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C-Spine Movement: Macintosh vs. Airtraq Laryngoscope

Laryngoscopy with the Airtraq involves less cervical spine movement.

The Airtraq is a single-use, indirect laryngoscopic device with an image transfer channel that transmits a view of the glottis without the need to align the oral, pharyngeal, and tracheal axes. Previous research suggests that the Airtraq is easy to use ([JW Emerg Med Nov 3 2006](#)). The authors of this unsponsored study compared cervical spine (C-spine) motion during laryngoscopy using the Airtraq and Macintosh laryngoscopes.

Twenty adult patients who required routine intubation for elective gynecologic surgery in the operating suite underwent laryngoscopy with both the Airtraq and Macintosh devices, in random order. Patients with a history of difficult intubation or C-spine injury were excluded. All laryngoscopies were performed by a single anesthesiologist who was skilled in both techniques. Lateral radiographs were taken at baseline with the patient in a neutral position and during laryngoscopy when the best view of the larynx was obtained. Two radiologists reviewed the radiographs to measure the degree of vertebral body displacement. C-spine extension was significantly less with the Airtraq than with the Macintosh: 29% less at the occiput–C4 segment and 44% less at the C3–C4 segment.

Comment: How much C-spine movement is clinically significant still is not known. However, with acute spine injury, any reduction in movement is desirable. While we await reports of experience with the Airtraq in the emergency department, we can add this study to the others that will eventually help to put the Macintosh laryngoscope out to pasture.

— [Aaron E. Bair, MD, MSc, FAAEM, FACEP](#)

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Hirabayashi Y et al. A comparison of cervical spine movement during laryngoscopy using the Airtraq® or Macintosh laryngoscopes. *Anaesthesia* 2008 Jun; 63:635.

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