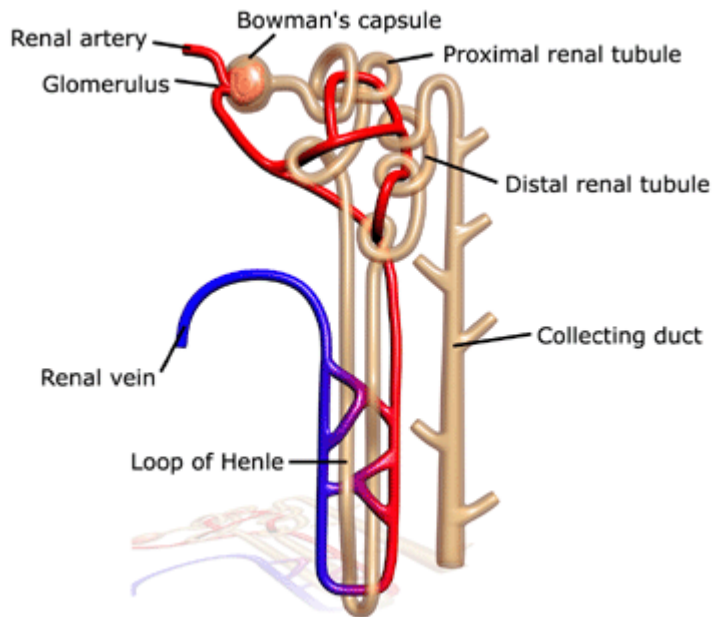


There are approximately 800,000 to 1 million nephrons in each kidney. After age 40, the number of functioning nephrons decreases by about 10% for each decade of life.

Blood enters the nephron via the renal artery as a tuft of capillaries called the glomerulus that is encapsulated by a structure called Bowman's capsule. The glomerulus has a high hydrostatic pressure which forces large amounts of fluid through the epithelial cells of the capillaries into Bowman's capsule.

The filtered fluid enters the proximal renal tubule which is located in the cortex of the kidney. It then passes into the loop of Henle, which is located in the renal medulla. The descending portion of the loop of Henle has very thin walls, and is sometimes referred to as the thin segment of the loop of Henle. The walls of the ascending limb are thicker, and thus referred to as the thick segment of the loop of Henle. A small segment at the end of the thick, ascending limb of the loop of Henle is called the macula densa.



After flowing past the macula densa, filtrate enters the distal tubule, which is located in the renal cortex. The fluid then flows through cortical collecting tubules which combined into a cortical collecting duct. The fluid then flows into larger medulla collecting ducts which coalesce into larger ducts that empty into the renal pelvis.