,612,420. The median population served was 6,000 (min = 260, max = 1.5 million). Responses indicated that 241 (58.2%) agencies routinely respond to some emergency medical situations and that 161 (38.9%) provide some level of care. Only eight (1.9%) of the respondents currently employ AEDs, yet 56 (13.5%) indicated that in the majority of cases, they have a shorter response time than EMS. Each of these 56 respondents also expressed willingness to receive more training and expand their current role in EMS. Enhanced public image was thought to be a benefit of EMS-related activities by 253 (61.1%) of respondents.

Conclusion: The survey results indicate that there is substantial involvement of law enforcement agencies in out-of-hospital EMS and that most agencies would support additional training and an increased role in EMS.