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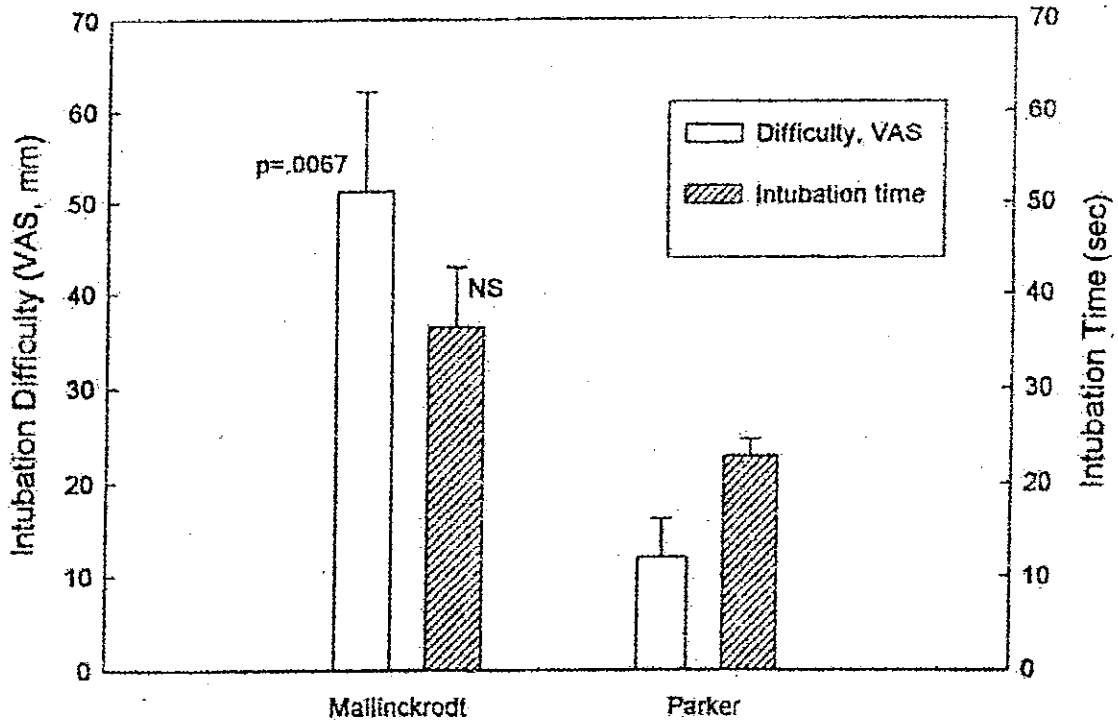
A Pilot Study Comparing the Ease of Intubation over an Eschmann's Stylette of the Parker vs. the Mallinckrodt Endotracheal Tubes.

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Introduction: The Eschmann stylette is a very useful aid to difficult intubations; however Murphy tipped endotracheal tubes frequently get caught on the hypopharynx, epiglottis or arytenoids, causing difficulty in threading the tube over the stylette. A new endotracheal tube (Parker Flex-Tip®) is designed to easily glide through the glottic opening over a gum elastic bougie or bronchoscope. We compared the ease of intubation over an Eschmann stylette between the Parker Flex-Tip® and a Murphy Tip tube (Mallinckrodt®). **Methods:** Following IRB approval, adult subjects scheduled for general anesthesia were prospectively enrolled in a randomized blinded study. All subjects consented to participating. Aspiration risk and anticipated difficult intubation by physical exam were exclusion criteria. The patients were randomized to one of two groups. The primary anesthesia provider chose induction technique and tube size. After direct laryngoscopy an Eschmann stylette was placed in the trachea. A Parker® or a Mallinckrodt® ETT was placed over the stylette. The anesthesiologist, who was blinded to the type of tube, was asked to slide it over the stylette into the trachea. A form containing a 10 cm Visual Analog Scale (VAS) to describe the difficulty of the tube placement was then completed by the anesthesiologist. The time to perform the intubation was recorded. We also recorded if the ETT went in on the "First pass" or not and what adjustments had to be made. Patients were questioned the day after surgery for symptoms of sore throat or hoarseness. **Results:** 23 patients were enrolled, 11 in the Parker® group and 12 in the Mallinckrodt® group. Demographic characteristics were similar. The Visual Analog Scale and required time results are presented in the figure: (See figure 1 on back) All of the 7 tubes reported as "Not first Pass" were Mallinckrodt® (For a "Hang up" incidence of 58.3%). In addition they were all 8.0 size tubes. All of the Parker® tubes went in as a "First Pass" including all the 8.0 sizes. The overall incidence of side effects in our study was small, and there was no difference between groups. **Discussion:** When attempting to advance a Mallinckrodt® ETT over an Eschmann stylette there is a high probability of the tube getting caught requiring adjusting maneuvers to reach the trachea. This probability is significantly reduced with the use of the Parker® tube (Fisher's Exact Test, $p=0.0046$), making it easier to intubate the trachea. There appears to be a correlation with the size of the ETT and the difficulty in advancing it. Based on this study we recommend the use of Parker® Flex-Tip ETT when performing a tracheal intubation with the aid of an intubating stylette (i.e.: Eschmann, Bronchoscope, etc.)

Endotracheal Intubation Scores for Mallinckrodt and Parker ETTs



Differences between groups were compared using Student's t-test