

DOUBLE FIBEROPTIC TECHNIQUE FOR INTUBATION



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INTRODUCTION

Fiberoptic intubation has been advocated as a safe technique for airway management because the operator has real time control under direct vision. Advancement of the endotracheal tube (ETT) is a blind maneuver frequently complicated by blockage of the ETT, laryngeal trauma and failed intubation. The authors identified a new fiberoptic technique using a second fiberoptic scope to visualize the entire procedure. This study was designed to compare the ease of double fiberoptic technique vs. classic technique with one fiberoptic.

METHOD

50 adult patients, age 20-50 years, scheduled to undergo elective surgeries under general anesthesia were included in this study. Postinduction, 25 patients were orally intubated using a one-scope technique vs. 25 patients intubated with the double-scope technique, recording the movement and the timing of the ETT placement. Fiberoptic tower was used with two fiberoptic scopes, one for adults FO-1 and the other for pediatric FO-2. After induction, FO-1 is placed with the tip above the carina, then disconnected from the monitor with immediate reconnection of FO-2. FO-2 is advanced in parallel with FO-1 through a specially designed side port of intubating oral airway made of cut ETT 4.5. The ETT was then advanced under direct vision. All fiberoptic intubations were recorded on DVD and analyzed for overcoming factors involved in obstruction.

Group 1: standard fiberoptic technique

Group 2: double fiberoptic technique

	Group 1	Group 2
Time to reach carina	21.1+/-6.7s	22.8+/-4.6s
Mean time for ETT placement	28.8+/-11 s	33.9+/-9 s
Difficulties in ETT placement	28%	6%

Figure 1:
Double Fiberoptic Assembly*



*Adult FO, pediatric FO and adapted airway

Figure 2:
Ovassapian Airway with Attached Pediatric ETT (cut)



Figure 3:
View of Glottis through FO-2



Figure 4:
Sliding the ETT over FO-1



View through FO-2

Figure 5:
ETT in Place



CONCLUSIONS

The simultaneous use of two fiberoptic scopes gives an excellent view of the ETT tip entering the larynx, with the possibility of overcoming any obstruction under direct vision. It is also a very good method for teaching residents.

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