

Media Contact: Connie Piloto
214-648-3404
connie.piloto@utsouthwestern.edu

Study finds 30-minute CPR classes just as effective as multi-hour courses

DALLAS – July 25, 2007 – UT Southwestern Medical Center researchers have found that a user-friendly, 30-minute, video-based cardiopulmonary resuscitation training session is just as effective as the traditional three- to four-hour course in teaching basic life-saving techniques to laypersons. In addition, at six months after the training – a critical point for CPR skill retention – those who took the shorter course performed CPR and used an automated external defibrillator (AED) just as well or better than those who take the traditional training.

These findings, published in the August issue of the journal *Resuscitation*, are the first to evaluate and document the effectiveness of long-term retention of the new 30-minute CPR-AED training.

“The results of this formal investigation should not only facilitate more widespread training and frequent re-training in CPR techniques, but it also diminishes some of the inefficiencies and labor-intensity inherent in traditional CPR training,” said Dr. Paul Pepe, chief of emergency medicine at UT Southwestern.

Traditional CPR courses last half a day, as six to eight people take turns practicing their skills on a shared manikin. The remainder of the time is spent listening to instruction, leaving little time for skills practice, the researchers report.

“Using individualized kits, the trainees can focus on uninterrupted skills practice and develop muscle memory from more intensive, focused and reiterative practice,” said Dr. Pepe.

The shorter course is much more convenient and easily accessible, said Dr. Lynn Roppolo, assistant professor of emergency medicine and lead author of the study.

“Individuals practice while they learn, allowing more time to perform and retain the critical hands-on skills required to provide more effective CPR,” Dr. Roppolo said. “All of these factors will likely translate into more people knowing what to do – and doing it right – whenever CPR is needed. As a result, hopefully, many more lives will be saved in years to come.”

For the study, volunteers recruited in Fort Worth were selected randomly to take either the 30-minute course or a traditional three-hour session.

The short course consisted of a 23-minute digital video disc program, developed by the

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American Heart Association, which covers basic adult CPR skills, including recognition of signs of life, calling for help, opening the airway, rescue breaths and chest compressions.

As two dozen or more students watched the video in each session simultaneously, they practiced the CPR techniques almost continuously for nearly 20 minutes on their own personal mini-manikin, supervised by a “facilitator” who generally only needed to answer an occasional question from the trainees once the DVD was started.

Also included was a three-minute discussion and demonstration on the recognition of and best procedures for choking, as well as a five-minute demonstration of the use of an AED.

In the traditional course, students attended a three-hour session consisting of lectures supplemented by related video-based instruction, practice of basic CPR skills, choking procedures and instruction and hands-on practice in the use of an AED. During this course, there was one certified instructor for every six to eight students during the skills practice.

After their respective training, the students from both groups were tested using a life-sized manikin, which was connected to a laptop computer that objectively measured parameters such as the rate and depth of ventilations and chest compressions.

In addition to the computer measurements, overall CPR performance and AED use were videotaped and later judged as being appropriate by CPR training experts, who graded each study participant without knowing whether the he or she had taken the half-hour course or the traditional training.

Immediately after taking the class, there were no significant differences in CPR performance between the students who took the three-hour course as compared to those who took the 30-minute course.

After six months, however, trainees who took the 30-minute course called 9-1-1 and provided adequate ventilation more frequently than those who took the longer course. Also, both at the initial and six-month follow-up test, the students who took the traditional course took 30 percent longer to assess for signs of life, and they took significantly more time to pause between chest compressions to perform ventilations.

In grading AED use immediately after the courses, the trainees who took the 30-minute course placed the AED pads and delivered a shock correctly in 98 percent of the cases, compared to 92 percent of those who took the longer course. Moreover, at the critical six-month follow-up, 93 percent

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of those in the half-hour course still operated the AED well and 93 percent were still judged to be performing chest compressions adequately.

“The results of this investigation were very compelling. This study suggests that hands-on practice is not necessary to learn how to operate an AED, a device that directly provides the rescuer with vocal instructions once it is turned on,” said Dr. Roppolo. “Thus, training tools that utilize cognitive modes, such as the Internet and DVD demonstrations, may be just as effective.”

Other UT Southwestern researchers contributing to the study included Dr. Ahamed Idris, professor of emergency medicine, and Dr. Ronna Miller, assistant professor of emergency medicine.

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