Training System for Fiberoptic Intubation

Fiberoptic intubation (FOI) is an important skill in managing difficult airways, but training opportunities are limited because few patients require the procedure. In this Canadian study, researchers developed a model trainer for FOI and tested it on 24 subjects -- first-year anesthesia residents or first- and second-year medical residents -- with no fiberoptic experience.

After subjects received detailed written and video instruction in FOI, they were randomized to either a 45-minute lecture by an FOI expert or a training session with a specially designed FOI model. The model required the subject to manipulate the scope through a series of labeled openings within a closed structure. All subjects were tested on the model before and after the training or lecture session. If they showed sufficient improvement, they performed a supervised FOI on an anesthetized patient in the OR.

Both groups improved significantly on the post-tests. Subjects in the training group scored higher than those in the lecture group and more often received a passing grade (75 percent vs. 33 percent). Model-trained subjects performed the intubation in the OR faster (81 vs. 210 seconds) and had a higher success rate (92 percent vs. 42 percent) than subjects in the didactic group.

Comment: This wonderful model for practicing fiberoptic intubation, which is illustrated in this study, seems to help teach the manipulative skills that are crucial for success. Previous studies have shown that fiberoptic examination of the upper airway also improves subsequent intubation success. These innovative approaches to training should encourage departments to establish programs for achieving and maintaining competency with the fiberscope.

— RM Walls

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