

A Pediatrics Resident Sedation Curriculum

Jacob Hemberger, MD

Lindsay Koressel, MD (mentor), Karen Mangold, MD, MEd, Dana Schinasi, MD

Background:

Pediatrics residents receive a small amount of formal education in sedation, analgesia, anxiolysis, and almost no formal education in pharmacology of procedural sedation and rapid-sequence intubation. Knowledge of in these topics is essential for effective practice across many pediatric specialties.

Educational Aim:

Improve resident knowledge of pharmacologic agents for procedural sedation and rapid sequence intubation to help prepare residents for fellowships and careers requiring knowledge of advanced sedation topics.

Curriculum Design:

Kern's Curriculum Development for Medical Education was used as a framework for curriculum design. The targeted learners were pediatrics residents interested in careers that require knowledge of advanced sedation topics. Needs assessments were performed to refine educational objectives and determine educational methods. A general needs assessment showed lack of formal education across various sedation topics, and a targeted needs assessment suggested basic sedation & anxiolysis and pharmacologic agents for procedural sedation & rapid-sequence intubation as the curriculum content.

The curriculum was designed using a flipped classroom model involving multiple educational methods to address various learning styles, maintain learner interest, and provide reinforcement of learning. The two key educational methods of the curriculum were an online self-guided learning module followed by a case-based learning session.

Learning was measured using a retrospective pre/post assessment. Learners rated knowledge of various sedation topics before and after curriculum participation. The survey included both knowledge and knowledge application questions. Data was analyzed using a paired t-test with a 95% CI.

Results and Conclusions:

Perceived learning scores increased in all domains. There was a greater difference in learning following case discussion compared to module, suggesting a case-based learning format may be a more effective educational method. All differences were statistically significant.

There were several limitations to data analysis, including small sample size, lack of learner participation in both curriculum components, recall bias inherent in the retrospective assessment, and social influences on assessment responses.

Future Directions:

- Dissemination of the curriculum to a broader resident cohort.
- Improved assessment methodology with traditional pre/post test & validated boards-style questions.
- Expansion of the curriculum to include a kidSTAR simulation to address psychomotor learning objectives and teach sedation preparation and safety.