



# The Use of Hi-Fidelity Mannequin for Status Epilepticus Simulation to Enhance Medical Student's Performance



Gulshan Uppal, MD, Bala Kondaiah Nimmana, MBBS, David Lardizabal, MD, Sean Lanigar, MD, Chris Sanders, Robert Bell PA, Pradeep Sahota, MD.

Department of Neurology, Russell D. and Mary B. Shelden Clinical Simulation Center, University of Missouri, Columbia

## RATIONALE:

Status Epilepticus (SE) is one of the most commonly occurring neurologic emergencies and there are about 200,000 episodes of SE in the US with a high mortality risk of around 22% and requires rapid effective treatment for optimal response to therapy and outcome and because of necessity to act fast and accurately, it is obviously frightening for the new learners. Using a Hi-fidelity manikins for simulation of SE ensures no harm to the real patients but definitely help improving the skills of the trainees which we wanted to show with our two year data collection and analysis.

## METHODS:

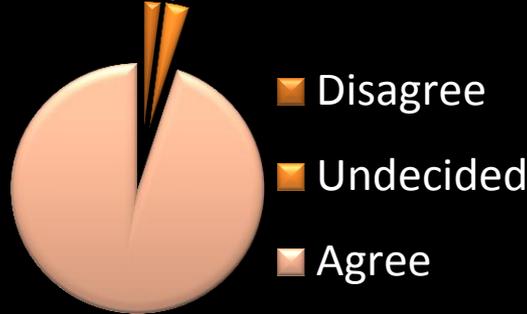
137 Third year medical students in the Neurology clerkship participated in AY 2011 and 2012 .

Phase 1: Self reading of a Article on SE (Status Epilepticus, Waterhouse,Elizabeth. CONTINUUM: Lifelong Learning in Neurology. Volume 16(3) Epilepsy. June 2010)

Phase 2: Students worked in groups of 3-4 for the management of Hi-Fidelity manikin with a provided history of a 35 yrs. old continuously seizing for 3 hrs.

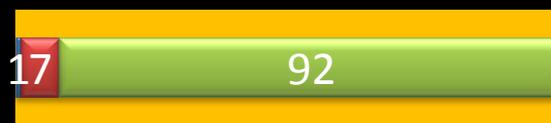
Phase 3: Post-Simulation questionnaire and Debriefing by clerkship director. After this the Students completed a survey about their experience with the simulation.

This method of learning experience will help me manage real life patients better



Quality and Realism of Simulation

■ Poor ■ Fair ■ Good/Excellent



This method of teaching is superior compare to regular teaching method?



## RESULTS:

The students performed remarkably well with scoring above 90% regarding definition of SE, loading dosage of phenytoin and lorazepam. About 95% of the students agreed that the simulation will help them manage real life patients better along with better understanding of health care practices; also they felt that this way of learning is better than the regular didactic session and they will be able to remember the management protocol better. 50% of the students rated the overall experience as Excellent, 30% as Good and 20% as Adequate. The data collected in year 2011 and 2012 were almost consistent, showing some improvement in some regards in 2012.

## CONCLUSION:

Hi-fidelity simulation enables students to learn, practice, and repeat simulations for complex medical problems as often as necessary in order to correct mistakes, fine-tune skills, and optimize clinical outcomes without jeopardizing patient safety. The survey proves that more than 90% students feels that this way of learning is better than the didactic classroom teaching and helps them remember the management protocol too. We have been doing SE simulation since 2 years which is liked by the medical students. This way of learning will eventually improve patient care.