

Having passed the tube into the stomach the contents can usually be obtained by expression, but sometimes patients lose control of the abdominal muscles, and cannot compress the stomach so as to force the contents through the tube. In such, some form of aspirator should be used—an ordinary family syringe may suffice. Sometimes the failure is due to introducing the tube too far, and withdrawing it a few inches slowly is often successful.

It has been objected that the use of the stomach tube is disgusting, offending the refined tastes of the better class of patients. But viewed in that light, how much more disgusting is a rectal, or even a vaginal, examination! Fear, not disgust, is the prevailing feeling against its use: at least, so far as my experience goes. It is a matter of education. Were we to regard, as we should do, the examination of the stomach, in diseases of the digestive organs, as essential as does the gynaecologist the examination of the uterus, the idea of its being offensive would never occur to either patient or physician. This is more than can be said of the work of either the rectal surgeon or the gynaecologist.

For accurate scientific examination of the stomach secretions, considerable time and fairly extensive laboratory appliances are requisite, so that, for most physicians in active practice, easy and approximate results will have to suffice, and for the treatment of most cases, such results will meet our needs on the whole satisfactorily. If it be objected that to be useful and reliable our results should be accurate, I would remind you that few of us insist upon such accuracy in urinary examinations. How few ascertain the amount of albumin by weight, or estimate precisely the amount of urea in the urine. Yet we find it necessary to know approximately the state of the urine in most diseases; we find such estimates usually all serve practical purposes. So in time I have no doubt that we will not be satisfied without a general estimate of the stomach secretions in diseases affecting the digestive tract, leaving exact analysis for the well equipped laboratories.

In any given case, or in comparing different cases, in order to obtain results from which useful conclusions can be deduced, it is self evident that examinations must be made under similar circum-

stances as to food, time after eating, etc. An abundance of albuminous food calls for an abundance of gastric juice to saturate it—much more so than a light meal of farinaceous material. An examination, therefore, after a mixed meal will give much more complicated results than after one of a lighter nature, and the results would probably be more useful. To obtain uniform conditions, Ewald advised examination after a "test breakfast," consisting of a dry roll, or a round of toast, a cup of water, or of weak tea or coffee without milk or sugar. This furnishes nothing to become offensive should decomposition take place, yet it contains all those classes of food, and what remains to be aspirated after an hour's digestion is of such a liquid nature as to pass through the tube easily. It is, however, often desirable to withdraw the contents of the stomach after ordinary meals to ascertain the time required to complete the digestion of a meal, so far as the stomach is concerned, or whether the stomach disposes of one meal before another is taken. It is not unusual in some persons to find in the stomach the remains, often copious, of the food taken during twenty-four or even forty eight hours, and that, too, without producing much conscious disturbance.

The contents of the stomach, if withdrawn during the first thirty or forty minutes of digestion, should owe its acidity to lactic acid, as can be easily demonstrated by Uffelmann's test with a solution of carbolic acid and chloride of iron, after an hour's digestion the lactic should be replaced by hydrochloric acid, with more or less acid salts. The total acidity should be within certain defined limits, either above or below which indicates an abnormal condition. The presence of free hydrochloric acid is readily demonstrated by Gunzberg's test with phloroglucin-vanillin solution. Experience with it enables one to judge fairly well, by the depth of colour obtained by the test, as to the amount of hydrochloric acid present. To be more accurate, we can, by successively diluting the stomach contents until the reaction to Gunzberg's reagent fails, obtain a fairly approximate estimate of the quantity of free hydrochloric acid present, since we know that this reagent will act until the dilution reaches one to twenty thousand.

Now, while it is of the utmost importance to be