

thrown down, differing in density and richness of color, according to the amount of sugar present. Do not add more than eight (8) drops of urine, because this amount never fails to develop a distinct reaction if there is present one-half ( $\frac{1}{2}$ ) grain of sugar to the ounce of urine or one (1) part in one thousand (1000.)

A smaller amount of sugar than one-half ( $\frac{1}{2}$ ) grain to the ounce is of no interest to the clinician. After the addition of the urine, where no sugar is present, the solution will be found to be perfectly clear and no noticeable change has taken place.

With this, as with other copper solutions, it is not advisable to continue the boiling for more than one-half ( $\frac{1}{2}$ ) minute after the addition of the urine.

One decidedly advantageous feature of the "Elliott test" is that with a slight change of procedure it can be used for the quantitative estimation of sugar.

For this purpose the same quantity of each reagent is used as when applied for the detection of sugar. Liquor ammonia is added in sufficient quantity to insure a clear end-reaction and enough distilled water to dilute the test so that the process of reduction may be observed with exactness.

Mode of application for quantitative estimation is as follows: Take one dram of the cupric oxide solution; add to this three (3) drops of tartaric acid solution, and one dram of liquor ammonia (U.S.P.) These are thoroughly mixed and placed in a small flask or beaker, and sufficient distilled water is then added to bring the total volume of the test up to one (1) ounce.

The flask or beaker containing the solution, prepared as directed, is placed over the flame of a spirit-lamp or Bunsen burner, and when it is smartly boiling, the urine is slowly added, drop by drop, from either a graduated minim burette or pipette. As the blue color of the solution becomes fainter, a longer interval is allowed to elapse between the addition of each drop of urine. The addition of the urine is continued until the blue color of the solution has completely disappeared. The addition of the liquor ammonia does not interfere with the reduction of the cupric oxide by the diabetic sugar, but serves