

owing to the great distances involved, and Executive meetings of the Association are, as a result, infrequent. The Association meets annually for Conference in different parts of India and the Executive Committee meets half-yearly.

It is usual for members of the Executive to travel long distances to attend these meetings.

At the Executive Meeting held in July, 1932, Nagpur was chosen as being the most central place in India, and each Committee Member who attended travelled over 1,500 miles and no single journey was shorter than 24 hours.

One feels that so much more might be achieved by the Association if it were possible to hold more frequent meetings.

There is great enthusiasm evident whenever the Association meets and one feels that the Trained Nurses' Association, though a small body is a very 'live' one.

The keenest interest is displayed in all the various subjects under discussion.

There are about 116 recognised Schools of Nursing in India, 50 of which are Government Hospitals, the remainder are Mission Hospitals.

Many of the hospitals in this great land are well equipped and are very beautiful.

M. E. ABRAM,

President, Trained Nurses' Association of India.

SIMPLE URINE TESTS

By a LABORATORY ASSISTANT.

Specimens requiring more than a brief preliminary examination are invariably sent to the laboratory, where the necessary apparatus and reagents required for a more detailed investigation are obtainable. For instance, the bacteriological and microscopical examinations are certainly best left alone as well as most of the quantitative tests, therefore the ward examination of urine is very often restricted to the following comparatively brief investigation:—

1. Total volume (in the case of 24-hour specimens).
2. Specific gravity.
3. Reaction.
4. Tests for albumin.
5. Tests for sugar.
6. Naked eye appearance (*i.e.* deposit blood, etc.).

Total volume.—This is hardly ever necessary as 24-hour specimens are not usually employed for such brief tests as are carried out in the ward test room.

Specific gravity.—The specific gravity is determined by means of floating a urinometer in a urine glass of the specimen under test and carefully noting the figure level with the top of the fluid. It should be remembered that a low specific gravity reading may be due to the patient having drunk an excessive amount of fluid, any pathological features present in such a urine might well be missed by reason of dilution. Normal figures for adults are 1.015 to 1.020, and slightly lower in the case of infants and very young children.

Reaction.—Normal urine is usually slightly acid in reaction, litmus test papers are employed for this purpose, blue litmus papers are, of course, turned red by acids and *vice versa*! red. blue by alkalis. One word of warning, litmus papers are very sensitive and should be carefully stored in a perfectly dry place.

Albumin.—The presence of albumin in urine always suggests the possibility of nephritis, its early detection when present is of paramount importance. Albumin is, however, very occasionally found in perfectly healthy urine. There are a number of very reliable tests available, the simplest and undoubtedly the most suitable for the ward test room, is the boiling technique. Urine with an alkaline reaction must be first acidified by the addition of two or three drops of 33 per cent. acetic acid.

Procedure of test.—Pour urine into a clean test tube, about two-thirds full, boil the top inch or so over a comparatively small flame, if a turbidity results add two or three drops of 33 per cent. acetic acid, and if this still persists on reheating, albumin is present. By only boiling the top layer of fluid ready comparison can be made with the unheated urine at the bottom of the tube, this procedure is very helpful in weak reactions.

Tests for sugar.—Of many tests available for the detection of sugar in urine, there are two which have obtained universal recognition, for though the relative merits of both 'Benedicts' and 'Fehlings' techniques have been much discussed, these two methods undoubtedly are the most widely used.

'Fehlings' test.

Solution 1.—

Copper sulphate, 34.65 grams.
Distilled water, up to 500 cc.

Solution 2.—

Potassium hydroxide, 125 grams.
Rochelle salt, 173 grams.
Distilled water, up to 500 cc.

Procedure of test.—In a clean test tube mix equal parts of solutions 1 and 2, boil the mixture and then add equal amount of urine, continue boiling for another two or three minutes. A positive reaction will be shown by the appearance of a yellowish-red precipitate, if no precipitate occurs add further urine and re-heat, stand aside and allow to cool, then, if no precipitate appears, the urine may be reported negative.

'Benedicts' test.

Benedicts reagent.—

Copper sulphate, 17.3 grams.
Sodium citrate, 173.0 grams.
Sodium carbonate, 100 grams.
Distilled water, up to 1,000 cc.

The sodium citrate and carbonate should first be dissolved in about 800 cc of water by the aid of heat, if necessary, then filter the mixture. Dissolve the copper separately in 100 cc. of water and slowly, with constant stirring, add to the main mixture, finally make the volume up to 1,000 cc. with distilled water.

Procedure of test.—Pour about 5 cc. of 'Benedicts' reagent into a clean test tube, add six to eight drops of urine and boil vigorously for one or two minutes, sugar is shown by the appearance of a red, yellow or green precipitate. Urine which, on boiling, shows no precipitate, should not be reported negative until it has been allowed to cool, for on occasion the appearance of the precipitate may be delayed.

Naked eye appearance.—Finally the specimen should be examined for presence of any deposit and if any present the colour and nature should be reported, also any staining of the fluid suggestive of blood should be carefully noted in the report.

It is a great mistake to ever report any finding (even if negative) verbally, much better to commit them to paper, preferably on the proper form bearing the patient's name, age, sex, ward, etc. In this way permanent record is always available of even the smallest investigation.

In conclusion, a few remarks upon the procedure of obtaining specimens. For a full chemical examination a 24-hour specimen is always required and, during the period of collection, the urine should be preserved by keeping in the ice box. Incidentally, it is not necessary to dispatch the whole of the urine collected to the laboratory, 8 to 10 cc. of a well mixed sample is ample; the specimen should, of course, go with a note stating the total volume passed in the 24 hours. Urine intended for bacteriological examination must be received into a sterile vessel and dispatched to the laboratory without delay. If the specimen has been obtained by catheter the laboratory should be advised.

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RED CROSS TRAINING SCHOOL FOR HEALTH VISITORS, MADRAS

The next session of the above School will open at the beginning of July. Applicants for training should be not less than 25 years of age, of School Final standard and possess a Registered Diploma in Midwifery. Stipends are available for suitable candidates. All applications should reach the Superintendent, Training School for Health Visitors, Red Cross Buildings, Monteith Road, Egmore, Madras, not later than March 1st.