Intubation with the Airtraq vs. Macintosh Laryngoscope by Novices

Intubation times were shorter and glottic views were better with the Airtraq.

The Airtraq is an optical laryngoscope that uses lenses, mirrors, and a light-emitting diode to visualize the trachea indirectly. In a clinical trial in Italy, 108 elective surgery patients were randomized to undergo intubation with a Macintosh direct laryngoscope or an Airtraq laryngoscope by first-year anesthesia residents who had no prior experience using either device. Before randomization, each resident received a 2-hour demonstration of both laryngoscopes and practiced on a manikin; each resident used one device throughout the study.

Mean time to intubation was significantly less with the Airtraq than the Macintosh laryngoscope (40 vs. 50 seconds). The Intubation Difficulty Scale score (see the table) was ≤1 (a score of 0 = ideal intubation) in significantly more Airtraq than Macintosh intubations (76% vs. 37%). A grade I Cormack-Lehane glottic view was obtained in significantly more patients in the Airtraq group than the Macintosh group (87% vs. 46%). Optimization maneuvers to improve glottic view were required significantly less frequently with the Airtraq (2% vs. 33%).

**Comment:** In this group of novice clinicians, the Airtraq outperformed the Macintosh laryngoscope. These findings augment similar results from a study that evaluated use of the devices by experienced intubators in patients with difficult airways ([JW Emerg Med Feb 8 2008](https://www.journals.uchicago.edu/doi/10.1097/01.EMERG.0000339409.59975.a7)). The Airtraq is inexpensive, has a rapid learning curve, and likely provides superior intubating conditions to direct laryngoscopy, even for novices.

— Emily L. Brown, MD, and Ron M. Walls, MD, FRCPC, FAAEM

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