MS#23

Comparison of four Airway Devices on Cervical Spine Alignment in a Cadaver Model with Global Ligamentous Instability at C5-6.

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Study Design: Human cadaveric study using various intubation devices in a cervical spine instability model.Objective: We sought to evaluate various intubation techniques to determine which device results in the least cervical motion in the setting of a global ligamentous instability model.

Summary of Background Data: Many patients presenting with a cervical spine injury have other injuries that may require rapid airway management with endotracheal intubation. Secondary neurologic injuries may occur in these patients due to further displacement at the level of injury, vascular insult, or systemic decrease in oxygen delivery. The most appropriate technique for achieving endotracheal intubation in the patient with a cervical spine injury remains controversial.

Conclusion: In a cadaver model of C5-6 instability, the greatest amount of motion was caused by the most commonly used intubation device, the Macintosh blade. Intubation with the Lightwand resulted in significantly less motion in all tested parameters (other then ML translation) as compared to the Macintosh blade.

It should also be noted that the Airtraq caused less motion than the Macintosh blade in three of the six tested planes.