

- **Physiological Regulation of Arterial Blood Pressure**

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- Objectives

By the end of this session, the student should be able to:

- Outline the different mechanisms involved in regulation of ABP.
- Discuss the role of reflexes especially baroreceptor reflex in regulation of ABP.
- Discuss the role of renin-angiotensin system in regulation of ABP.

- Discuss the role of renal-body fluid in long-term regulation of ABP.

- **Control of renal NaCl and water excretion**

Renal Sympathetic Nerves (↑ Activity: ↓ NaCl Excretion)

↓ GFR

↑ Renin secretion

↑ Na⁺ reabsorption along the nephron

Renin-Angiotensin-Aldosterone (↑ Secretion: ↓ NaCl Excretion)

↑ Angiotensin II stimulates reabsorption of Na⁺ along the nephron

↑ Aldosterone stimulates Na⁺ reabsorption in the thick ascending limb of Henle's loop, distal tubule, and collecting duct

↑ Angiotensin II stimulates secretion of ADH

Natriuretic Peptides: ANP, BNP, and Urodilatin (↑ Secretion: ↑ NaCl Excretion)

↑ GFR

↓ Renin secretion

↓ Aldosterone secretion (indirect via ↓ in angiotensin II and direct on the adrenal gland)

↓ NaCl and water reabsorption by the collecting duct

↓ ADH secretion and inhibition of ADH action on the distal tubule and collecting duct

ADH (↑ Secretion: ↓ H₂O Excretion)

↑ H₂O reabsorption by the distal tubule and collecting duct

- Summary
- Outline the different mechanisms involved in regulation of ABP.
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- Discuss the role of renal-body fluid in long-term regulation of ABP.