



“Comparison of grade of intubation view for GlideScope® Video Laryngoscope versus McGrath® Video Laryngoscope”

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BACKGROUND

The Glidescope® video laryngoscope was developed for management of the difficult airway¹. Previous studies have demonstrated that the GlideScope® provides a better view than direct laryngoscopy². The McGrath® video laryngoscope was designed to provide a clear view of the vocal cords during intubation with little or no change in laryngoscope technique, to simplify intubation of the difficult airway and be less traumatic by minimizing the lifting force required during intubation³. To date there have been no studies directly comparing the Glidescope® video laryngoscope to the McGrath® video laryngoscope.

MATERIALS AND METHODS

2660 consecutive surgical patients undergoing endotracheal intubation (ETI) under balanced general anesthesia were studied after obtaining IRB approval for the collection of data. All adult patients (18 years of age and older) presenting in all surgical specialties were included. After induction of general anesthesia with muscle relaxation all patients underwent ETI, which was performed by experienced anesthesia providers only. The best glottic view obtained at direct laryngoscopy was recorded as defined by the grading system of Cormack and Lehane modified by Samssoon and Young. Each episode of ETI was graded into one of five categories by the attending anesthesiologist supervising the care of the case.

RESULTS

There were no significant differences found by the z test in the distribution of Mallampati grades, incidence of obesity and incidence of patients with single or multiple airway risk factors in each group. There were no significant differences in incidence of patients predicted to be difficult to intubate in each group.

TABLE 1 Relationship between the video laryngoscope and the Cormack-Lehane (C/L) view.

Cormack-Lehane view	C/L 1	C/L 2	C/L 3	C/L 4	TOTALS
McGRATH®	86	12	1	1	100
	86%	12%	1%	1%	100%
Glidescope®	181	55	7	0	243
	74.5%	22.6%	2.9%	0%	100%
	P=0.023	P=0.036	P=0.513		

RESULTS (continued)

The McGrath® video laryngoscope yielded excellent (C/L 1) or good (C/L2) laryngeal exposure in 86% and 12% of the patients respectively.

The Glidescope® video laryngoscope yielded excellent (C/L 1) or good (C/L2) laryngeal exposure in 74% and 23% of the patients respectively.

The proportion 86% vs 76% was statistically significant by z testing.

However the number of attempts required to successfully intubate was identical in both groups and there was no significant difference in the intubation difficulty scale (IDS) score between the two groups found by the students t test.

In all 343 patients in whom both McGrath® and Glidescope® were performed, McGrath® resulted in a comparable or superior view. Among the 9 patients with C/L grade 3 or 4 views intubation with either the McGrath® or the Glidescope® was successful in all patients.

CONCLUSIONS

To date there have been no studies directly comparing the Glidescope® video laryngoscope to the McGrath® video laryngoscope. Both the McGrath® and Glidescope® provide C/L grade II or better in 95% of the intubations. This information may be helpful to Anesthesiology departments when they are considering purchasing video laryngoscopes.

REFERENCES;

1. Glidescope® video laryngoscope, Verathon. Available from <http://www.verathon.com>
2. Cooper RM. Use of a new videolaryngoscope (Glidescope®) in the management of a difficult airway. Can J Anesth 2003; 50: 611-3
3. McGrATH® Video Laryngoscope, LMA North America Inc. Available from <http://www.lmanorthamerica.com>