Under aseptic precautions a catheter is introduced into the bladder and the bladder completely emptied. Noting the time, 1 c.c. of a carefully prepared solution (6) of the phenolsulphonephthalein containing 6 mg. to the c.c. is accurately administered subcutaneously, intramuscularly or intravenously by means of an accurately graduated syringe. (We have used the Record 2 c.c. syringe which is graduated in fifths of a c.c.)

The urine is allowed to drain into a test tube in which has been placed a drop of 25 per cent. NaOH solution and the time of the appearance of the first faint, pinkish tinge is noted.

In patients without urinary obstruction the catheter is withdrawn at the time of the appearance of the drug in the urine, and the patient is instructed to void into a receptacle at the end of one hour and into a second receptacle at the end of the second hour.

A rough estimate of the time of appearance can be made by having the patient void urine without the use of the catheter at frequent intervals. In prostate cases it is wise to have the catheter in place until the end of the observation. The catheter is corked at the time of the appearance of the drug in the urine and the cork is removed at the end of the first hour and at the end of the second hour, each time the bladder being thoroughly drained. On many of the patients of this type on whom our observations have been made, a retention catheter has been in use as part of the routine treatment on account of the residual urines. When a catheter is to be employed it is well to previously have the patient under the influence of hexamethylenamine.

Each sample of urine is measured and the specific gravity taken. Sufficient NaOH (25 per cent.) is added to make the urine decidedly alkaline in order to elicit the maximum color. The color displayed in the acid urine is yellow or orange, and this immediately gives place to a brilliant purple red color when the solution becomes alkaline. This solution is now placed in a liter measuring flask and distilled water added to make accurately 1 liter. The solution is then thoroughly mixed and a small filtered portion taken to compare with the standard, which is used for all of these estimations.

The standard solution used for comparison consists of 3 mg. of phenolsulphonephthalein (or ½ c.c. of the solution used for injection) diluted up to 1 liter and made alkaline by the addition of only one or two drops of 25 per cent. NaOH solution. This is a beautiful, purplish red solution, retaining its intensity of color for months, provided carbon dioxide from the air is excluded, or that it is kept slightly but definitely alkaline. The one solution, therefore, serves for an immense number of tests. All our estimations until recently have been made by means of the Duboscq colorimeter.