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, the authors 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 anaesthesiologists 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 Trach™ was to be used, followed, if necessary, by transtracheal oxygenation. Patient characteristics, adherence to the algorithm, efficacy, and early complications were recorded.

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.

Conclusions: Tracheal intubation can be achieved successfully in a large cohort of patients with a new management algorithm incorporating the use of gum elastic bougie, Airtraq, and LMA CTrach™ devices.