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Forced Air Warming Can Facilitate Fiberoptic Intubations

To the Editor:—Fiberoptic instruments are useful for the management of the difficult airway. Proper preparation of the equipment, when time allows, greatly improves the ease of its use. Fogging of the scope after insertion and difficulty threading the endotracheal tube after visualizing the larynx are common encumbrances to the technique. Fogging results from the difference between the ambient operating room and body temperatures, combined with the heat-storing capacity of the scope. This is particularly a problem with metal scopes such as the Bullard laryngoscope. Defogging solutions are helpful, but they do not completely solve this problem. Continuous oxygen insufflation through the suction port as described by Cooper *et al.*¹ also can be used to keep the laryngoscope clean from secretions and condensation, but this is not always successful. Warming up the scope to body temperature is the best way to keep the lens clear

of condensation, and forced warm air devices offer a convenient solution. After placing a lubricated endotracheal tube on the Bullard stylet or flexible fiberoptic scope, the assembly is loosely wrapped in a blanket, and the hot air hose is inserted into one end of the roll and secured with tape (fig. 1). The temperature is set at high (38°C), and in about 1 min the scope is ready to use. Difficulty threading the endotracheal tube through the cords often results from the inherent stiffness of the tube. Brull *et al.*² demonstrated that the more flexible spiral wound endotracheal tube was significantly easier to pass than a standard tube when using a flexible fiberoptic scope. Warming a standard endotracheal tube makes it similarly malleable and avoids the added cost of these special tubes (\$1.57 *vs.* \$28.50). In addition, with the Bullard scope, the alignment of the distal stylet with the larynx becomes less crucial with a more flexible tube, and intubation is much easier. This method is simple and cost effective.

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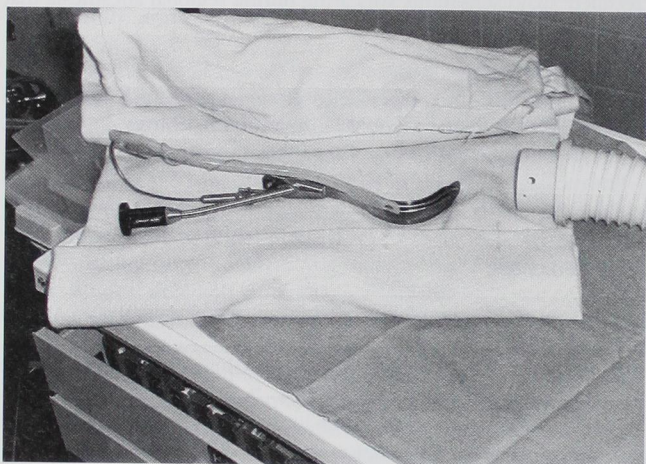


Fig. 1. The laryngoscope-endotracheal tube assembly along with the hose from the forced air unit. In actual use, the laryngoscope and endotracheal tube are wrapped in the blanket with the warming hose inserted into one end.