American Red Cross

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Advisory Council on
First Aid, Aquatics,
Safety and Preparedness

ACFASP Advisory

Minimally Trained Witness Defibrillation Efficacy

Overall Recommendation including any Standard, Guideline or Option:

Standards: Minimally trained witness defibrillation programs are effective in reducing mortality from sudden cardiac death. Public access defibrillation (PAD) programs should be implemented in targeted locations (Class I).

Guidelines: None.

Options: None.

Questions to be addressed:

For patients suffering out-of-hospital cardiac arrests, if the arrest occurs in a venue with PAD available, compared to arrests that occur in venues without PAD available, are rates of survival to hospital discharge different?

Introduction/Overview:

We performed a structured review of the literature from the PubMed database. This resulted in 41 articles that we retrieved and evaluated. Each article was included if germane to our topic, and then graded for level of evidence (LOE) and quality of the study. We found one study that was LOE 1a (Population based studies, randomized prospective studies or meta-analyses of multiple studies with substantial effects), 3 that were 2b (Historic, non-randomized, cohort or case-control studies); 1 were LOE 2c (Case series: convenience sample epidemiological studies), and 4 were LOE 3a or 3b (observational studies).

Summary:

Published reports suggest that 42% of patients treated with PAD survive to hospital discharge in carefully controlled settings. The PAD trial, a large, controlled interventional trial, demonstrated a statistically significant 11% reduction in risk of death before hospital discharge for patients suffering heart arrest of presumed cardiac cause in settings with a PAD program compared to areas trained for CPR only. This demonstrates that Minimally Trained Witness Defibrillation does improve survival to hospital discharge from witnessed out-of-hospital cardiac arrest due to ventricular fibrillation or ventricular tachycardia.

Approved by ACFASP June 2009