Cricothyroidotomy Techniques Compared

Cricothyroidotomy is performed in only about 1% of ED intubations. When necessary, it is usually attempted in a high-stress clinical setting with a critically ill or injured patient, when it may be difficult to recall a complex series of steps. These UC-Davis authors prospectively compared standard cricothyroidotomy (which requires 7 steps) and a novel, rapid 4-step technique. A 15-minute instruction period was provided for each technique to 32 physicians-in-training with no cricothyrotomy experience. Subjects were tested using human cadavers.

The two methods had comparable success rates (94% standard vs. 88% 4-step) but standard cricothyroidotomy took longer than the new technique (134 seconds vs. 43 seconds, $p<0.001$). Each had similar overall complication rates, mostly comprising inadvertent tracheotomies, but the 4-step technique was associated with more major complications, including esophageal injury. The authors conclude that the new technique is faster but may cause higher incidence of severe complications.

Comment: Standard cricothyroidotomy is rarely practiced, and nearly always performed under significant stress. The standard approach allows direct access to the membrane and may be less likely to result in significant complications than the new technique. At present, there is no reason to recommend the new technique over traditional cricothyroidotomy.

— CV Pollack

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