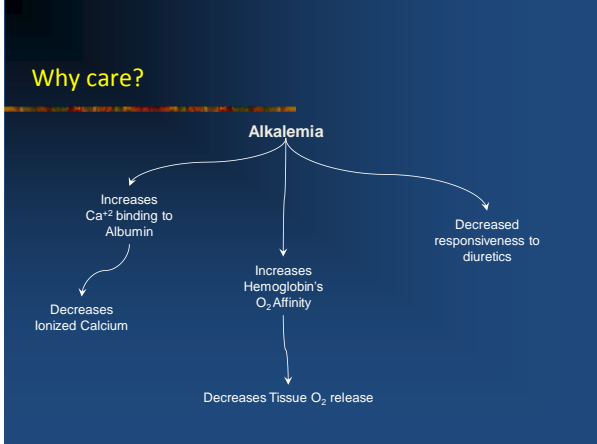


Metabolic Alkalosis

I. David Weiner, M.D.
Professor of Medicine and Physiology,
University of Florida College of Medicine and
NF/SGVHS

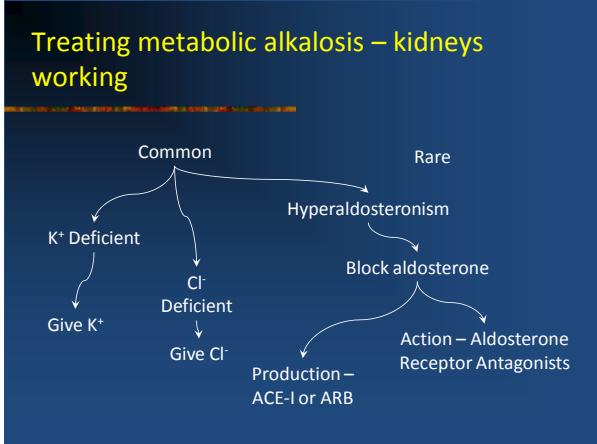
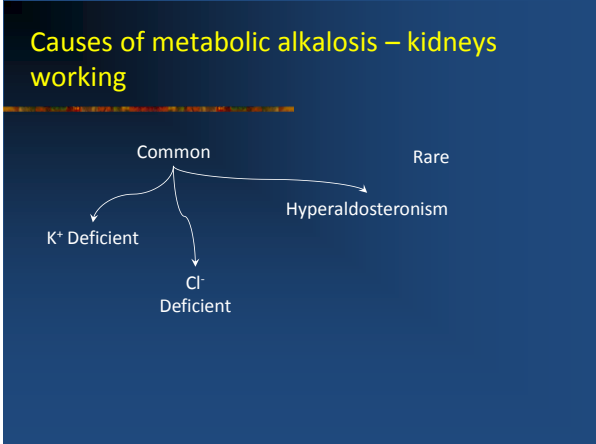


