they were allowed to eat green vegetables *ad libitum*. This produced a constant polyuria. Hence the amounts of urine were not followed from day to day. The dogs were allowed 300 c.c. of water daily, and were fed on meat when able to retain liquid or solid food. The lactose, phthalein and iodid tests were given synchronously since their excretion, and quantitative determination do not interfere with each other. In dogs, lactose and phthalein were given at the same time, but into the muscles of opposite sides.

Single catheter or expressed specimens of urine were taken from day to day. Albumin was tested by the nitric acid method. The sediment of centrifuged urine was examined microscopically for blood or casts.

As previously, in these studies we have considered the excretion of lactose as an index of vascular functional capacity; that of phthalein as an index of total renal function (though predominantly tubular), and the excretion of salt and iodid as an index of tubular functional capacity.

The results of these studies are shown in the accompanying protocols.[17]

PROTOCOLS OF EXPERIMENTS

I. Animals with one kidney removed, renal circulation clamped for 10 minutes.

RABBIT 1.—Body weight 1,650 gm. Weight of removed kidney 4.9 gm. Weight of remaining kidney at death 6.5 gm.

Sulphonephthalein excretion second day after operation 37 per cent.
Sulphonephthalein excretion third day after operation 62 per cent.
Sulphonephthalein excretion fifth day after operation 53 per cent.
Sulphonephthalein excretion seventh day after operation 58 per cent.
Lactose excretion first day after operation 6-7 hours.
Lactose excretion fourth day after operation 6-7 hours.
Iodid excretion first day after operation 36 hours +.
Iodid excretion fifth day after operation 36 hours +.
Salt excretion third day after operation 1.00 per cent. (1.20 gm.)
Salt excretion sixth day after operation 1.30 per cent. (1.00 gm.)

Albumin present for four days. Rare hyaline casts found until the seventh day. Animal killed on the eighth day.

RABBIT 2.—Weight 1,250 gm. Weight of removed kidney 4.6 gm. Weight of remaining kidney at death 4.5 gm.

Sulphonephthalein excretion second day after operation 65 per cent.
Sulphonephthalein excretion fourth day after operation 65 per cent.
Sulphonephthalein excretion fifth day after operation 62 per cent.
Sulphonephthalein excretion seventh day after operation 65 per cent.
Lactose excretion first day after operation 6 hours.
Lactose excretion fourth day after operation 7½ hours.
Lactose excretion seventh day after operation 5 hours.
Iodid excretion first day after operation 30 hours.
Iodid excretion fourth day after operation 24 hours.
Iodid excretion seventh day after operation 36 hours.

17. In addition seven rabbits were used, one with circulation clamped for ten minutes, three for thirty minutes, and two for forty minutes. All died within sixteen hours of operation. Realizing the individual variation in susceptibility and vitality of rabbits, it seemed fair to exclude these animals from their appropriate tables, especially as all had been deeply anesthetized, all but one had made poor ether recoveries, and one rabbit at operation had suffered from a severe hemorrhage due to trauma of the liver.