

Intubation with C-Spine Immobilization: Trachlight vs. Fiber-Optic Scope

In 20 healthy patients without spine injury who were intubated with manual in-line stabilization, cervical spine movement was comparable with the two devices, but intubation was twice as fast with the Trachlight.

Use of a flexible fiber-optic bronchoscope (FOB) often is recommended for intubation of patients with cervical spine injury, but many emergency departments lack this capability. In a prospective study at a single hospital in Montreal, 20 patients without C-spine abnormality who required general anesthesia underwent sequential intubation (in random order) with a FOB and a Trachlight lighted stylet. A senior anesthesiology resident who had experience with both devices performed all intubations using the designated device and a Parker Flex-Tip endotracheal tube. Continuous cinefluoroscopy was used to record C-spine movement during introduction of the device into the upper airway, insertion of the tube, and removal of the device. A respiratory therapist maintained in-line C-spine stabilization.

Intubation time was significantly shorter with the Trachlight than with the FOB (34 seconds vs. 60 seconds). All intubations except one were successful on the first attempt; one Trachlight intubation required three attempts. Jaw thrust was required for all FOB intubations. The degree of C-spine segmental motion did not differ with the two devices at any C-spine level during any phase of intubation. Movement was greatest at the occiput to C1 spine segment (10.5 degrees for FOB and 11.5 degrees for Trachlight) and was much less at all other segments.

Comment: Although the FOB allows visualization of the airway (whereas the Trachlight is "blind"), the two devices performed similarly for intubation of patients with C-spine injury, and the Trachlight was much faster. For patients with potential C-spine injury in whom intubation with a flexible fiber-optic bronchoscope is not possible (excessive bleeding, scope or expertise unavailable), knowing that the Trachlight does not seem to exert greater force on the immobilized C-spine is reassuring. The Trachlight is relatively easy to learn to use.

— **Ron M. Walls, MD, FRCPC, FAAEM**

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Houde BJ et al. A comparison of cervical spine motion during orotracheal intubation with the Trachlight[®] or the flexible fiberoptic bronchoscope. *Anesth Analg* 2009 May; 108:1638.

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