Occlusion of an Endotracheal Tube Connector

To the Editor:—Following intubation of the trachea in preparation for a tonsillectomy, it was found to be impossible to hear breath sounds or to ventilate the patient’s lungs. An Ayre’s circuit had been used for a mask induction without difficulty. The Portex endotracheal tube was immediately withdrawn and inspected for patency. Appearing patent, the same tube was reinserted into the trachea. Again the anesthetist was unable to ventilate the patient’s lungs, and the endotracheal tube was withdrawn.

Upon closer inspection, it was found that the connector (Dupaco 30340) was totally occluded by a thin, almost invisible plastic membrane just inside its small end. As figure 1 illustrates, the membrane was visible only when the light struck it at an oblique angle.

The connectors are packaged by our supplier on a piece of cardboard under a clear plastic film that is applied with heat and a vacuum. The manufacturer (Dupaco) was unaware of this procedure. In the packaging process the plastic material was drawn into the connector, and it remained there when the connector was removed from the package.

Fortunately, the membrane was not dislodged by positive pressure while the tube was in the trachea. This potential disaster occurred because a new piece of equipment was not tested for patency before being put into service. The second chance at finding the defect was lost when the entire anesthesia circuit, including tube and connector, was not tested for patency before use.

A. Colin McKInley, M.D.
Director, Out-Patient Anesthesia Services
Surgery Center
Department of Anesthesiology
Crouse–Irving Memorial Hospital
Syracuse, New York 13210

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Fig. 1. Connector with the film occluding the end (left) and with the film removed (right).