



Public Access Defibrillation Trial

PAD CTC Press Release

The Public Access Defibrillation (PAD) Trial was undertaken to determine whether deployment of automated external defibrillators (AEDs) in public locations would increase survival following out-of-hospital cardiac arrest. The trial was sponsored by the National Heart, Lung, and Blood Institute with additional financial support from the American Heart Association, Medtronic, Inc., and Guidant Corporation, and with materials supplied by Laerdal (CPR barrier devices), the American Heart Association (training materials/certification cards), Cardiac Science/Survivalink (AEDs), Medtronic Physio-Control (AEDs), and Philips Medical Systems (AEDs).

Between July 2000 and January 2002, 993 public facilities were enrolled to participate in the study in 21 centers in the United States and 3 centers in Canada. Volunteers at participating centers received training in cardiopulmonary resuscitation (CPR). In addition, volunteers in one-half of the facilities (randomly chosen) received access to, and training in, the use of AEDs.

Approximately 20,000 volunteers were initially trained (average 20/facility; range 10 to 36). Of these, 48% were retrained after an average of 5.5 months, and 20% received a second retraining at an average of 9.8 months from the first retraining. A total of ~1500 AEDs were deployed (average 3/facility; range 1 to 16). Follow-up in the study ended September 30, 2003, by which time there were ~1805 facility-years of exposure accumulated.

Preliminary results are based on a total of 292 attempted resuscitations, yielding an approximate rate per facility year of 0.15. This means that a typical facility that participated in the PAD Trial could expect to see one treatable cardiac arrest every 6.7 years. There were 44 survivors from among these cardiac arrest patients, 15 in the CPR arm and 29 in the CPR+AED arm. This difference is statistically significant, $p = 0.042$. Serious adverse effects were rarely reported. No volunteers received inadvertent shocks, and no patients were shocked unnecessarily. AED maintenance problems were infrequent. A few participating volunteers reported severe stress related to responding to emergency situations.

Although residential complexes represented 16% of the units and 29% of the treatable cardiac arrests, only 5% of the survivors were from residential complexes. Such information should be helpful for individual facilities that are considering implementing PAD programs. Analysis is ongoing to evaluate cost and cost-effectiveness of these programs, and long-term survival, neurologic function, and quality of life of long-term survivors

We would like to take this opportunity to thank the participating PAD facilities and the many thousands of volunteers who made this study possible. The centers that participated included:

Intermountain Injury Control Research Center, University of Utah, Salt Lake City, UT: N. Clay Mann, PhD.

Wayne State University, Detroit, MI: Robert Zalenski, MD.

Oregon Health & Science University, Portland, OR: Mohamud Daya, MD.

University of Chicago Hospitals, Chicago, IL: Lance B. Becker, MD.

St. Paul's Hospital, Vancouver, British Columbia, Canada: Jim Christenson, MD.

Stony Brook University, Stony Brook, NY: Mark C. Henry, MD.

University of Cincinnati, Cincinnati, OH: Jonathan Van Zile, MD.

Christiana Health Care Services, Newark, Delaware: Robert E. O'Connor, M.D.

Mission Hospital, Mission Viejo, CA, and Orange County EMS: Stephen Ehrlich, MD.
University of Alberta/City of Edmonton, Alberta, Canada: Andrew Travers, MD.
University of Alabama at Birmingham, Birmingham, AL: Thomas E. Terndrup, MD.
Indiana University, Indianapolis, IN: William J. Groh, MD.
Institute of Critical Care Medicine, Palm Springs, CA: Max Harry Weil, MD, PhD.
Riverside County Emergency Medical Services, Riverside, CA: Michael Osur, MBA, EMT-P.
Arizona Heart Institute, Phoenix, AZ: Krishnaswami Vijayaraghavan, MD.
University of Pittsburgh School of Medicine, Pittsburgh, PA: Vince N. Mosesso, Jr., MD.
East Coast Clinical Research, LLC, Virginia Beach, VA: Richard A. Craven, MD.
Mount Sinai School of Medicine, New York, NY: Lynne D. Richardson, MD, FACEP.
Calgary Emergency Medical Services, Calgary, Alberta, Canada: Andy R. Anton, MD.
SUNY Upstate Medical University Hospital, Syracuse, NY: David B. Reed, MD.
Hennepin County Medical Center, Minneapolis, MN: Brian D. Mahoney, MD, FACEP.
Medical College of Virginia, Richmond, VA: Mary Ann Peberdy, MD.
Seattle-King County, Seattle, WA: Richard O. Cummins, MD.
Medical College of Wisconsin, Milwaukee, WI: Tom P. Aufderheide, MD.
George Washington University, Washington, D.C.: P. Jacob Varghese, M.D.

The study was coordinated at the University of Washington by Al Hallstrom, Principal Investigator. The NHLBI project officer was Eleanor Schron.