Does Age of Physician Affect Performance of Cricothyroidotomy?

Younger physicians outperformed their older colleagues, but a training session narrowed the performance gap.

Age-related deterioration in fine-motor skills and cognitive function is well established. Researchers investigated whether age affects learning and performance of cricothyroidotomy in a prospective, controlled study of 36 anesthesiologists at a tertiary care hospital in Canada. Participants managed two high-fidelity simulated cannot intubate/cannot ventilate scenarios that required emergent percutaneous cricothyroidotomy (JW Emerg Med Sep 17 2010). All procedures were videotaped. After completing the first scenario, participants received video-assisted debriefing and specific instruction on cricothyroidotomy. Performance was assessed by procedural time and scores on a task-specific checklist (range, 0–10) and global rating scale (range, 0–35). Participants were divided into a group younger than 45 (19 participants) and older than 45 (17); three participants in each group had prior percutaneous cricothyroidotomy experience on actual patients.

Both groups showed significant improvements on all performance measures after the teaching session. The younger group performed the procedure significantly faster than the older group both before (100 vs. 152 seconds) and after (75 vs. 87 seconds) the teaching session and had significantly better scores on the checklist (7 vs. 6 before; 10 vs. 9 after) and the global rating scale (22 vs. 18 before; 35 vs. 32 after). Age and years since residency correlated inversely with performance, although the younger group had more experience with simulation (84% vs. 29%) and percutaneous cricothyroidotomy on a manikin or a pig (63% vs. 24%).

Comment: Although younger physicians outperformed older physicians, both groups improved after a 1-hour teaching session, and the performance gap narrowed considerably. This study underscores the benefit of procedural training throughout one's career, particularly for low-frequency, high-impact procedures, such as cricothyroidotomy.

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

Published in Journal Watch Emergency Medicine October 22, 2010

Citation(s):


- Original article (Subscription may be required)
- Medline abstract (Free)

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