Non-specific treatment of metabolic alkalosis

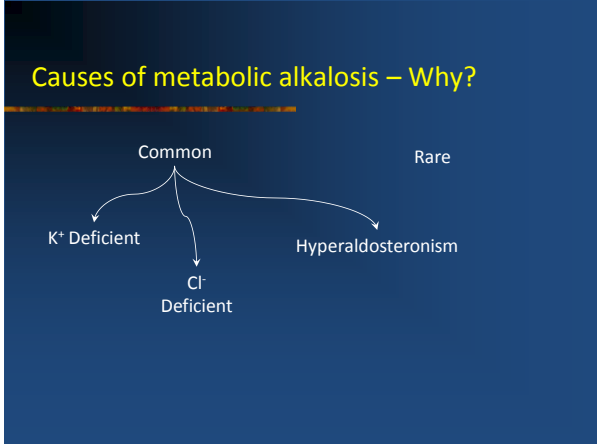
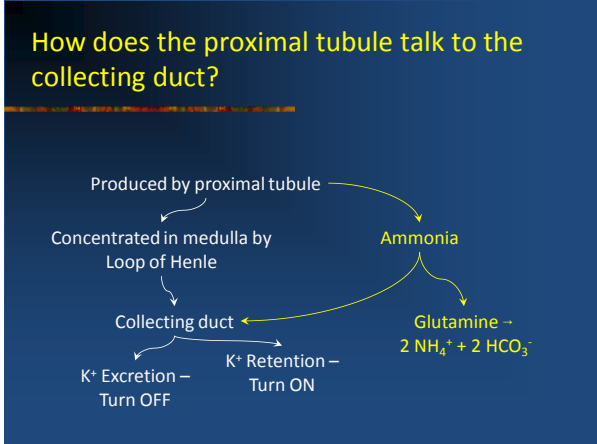
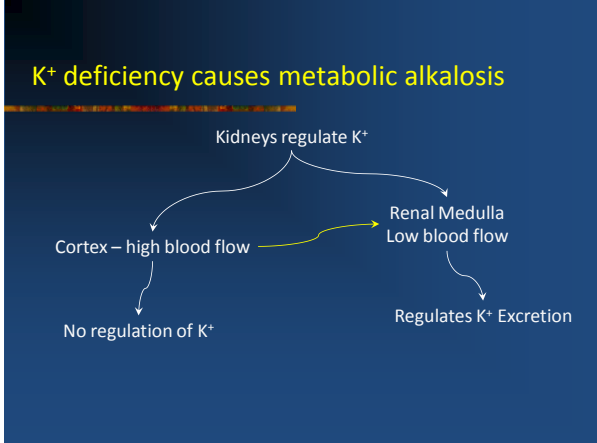
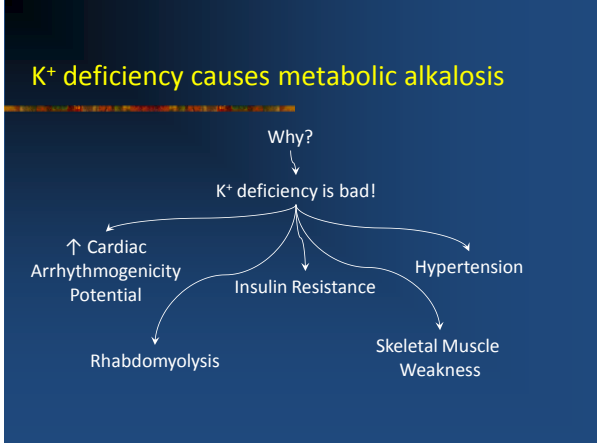
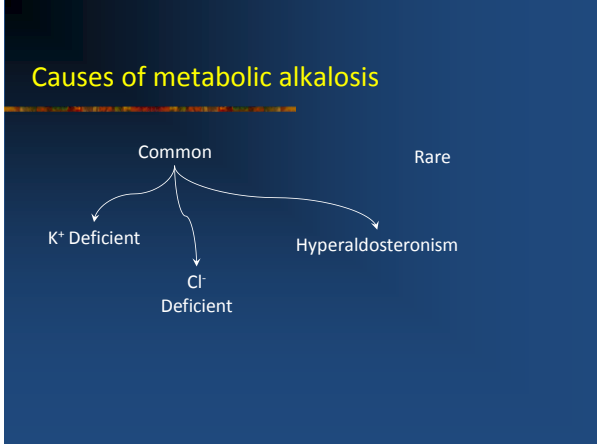
- HCl
 - 100 mEq/L HCl (pH 1!)
 - Via central vein, ONLY
- NH₄Cl, 100 mEq/L
 - NH₄Cl + HCO₃⁻ → Urea (in liver)
 - Avoid in patients with liver disease
- Arginine HCl
 - Fatal acute hyperkalemia

The most effective treatments target the underlying cause

Normal kidneys have essentially unlimited ability to excrete bicarbonate



Done ... or ... just the beginning?



What is the connection between Cl^- and HCO_3^- ?

- Kidneys reabsorb Cl^- by exchanging urinary Cl^- for cellular HCO_3^-
- Kidneys excrete HCO_3^- by exchanging urinary Cl^- for cellular HCO_3^-
- Cl^- depletion - cannot excrete bicarbonate

Causes of metabolic alkalosis – Why?

Causes of metabolic alkalosis

Causes of metabolic alkalosis – Why?

Genetic causes of metabolic alkalosis

Metabolic alkalosis – Identify and treat the underlying disease