

Evaluation of Tracheal Tube Introducers

All bougies are not created equal.

A tracheal tube introducer (commonly referred to as a bougie) is a vital device for difficult airway management. The introducer is a malleable rod that can be directed into the trachea even without an adequate view of the glottis. The degree of rigidity, however, varies among the currently available products and might affect the success of tracheal placement and the potential for airway trauma.

Researchers at two hospitals in the U.K. compared tracheal placement success rates, user preference, and peak forces exerted at the introducer tip for four different introducers; these were the reusable Eschmann (the classic "gum elastic bougie") and three single-use introducers: Frova, new Portex, and PRO-Breathe. Seventy-two anesthetists who had at least 1 year of experience using introducers attempted to place each device, in random order, into the trachea of a standard difficult airway simulator with a laryngoscope fixed in position.

Success rates were statistically similar for the Eschmann and Frova introducers (64% and 78%, respectively), much lower for the new Portex (13%), and very low for the PRO-Breathe (4%). The Eschmann was rated the most difficult to use, followed by the PRO-Breathe; the Frova was the preferred device. The least amount of force was exerted with the Eschmann.

Comment: These results favored the Frova introducer. The Frova was the only single-use introducer that was routinely available at the institutions involved in this study; familiarity with it might have affected success rates and overall user preference, but the results were so dramatic that this is unlikely to account for the entire difference. Whether the results of this simulator study are directly applicable to human patients is not clear, but they undoubtedly show that performance varies greatly among the products.

— **Aaron E. Bair, MD, MSc, FAAEM, FACEP**

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