

Resuscitation Science Symposium 2015 Session Title: ReSS Poster Session - Day 3, Section 02

Abstract 18403: In-hospital Evaluation of Low-Dose - High Frequency, Case Based Psychomotor Cardiopulmonary Resuscitation Training Demonstrates High Levels of Program Compliance With Good CPR Quality Metrics

Ashish R Panchal¹; Gregory Norton²; Emily Gibbons¹;
Ruchika Husa³; David E Slattery⁴; Michael C Kurz⁵

Author Affiliations

¹*Emergency Medicine, The Ohio State Univ Wexner Med Cntr, Columbus, OH*

²*Education, Development and Resources, The Ohio State Univ Wexner Med Cntr, Columbus, OH*

³*Internal Medicine, Div of Cardiology, The Ohio State Univ Wexner Med Cntr, Columbus, OH*

⁴*Emergency Medicine, Univ of Nevada Sch of Medicine, Las Vegas, NV*

⁵*Emergency Medicine, Univ of Alabama Sch of Medicine, Birmingham, AL*

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Abstract

Background: High quality CPR is critical for survival from cardiac arrest. However, for many providers the opportunity to perform CPR, whether in a training or a clinical situation, is too infrequent to maintain proficiency. Low-dose, high-frequency case based simulation has been proposed as a method to maintain proficiency for low volume, high-risk medical procedures. We sought to evaluate the feasibility and compliance with a novel low-dose, high-frequency case based psychomotor cardiopulmonary resuscitation training at a mobile simulation station in an in-hospital setting (Resuscitation Quality Improvement® [RQI®], American Heart Association, Dallas, TX).

Methods: The RQI system was piloted on two nursing units in a university teaching hospital. The Simulation station was placed in the nursing units with quarterly activities integrated into normal clinical duties. Evaluation of the system focused on staff compliance and evaluation of CPR quality metrics of compression (depth, rate, and release) and ventilations (tidal volume, rate adequacy). Descriptive statistics are presented as means with standard deviations.

Results: The program was launched in October 2014 with 100 nurses enrolled. Program compliance with last quarter 2014 and first quarter 2015 were 97.1% and 97.2%, respectively. Lack of compliance was due primarily to medical leave exemptions with 1 delinquent participant per quarter. Mean compression depth was 53 ± 3 mm; mean compression rate of 110 ± 9 cpm; percent of adequate compressions of $96 \pm 4\%$; and percent of adequate release of $99 \pm 1\%$. Ventilation data demonstrated mean tidal volumes of 521 ± 69 ml; mean ventilation rates of 11 ± 2 bpm; and percent of adequate ventilations of $85 \pm 18\%$.

Conclusions: Low-dose, high-frequency case based psychomotor cardiopulmonary resuscitation training is a feasible method to enhance CPR skill retention in the hospital setting. Program compliance was high through two quarters of training. Performance metrics demonstrate high quality CPR after 2 quarters of exercises indicating CPR skill retention. Further research is necessary to evaluate skill retention over longer periods and the program's effect on clinical outcome variables.

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