

knife has been known to have gone further than the trachea. Foremost of all, perhaps, it should have been mentioned that the parents have to be prepared for the undertaking, and all medical men know what a difficult and unpleasant task it is. This has to be done in both cases, but is not surrounded with the same difficulties in intubation as in tracheotomy. In the operation of intubation, the child is held up, the gag is placed in the mouth, the finger is passed into the mouth, the tube is directed into the larynx, and, the obturator being removed, the operation is performed. Surely celerity and simplicity can be used as strong arguments in its favor. But let us pass on to the after-results, for it is then that the great troubles with tracheotomy begin. The shortest time in which the canula can be dispensed with is a week, and the average in which it *has* been done is between three and four weeks; the difficulty lying in the fact that it is a very hard matter to wean the patient from the tube. In one of our cases we were three months, owing to the fact that, when it had been withdrawn for a few hours, it had to be replaced because of a spasmodic attack of suffocation coming on. Also, we must consider the fact of there being a surface exposed to infection, and the care with which the patient has to be watched as to temperature of the room, etc., for fear of bronchitis, pneumonia, due to the introduction of air into the lungs in such an abnormal manner.

It is needless to remark that no wound is necessary in intubation, and hence one source of infection is dispensed with, and also the liability to pulmonary complications is materially lessened. Then the tube in the larynx is removed on the fourth or fifth day, but exceptionally it has to be replaced again.

Having thus compared the two, let us proceed to reply to a few of the objections raised to intubation, which of course do not appear in a controversy regarding tracheotomy alone. The first one which presents itself to my mind, is the insertion of the tube into the œsophagus instead of the larynx, and the consequent swallowing of it. That this has happened, we need but refer to the reports of cases by the various operators, but it is all provided against by having a silk attached to the tube of the proper length. The silk is never removed until, by the

cough and voice of the patient, the attending physician is sure that the tube is *in situ*. Then, again, as to the coughing it up and then swallowing it, there are records of such happening, but, as yet, no trouble has been experienced in those cases which have gone on to recovery, and the tube has been passed per rectum.

Secondly, the slipping of the tube into the trachea. With the tubes of the latest date, it is impossible for such an accident, owing to the largeness of the head, and where it has happened, it has been traced to the using of too small a tube, or one of the old style. But let us quote Dr. Dillon Brown on this accident: "This is an accident which, I believe, has never happened, and which, I believe, can never happen when a proper-sized tube is used, except as a result of injury to the larynx, made in attempt at removal. . . . The occurrence of this accident has been reported three times, but it seems to me that a careful analysis of these reports will show that such has not been the case. It should be remembered that the head of the tube, even if pushed below both the ventricular bands and the true cords, will still remain in the larynx, being held by its narrow sub-glottic division."

Injury to the larynx or vocal cords during intubation should not occur if proper care be used, and one of the great points to observe is, not to use force. If the tube does not go in the first time, it should be withdrawn and a second attempt made. Pushing membrane before the tubes is one of the strongest objections to their use, but it is of exceedingly rare occurrence, and it seems to me when such has happened it has been due to the improper introduction of it; as the tube and obturator form a wedge and have a tendency to divide, and not push before. But some teach, to get the tube engaged in the larynx, slip out the obturator, and then push the tube home with the finger. Anyone can see that it then becomes a gouge, which is the very thing to be avoided, and is fully guarded against by the construction of this instrument. But if membrane be pushed before the tube, then it only remains to rapidly extract it, and endeavor to produce expulsion by exciting cough, or the forceps, made for that complication, may be used.

Again, it is asked: Of what use are the tubes when the membrane extends below their lower