

# Hormones in Fluid and Electrolyte Balance

## **Aldosterone**

Source: Adrenal cortex

Trigger: Low blood pressure, high potassium, activation of RAAS

Action: Increases sodium reabsorption and potassium excretion in the kidneys

Effect: Increases blood volume and pressure

## **ADH (Antidiuretic Hormone)**

Source: Posterior pituitary

Trigger: High blood osmolality, low blood volume

Action: Increases water reabsorption in the kidneys

Effect: Conserves water, increases blood volume

## **ANP/BNP (Atrial/Brain Natriuretic Peptides)**

Source: Atria (ANP), Ventricles (BNP)

Trigger: Increased atrial or ventricular stretch due to high blood volume

Action: Promotes sodium and water excretion, inhibits RAAS

Effect: Decreases blood volume and pressure

## **Renin**

Source: Juxtaglomerular cells of the kidney

Trigger: Low blood pressure or sodium levels

Action: Activates RAAS, leading to aldosterone release

Effect: Increases blood pressure and volume

## **PTH (Parathyroid Hormone)**

Source: Parathyroid glands

Trigger: Low blood calcium levels

Action: Increases calcium reabsorption in kidneys, activates vitamin D, increases bone resorption

Effect: Raises blood calcium levels