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TITLE Evaluation of a Fiberoptic Endoscopy Training Workshop: Phase I

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Introduction: The traditional teaching method of "see one, do one, teach one" does not hold for success with fiberoptic endoscopy (FE).¹ A two-phase FE training program was developed for our anesthesia department. In Phase I, a one-day teaching session, lectures are followed by a hands-on practicum utilizing various models. In Phase II anesthesiologists can practice their FE skills on patients with normal airways in the operating room. Phase I was evaluated by written tests and surveys and by recording fiberscope repair costs.

Methods: A written test administered to the participants prior to and immediately after the workshop contained 15 questions relating to anatomy of the airway, local anesthetics, topicalizing the airway, care of the fiberscope, placement and verification of double-lumen tubes. In addition, a survey mailed to all participants at least 6 months after the workshop, contained 6 questions relating to prior and post-workshop confidence level, success, and the number of times the fiberscope was utilized to secure the airway. Confidence level was assessed by having the participant mark an "X" on a 10 cm line (1 represented least confident and 10 most confident). All repair costs related to the FE equipment have been recorded in a single account that began a year prior to the program.

Results: Five FE workshops have been attended by 57 anesthesia residents and 36 staff anesthesiologists since June 1989. Eighty-four percent (78/93) of the participants completed the written tests. Excluded from statistical analysis were those tests that did not have a corresponding pretest or posttest completed. Thirty-seven percent (26/70) of the surveys were returned. Excluded from analysis were participants who had taken the course within 5 months (n = 23). Tables 1 and 2 illustrate that the fiberoptic workshop improved the participants' knowledge, confidence, and success with FE. The repair cost for the fiberscope the year prior to the workshop was \$13,352; the total for the following two years was \$3,000.

Conclusion: In our large residency program it was challenging to provide equal opportunity in the training of FE to our residents and faculty. Phase I of the program has demonstrated that increasing exposure to the fiberscope in a one-day course has improved participants' confidence level, knowledge of how to care for the equipment (reflected by significantly lower repair costs). However, Phase II should be an integral part of the program to increase the number of opportunities at securing the airway with the fiberscope.

Reference: ¹Br J Anaesth 61: 217-220 (1988)

Table 1. Results of Test and Confidence Level

	n	Pre-Course mean ± S.D.	Post Course mean ± S.D.
Examination			
# correct/15 questions	78	7.8 ± 1.7	11.4 ± 1.8*
Survey			
confidence level	26	3.3 ± 2.2	6.9 ± 1.8*

* p < .0001, paired t-test

Table 2. Results of the Survey

	n	Pre Course %	Post Course %
Success Rate*			
<50%	26	30.4	4.0
>50%	26	69.6	96.0
Experience**			
<10 times	26	88.5	65.4
>10 times	26	11.5	34.6

* p = 0.0012 for securing the airway with a fiberscope

** p = 0.056 for number of times utilizing the fiberscope

Above statistics by paired t-test

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TITLE: DOES REGIONAL ANESTHESIA SIGNIFICANTLY DELAY SURGERY? A RETROSPECTIVE STUDY

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INTRODUCTION

Regional anesthesia is an important component of any training program. Frequently, surgeons have implicated anesthesia trainees performing regional procedures as the cause of significant delay between surgical cases. This present study was designed to determine whether the choice of anesthesia technique for knee arthroscopy significantly influenced the time between cases.

METHODS

The anesthesia records for diagnostic knee arthroscopes were reviewed for the last twelve months. Anesthesia time (AT) was the period of time between surgical cases that a trainee needed to complete a regional technique, or to set up and begin a general anesthetic. This period ended when the patient was turned over to the surgeons. Surgical time (ST) included prepping the patient and completing the arthroscopy. Anesthesia technique was divided into lumbar epidural (LE), spinal block (SB), femoral-sciatic nerve block (NB), and general anesthesia (GA). Data was analyzed using ANOVA.

RESULTS

There were no significant differences in ST between any of the groups. In addition, AT did not significantly change based on anesthetic technique.

DISCUSSION

This study demonstrates that regional anesthesia does not increase anesthesia time between arthroscopes at our institution. This suggests that regional anesthesia can be performed quickly by anesthesia trainees without significantly impacting on surgical time. Furthermore, attempts to maximize operating room efficiency in a training center should address both anesthesia and surgical time.

	ST (mins)	AT (mins)	N
GA	99 +/-54	24 +/-11	124
LE	110 +/-51	30 +/-20	173
NB	110 +/-51	18 +/-21	48
SB	106 +/-43	24 +/-13	40

Table One: Data expressed in minutes +/- standard deviation. No significant difference was found between anesthetic technique.