

AN IDEA FOR THE ELIMINATION OF FACE MASKS IN ANAESTHESIA

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For a long time we have been dissatisfied with the use of face masks for the delivery of anaesthetic gases. The mortality and morbidity in masks is quite considerable. The rubber face pieces, sometimes made of foam rubber and sometimes of inflatable tubing, wear out in a very short time. The spigots get lost or, with constant sterilization, the rubber perishes or stretches so that the soft pad no longer fits the metal or hard-rubber dome.

In addition the Claussen harness is not an entirely satisfactory method of fixing the mask on to the face; so often one sees the pressure marks of the mask on the face—oedematous orbits and so on—where efforts have been made to obtain a snugly fitting face-piece; the anaesthetist, too, is hampered by having to maintain pressure on the patient's jaw, both to keep the mask on the face and to see that the airway is not obstructed, which is productive of cramped hands and tired forearms. It has also seemed to us that a great many intubations are done unnecessarily.

In order to dispense with these disadvantages we have devised a more efficient and relatively simple method and, having tried it out on several cases, we find it works extremely well. Photographs of the air-way, which has been made locally, are shown in Figs. 1-3. The idea, it will be seen, is a simple one. To a standard rubber Guedel-type air-way is fitted an ordinary metal endotracheal connection, and a wide flange of soft rubber. The metal endotracheal tube is welded on to the metal inset in the air-way, and the soft rubber flange, elliptical in shape, has been vulcanized on to the existing small flange. This flange fits snugly between the gums and the lips, and laterally into the buccal sulci, thus producing a closed valve both on inspiration and expiration. The endotracheal connection is attached to the anaesthetic machine and gases are thus delivered directly through the air-way. Where a completely closed circuit is necessary, the nostrils can be closed either with strapping or with the type of soft rubber clamp that is supplied with the Sanborn basal-metabolic-rate equipment.

The way we have used the air-way is to introduce it after induction with intravenous pentothal, and the patients tolerate it very well without any preparatory cocainization. We usually give about 6 c.c. of a 5% solution fairly rapidly and then a further 2 c.c when breathing is resumed.

We have used the air-way in operations on the face as a trial, instead of intubation, and have found it to be entirely successful.

To summarize, the advantages of the air-way are the following:

1. It provides a completely airtight circuit.
2. It eliminates masks almost entirely.
3. In many cases it replaces the endotracheal tube.
4. It allows of concentrated delivery of oxygen when necessary in emergencies or for other reasons.
5. It avoids the constant discomfort to the anaesthetist of trying to maintain both an adequate airway and steady pressure on the mask to keep it in place.
6. It eliminates a certain amount of dead-space air—at least that contained in the dome of the mask, which may range between 90 and 180 ml. in adult-sized masks.
7. It is of considerable help to the general practitioner who is not familiar with the practice of intubation.
8. Its soft rubber flange moulds itself to fit all types of face—the fat, the cadaverous, the edentulous. The mask is a constant source of irritation in this respect.
9. It eliminates the clumsy bulk of the mask which, together with the weight of the tube and the metal escape valve, constantly tends to swing the patient's head over.

We are at present corresponding with a company with a view to having the air-way produced commercially in 3 sizes. The difficulty is to convince firms of one's own certainty that there will be a demand for such an air-way. From my own experience as a general practitioner interested in anaesthesia I feel certain that there is a very real place for such an apparatus.

