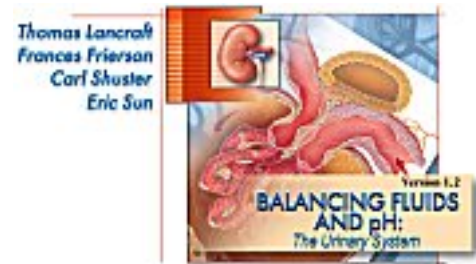


# Hormonal Control of Blood Volume and Pressure



## Directions:

- Click the "Contents" button.
- Open the *Urinary System* File.
- Click *Animations*.
- Click *Hormonal Control of Blood Volume and Pressure*.

## Introduction

- Identify the components of an endocrine feedback loop.

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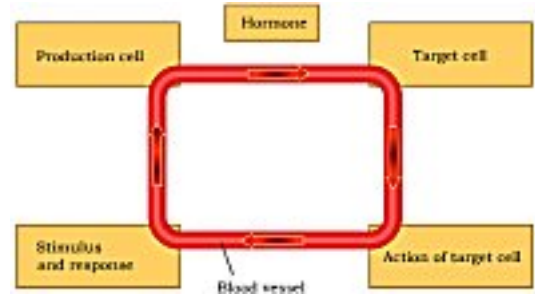
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## Antidiuretic Hormone (ADH)

- What stimulates ADH secretion from the posterior pituitary?

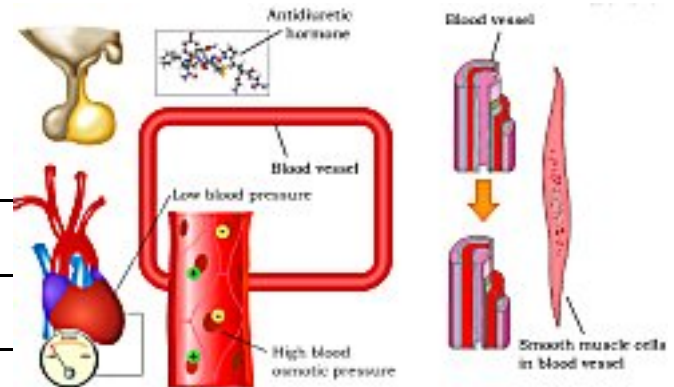
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- Describe ADH affect on the following:

- blood vessel wall smooth muscle - \_\_\_\_\_
- nephron principle cells - \_\_\_\_\_
- sweat glands - \_\_\_\_\_

- In summary, what homeostatic affect does ADH have on blood volume and pressure? \_\_\_\_\_

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### Renin/Angiotensin

3. a. What stimulates renin secretion from the juxtaglomerular cells in kidney nephrons?

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\_\_\_\_\_

b. Renin promotes formation of angiotensin II. What affect does angiotensin II have on the following?

i. blood vessels - \_\_\_\_\_

ii. adrenal cortex zona glomerulosa cells - \_\_\_\_\_

- What affect does aldosterone have on the nephron collecting duct reabsorption? \_\_\_\_\_

\_\_\_\_\_

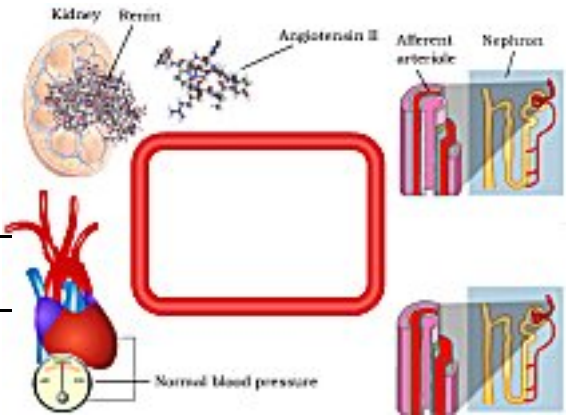
iii. proximal convoluted tubule - \_\_\_\_\_

\_\_\_\_\_

c. In summary, what homeostatic affect does ADH have on blood volume and pressure? \_\_\_\_\_

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### Aldosterone

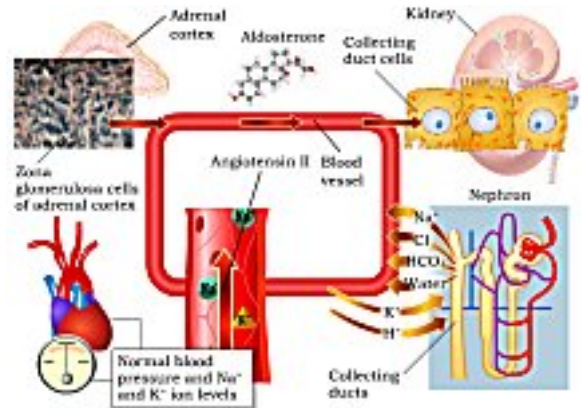
4. You just studied that angiotensin II stimulates secretion of aldosterone from the zona glomerulosa cells of the adrenal cortex. Summarize aldosterone's affect on reabsorption of ions and water.

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## Atrial Natriuretic Peptide (ANP)

5. a. What stimulates ANP secretion from atrial cells of the heart?

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b. What affect does ANP have on the following:

i. smooth muscle in blood vessel walls - \_\_\_\_\_

ii. proximal convoluted tubule cells - \_\_\_\_\_

iii. glomerular mesangial cells - \_\_\_\_\_

c. Summarize how ANP contributes to blood pressure and volume homeostasis. (This segment of the CD does not summarize these affects for you.)

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