

Immersive high-fidelity simulation in perfusion education: Student perspective

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Background

Medical simulation has emerged as a powerful tool to provide a realistic and safe way for learners to acquire new skills prior to clinical encounters. In this model, the learning curve is overcome in the simulation environment, not on real patients. Perfusion programs have largely embraced simulation into their curriculum. The purpose of this paper is to describe from a students' perspective one program's use of immersive high-fidelity simulation to develop, measure and assure a pre-clinical skill set prior to clinical rotations.

Methods

In this model, immersive simulation is applied in the first 2.5 semesters. Initially, simulation is used to deconstruct cardiopulmonary bypass into its fundamental skills (technical and non-technical), to teach and practice the specific elements that exist within the skills. Knitting these fundamental CPB skills together leads to applied "full mission" simulated CPB with added details aligned with cardiac pathologies. Finally, using simulation, students are fully trained in crisis management with practice and assessment of high risk events such as oxygenator change-out, pump failure, air embolism, and emergent re-initiation of CPB.

Discussion

Recording these simulation sessions adds value of reviewing and self-critique. Using comprehensive rubrics, faculty lead competencies are performed mid-way and the end of the semesters to assure students are performing within appropriate ranges.

Conclusion

Completion of the immersive simulation phase of training is the gateway to the traditional clinical rotation. This pre-clinical preparation and skill acquisition compliments and augments the traditional model and is beneficial to the student, the clinical instructor and to the patient.

Reference 1:

Jenny Neal, Edward Darling, Jeff Riley, Bruce Searles, SUNY Upstate Medical University, Syracuse, NY