

kilo. of body weight. If his work entails heavy labour he may require as much as 40 calories per kilo. An eleven-stone patient will require about 1,750 calories. The caloric value cannot be made up with excess of protein, as this results in wasting in the patient. It is necessary to satisfy the patient both as regards quantity and quality in his diet. The ideal diet must contain a sufficient caloric value and sufficient carbohydrate to prevent ketosis; it should be accurate and easy to calculate and should permit of some variation.

The Lawrence line-ration diet is very simple, and gives a wide variety. The patient's calorific requirements are first estimated. Each line of the diet represents 210 calories, and a patient may require eight, nine, or ten lines. If at 1,800 calories the patient has sugar in the urine and has to do heavy work then he must have insulin. Insulin must be given if the patient is (1) in a coma; (2) very ill and wasted; (3) suffering from complications.

#### NEW FORMS OF INSULIN.

Ordinary insulin commences to take effect in about twenty minutes, and this effect continues for three or four hours. To insure that the blood sugar does not rise above the normal level the patient, with severe diabetes, must have insulin three or four times a day. New forms of the drug have been introduced to prolong the effect. The first of these is protamine insulin. It is a simple protein made from the spermatic cells of fish. It is sometimes called "insulin retard," because it is not nearly so readily soluble in the tissues as ordinary insulin; it will only begin to act after four hours and the effect will last for eight hours. A more recent discovery is zinc protamine insulin. To the ordinary protamine insulin is added a milligram of zinc for every 500 units. This does not take effect until after eight hours and will last for twenty-four hours. The danger of those two preparations is obviously hypoglycæmia. This cannot be counteracted at once, as in the case of ordinary insulin, by giving two ounces of orange juice. The effect of the zinc protamine insulin being prolonged, it is necessary to prolong the treatment, so that the orange juice or sugar must be repeated at regular intervals until the action of the zinc protamine has come to an end. If zinc protamine insulin is given before breakfast and does not act for eight hours, it is necessary to give with it some ordinary insulin so that the breakfast will not raise the blood sugar too much. Often twenty to forty units of insulin are given in the morning with the zinc protamine insulin. The early morning specimen of urine should always be tested when the compounds are being used, as this shows best whether sufficient zinc protamine insulin is being given.

#### OBSERVATIONS CONCERNING THE INJECTIONS.

The following observations may be made in connection with the injections:—(1) The acidity of the insulin may cause the tissues to smart; (2) Occasionally an urticarial rash may develop when the patient has an idiosyncrasy to the proteins of certain animals. When this is so it is possible to change the make of the insulin. The British varieties are made from cattle, the American from pigs, and a change may sometimes benefit the patient; (3) Toughening of the skin and fatty atrophy of the underlying tissues may occur if the patient persists in injecting his insulin always in the same part of the body; (4) A syringe washed out in an alkaline solution will cause the insulin to lose its effect. If, by the time the end of the bottle is reached, its insulin is becoming milky, the probable cause is that the latter has become contaminated by some alkali and, in such a case, it should be thrown away.

#### TREATMENT OF DIABETIC COMA.

In diabetic coma the patient is unconscious. There is

acetone in the urine and large quantities of ketone bodies in the blood stream. Warmth is essential, and the patient must be put to bed at once. Coramine is a useful stimulant. Fluids should be given by mouth when possible; if not, then rectal, subcutaneous or intravenous drip methods may be adopted. A large quantity of fluid, given intravenously and rapidly, will overload the right side of the heart and cause failure of that organ, therefore the drip method is essential. Forty units of insulin are usually given, together with forty grams of glucose. The bladder is emptied of urine by catheter and a self-retaining catheter inserted. The urine is then withdrawn and tested every four hours. If at the end of four hours there is still sugar present the insulin and glucose are repeated.

Prolonged applause at the close of the lecture indicated that it had proved of very great interest to the members present, and the hope was expressed that at some later time they would have the pleasure of listening to a lecture by Dr. Barling again.

#### VISIT TO THE HEADQUARTERS OF ST. JOHN OF JERUSALEM AT CLERKENWELL.

Prior to the visit to the Headquarters at Clerkenwell a lecture was given at 194, Queen's Gate, dealing with the foundation and subsequent history of the Order of St. John of Jerusalem. It was felt that a certain familiarity with the story of the Knights would add to the pleasures we looked forward to in visiting Clerkenwell. We were met by Mr. Fincham, to whom, in its present incarnation, the Order owes so much not only as regards its reorganisation in modern times, but also because he has been instrumental in collecting so many treasures connected with the ancient history of the Order.

First St. John's Church was visited, and there we were given a short history of the Hospital, indicating that, although there is a legend that it was founded in the time of the Maccabees, its real origin probably lay in the year 600 A.D. Mr. Fincham then went on to tell us of Brother Gerrard and the foundation of the Order of Knights at the time of the first Crusade, and of later developments under Raymond du Puy, the first and one of the greatest of the Masters of the Order. The story of the Knights was followed through Acre, Cyprus, Rhodes and Malta and also the history of the Order in England. Unfortunately, space forbids us to repeat here the wonderful story of this the oldest order of Chivalry. We viewed the sides of the triptych, paintings belonging to the original Church and rediscovered and recovered so strangely on some chance evidence of their existence that Mr. Fincham was fortunate in finding; then we visited the ancient crypt.

Later we proceeded to the old gateway, and were shown the wonderful collection of treasures of the past. The antiquity of the ancient building with its old panelled walls filled the imagination with the visions of what had happened there in ancient times, when kings and queens and great potentates partook of the hospitality of Clerkenwell; it was a fascinating thought this, when we, in our turn, partook of hospitality extended to us by the Secretary-General, and thoroughly enjoyed most delicious tea and cakes, before dispersing after one of the most delightful of our long series of rambles to ancient places.

#### GIFTS TO THE CLUB.

Miss Swaby Smith—flowers, sweets and cakes; Dr. Coulthard—azalea; Mrs. McCarthy, Mrs. Ridley Richardson, Mrs. Ta Bois, the Misses Brown, Chappell, Chitson, Cutler, Hinvest, Maclean, Morris, Page, Parr, Robertson, Sellers, Skerritt, Thomson, Treasure—flowers.

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ISABEL MACDONALD,  
Secretary to the Corporation.

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