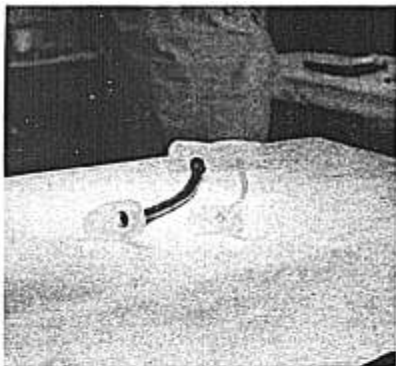


long. At both ends there are elliptical shaped concave mouth pieces. There are three sizes of mouth pieces—adult, child and infant. The operator places it over the patient's mouth, takes a deep breath, applies gentle pressure to get a good fit over the mouth and expel his breath as forceful as is necessary to raise the chest. The same procedure is followed as Dr. Safar has described to maintain a clear airway. (See illustrations.)

ROBERT A. BERMAN, M.D.  
Far Rockaway, New York



*To the Editor.*—May I comment on the tube with two oral masks which Dr. Robert Berman recommends [see previous letter] for mouth-to-mouth breathing.

Before recommending any instrument or method for emergency artificial respiration I would suggest evaluating it in the hands of laymen who perform on unconscious and paralyzed subjects. With some methods trained anesthesiologists produced good ventilation while laymen failed.

My guess is that mouth-to-mouth breathing with Dr. Berman's tube may prove less effective than mouth-to-mouth breathing *without* the use of equipment, for the following reasons: (1) Obstruction by the lips and teeth is not prevented. (2) Pharyngeal obstruction by the sagging tongue is poorly prevented. Dr. Berman's picture (see above) shows no forward displacement of the mandible. Also pressure against the rescuer's mouthpiece tends to push the victim's chin downward. (3) Air leakage through the nostrils does not appear to be prevented (different positioning of the fingers could correct points 2 and 3).

Our studies indicate that the use of an artificial oropharyngeal airway is desirable. We studied airway patency in 80 unconscious patients who received no curare drugs and were breathing spontaneously. When the neck was flexed (chin down) all patients showed airway obstruction. Fifty per cent of the patients had a patent natural airway with extension of the neck only (chin up). The other 50 per cent required either forward displacement of the mandible or insertion of an artificial oropharyngeal airway in addition to extension of the neck. Unfortunately in our experiments on curarized subjects, laymen had more difficulty with forward displacement of the mandible than with insertion of an artificial oropharyngeal airway. Ten per cent of the 167 untrained rescuers failed with direct mouth-to-mouth breathing, mainly because they supported the mandible poorly. All 87 untrained rescuers who performed mouth-to-airway breathing were successful and inserted the airway within 45 seconds. Fifty per cent of them had never seen an artificial oropharyngeal airway before.

How many persons in need of artificial respiration are not relaxed? Most actual mouth-to-mouth resuscitations which I have seen outside the operating rooms were performed on limp persons (with exception of convulsing patients). The "stiff" asphyxiated victim usually was not apneic but suffered from airway obstruction (for instance, coma from brain injury).

PETER SAFAR, M.D.  
Baltimore, Maryland

## ANNUAL MEETING

THE AMERICAN SOCIETY OF ANESTHESIOLOGISTS, INC.

October 19-24, 1958

Pittsburgh, Pennsylvania

(Preliminary Program, Page 709)