THE DETECTION AND ESTIMATION OF SUGAR IN THE URINE BY THE ELLIOTT METHOD.

(Read before the Chicago Medical Examiners' Association, May 8, 1902.)

THE essential qualities which should decide our adoption of a test for sugar in the urine are a suitable delicacy and a competent reliability of reaction.

The crudest chemical procedure will detect the presence of sugar when it exists in large amount.

A smaller quantity of sugar in the urine than two (2) grains to the ounce rarely awakens suspicion of its presence by giving rise to clinical symptoms; however, from this fact it does not follow that the lighter grades of glycosuria are without pathologic importance.

Normal urine contains no sugar demonstrable by the ordinary methods of testing; therefore any amount that can be detected by chemical means at our disposal is distinctly abnormal and points to disturbance of starch assimilation which may develop into a diabetic glycosuria.

The "copper tests," on account of their simplicity, sensitiveness and ease of application, are most popular with the profession; while other less convenient but more reliable methods are excluded.

The "copper tests" all depend for their reaction upon the power which grape sugar possesses of reducing cupric oxide to a lower form of oxidation with the formation of cuprous oxide, which appears as a yellowish red precipitate.

Every member of the profession in this country is familiar with either the Fehling or Haines tests.

The Haines test is a decided improvement on Fehling's, since in its application only eight (8) drops of urine are used; however, it leaves much to be desired in delicacy and stability.

The test to be described in this paper belongs to the class of tests which has been referred to above, viz., the "copper tests," and was introduced to the attention of the profession by Dr. Arthur R. Elliott, of Chicago, some eight years since.