pose. In females, where the Kelly method of cystoscopy can be employed, it is possible by means of very large catheters to obturate the ureter and to secure total secretion in this way, but in males these large catheters cannot be used because they necessitate too large an instrument.

The catheters are passed up into the ureters to a distance of four inches. The cystoscope is then withdrawn, leaving the ureteral catheters in position. A tape is always tied to the right catheter as a means of identification. A small ureteral catheter is now passed into the bladder and the bladder thoroughly emptied, so that leakage, should it occur, can be detected. A specimen of urine is then collected from each side for routine clinical and microscopical study.

The time of injection is recorded, as is also the time of the appearance of the drug on each side. Starting from the first time of appearance the collection is then continued for one hour following subcutaneous or intramuscular injection, but only for one-half hour when the intravenous method of administration has been employed. The quantity of urine is noted, also the specific gravity. The amount of drug in each specimen is then estimated by the technique described above.

The application of the phthalein test does not complicate or unnecessarily prolong the time of catheterization, for it is necessary, as Albarran has shown, to collect the urine for a considerable period of time if determination of the work done by each kidney as regard to the total solids, urea, etc., is to be relied upon.

Results Obtained with the Phthalein Test.

In normal cases the time of the appearance of the drug from the two sides has been almost always the same, and in the majority of cases this has been five to ten minutes following subcutaneous, and three to five minutes following intravenous. The time of appearance of course will vary somewhat with the rate of urinary secretion. Normally the amount excreted by each kidney will be practically the same.

The series of cases studied include tubercular or pyogenic infection, unilateral or bilateral, calculi, hydronephrosis, hypernophromata, etc. (8).

Unilateral or Bilateral Surgical Diseases of the Kidney.

It has been demonstrated that the time of appearance and the percentage output is practically the same for the two healthy kidneys. When one kidney only is diseased, the time of the appearance of the drug is delayed on the diseased side and the amount excreted is not only relatively but absolutely decreased. The amount of delay in the time of appearance is comparatively of little value. Reliance is only to be placed