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APPARATUS

Surgical vs wire-guided cricothyroidotomy: a randomised crossover study of cuffed and uncuffed tracheal tube insertionL. Sulaiman,¹ S. Q. M. Tighe² and R. A. Nelson²*1 Specialist Registrar, 2 Consultant in Anaesthesia and Intensive Care, The Countess of Chester Hospital Foundation NHS Trust, Liverpool Road, Chester, CH2 1UL, UK***Summary**

Using an airway mannequin and artificial lung model, we compared surgical cricothyroidotomy with a 6.0-mm cuffed Portex tracheostomy tube with wire-guided cricothyroidotomy using a 5.0-mm cuffed Melker or 6.0-mm uncuffed Melker tube. The trial was carried out by 27 anaesthetists using a randomised, crossover design. Surgical cricothyroidotomy proved significantly faster (mean (SD) time to first breath 44.3 (12.5) s for Portex surgical, 87.2 (21.6) s for cuffed Melker, 87.8 (19.2) s for uncuffed Melker, $p < 0.001$). With a standardised ventilator model, the cuffed tubes provided more effective ventilation (mean (SD) tidal volume 446 (41) ml Portex, 436 (52) ml cuffed Melker, 19 (5) ml uncuffed Melker, $p < 0.001$). Fourteen of the participants preferred the wire-guided system. We conclude that, in this model, a cuffed device is preferable when cricothyroidotomy is needed. In addition, the surgical method is quicker than a wire-guided approach.

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In the 'can't intubate, can't ventilate' scenario, cricothyroidotomy is recommended if all other methods of ventilation have failed to provide adequate oxygenation.

Alternatively, a cuffed tube can be inserted by surgical cricothyroidotomy to provide both a secure airway and optimal ventilation. Recently, a cuffed Melker tube has

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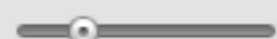
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