

# **Student Essay on Kidneys and the Excretory System**

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# Essay

Kidneys consist of excretory tubules called nephrons. Kidneys play a vital role of processing waste products of metabolism. Blood is continuously being cycled through the kidneys in order to remove nitrogenous wastes. The removal of these wastes plays an integral role in maintaining homeostasis. The urinary system consists of kidneys, blood vessels and the various passageways that dump the wastes out of the body. The "dirty blood" that needs to be "cleaned" goes into the kidney through the renal artery and exits it through the renal vein. It undergoes the process of filtration. The waste product, termed urine exits the kidneys with the help of the ureter duct. The ureter drains all the urin in to the urinary bladder. During urination, the urine exits the body through the urethra.

Nephrons are small tubules that are abundant in quantity. They are closely packed tubules that extend from the kidney's cortex into the internal medulla. A nephron may be described as a long coiled structure with one end shaped like a cup that fits over a mass of capillaries. The other end of a nephron opens out into the duct that collects urine.

The "cup-shape" of a nephron may be called the glomerular or the bowman's capsule. They are both located within the cortex of the kidney. The walls of each tubule are a cell thick. The loop at the bottom of the nephron is called the loop of Henle. The loop of Henle descends into the medulla and loops back into the cortex. The loop of Henle empties out into a collecting duct.