Thermosoftening of the Parker Flex-TipTM Tracheal Tube in Preparation for Nasotracheal Intubation

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The Parker Flex-Tip tracheal tube (PFTT, Parker Medical, Highlands Ranch, Colo) has a soft, flexible, curved tip with double Murphy eyes. Previous studies have shown that the PFTT reduces the incidence of epistaxis during nasotracheal intubation and the incidence of postintubation nasal pain, as compared to conventional tracheal tubes. Although thermosoftening is a well-known and effective technique for reducing epistaxis during nasotracheal intubation with conventional tracheal tubes, we occasionally encounter difficulties with advancing the tube through the nasal passage when the PFTT is thermosoftened prior to nasotracheal intubation. Consequently, when using the PFTT for nasotracheal intubation, the procedure of thermosoftening should be avoided.

Key Words: Thermosoftening; Tracheal tubes.

Nasal intubation is often required for dental and oral surgical procedures to facilitate complete surgical access to the oral cavity. Various complications resulting from nasotracheal intubation have been reported. However, the most common complication of nasotracheal intubation remains nasal epistaxis.¹ The incidence of nasal epistaxis is high, ranging from 18 to 77%.²

The Parker Flex-Tip tracheal tube (PFTT, Parker Medical, Highlands Ranch, Colo) has a soft, flexible, curved tip with double Murphy eyes. Prior et al³ reported that the PFTT may be safer by causing less trauma and bleeding than the standard tube for nasotracheal intubation. A previous report from our hospital has demonstrated that the PFTT reduces the incidence of epistaxis during nasotracheal intubation and the incidence of postintubation nasal pain, as

compared to conventional tracheal tubes.⁴ Although thermosoftening is a well-known and effective technique for reducing epistaxis during nasotracheal intubation with conventional tracheal tubes,⁵ we occasionally encounter difficulties in the nasal passage when the PFTT is thermosoftened prior to nasotracheal intubation.

During nasotracheal intubation, the distal tip of the endotracheal tube is inserted through the naris into the oropharynx. At this point, the endotracheal tube can impinge on the posterior wall of the nasopharynx, where the nasal passage turns acutely.⁶ The soft distal tip of the PFTT becomes softer with thermosoftening,⁷ and may easily collapse upon impact. Xue et al⁸ described how the PFTT may collapse upon impact, even if it has not been thermosoftened. We suspect that the tip of a thermosoftened PFTT does not slide smoothly downward when pressed directly against the posterior wall of the nasopharynx, and can result in decreased navigability through the nasal passage.

Since thermosoftening of the PFTT may impair smooth navigability through the nasal passage, the PFTT

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should be used for nasotracheal intubation without prior thermosoftening of the tip of the tube.

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