

[ET-41] Development and Validation of an Application for Smart Phones: A Cognitive Aid for Anesthesia Residents on the Pediatric Anesthesia Rotation.

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The use of cognitive aids has been shown to improve caregiver performance across many fields of medicine when applied in simulated crisis situations (1-3). These cognitive aids come in the form of institutionally created visual aids and checklists, as well as nationally recognized aids such as pocket cards created by the American Heart Association Pediatric Life Support. The success of these aids in improving patient care and caregiver preparedness for particular situations lies in user awareness of cognitive aid existence, ease of access to the aid, reliability and completeness of information (4).

Anesthesia residents new to pediatric anesthesiology often underutilize available traditional resources in preparing for daily cases. Using a free available internet program, we developed an application for personal smart phones that contains rotation expectations, useful general pediatric information, and a log of common pediatric cases, each with a brief case discussion and description. We hypothesized that this method of delivering information would be beneficial for anesthesia residents because of its targeted information and unique accessibility. Anesthesia residents at all levels downloaded the application to their smart phones. Usage was tracked by measuring the number of times the residents accessed the application. Resident attitudes and preferences were assessed using an anonymous survey that addressed the quality of the content of the information provided, the presentation modality and the ease of use of this application compared to traditional resources.

One hundred percent of residents who responded to the initial survey assessing resident interest preferred the use of a smart phone application over more traditional modes of gathering information, such as textbooks and internet/intranet resources. Moreover, the residents who had experienced some or all of their pediatric rotation before the application was available felt better prepared for pediatric cases after utilizing the application as a cognitive aid, and strongly suggested we develop similar applications for other subspecialty rotations.

*IRB approval for this study was obtained.

References:

1. Burden AR, Carr ZJ, Staman GW, Littman JJ, Torjman MC. Does every code need a "reader?" improvement of rare event management with a cognitive aid "reader" during a simulated emergency: a pilot study. *Simul Healthc*. 2012 Feb;7(1):1-9
 2. Nelson KL, Shilkofski NA, Haggerty JA, Saliski M, Hunt EA. The use of cognitive AIDS during simulated pediatric cardiopulmonary arrests. *Simul Healthc*. 2008 Fall;3(3):138-45
 3. Harrison TK, Manser T, Howard SK, Gaba DM. Use of cognitive aids in a simulated anesthetic crisis. *Anesth Analg*. 2006 Sep;103(3):551-6.
 4. Neily J, DeRosier JM, Mills PD, Bishop MJ, Weeks WB, Bagian JP. Awareness and use of a cognitive aid for anesthesiology. *Jt Comm J Qual Patient Saf*. 2007 Aug;33(8):502-11
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