Evaluation of the Heart Code™ ACLS Interactive Learning System for Recertification of Attending Anesthesiologists

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Introduction

The Heartcode™ Interactive Learning System is produced by Laerdal Medical Corporation for the American Heart Association (AHA) to facilitate recertification in Advanced Cardiac Life Support (ACLS). The Heartcode™ software (version 4.1) consists of extensive video, text and simulation material for review. Testing consists of static EKG rhythm recognition, 9 interactive core cases based on the AHA's *ACLS Provider Manual*, a 33 question written examination, and an interactive "Megacode" involving multiple arrhythmias. A mannequin for testing basic airway and intubation skills is included in the package but was not evaluated as these skills are routinely reviewed in the OR setting. A departmental manual covering the major concepts and protocols of ACLS was developed. In addition, a coach familiar with the Heartcode™ system was available during the interaction with the software. We evaluated the Heartcode™ software in terms of time commitment for completion, long-term retention of ACLS material and test-taker satisfaction.

Methods

Attending anesthesiologists at NY Methodist Hospital requiring ACLS recertification (n=22) participated in the evaluation. They completed the same ten-question quiz immediately before using the Heartcode™ system, immediately following completion, and again six months later. The quiz tested basic and advanced ACLS concepts, as well as the latest changes to the protocol. Two of the questions tested very fine, esoteric distinctions between the old and new ACLS protocols. Time spent using the Heartcode™ software by each participant was tracked. At the six month interval, participants completed a 21 question survey consisting of questions about prior experience with ACLS certification, use of ACLS concepts, and satisfaction (rated on a 5-point Likert scale) with the Heartcode™ system experience.

Result

All 22 anesthesiologists successfully completed the ACLS recertification course. Participants spent an average of 3 hours 27 minutes in preparation and 1 hour 45 minutes to complete testing. They felt that this represented a time savings vs. a classroom based system (3.7/5). There was modest but statistically insignificant improvement in recall of ACLS concepts immediately following the testing session (55% to 62%). That improvement was not sustained at the six month interval (52%). There was high overall satisfaction (4.2/5) with the Heartcode™ software. The participants found the software easy to use (3.7/5) and preferred it to live classroom testing (4.0/5). They felt that having a manual was valuable in reviewing the material prior to testing (4.0/5). Using the software to review previously learned concepts (3.4/5) and to learn new material (3.5/5) was also helpful. Almost all (19/22) of the surveyed anesthesiologists indicated a preference for using the software for future recertification

Discussion

The Heartcode™ system proved to be a popular, time-saving method for ACLS recertification. A departmental manual for concise review of basic concepts and protocol changes as well as a coach to navigate through the unfamiliar software were useful adjuncts to the system. The whole process prompted discussion within the department. However, more frequent review of ACLS concepts may be warranted.

References:

1. Doyle DJ. CD-ROM Review: ACLS HeartCode. *Can J Anaesth* 2002; 49(9):997-9.