

## Hazard of an Anesthetic Scavenging Device

*To the Editor:*—Modern operating rooms are equipped with scavenging devices for removal of anesthetic gases. We wish to report a hazard related to the use of the Foregger-Air Products Scaveng-Or Gas Evacuator. This scavenging device is a supply option on Foregger or Dupaco Anesthesia machines, or may be added to any other anesthesia machine.

This system utilizes hospital vacuum to evacuate waste anesthetic gases. In the case of our equipment,

patient suction and scavenging suction originate from the same vacuum source. The Scaveng-Or Evacuator incorporates both a positive-pressure relief valve and a negative-pressure relief valve (both spring-loaded) to prevent excessive build-up of positive or negative pressure in the patient breathing circuit. A restrictive orifice is incorporated in the vacuum hose fitting and consists of a plastic plug drilled with a small hole seated in the distal end. The purpose of this orifice is to limit evacuation of gas from the patient circuit to about 10 l/min regardless of the pressure applied by the central vacuum source. Absence of the restrictive orifice permits full vacuum force to be applied to the scavenger safety interface. This exceeds the capability of the negative relief valve to function adequately, and negative pressure may be applied to the patient breathing circuit. This is an extreme hazard, especially when a low-flow, closed-circuit technique is used. Purchasers of this scavenging device should be aware that it may be supplied with an inappropriate vacuum hose connection or absent restrictive orifice.

An early warning of the scavenging device malfunction is that the machine suction is weak or fails to perform. This occurs when the remaining suction is diverted to the scavenging device.

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*(Accepted for publication March 16, 1979.)*

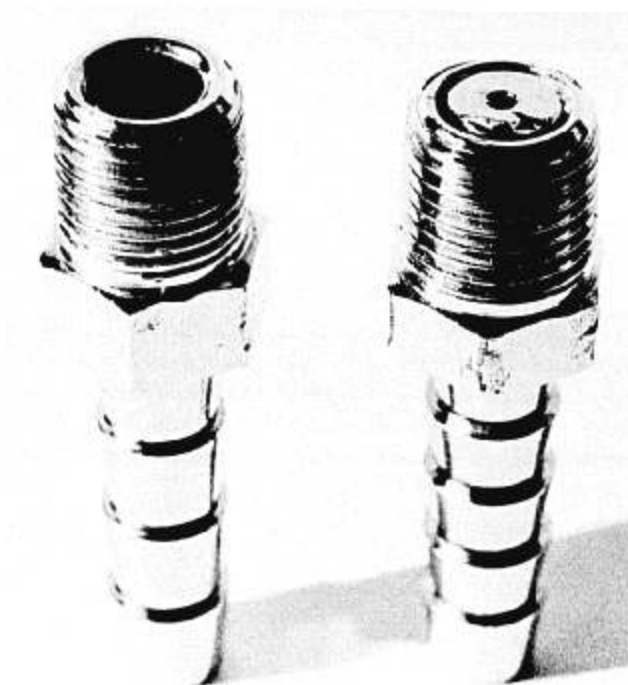


FIG. 1. Connector, with the restrictive flow orifice absent on the left, present on the right.

## Buckled Adaptor

*To the Editor:*—We recently observed a potential complication during routine fiberoptic bronchoscopy. A new 9-mm ID endotracheal tube (American Hi-Lo) was shortened preoperatively by removing the adaptor, cutting 4–5 cm from the tube, and reinserting the adaptor. The tube was then inserted into the trachea during general anesthesia. The surgeon, however, was unable to pass the bronchoscope beyond

the region of the adaptor. Inspection after removal of the fiberoptic bronchoscope revealed an invagination of the adaptor (fig. 1) that had allowed for adequate ventilation but not insertion of a bronchoscope. Subsequently, however, we have observed on more than 200 occasions using both American Hi-Lo and Lo-Pro tubes the finding that the adaptor did not buckle when reinserted into the lumen of a transected endotracheal