

## Spironolactone (Aldactone)

Spironolactone (Aldactone) is a potassium sparing diuretic. Spironolactone has the opposite effect as aldosterone, as it promotes potassium retention and sodium excretion. This drug produces minimal diuresis because the excreted sodium is quickly reabsorbed by the nephron. It's important to note that spironolactone may take up to 48 hours to note changes in diuresis.



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### Mechanisms

#### Inhibition of Aldosterone

##### Inhibiting-chains on Aldo-stereo

Aldosterone is responsible for sodium and water retention and potassium excretion. Spironolactone works by blocking the effect of aldosterone, and therefore increases potassium reabsorption and sodium excretion.

#### Potassium Retention

##### Banana Jail

Spironolactone inhibits aldosterone and results in increased reabsorption of potassium. This is very important in cardiac patients, as elevated potassium levels can lead to dysrhythmias. To maintain an ion balance in the nephron as potassium is retained, sodium will be excreted.

### Indications

#### Hypertension

##### Hiker-BP

Spironolactone is usually used subsequently with a loop or thiazide diuretic to decrease blood pressure by excreting fluids from the body. Loop and thiazide diuretics excrete potassium, which counteracts the potassium retention effects of spironolactone.

#### Edema

##### Edamame

Spironolactone increases diuresis of excess fluid in the body, therefore when combined with loop and thiazide diuretics, aldactone can be useful in treating edema.

#### Heart Failure

##### Dead Heart

Spironolactone is often utilized in the management of heart failure patients due to the properties of blocking aldosterone receptors in the heart and blood vessels, along with decreasing fluid and retaining potassium. Aldosterone has harmful effects on the heart, so blocking it provides beneficial results in the HF patient.

### Side Effects

## Hyperkalemia

### [Hiker-banana](#)

Spironolactone promotes the reabsorption of potassium, and therefore can result in the patient becoming hyperkalemic.

## Endocrine Effects

### [Endocrine-glands](#)

The molecular structure of spironolactone is such that it can block multiple types of steroid receptors. Other than blocking mineralocorticoid receptors, spironolactone can also block androgen receptors, leading to anti-androgenic activity. In men, this can cause gynecomastia, erectile dysfunction and decreased libido. In women, it can cause irregular menses. These anti-androgen effects are actually desired when spironolactone is used to treat conditions such as hirsutism or acne vulgaris.

## Consideration

### Avoid Potassium Supplements

#### [Avoid Banana Pills](#)

Spironolactone increases potassium reabsorption. This can lead to hyperkalemia if not monitored closely, that is why a patient on spironolactone should not be given additional potassium supplements.