Percutaneous Cricothyrotomy: Wire-Guided vs. Catheter-over-Needle

The wire-guided technique was more successful and had fewer complications, but the catheter-over-needle technique was faster.

For management of a failed airway, cricothyrotomy can be lifesaving. The proprietary prepackaged Melker and QuickTrach kits include all the equipment needed to perform percutaneous cricothyrotomy, including a cuffed airway. The wire-guided Melker technique requires more steps and the catheter-over-needle QuickTrach technique requires more force to place the needle. In a randomized trial, two anesthesiologists who had practiced on manikins 1 month before the study performed percutaneous cricothyrotomy using the two devices in 16 sheep cadavers.

The Melker technique had a higher success rate than the QuickTrach technique (100% vs. 63%) and a lower complication rate (13% vs. 75%) but a longer performance time (52 vs. 32 seconds). Complications included perforation of the posterior tracheal wall and paratracheal localization of the cannula. Both devices allowed sufficient ventilation when placed properly, with similar peak airway pressures.

Comment: Prior studies have also demonstrated unacceptably high complication rates with devices similar to the QuickTrach, which, along with this study, should give one pause. Most important, though, is quickly recognizing a failed airway and making the decision to perform cricothyrotomy with a standardized kit that is familiar and readily available.

— Richard D. Zane, MD, FAAEM

Published in Journal Watch Emergency Medicine September 17, 2010

Citation(s):


Copyright © 2010. Massachusetts Medical Society. All rights reserved.