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An Algorithm for Difficult Airway Management, Modified for Modern Optical Devices (Airtraq Laryngoscope; LMA CTrach™)

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Background: Because algorithms for difficult airway management, including the use of new optical tracheal intubation devices, require prospective evaluation in routine practice, we prospectively assessed an algorithm for difficult airway management that included two new airway devices.

Methods: After 6 months of instruction, training, and clinical testing, 15 senior anesthesiologists were asked to use an established algorithm for difficult airway management in anesthetized and paralyzed patients. Abdominal, gynecologic, and thyroid surgery patients were enrolled. Emergency, obstetric, and patients considered at risk of aspiration were excluded. If tracheal intubation using a Macintosh laryngoscope was impossible, the Airtraq laryngoscope was recommended as a first step and the LMA CTrach as a second.

A gum elastic bougie was advocated to facilitate tracheal access with the Macintosh and Airtraq laryngoscopes. If ventilation with a facemask was impossible, the LMA Ctrach was to be used, followed, if necessary, by transtracheal oxygenation.

Results: Overall, 12,225 patients were included during 2 yr. Intubation was achieved using the Macintosh laryngoscope in 98% cases. In the remainder of the cases (236), a gum elastic bougie was used with the Macintosh laryngoscope in 207 (84%). The Airtraq laryngoscope success rate was 97% (27 of 28). The LMA CTrach™ allowed rescue ventilation (n 2) and visually directed tracheal intubation (n 3). In one patient, ventilation by facemask was impossible, and the LMA Ctrach was used successfully.