

Fibre-optic Aided Bougie (FAB) for Simulated Difficult Tracheal Intubation[†]

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Abstract

Introduction: Difficult intubation remains a key problem and the value of the gum elastic bougie as a first approach is well recognised. **Materials and Methods:** A fine fibre-optic endoscope (Rapiscope, Cook Critical Care) was used in 50 patients to verify placement of a custom-designed hollow plastic bougie prior to “rail-roading” a tracheal tube. Following induction and muscle relaxation, direct laryngoscopy was performed after two-minutes of assisted ventilation. The laryngoscope blade was lowered to simulate difficult intubation and the bougie passed behind the epiglottis. The position of the introducer bougie was then checked using the Rapiscope. Following correct bronchoscopic identification of the tracheobronchial anatomy, a tracheal tube was then “rail-roaded” following withdrawal of the scope. **Results:** All patients were successfully intubated following identification of the bronchial tree by the Rapiscope: three on the second attempt and the rest on the first. Mean (SD, range) time to successful bronchoscopic confirmation of correct placement of the bougie was 38 s (9.1 s, 19 to 60 s). All bronchoscopic assisted intubation were subsequently confirmed by capnography after tracheal tube insertion. Mean (SD, range) time to successful intubation was 106 s (14 s, 52 to 132 s). **Conclusion:** The fibre-optic assisted bougie (FAB) offers a promising technique in patients who may be difficult to intubate but who can be ventilated. Further developments are required to achieve a faster intubation time but oxygenation may be achieved by jetting down the hollow bougie.

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