



Does length of use of CPR feedback devices affect CPR quality?



Baldi E, Contri E, Somaschini A, Cornara S, Fina D, Dossena C, Borio G, Di Maggio M, Epis F, Toscano G

Pavia nel Cuore, IRC-COM training center; Robbio nel Cuore, IRC-COM training center

Purpose

CPR feedback devices are useful to improve CPR quality in BLS-D training, even if it is not known the amount of time they need to be used. In this study we compare the results of using CPR feedback devices for 2-mins and 20-mins.

Methods

We evaluated 1-min compression-only CPR quality using a wireless skill evaluator manikin at the end of two different 5-hour lay-rescuers BLS-D courses (performed according to ILCOR 2010 Guidelines). Course A consisted of 20-minutes training per person with real-time visual feedback by a skill evaluator software, whilst Course B consisted of 2-minutes per person only. The parameters we considered were Total CPR Score (a comprehensive scoring algorithm developed with the collaboration of AHA ECC Subcommittees), number of compressions per minute, percentage of correctly released compressions, compression mean depth and percentage of compressions with correct hand position.

Results

Course A consisted of 111 people (66.7% males; mean age 37.8 ± 11.7 years), whilst Course B consisted of 223 people (53.4% females; mean age 33.9 ± 14.1 years). Sex, weight, height and BMI were not significantly related to Total CPR Score. There was no statistically significant difference (calculated with Mann-Whitney test) between Course A and Course B in Total CPR Score (95% (95%CI, 93.7-97) vs 95% (95%CI, 93-95), $p=0.17$), number of compressions per minute (118 (95%CI, 116-119) vs 119 (95%CI, 118-120), $p=0.25$), percentage of correctly released compressions (97% (95%CI, 95.7-99 vs 97% (95%CI, 96-98.6), $p=0.70$), compression mean depth (53 mm (95%CI, 52.7-54) vs 54 mm (95%CI, 53-55), $p=0.56$) and percentage of compressions with correct hand position (100% (95%CI, 100-100) vs 100% (95%CI, 100-100), $p=0.61$).

Population characteristic

Characteristic	Course A	Course B
Number	111	223
Males (%)	66.7%	46.6%
Age	37.8 ± 11.7	33.9 ± 14.1
Sex, weight, height and BMI were not significantly related to Total CPR Score		

Conclusions

There was no significant difference between 20-minutes and 2-minutes visual feedback to improve CPR quality. It seems that the use of the feedback device itself, not how long it is used for, has a key role for CPR quality improvement.

