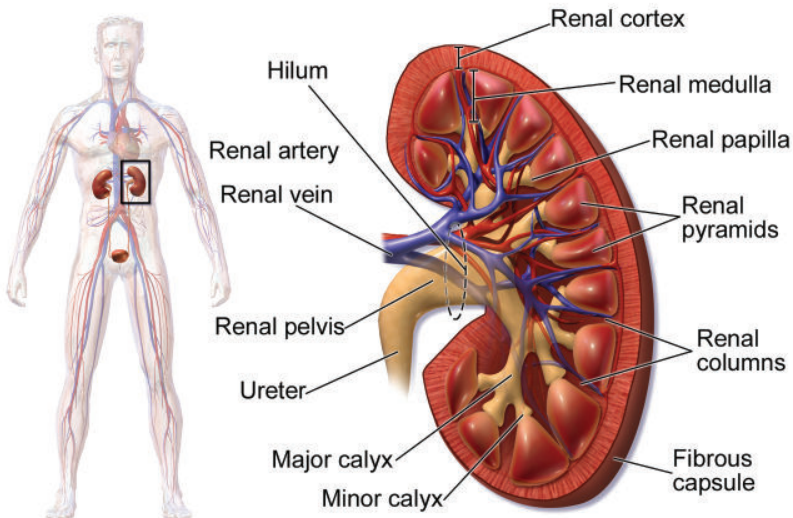
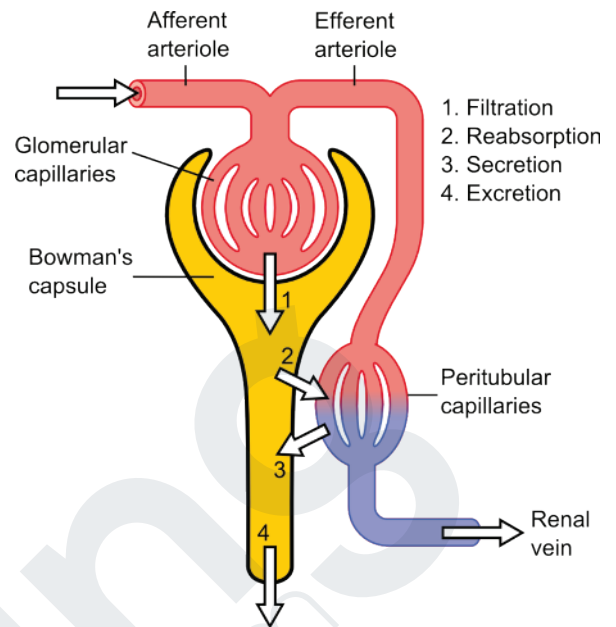


RENAL ANATOMY & FUNCTION



Kidney Anatomy

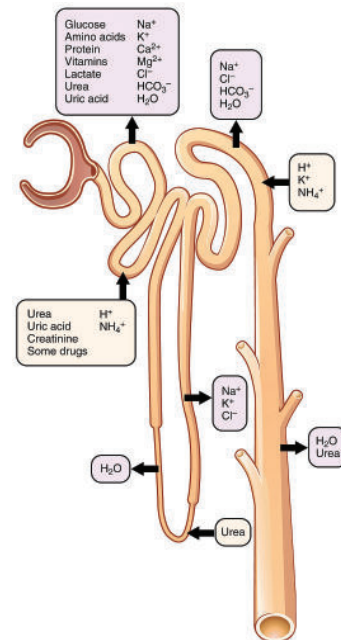
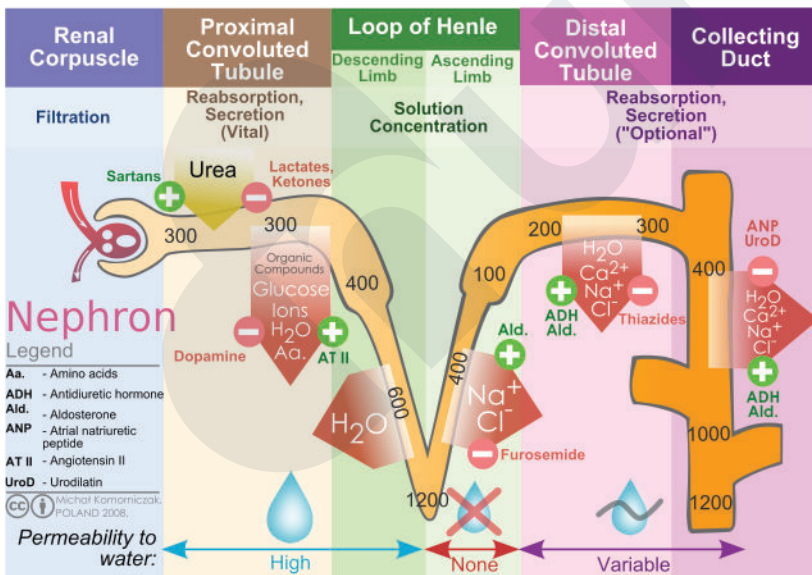
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Urinary excretion

$$\text{Excretion} = \text{Filtration} - \text{Reabsorption} + \text{Secretion}$$

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RENAL ANATOMY & FUNCTION

Renal Acid-Base Balance

	Normal	Acidic	Alkaline
Disodium Phosphate Reaction (urine)	$\text{Na}_2\text{HPO}_4 \rightarrow \text{NaHPO}_4$ Na ⁺ sent back to blood	$\text{Na}_2\text{HPO}_4 \rightarrow \text{NaHPO}_4$ Na ⁺ sent back to blood	$\text{Na}_2\text{HPO}_4 \rightarrow \text{NaHPO}_4$ Na ⁺ sent back to blood
Carbonic Reaction (cells in the nephron)	Creates H ⁺ and HCO ₃ ⁻ H ⁺ sent to Urine HCO ₃ ⁻ sent to blood	Creates H ⁺ and HCO ₃ ⁻ H ⁺ sent to Urine HCO ₃ ⁻ sent to blood	Creates H ⁺ and HCO ₃ ⁻ H ⁺ sent to BLOOD HCO ₃ ⁻ sent to URINE
Bicarb Formation	$\text{Na}^+ + \text{HCO}_3^- \rightarrow \text{NaHCO}_3$ (left in reserve)	$\text{Na}^+ + \text{HCO}_3^- \rightarrow \text{NaHCO}_3$ (left in reserve)	$\text{Na}^+ + \text{HCO}_3^- \rightarrow \text{NaHCO}_3$ (left in reserve)
Additional Process		Excess $\text{NH}_3 + \text{H}^+ \rightarrow \text{NH}_4^+$ Excreted in urine	