

Heel compressions quadruple the number of people who can perform chest compressions for ten minutes.

Abstract:

Objective: To evaluate whether chest compressions using the heel provide a more effective method than manual compressions for bystanders.

Methods: This is a cross-sectional observational comparison study where each subject acted as his or her own control. A 49-person cohort whose age distribution approximated that of sudden cardiac arrest (“SCA”) victims, were asked to perform ten minutes of five cm manual compressions on a CPR manikin at 100 compressions per minute. The compression rate and the endurance of each subject were recorded. The same subject was then asked to perform ten minutes of heel compressions at the same depth and rate.

Results: Sixteen percent of the cohort performed compliant manual compressions for ten minutes versus sixty-five percent using heel compressions. Twenty-four percent of the subjects were not heavy enough to get compliant depth with manual vs. two percent with heel compressions, and six percent could not get down on the floor to attempt manual compressions.

Discussion: Most cardiac arrests occur in private residences. If there is a witness, his or her age usually approximates that of the victim. Heel compressions are useful in situations where a lone rescuer cannot get down on the floor, cannot compress the chest to guideline depth because of an infirmity or lack of weight, or becomes too tired to continue manual compressions. Heel compressions significantly increase the bystander population’s ability to provide effective, uninterrupted compressions until EMS arrival.

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Key words:

1. Foot / Leg Chest Compression
2. Cardiopulmonary Resuscitation
3. Bystander CPR