

KIDNEY STRUCTURE & FUNCTION

Anatomy Reference Guide

PART

DESCRIPTION

Renal Cortex

Outer layer where ultrafiltration occurs.

Renal Medulla

Inner region containing renal pyramids.

Nephron

Microscopic functional unit of the kidney.

Renal Pelvis

Funnel-like dilated proximal part of the ureter.

- **Waste Excretion:** Removal of urea, uric acid, and creatinine.
- **Osmoregulation:** Maintaining water and salt balance.
- **Acid-Base Balance:** Regulating blood pH levels.
- **Hormone Secretion:** Production of Erythropoietin and Renin.
- **Blood Pressure:** Long-term regulation via fluid volume.

[Space for Kidney Illustration / Student Labeling]

1. **Filtration:** Glomerulus to Bowman's Capsule.
2. **Reabsorption:** Essential nutrients return to blood.
3. **Secretion:** Waste moved from blood to tubule.
4. **Excretion:** Final urine leaves the body.

The average adult kidney is about 10-12 cm long. Approximately 180 liters of filtrate are produced daily, but only 1-2 liters are excreted as urine.