SOME NOTES ON CONTINENTAL SURGICAL PROCEDURE.

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PART I.

I HAVE ventured to publish these short notes on the practice of some Continental surgeons in the hope they may be of interest to brother officers. They are chiefly drawn from the teaching of the Surgical Kliniks of Vienna and Bonn.

Anæsthesia. — A rapid method of producing general anæsthesia by ether, known as "Átherrausch," is much employed in Austria and Switzerland for the performance of minor operations, reduction of dislocations, and the setting of fractures, &c. A metallic mask very similar in construction to the facepiece of an Ormsby inhaler is used; 20 cc. of ether, to which two drops of ol. pini. pumol have been added, are poured upon the sponge. The patient is directed to take several deep inspirations (five to ten). The mask is then applied to the face, over which it should fit tightly, and the central opening almost closed by the hand. After a few minutes a second quantity of ether (20 cc.) is again poured on a sponge and the patient narcotised to the period of excitation. The mask is then removed and the patient allowed to take five to ten inspirations. On reapplying the mask it will be found in the great majority of cases that after a few minutes complete anæsthesia is induced, although sometimes a third 20 cc. may be required. The duration of such an anæsthesia is about ten minutes. The advantages claimed for this method are:

1. That owing to the admixture of ol. pini. pumol the disagreeable taste and smell of ether are not perceived by the patient;
2. that partly to the above volatile oil and partly to the short duration of the anæsthesia, bronchitis and pneumonia are almost unknown as sequelæ;
3. it is very suitable for elderly people;
4. after-effects, such as headache, vomiting, &c., are very rare;
5. the patient is able to walk about again in usually half-an-hour;
6. absence of danger.

Spinal Anæsthesia. — This method, although first employed so far back as 1885 by Leonard Corning, in America, had fallen into almost complete disuse until the last three or four years, when, owing to the work of Tuffier and Cathelin, in France, and Bier, in

1 Dumont. Handbuch der Allgemeinen und localen Anæsthesie, S. 50.
Germany, it has again come to public notice. Cocaine, tropacocaine, and B. eucaine have been largely employed, but are at present almost all abandoned in favour of stovaine.\(^1\) The solution for injection is prepared in the following manner (Bier): '05 grammes of stovaine is dissolved in 2 cc. of sterile water, to which adrenalin chloride, \(\mu\) gr., has been added. The liquid is then poured into a small glass tube and sterilised by boiling. The end of the tube can either be plugged with cotton wool or sealed in a flame. It is now ready for use and is stated to keep, especially if sealed, for a long period of time.

The technique of the injection is as follows (Bier): (1) The patient is made to sit on the edge of the operating table and directed to bend forward as much as possible (Tuffier position); (2) the skin of the patient's back is then most carefully cleaned and prepared as for an operation with hot soap and water, ether, alcohol, and finally, a solution of hydrarg. perchlor., 1 in 2,000; (3) the edge of a sterile towel applied from the highest point of one iliac crest to a similar position on the other will indicate the interval between the fourth and fifth lumbar spines; (4) the needle of the syringe, which should be 9 cm. long and 2 mm. in diameter, and provided with a stilet, is now introduced between the spinous processes of the lumbar vertebra in either the second or third interspace, taking care to keep in the middle line. If the patient is very sensitive the skin may first be frozen with an ethyl chloride spray. The needle is now thrust forwards and slightly upwards until the tough ligamentum subflavum is reached. On piercing this structure the needle will be felt to move forward quite easily, and at a depth of 6 to 7 cm. will, in the great majority of cases, be found to have entered the subarachnoid space. The stilet should now be withdrawn and cerebro-spinal fluid allowed to escape; it will spurt out if the patient is directed to cough. The quantity lost up to one or two cubic centimetres is immaterial; (5) the syringe filled with the solution of stovaine is now screwed on to the needle and the liquid slowly injected, and the instrument withdrawn; (6) the patient should then be placed in the recumbent position on the table, which meanwhile has been tilted head downwards. Anaesthesia begins in about one to two minutes, and is usually complete in six to eight minutes.\(^2\)

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2 Note.—The following accessories for use in spinal anaesthesia may be obtained direct from F. A. Eschbaum and Co., Bahnhofstrasse, Bonn. a Rh. 2 cc. syringe
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Cases in which Spinal Anaesthesia is Indicated.—(1) Old people; (2) in patients much weakened from various causes; (3) in cases in which general anaesthesia is contraindicated; (4) on field service.

Cases in which Spinal Anaesthesia should not be used.—(1) All spreading infective processes; (2) In all acute septic cases, e.g., septic arthritis.

After-effects.—Bier in his latest statistics gives the results of 102 successive cases of stovaine anaesthesia. In only eight were after-effects noticed, consisting of vomiting seven, and slight collapse one.

Technique.

Ligatures.—The Claudius-method of sterilising catgut has now stood the test of three years' experience, and appears to give universal satisfaction. It is extremely simple and cheap. The procedure is as follows:

(1) Commercial raw catgut is wound on glass reels; (2) these are then placed in a solution of potassium iodide 1 part, iodine 1 part, water 100 parts. This should be made by first dissolving the iodide of potassium and then adding the iodine finely powdered; (3) the reels are immersed in this fluid for eight days, at the end of which time the catgut is quite sterile and fit for use. It can be kept in this solution indefinitely.

Preparation of the Hands before Operation.—The following, which is the routine pursued in the Klinik of von Eiselsberg, in Vienna, is an example of perhaps one of the best foreign methods: The hands and forearms are first washed with ordinary soap in hot running water for ten minutes, by the hour glass (one of which is fixed to every wash-hand-stand), a sterile nail-brush being at the same time employed to thoroughly cleanse the skin. They are next washed with soap spirit and hot water for five minutes, in alcohol for three minutes, in a solution of hydrarg. perchlor., 1—2,000, for three minutes, and finally rinsed in hot normal saline solution.

The Wearing of Gloves.—The opinion of Continental surgeons

with two needles and stilet complete, Mk. 21.00. Stovaine: one box containing six phials 2 cc. each, Mk. 3.60.


2 Claudius. Deutsche Zeitschrift für Chirurgie Bd. 64, S. 489.
appears to be unanimous, that while the use of india-rubber gloves in aseptic cases is a matter of individual taste, they should always be worn in septic cases, not to protect the surgeon but to keep his hands surgically clean. Some operators, of whom von Eiselsberg is an example, follow Mikulicz in wearing white cotton gloves for aseptic cases, and change them frequently during the operation.

**Sterilisation of Dressings.**—A very simple method is employed in the Klinik of von Eiselsberg, in Vienna, for determining whether dressings, towels, gowns, &c., when treated in the steriliser, have really reached a temperature of 100° C. Slips of common, unsized paper are first dipped in a solution of starch, dried, and then immersed in tincture of iodine. When dry they are a deep blue-black colour and are ready for use. These strips are placed among the dressings, and will be found to turn quite white if the heat in the sterilising chamber has reached 100° C. They form a very useful check on the person in charge of the steriliser, and from personal experience can be strongly recommended.