Intubation Performance After Training with Macintosh Laryngoscope vs. GlideScope

Medical students who trained with the GlideScope video laryngoscope performed better on direct laryngoscopy than those trained with the Macintosh blade.

Novice intubators perform poorly on direct laryngoscopy (JW Emerg Med Jan 23 2009). Researchers evaluated performance of direct laryngoscopy and intubation by 42 inexperienced medical students in Beirut, Lebanon, who attended lectures on airway management and were then randomized to manikin-based training and live intubation demonstrations with either a Macintosh 3 laryngoscope blade or a GlideScope video laryngoscope. After training, all students performed intubation with a Macintosh 3 blade on three patients without predicted difficult airways who were undergoing elective surgery.

Intubation success rates for the first, second, and third patients were significantly higher in the GlideScope-trained group (48%, 70%, and 81%, respectively) than in the Macintosh-trained group (14%, 14%, and 33%, respectively). Mean times to intubation for each of the three patients were slightly shorter in the GlideScope-trained group (59.3, 56.6, and 50.1 seconds) than in the Macintosh-trained group (70.7, 73.7, and 67.6 seconds). The small decreases in mean time to intubation for each consecutive patient in the GlideScope group were statistically but not clinically significant; changes in the Macintosh group were not significant.

Comment: Surprisingly, this study suggests that training with video laryngoscopy, compared to training with traditional direct laryngoscopy, translates to improved performance with the direct laryngoscope. One likely reason is that the video display allows better visualization of glottic anatomy and dynamic modification of a trainee's psychomotor skills by the instructor.

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

Dr. Walls has provided testimony in a patent infringement suit in Scotland on behalf of Verathon, Inc., manufacturer of the GlideScope video laryngoscope.

Published in Journal Watch Emergency Medicine July 23, 2010

Citation(s):
Ayoub CM et al. Tracheal intubation following training with the GlideScope® compared to direct laryngoscopy. Anaesthesia 2010 Jul; 65:674.

- Medline abstract (Free)