

CASE 1—

Subject—Female, age 41, weight, 104 lbs; pulse 120.

Operation—Thyroidectomy.

Previous medication $\frac{1}{8}$ gr. morpine, 1-200th atropine, 20 minutes before operation.

Administration—Pulse immediately after induction was 110. During the operation it dropped to 100 then to 80. On recovery it registered 160. Time for induction was 3 minutes. Time for operation was 1 hour. Patient recovered sufficiently to speak in 20 minutes. She was, however, a little drowsy for a few hours. Amount of ether used was 5 oz. There was no after nausea.

Surgeons: Dr. Perfect and Dr. Harrison.

CASE 2—

Subject—Mrs. C., age 70, weight 112 lbs.

Operation—Breast amputation.

Administration—Time of induction 6 minutes. Operation, time 1 hour. Amount of ether used was 5.5 ozs. There was no after nausea and patient recovered before reaching room. Stated that she enjoyed going under.

Surgeons: Dr. Hay and Dr. Wesley.

Method 3—Oxygen semi-closed.

(a) *Gnathineys Apparatus.*—As you most likely know consists of three bottles connected together by a common cork tap arrangement; one bottle is used to wash the oxygen; a second contains ether, and the third contains chloroform. Either ether or chloroform can be switched on as required. The administration is controlled by the three-way tap arrangement on top. The ether saturated oxygen is conducted by means of a tube to a closely fitting face mask, to which is attached a re-breathing bag.

The value of this method was first drawn to my attention by Dr. Baldwin, of Columbus, Ohio, who was the first man to use highly charged ether in any moderated series of major cases. He drew to our attention over twenty abdominal operations which had been carried from start to finish with this apparatus. The amount of ether averaged per operation was from one to three ozs. The recovery was more rapid and there was less after nausea than would have occurred with ordinary ether. Concerning the anæsthetic power, when the tinned ether had been used by this method, they always had to use ethyl chloride to induce or they found it difficult to maintain the anaesthesia. Moreover, even with this added factor, about double the amount of ether was found necessary to bring about the same results.

(b) *OTHER APPARATUS AND MODIFICATIONS.* The first thought of is similar to the diagram on opposite page described below:

(c) Ether Ampule.

(d) Soft rubber bag through which oxygen feeds at the rate of about 10 litres per hour.

(e) Ether container.

(f) Tube to mask of patient.

METHOD OF OPERATING:

Mask is fitted tightly over face of patient. Ether is placed in "c" and tap "a" is opened. Tap "b" is then slowly opened. As more ether is required tap "a" is closed down. Excess re-breathing causing dyspnoea may be rectified by emptying "d." The whole apparatus is hung on the large oxygen tank.

This method is positively fool proof for our ether and will maintain patients uniformly at any depth of anaesthesia. With it the ether shows over double the anaesthetic value of tinned ether and the recovery is instantaneous. It has the advantage over Gnathineys'