Comparing Cervical Spine Movement with Flexiblade and Macintosh Laryngoscopes

The Flexiblade was associated with less C1–C2 mobility during intubation.

Cervical spine immobilization impedes alignment of the anatomical upper airway axes, making direct laryngoscopy difficult. The Flexiblade laryngoscope has a blade whose distal half can be flexed anteriorly up to 30° via an attached lever (JW Emerg Med Mar 14 2006). In a randomized study, researchers in Turkey compared C-spine movement at the C1–C2 and C2–C3 levels during intubation without in-line manual stabilization with Flexiblade and Macintosh laryngoscopes. Thirty-two elective surgery patients (age range, 24–73), without predicted difficult airways were intubated by a single anesthetist who had extensive experience with both devices. Three lateral C-spine radiographs were taken with a portable fluoroscopic device during laryngoscopy: one before, one during, and one after passage of the endotracheal tube.

Tracheal intubation was successful in all patients and mean Cormack-Lehane laryngoscopic views did not differ between groups. The change in the C1–C2 angle during intubation was significantly less with the Flexiblade (5°) than with the Macintosh (9°) laryngoscope. The amount of change in the C2–C3 angle during intubation did not differ between groups.

Comment: The authors' failure to use in-line stabilization and the small (4°) difference in change in cervical angle between groups makes it impossible to determine the clinical value of these findings. Regardless, a better option still is video laryngoscopy — a clearly superior intubation technique that does not require a direct glottic view (JW Emerg Med Mar 14 2008).

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Dr. Walls has provided testimony in a patent infringement suit in Scotland on behalf of Verathon, Inc., manufacturer of the GlideScope video laryngoscope.

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