Comparison of the Glidescope, the McGrath, the Airtraq and the Macintosh laryngoscopes in simulated difficult airways

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Savoldelli et Al. University of Geneva

Sixty anaesthesia providers (20 staff, 20 residents, and 20 nurses) were enrolled into this study. The volunteers intubated the trachea of a Laerdal SimMan manikin in three simulated difficult airway scenarios.

In all scenarios, indirect laryngoscopes provided better laryngeal exposure than the Macintosh blade and appeared to produce less dental trauma.

In the most difficult scenario (tongue oedema), the Macintosh blade was associated with a high rate of failure and prolonged intubation times whereas indirect laryngoscopes improved intubation time and rarely failed. Indirect laryngoscopes were judged easier to use than the Macintosh.

The Airtraq consistently provided the most rapid intubation. Laryngeal grade views were superior with the Airtraq and McGrath than with the Glidescope.