wall in young people is so easily retracted to the side of the operation.

In one patient the top of the urinary bladder entered the canal and was firmly incorporated with the neck of the sac. This is a complication not uncommonly met with, and makes radical treatment of the neck of the sac difficult and inefficient when the operation is performed by the ordinary method. By the method I have described the bladder was placed easily and efficiently in its normal position, and the peritoneal opening of the sac was closed at the peritoneal surface. The appearance of the parts in this patient suggested a congenital malformation in the relation between bladder and peritoneum in this region. In one patient suffering from a femoral hernia I performed practically the same operation. It was easy of accomplishment. I turned up a square inch of periosteum from the underlying pubes and attached it to the under surface of Poupart's ligament and the outer margin of Gimbernat's ligament.

The operation would not be so applicable to inguinal hernia in which intestinal adhesions existed within the sac. So far, I have operated on selected cases.

The operation is conservative. I have made no allusion to its performance by other surgeons because I can find no records. I hope I have not overlooked any record of this kind.

OPEN ETHER, WITHOUT CHILL.

BY

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THE advocates of warm ether have shown that the best temperature for the vapour is about body heat. If a thermometer be placed in the wool face-piece of an ordinary open-ether mask, with the bulb projecting over the patient's mouth, it will be found to rise to about 98° or higher, according to the patient's temperature. That, of course, is the maximum, and will occur on expiration; the minimum will occur when the intake of the patient's breath draws air through the half-frozen lint. If this inspiration temperature could be avoided, and something approaching the expiration temperature maintained, the administration of open ether would be freed from one of its chief objections. With this object, I tried a mask with a double dome of gauze, and intervening cavity in which the cold vapour and warm expired air would mix. The patients seemed less to resent the induction of anaesthesia than with the ordinary single dome.

Further experimentation, with the help of Mr. Harold Behrens, resulted in a metal chimney, about 8 in. high, built upon an ordinary mask. The open top of the chimney, 4 in. in diameter, was closed with a "drum" of gauze (two thicknesses of the material as it unrolls from the packet, or, for a robust patient, three thicknesses) clamped by a ring. This is kept just saturated with ether. The chimney narrows in the middle to a "waist" 2½ in. in diameter; and here is another "drum" of gauze, a single layer only, clamped between the upper and lower halves of the chimney. A third layer of gauze, also single, forms a dome in the lowest part of the chimney. Between the top "drum" and the "waist" the vapour is cold, as is indicated by condensation of moisture on the outside of the chimney. But the lower half of the chimney is free from condensation, and comfortably warm to handle, for the vapour within it is automatically warmed by its admixture with expired air.

In actual use anaesthesia is very smoothly induced and maintained with this mask; and I think that ill effects of ether—salivation, bronchial secretion, liability to pulmonary disorders—are reduced. (The aid of atropine is assumed.)

A small point in favour of the method is that the ether is kept from contact with the face. A more important advantage of this apparatus is that it induces deep breathing; the percentage of CO₂ in the chimney ensures that; but no cyanosis occurs, and there is less of the suffocating sensation caused by the gauze drums than by the ordinary lint mask. The sustained, deep, quiet breathing, noticeable when this mask is used, must be valuable as a cardiac auxiliary; and, by aspirating blood from the abdomen into the great veins in the thorax, must help to prevent shock.

The mask can be obtained from Messrs. Browne and Sayer, 30, Highbury Place, London, N.5.

EIGHTY-EIGHTH ANNUAL MEETING

OF THE

British Medical Association

Held at Cambridge, June 30th to July 2nd.

PROCEEDINGS OF SECTIONS.

SECTION OF PHYSIOLOGY AND PHARMACOLOGY.

Professor F. GOWLAND HOPKINS, F.R.S., D.Sc., F.R.C.P.,
President.

DISCUSSION ON ACIDOSIS IN DISEASE.

OPENING PAPERS.

I.—Professor F. GOWLAND HOPKINS, M.B., D.Sc., F.R.S.

OUR discussion, if its scope is to correspond with what is indicated by its official title, will deal with two related but sufficiently different sets of phenomena. We are faced, indeed, at the outset with some questions of nomenclature.

As a result of historical developments the term "acidosis" has come to have at least two meanings, and as consistency in nomenclature is a matter of real moment it would be satisfactory if discussion to-day could secure as one of its results the final removal of any ambiguity in the use of the term. This outcome would add to the comfort of those who think and write about such matters and prevent confusion of thought among others less well informed.

The first use of the term "acidosis" is usually ascribed to Naunyn, though I think it was in use for a year or two before, in 1906, he applied it to that condition of arrest in metabolism which leads to the circulation and excretion of hydroxy-butyric and diacetic acids. The use of the term in Naunyn's sense became well established, and, in clinical writings at least, it is frequently so used to-day. Such is the nature of the word, however, that it is not surprising that it should have become gradually applied to other conditions in which increased production in the body of acid substances of any sort is suspected. Finally, we find it applied to all conditions in which the acid-base equilibrium of the blood is upset in the sense of a diminished reserve of available base.

While the appearance in the blood of the special acids just mentioned does, under conditions, seriously alter the acid-base equilibrium, the disorder in metabolism which produces them may exist without leading to any significant disturbance in this sense. Van Slyke and Cullen state, for instance, that they have observed the excretion of 20 grams of acetone bodies (calculated as hydroxy-butyric acid) per litre of urine without the coincidence of an abnormally low plasma bicarbonate. It is clearly undesirable therefore that the same word should cover states of the body which may in effect be very different.

Every one, I think, will agree that, logically, the term "acidosis" should be confined to conditions which involve changes in the reaction of the blood, and since "acidity" in the older sense of the word is so rarely, if ever, established, we shall do well, in my opinion, to accept—as so many authors have now accepted—the definition of acidosis as a condition in which, even though the actual hydrogen-ion concentration (the "reaction") of the blood is little altered, or unaltered, there is a diminution in its potential neutralizing power, a lessening of its "reactivity." We may do well to go somewhat further and speak of "uncompensated acidosis" (Hasselbalch and Gammeltoft) when there is actual increase in the hydrogen-ion concentration C_H and of "compensated acidosis" (Van Slyke) when there is none.

Although it needs an actual change in the C_H of the body fluids to produce an immediate result of any sort, it is, I think, quite wrong to speak of a depletion of the alkali reserve (unless it be a wholly temporary phenomenon) as though it were of no importance. It affects potentialities. An individual displaying diminished alkali reserve is not in a position of equal safety with one in whom the reserve is normal. The former, unlike the latter, may, for instance, become perceptibly dyspnoeic on slight exertion, and he will become more intensely