

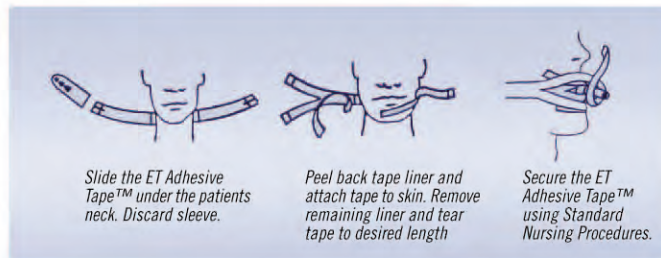
Conventional adhesive tape vs. MARPAC's ET Adhesive Tape™

MARPAC's ET Adhesive Tape™ was compared to conventional adhesive cloth tape in an independent study conducted at Georgia State University. The results of the testing, which used a randomized crossover comparison, demonstrated that the MARPAC ET Adhesive Tape™ can sustain a greater load before displacement occurs and took less time to apply than conventional adhesive cloth tape. Based on the study, MARPAC's ET Adhesive Tape™ was recommended for use in emergency situations where time and stability are important.

Junior respiratory therapy students wearing gloves intubated a mannequin with an 8.0 cm outside diameter endotracheal tube. The time it took for each student to secure the tube using conventional adhesive cloth tape and MARPAC's ET Adhesive Tape™ was measured. Fifty-three percent of the gloved students strongly agreed that MARPAC's ET Adhesive Tape™ was much faster and easier to apply. In addition, weights were added every 10 seconds to measure any displacement of the tube, with the total weight necessary to force a 2 and 3 centimeter ETT displacement recorded for each product. The results demonstrated that it took greater force to displace the ETT secured with MARPAC's ET Adhesive Tape™.

The ETT tends to become dislocated or dislodged in adult mechanically ventilated patients with head movement since it can move as much as two centimeters. Based on data from the study, overall rates of inadvertent or accidental extubation ranged from 1.6 percent to 21 percent. Providing a secure positioning of an endotracheal tube (ETT) is critical to avoiding an accidental, life-threatening extubation.

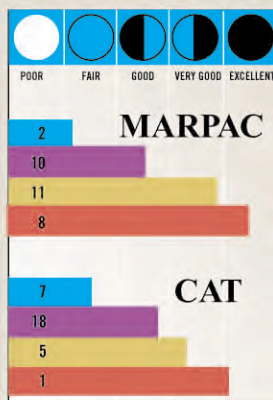
Now, you have a viable choice. For more information on MARPAC's ET Adhesive Tape™, call 800-334-6413 or visit www.marpac.biz.



ABSTRACT

Background: Even though there are a variety of methods to secure an endotracheal tube (ETT), evaluation of their safety and efficacy is limited. The method most commonly used in a patient is the conventional adhesive cloth tape (CAT). There are, however, various endotracheal tube holders that claim to ease the process of securing the endotracheal tube and be more effective and safer than the regular adhesive cloth tape. The ET Adhesive Tape™ (MARPAC, Albuquerque, NM) is composed of a soft, cotton/foam latex-free neckband that utilizes hypoallergenic adhesive tape. Our study compares the conventional adhesive cloth tape with the MARPAC holder. **Methods:** Thirty-one junior-year respiratory therapy students from our baccalaureate program volunteered to participate in the study. They were instructed on appropriate use of both methods to secure an ETT by the same faculty member. Evaluation of both methods was achieved by comparing the time students spent securing an ETT on a Laerdal mannequin. Subjective parameters such as ease of use, and control of the ETT were assessed by using a likert scale. Safety and security of both methods were evaluated by measuring displacement of the ETT at different weight loads in the laboratory.

Statistical Analysis: Pairwise comparisons were made between initial displacement at 0.5 kg of weight, time, overall time and displacement weight at 2 and 3 cm using SPSS statistical software (*SPSS for Windows: Release 11.5. Chicago: SPSS, Inc, 2002*). Descriptive statistics for student responses were recorded. **Results:** Most participants strongly agreed that the MARPAC holder was easier to apply than the CAT (53 percent versus 11 percent, respectively). They also gave the MARPAC holder the higher overall ratings. There was a statistically significant difference between both methods when time of application ($p=0.001$) and ETT displacement at different weight loads were analyzed ($p=0.001$).



Participants' overall rating on each of the two endotracheal tube securing methods.



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Conclusion: The results of this study suggest the the MARPAC holder can sustain a greater load before ETT displacement is observed and takes less overall time to apply than the CAT. The MARPAC product would be more appropriate in emergency situations where time and stability are important. We would recommend the MARPAC holder as a Class IIB recommendation as classified by the American Heart Association when intubation of a patient is needed. Although the study found statistically significant differences between the CAT and the MARPAC holder, a prospective randomized comparative clinical study to test both methods is necessary. Variables such as facial skin integrity, ETT displacement, rate of inadvertent extubation, cost analysis, patient and clinician satisfaction, also need to be evaluated.

Participants' likelihood of future use of the two endotracheal tube securing methods.

