

KIDNEY ANATOMY: MEDULLA VS. CORTEX

Reference Chart for Biological Structure and Function

[*Illustration Placeholder: Renal Cross-Section*]

Renal Cortex (Outer Layer)

- **Location:** The outermost segment of the kidney, situated between the renal capsule and the medulla.
- **Key Structures:** Contains the Renal Corpuscles (Glomerulus & Bowman's Capsule).
- **Primary Function:** Ultrafiltration of blood and erythropoietin production.
- **Appearance:** Granular texture due to the presence of convoluted tubules.

Renal Medulla (Inner Layer)

- **Location:** The innermost part of the kidney, split into several sections called renal pyramids.
- **Key Structures:** Contains the Loops of Henle and Collecting Ducts.
- **Primary Function:** Concentration of urine and maintenance of salt/water balance.
- **Appearance:** Striped or striated appearance due to parallel tubular structures.

Comparative Summary

Feature	Cortex	Medulla
Osmolarity	Isotonic (approx. 300 mOsm/L)	Hypertonic (up to 1200 mOsm/L)
Blood Flow	High (90% of renal flow)	Low (approx. 10% of renal flow)