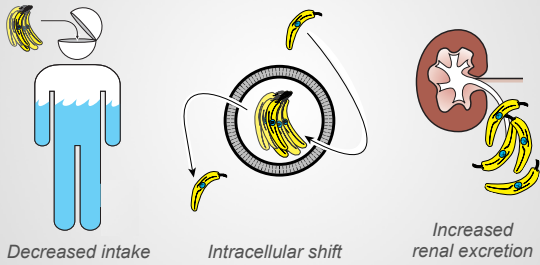




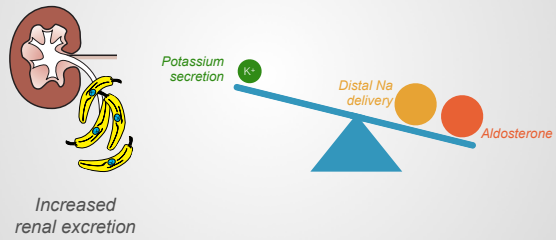
Hypokalemia

Increased renal losses:
Secondary hyperaldosteronism

Three processes of hypokalemia



Increased renal excretion



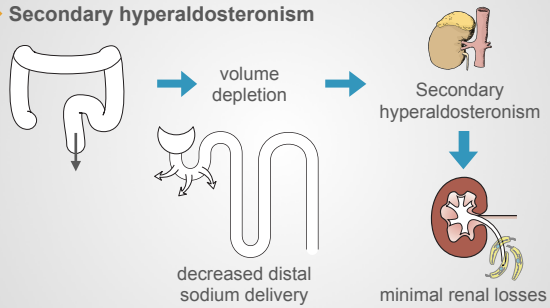
Increased renal excretion

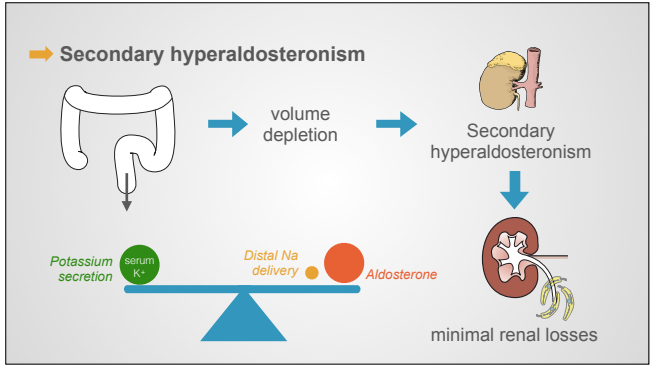
Secondary hyperaldosteronism	Diuretics Salt wasting nephropathies Vomiting
Primary hyperaldosteronism	Actual Apparent
Unreabsorbable anions	Proximal RTA Drugs
Potassium wasting nephropathy	Polyuria Distal RTA Hypomagnesemia

Increased renal excretion

→ Secondary hyperaldosteronism	Diuretics Salt wasting nephropathies Vomiting
Primary hyperaldosteronism	Actual Apparent
Unreabsorbable anions	Proximal RTA Drugs
Potassium wasting nephropathy	Polyuria Distal RTA Hypomagnesemia

→ Secondary hyperaldosteronism





Increased renal excretion

→ Secondary hyperaldosteronism Diuretics
Salt wasting nephropathies
Vomiting
with increased sodium delivery!

Primary hyperaldosteronism Actual
Apparent

Unreabsorbable anions Proximal RTA
Drugs

Potassium wasting nephropathy Polyuria
Distal RTA
Hypomagnesemia

Increased renal excretion

Secondary hyperaldosteronism → Diuretics
Salt wasting nephropathies
Vomiting

Primary hyperaldosteronism Actual
Apparent

Unreabsorbable anions Proximal RTA
Drugs

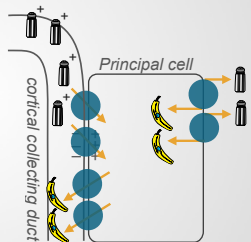
Potassium wasting nephropathy Polyuria
Distal RTA
Hypomagnesemia

→ Diuretics

All diuretics increase sodium excretion.



Diuretics cause volume depletion causing secondary hyperaldosteronism



→ Diuretics

Potassium secretion



Distal Na delivery



Aldosterone



Increased renal excretion

Secondary hyperaldosteronism

- Diuretics
- Salt wasting nephropathies
- Vomiting

Primary hyperaldosteronism

- Actual
- Apparent

Unreabsorbable anions

- Proximal RTA
- Drugs

Potassium wasting nephropathy

- Polyuria
- Distal RTA
- Hypomagnesemia

→ Salt wasting nephropathies

Bartter syndrome is a genetic abnormality in the thick ascending loop of Henle.

Congenital loop diuretics

Gitelman syndrome is a genetic abnormality in the distal convoluted tubule.

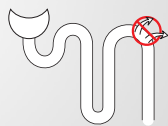
Congenital thiazide diuretics

→ Salt wasting nephropathies

Bartter's Syndrome =



Gitelman's Syndrome =



→ Diuretics

Potassium secretion K^+