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2020 SAEMF/Clerkship Directors in Emergency Medicine (CDEM) Innovations in Undergraduate Emergency Medicine Education Grant- $5,000
"Teddy Bear Sim: A randomized study of a novel curriculum for EM clerkships"

Our project was designed to serve as both an educational initiative as well as a prospective research study to evaluate the use of low fidelity simulation as the primary didactic adjunct for an emergency medicine clerkship curriculum. In line with national standards, the course lasts four weeks and is designed to give advanced medical students a clinical and academic introduction to the field of emergency medicine with modules addressing four of the field's core subjects: shock, abdominal pain, chest pain and shortness of breath. The sessions were taught via a table top simulation design utilizing teddy bears as the primary learning simulators.

In order to evaluate our curriculum and its unique learning modality a prospective, crossover, control trial was designed comparing objective acquisition of clinical knowledge, and subjective student perceptions of their own educational experiences between our teddy bear (table top) simulation sessions and more traditional small group-based learning activities. The curriculum and research study were first piloted during the 2018 academic year where participating students experienced both the program's low fidelity simulation experiences as well as traditional small-group didactics. The success of the curriculum during that calendar-year led to the decision for its adoption as the primary educational didactic for the 2019 academic year.

For the 2019 academic year it was decided that the control learning modality would be high-fidelity simulation experiences utilizing both interactive manikins and advanced task trainers. The design of our interventional course curriculum and research protocol are otherwise unchanged from the year prior. As with the 2018 students, the 2019 students will each participate in two interventional (table-top) simulation exercises and two control (high-fidelity simulated) experiences varying between educational subjects based on our previously designed protocol. In line with the previous year's study design, outcomes were based on comparing pretest and posttest analysis of learning outcomes as well as survey data collected from participants. One of our primary task simulators will focus on bedside ultrasonography in the module related to circulatory shock for which we plan to heavily utilize the advanced SIMUlab SonoMan trainer.

We hypothesize that low fidelity simulation can offer a non-inferior educational experience to high fidelity models when assessing student perceptions and objective learning outcomes. Our hope is that this modality will enable wider use of low fidelity

simulation as a core didactic modality for emergency medicine clerkships.

As with the year prior, in order to minimize variables within each student cohort, all students in a given cohort will be evaluated on the same subjects taught through the same modality. The study has been approved by the IRB through January 2022. Revisions for additional cohorts are currently in review by the Einstein IRB.