

piece. The illustration shows a plastic box that holds an S-shaped set of 30 F and 32 F nasopharyngeal airways, plus a 26 F nasopharyngeal airway and a 20 F portex endotracheal tube (shortened to 8 cm.), plus individual tubes of lubricant. The kit will easily fit in the pocket.

Certain safeguards and features are essential: proper size, proper length, and a flange to prevent too deep insertion. Proper sizes might be 20F-26F for children and 30F-32F for adults. Proper length guards against triggering vomiting, laryngospasm or entering the esophagus. The tip of the tube should be visible just past the soft palate. The Robertazzi airways are generally suitable in length and have a stopping flange.

Endotracheal tubes would have to be shortened suitably and provided with a stopping flange. Obviously the tubes should be smooth and soft. A lubricant is usually needed to insert a nasal tube and this may be furnished in an emergency by water or saliva (the victims). A kit can contain lubricating jelly.

Dr. Mattick will welcome criticism of the device and results of field experience in its use.

A Combination Endotracheal Extension and T-Tube

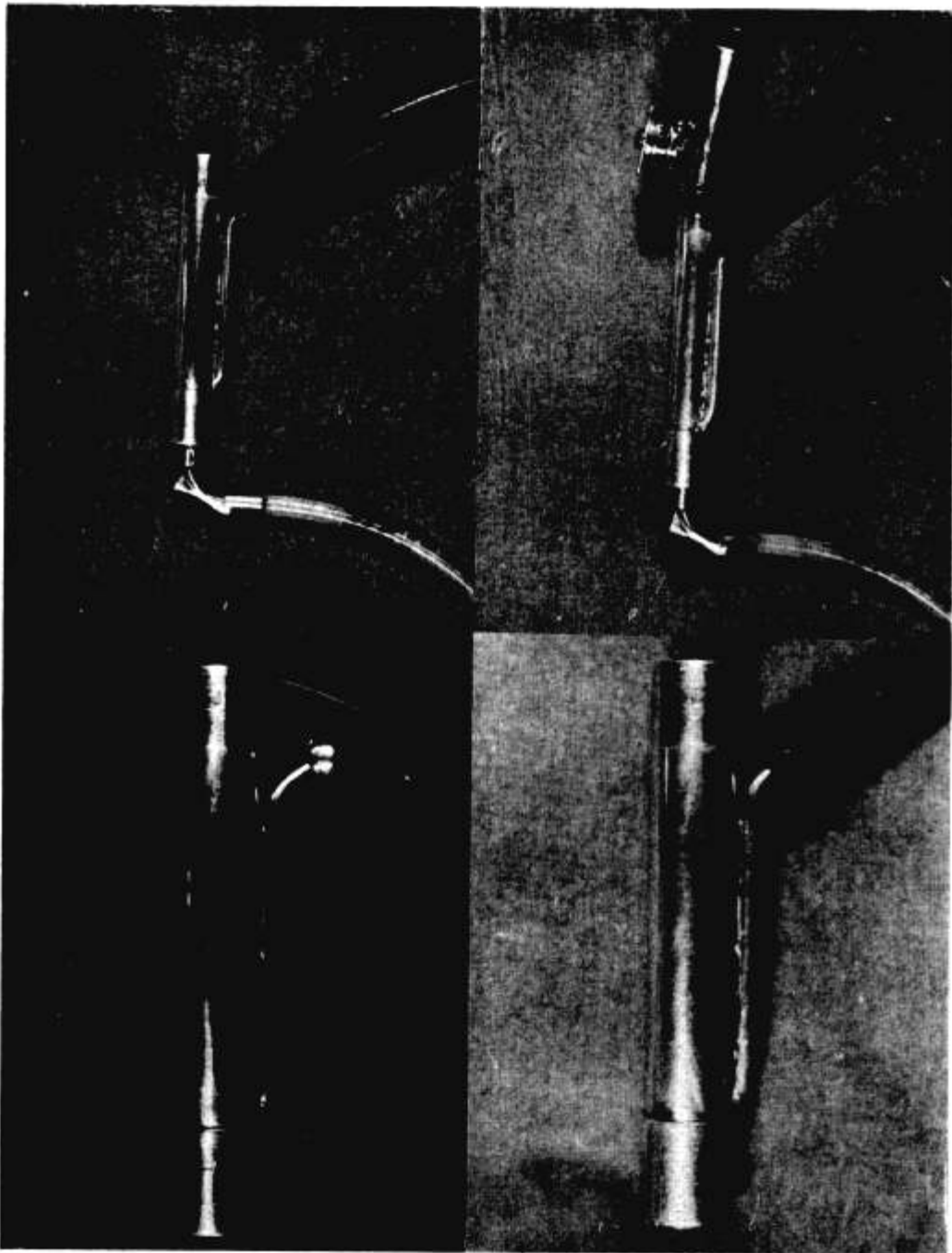
Dr. Frank W. Summers, of the Los Angeles County Hospital, designed a combination of an endotracheal extension tube and the Ayres T-tube that is a useful accessory in children and adults.

Inflow gases enter the tube adjacent to the endotracheal connector and with appropriate flow rates wash out the mechanical dead space usually present in extension tubes. While this amount of dead space is insignificant in adults, it may represent half of the tidal exchange in a newborn.

Used as a T-tube, the accessory fits standard 15 mm. endotracheal connectors on one end, thus eliminating clumsy rubber tubing often used for connections. The other end of the tube may be connected to standard Y-piece for conversion to circle filter technique. Since the connection for gas inflow is at the

distal end of the accessory, the gas inflow tube is removed from the surgical field in surgery of the head and neck. This feature has been most useful for T-tube technique in cleft palate and other plastic procedures. For tonsillectomy the rubber gas delivery tube is eliminated from the surgical field and does not drag from the edge of the mouth. The internal diameter of the accessory is 11 mm. Ayres and others recommend that the minimum diameter of T-tubes be 1 cm., even with infants. Smaller diameters cause marked resistance to respiration from back pressure of inflow gases.

The extension T-tube is very lightweight ($\frac{3}{4}$ oz.), being made of aircraft aluminum, and decreases drag on the endotracheal tube from weight. The length of the tube is 10 cm.



Combination endotracheal extension and T-tube.