**Improved Intraoperative Fluid Administrative Practices After An Educational Tutorial**

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**REFERENCES**


**BACKGROUND**

Intraoperative fluid management is a critical skill to have for all anesthesiologists, particularly those taking care of neonates and infants. There is little published literature on the efficacy of fluid management education among anesthesia providers despite the importance of the topic. We hypothesize that through a brief educational tutorial, anesthesia providers will develop a better understanding of fluid administration practices and potentially change future fluid administration practices.

**METHODS**

Anesthesia providers were asked to fill out a brief questionnaire that consisted of eight demographic questions. In addition to the demographic questions, the participants were given a nine-question quiz on the amount of fluid required to flush through various pediatric intravenous fluid apparatuses that were contained on sheets in a three ring binder. After the fluid quiz the providers were shown the correct answers and were allowed to review the quiz. This was followed by an educational tutorial consisting of a one-page document that contained pictures of the various IV tubing and connectors as well as the volumes contained within each. The tutorial was distributed throughout the pediatric ORs, emailed as well as placed in each participant’s physical mailbox. The subjects were then re-quizzed and the results compared to the initial quiz results. Data was collected in an anonymous fashion and results compared by analyzing the mean and standard deviation for each question.

**RESULTS**

Of the 69 providers surveyed in the pre test, 39% were residents, 30% attendings, 21% CRNAs, and 10% fellows. 83% of providers in the pre test reported that they document flushes less than 25% of the time. Only 16% of providers had previously participated in fluid administration education. After taking the pre-test 93% of providers surveyed reported they would change their future practices. The means and standard deviations for questions 1 through 9 on the pretest were calculated and compared to those from the post-test. The mean as well as the standard deviation for all questions except question 3 (22g angiocath) was decreased in the post-test compared to the pre-test. 66% of participants reported they had changed their clinical practice since taking the initial quiz, and 27% of participants reported they now document flushes more often than previous.

**CONCLUSION**

As demonstrated, a very small percentage of anesthesia providers have previously participated in fluid administration education during their careers. Having anesthesia providers participate in intravenous fluid administration education resulted in improvement in scores on the post-education quiz and a decrease in the estimated volume contained within various IV apparatuses. By creating a heightened awareness of IV flushing practices, fluid education has the potential to result in improved clinical care and patient safety particularly in the neonatal population.