

## Comparison of 2 Cricothyrotomy Techniques: Standard Method Versus Rapid 4-step Technique.

Homes, James F DMD; Panacek, Edward A. MD; Sakles, John C MD; Brofeldt, Bo Tomas MD. *Annals of Emerg Med.* Vol 32 (4), Oct 1998.

*P*<.001). Complications were identified in 12 attempts involving the standard technique (38%; 1 considered major) and in 12 involving the rapid four-step technique (38%; 3 considered major). The incidence of major complications was 6% higher for the rapid 4-step technique (95% confidence interval, -9% to 21%).

**Conclusion:** In a group of inexperienced subjects working on a preserved human cadaver model, the rapid 4-step technique for cricothyrotomy was performed in about one third the time required for performance of the standard technique. This finding was both clinically and statistically significant. Although the 2 techniques had similar success and complication rates, we noted a trend toward more severe complications in the rapid 4-step technique. [Holmes JF, Panacek EA, Sakles JC, Brofeldt BT: Comparison of 2 cricothyrotomy techniques: Standard method versus rapid 4-step technique. *Ann Emerg Med* October 1998;32:442-447.]

**Study objective:** To compare the success rate, complication rate and time required for the rapid 4-step technique versus the standard technique for cricothyrotomy.

**Methods:** We conducted a prospective, randomized crossover study. Twenty-seven emergency medicine interns, 1 junior medicine resident, and 4 senior medical students, without prior cricothyrotomy experience, were randomly divided into 2 groups. Group 1 was initially instructed in and then performed the standard technique; group 2 was initially instructed in and then performed the rapid 4-step technique. Each group was then instructed in and performed the alternate method. Cricothyrotomies were performed on preserved human cadavers.

**Results:** A surgical airway was established in 28 of 32 attempts with the use of the rapid 4-step technique (88%); the average time elapsed before tube placement was 43 seconds. Thirty of 32 attempts involving the standard technique (94%) were successful; the average time to tube placement was 134 seconds (95% confidence interval for a difference of 91 seconds, 63 to 119;