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A Non-Profit Cooperative to Improve Health Care and Reduce Members' Costs

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Assessment of Healthcare Provider Level CPR Proficiency for Students Entering the Emergency Medical Technician Basic Program

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Introduction:

The US Department of Transportation requires students to be CPR certified before starting the 110-hour EMT-Basic course. The American Heart Association's 2005 Emergency Cardiac Care guidelines focus on the importance of good high quality CPR for successful resuscitation. Many studies show CPR is the single most important link in the Chain of Survival.

Hypothesis:

Most CPR certified students can not demonstrate CPR proficiency upon starting an EMT-B program.

Methods:

This prospective study evaluated student proficiency in performing one-rescuer Healthcare Provider Adult CPR and using an AED. AHA instructors used a standardized skill sheet of AHA established criteria. The study group consisted of 406 EMT-Basic students. This study was conducted from June 1, 2007 through May 31, 2008.

Study data included three subsets of CPR: initial assessment, chest compressions and use of the AED. Each subset included three to four critical tasks. Proficiency was defined as correctly performing all 11 critical tasks. Initial breathing, pulse checks and delivery of compressions were timed.

Results:

Only 18.97% of the students (77 of 406) demonstrated CPR proficiency. An average of 4.12 critical errors were made per student. Only 26.4% of the students committed 2 or less critical errors and 26.7% had 6 or more. The weakest skill subset was initial assessment. The strongest skill was AED use. The most common critical error was omitting an initial assessment step (missed by 60.1% of the students), followed by poor timing (missed by 46.8%) and AED safety issues (missed by 42.6%). Only 60% of the students demonstrated adequate breathing and pulse checks in the initial assessment with 97% of the incorrect checks being too fast. Only 58% (238 of 406) of the students delivered 30 compressions within the acceptable range of 15 to 23 seconds.

Conclusion & Recommendations:

Less than one in five students demonstrated CPR proficiency. CPR is an essential component of successful resuscitation; therefore CPR skills should be practiced within the EMT-B program and should be incorporated into revisions of the National Department of Transportation EMT-B curriculum.