Identification and Instruction of Core ECG Interpretation Skills Necessary for Emergency Medicine Residency Readiness

**Principal Investigator:** Trent Reed, DO

Co-investigators/collaborators: S Lovett, D Holt, Amy Hoyt, William Adams, MA

Emergency Medicine faculty respondents identified 20 core ECG findings imperative for a first year Emergency Medicine resident to recognize. Our flipped classroom approach was effective in enhancing senior medical students’ recognition and retention of these core ECG findings.

**Presentations:**

Simulation-Based Mastery Learning Improves Medical Student Performance and Retention of Core Clinical Skills

**Principal Investigator: Trent Reed, DO**


We employed a Simulation-based mastery learning (SBML) method that includes an asynchronous knowledge acquisition part and a hands-on skill acquisition part with simulation to assess senior medical student performance and retention of six core clinical skills: (a) ultrasound-guided peripheral IV placement, (b) basic skin laceration repair, (c) chest compressions, (d) bag-valve mask ventilation, (e) defibrillator management, and (f) code leadership. We concluded that SBML is an effective way for senior medical students to learn and retain emergency medicine clinical skills, even when one-third of the SBML program is asynchronous.

**Publications**


**Presentations**


McHugh M, Reed T, Hoyt A, Quinones D, Pirotte M, Lovett S, Oh L. Simulation-based Mastery Learning Improves Cardiac Arrest Skills Attainment and Retention for Senior Medical Students. Poster Presentation, Society for Academic Emergency Medicine National Conference, San Diego, CA; 2015 May
Reed T, McHugh M, Pirotte M, Oh L, Lovett S, Quinones D, Hoyt A. Simulation-Based Mastery Learning as a Method to Enhance Readiness For Emergency Medicine Residency. Presentation, Council of Emergency Medicine Residency Directors Academic Assembly, Phoenix, AZ; 2015 April


Reed T, Hoyt A, Quinones D. Improve Simulation Education Efficiency: Conceptual and Technical Aspects of Using Asynchronous Education to Achieve Mastery Learning, Presentation, Chicago Simulation Consortium Conference, Loyola University Chicago, Maywood, IL; 2014 August

Grant
2014 Washington Square Grant ($23,940)
Readiness for Residency: Mastery learning of essential clinical skills during the fourth year of medical school (PI: Gregory Gruener, MD, MBA, Senior Associate Dean, SSOM)

Simulation Using TeamSTEPPS to Promote Interprofessional Education and Collaborative Practice

Principal Investigator: Trent Reed, DO

Co-investigators/collaborators: Tricia Leann Horsley, PhD, RN, Keith Muccino, MD, Donna Quinones, Viva Siddall, J McCarthy, William Adams, MA, William McGaghie

This study sought to assess whether TeamSTEPPS training using simulation-based reinforced learning could improve medical and nursing student (N = 201) knowledge of TeamSTEPPS principles, self-efficacy towards interprofessional collaborative practice, and team performance in a simulated patient environment. The educational approach adopted for this study included an asynchronous online learning module, followed by face-to-face high fidelity simulation with debriefing, a reinforced learning discussion, and finally a second high fidelity simulation with debriefing. This study was able to demonstrate significant improvement in all of the targeted measurements including knowledge of TeamSTEPPS principles, self-efficacy, and team performance in a simulated patient care environment.

Publications
http://journals.lww.com/nurseeducatoronline/Abstract/publishahead/Simulation_Using_TeamSTEPPS_to_Promote.99766.aspx


Presentations
Reed T, Horsley TL. “Creating Better Teams with TeamSTEPPS”, Workshop for medical, nursing, and dietetic students, Loyola University Chicago Health Sciences Division; 2016, June

Horsely, L, Muccino K, Reed T, Quinones D, Siddall, V, McCarthy, J, McGaghie W. Simulation Utilizing TeamSTEPPS to Promote Interprofessional Education & Collaborative Practice. Presentation, Collaborating Across Boarders Conference, Roanoke, VA; 2015 September

Muccino K, Reed T, Quinones D. Simulation Using TeamSTEPPS to Promote Interprofessional Education and Collaborative Practice – A Prospective Multi-site Study. Presentation, 11th Annual Clinical Skills Education Chicago Style Conference, University of Illinois Chicago College of Medicine, Chicago IL; 2013 August

Grant
2015-2016 Marcella Niehoff School of Nursing Research Startup Funds ($15,000)
Building a Culture of Safety through TeamSTEPPS Simulation Training for Health Care Professionals (PI: Trisha Leann Horsley, PhD, RN)
We studied an interprofessional group of practicing providers to assess TeamSTEPPS knowledge, skills, and self-efficacy pre and post simulation-based training.