McGrath Series 5 Video Laryngoscope Outperforms Macintosh

In healthy adult patients with manual cervical spine immobilization, glottic views were better and intubations more successful.

Researchers randomized 88 healthy adults undergoing elective surgery at an academic center in Canada to intubation with a Macintosh laryngoscope or McGrath Series 5 video laryngoscope. Attending anesthesiologists who practiced with the McGrath Series 5 on a manikin until comfortable with its use evaluated glottic visualization using both devices, and intubated the trachea using the second device. Manual cervical spine immobilization was applied to simulate difficult intubation. Laryngeal manipulation maneuvers were not permitted. Patients with reactive airway disease, gastroesophageal reflux, ischemic heart disease, recent stroke or myocardial infarction, or cervical spine instability were excluded.

Baseline characteristics were similar between groups. All McGrath intubations were successful compared with 59% of Macintosh intubations. Intubation failures were due to inability to view the glottis. The McGrath group had significantly more Cormack-Lehane grade I or II glottic views (100% vs. 51%) and higher mean percentage of glottic opening (82% vs. 13%). The McGrath video laryngoscope improved the glottic view, compared with the Macintosh, in 66 patients (75%): by one grade in 36%, by two grades in 53%, and by three grades in 11%. Mean intubation time was longer with the McGrath (36 vs. 22 seconds). Rates of complications, all minor, were similar in the two groups.

Comment: The McGrath Series 5 video laryngoscope had a higher intubation success rate and improved glottic visualization in patients with cervical spine immobilization, compared with the Macintosh laryngoscope. The McGrath’s longer intubation time is not clinically significant, and if the study design had allowed for laryngeal manipulation, Macintosh intubations would likely have been more successful but also taken more time. With so many studies showing superiority of video laryngoscopes over direct laryngoscopes, perhaps it is time to halt these types of comparisons and move on to comparisons of one video laryngoscope with another.

— Cheryl Lynn Horton, MD, and Ron M. Walls, MD, FRCPC, FAAEM

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- Medline abstract (Free)

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