

without fatigue when starchy and fatty foods are alone eaten . . . and there is reason to think that cod-liver oil is more easily absorbed than other similar substances" (Ringer). "It improves the digestive process, increases the proportion of red corpuscles in the blood, and invigorates the whole nutritive function" (Wood); and I believe it particularly sustains the energy of the brain during prolonged mental exertion. A gentleman in the foremost rank at the bar told me that, whenever he was engaged in a jury-trial which was likely to tax his energies to a greater degree than usual the thing which best sustained him was a good dose of cod-liver oil taken in the morning before going into court; and others engaged in mental work have confirmed this view. I therefore regard cod-liver oil as having, besides its other properties, a nutrient and tonic action on the cerebro-spinal nervous system. As a remedy for these nervous headaches, I only prescribe it once a day, beginning with a small teaspoonful immediately after breakfast, and gradually increasing the quantity to a tablespoonful, but not beyond, unless in exceptional cases.

You must take care to regulate the action of the bowels, but by no means have recourse to strong purgatives. Five grains of the Socotrine aloes pill, given at night are generally sufficient. If the bowels be habitually constipated, then no remedy seems to answer so well as the aloes and iron pill. Five grains given twice a day, half an hour before meals, will act freely; and in a few days you will have to diminish the dose, for the remedy possesses this advantage, that its effect is augmented instead of being lessened by continual administration, especially when strychnine is given at the same time. The natural waters of Friedrichshall or Marienbad may in many instances be of service, given as laxatives.

Besides the remedies to which I have called your attention, others have been recommended, such as arsenic and quinine, caffein, &c. Where anæmia is not a prominent symptom, they may sometimes be of service.

Lastly, you must lay down stringent rules for your patients with regard to diet and exercise, and you must impress upon them the importance of these rules being strictly observed.—*British Medical Journal*.

## DISEASES OF THE URINARY ORGANS.

### TABLE FOR THE EXAMINATION OF URINE.

By Dr. J. CAMPBELL BROWN, Lecturer on Chemistry and Toxicology at the Liverpool Royal Infirmary School of Medicine.

I.—Observe the colour and appearance of the urine, whether it is clear or turbid, and whether it contains much mucus.

A high colour may be due to BILE, BLOOD or PURPURINE; a pale colour may indicate excess of WATER, and frequently also GLUCOSE.

II.—Observe the reaction to red and blue litmus papers.

Normal urine is slightly acid; if the reaction is alkaline, and the red colour of the paper is restored on drying it, the alkalinity is probably due to ammonium carbonate from the decomposition of urea; confirm by observing whether effervescence occurs on the addition of an acid to the urine.

### III.—Observe the specific gravity.

a. If the specific gravity is above 1025, test for glucose by (1.) potash solution and heat; GLUCOSE gives a dark solution. (2.) Add potash and filter, if necessary, then add copper tartrate and more potash until a blue solution is obtained; on heating to the boiling point glucose reduces a red or orange precipitate of  $\text{Cu}^{\circ}\text{O}$ .

b.—If the specific gravity is high and sugar is not present, add to a portion of the clear urine in a deep watch-glass about one half its volume of cold concentrated nitric acid; a deposit of hexagonal plates of urea nitrate indicates excess of UREA. (Probably excess of phosphates and other salts will be found accompanying excess of urea.)

c. If the specific gravity is below 1012, this may be due to great dilution of the secretion with WATER, which will be further indicated by a large quantity passed in twenty-four hours; but it is more generally due to disease of the secreting organs, and is accompanied by albumen, the urine being then frequently alkaline, but sometimes acid.

IV.—Heat a portion to the boiling point in a test tube, albumen may be at once coagulated; add nitric acid drop by drop; a flocculent precipitate indicates ALBUMEN; confirm by adding to another portion of the urine acetic acid, filtering to remove mucus, if necessary, and then adding potassium ferrocyanide; a white precipitate indicates ALBUMEN. The deposit from an albuminous urine should be examined microscopically for CASTS, PUS and BLOOD GLOBULES.

Boiling alone may first cause a precipitate of CALCIUM PHOSPHATE, which will be re-dissolved on the addition of nitric acid. If a turbid urine is rendered clear by boiling the turbidity is due to urates.

V.—Add to a portion of the urine ammonia in excess; the white precipitate consists of ALKALINE-EARTHY PHOSPHATES; filter and add ammonium chloride and magnesium sulphate; the white crystalline precipitate indicates the amount of phosphate which was originally present as ALKALINE PHOSPHATES.

VI.—To another portion add ammonia and filter; then add ammonium oxalate; the white precipitate contains the CALCIUM as oxalate.

VII.—To another portion add nitric acid; divide into two parts; to the first add barium chloride; the precipitate contains SULPHURIC ACID as barium sulphate. To the second add silver nitrate; the curdy precipitate contains the CHLORINE as silver chloride.

VIII.—A dark brown or blue colour may be due to INDICAN, which is destroyed by nitric acid.

Any colour from that of Gregory's powder to an olive green tint may be due in part to bile.

(1.) Pour a layer of the urine (concentrated if necessary,) on to a white dish, and add concentrated