

## [ET-30] The Pediatric Anesthesia Knowledge Exam: A Pilot Study

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### Introduction

With the establishment of ABMS certification and ACGME competency-based Milestones, formal assessment of medical knowledge in Pediatric Anesthesiology has become essential. Multiple-choice examinations, although limited, can be designed to assess fund of knowledge and identify areas of weakness. The Anesthesia Knowledge Test (AKT), a series of multiple-choice exams, was developed to assess anesthesia knowledge acquisition of the resident. Performance on the AKT correlates with passing rates on the anesthesiology written board examination. Currently, there is no such tool for the subspecialty of pediatric anesthesiology. We have created a series of multiple-choice exams to assess fund of knowledge and identify areas of weakness. Furthermore, we aimed to determine if providing feedback by identifying areas of deficiency would result in knowledge gains using pilot testing.

The Pediatric Anesthesia Comprehension Assessment (PACA) tool is a 150 multiple-choice question database encompassing the major subject areas of pediatric anesthesia. Keywords were generated for each question based on topic. We created serial exams to assess fellows at the 6 (PACA-6), and 11-month (PACA-11) training intervals. Each exam was organized based on complexity and depth of knowledge tested such that the degree of difficulty was appropriate for the level of training and targeted a 60% correct response.

### Methods

We pilot tested the PACA-6 and PACA-11 with 8 fellows through an internet-based platform. The PACA-6 was administered following completion of 6 months of fellowship. Keywords for the items answered incorrectly were distributed to each respective fellow following testing. The PACA-11 was then administered following completion of 11 months of training. Each fellow served as their own control. Significance was set at .05.

### Results

All trainees successfully completed both exams. Testing yielded a mean correct score of 56.8%  $\pm$  4.9 with the PACA-6 and 68.6%  $\pm$  2.7 with the PACA-11.

### Discussion

Here we demonstrate that a comprehensive assessment tool can be developed for pediatric anesthesiology fellows. Importantly, interval improvement where keywords had been provided suggests knowledge gains. Thus, with further development, the PACA has the potential to become a fundamental assessment tool in pediatric anesthesiology fellowship education.

### References:

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