Hyperkalemia
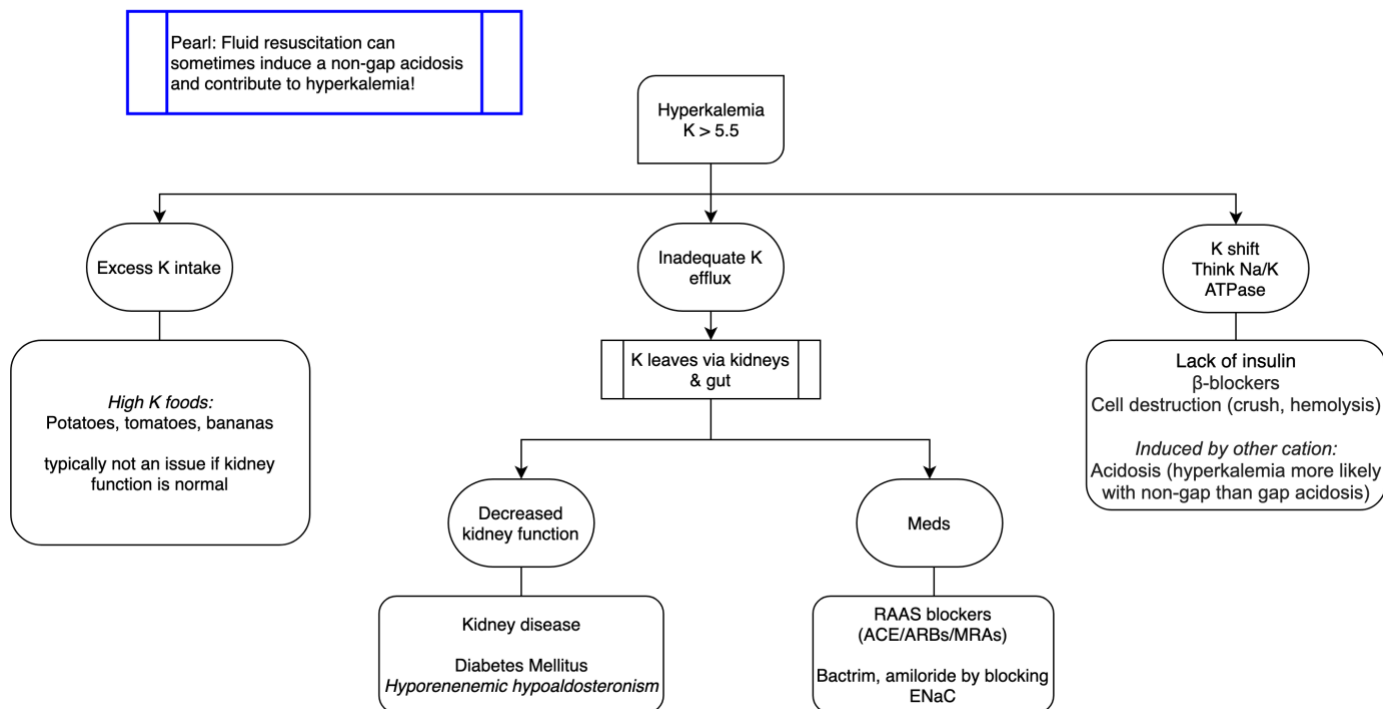
Handout compiled by Moses Murdock (@haematognomist)

Discussant: Dr. Ankit Patel

1. **Diagnostic Approach:**

Pearl: Fluid resuscitation can sometimes induce a non-gap acidosis and contribute to hyperkalemia!

Hyperkalemia
K > 5.5

Excess K intake
High K foods:
Potatoes, tomatoes, bananas

typically not an issue if kidney function is normal

Inadequate K efflux
K leaves via kidneys & gut

Decreased kidney function
Kidney disease
Diabetes Mellitus
Hyporenenemic hypoaldosteronism

Meds
RAAS blockers (ACE/ARBs/MRAs)
Bactrim, amiloride by blocking ENaC

K shift
Think Na/K ATPase
Lack of insulin
β-blockers
Cell destruction (crush, hemolysis)
Induced by other cation:
Acidosis (hyperkalemia more likely with non-gap than gap acidosis)

2. **Management:**
   - Workup:
     - Repeat measurement: to trend and to r/o pseudohypokalemia (suspect in high WBC or tubes sitting out for prolonged periods of time)
     - **Get EKG**: peaked T-waves → increased PR interval → QRS widened → sine wave
   - Treatment:
     - Stabilize cardiac membrane: Calcium gluconate
     - Shift K:
       - Insulin: activates Na/K ATPase (consider dextrose if glucose < 250)
       - β-agonist (exp: albuterol) 10X dose than used for COPD
     - Eliminate K through:
       - Urine: loop diuretics (can give IVF simultaneously, very effective!)
       - GI system:
         a. kayexalate (can cause ischemic necrosis/ischemic colitis and perforation – watch out in patients w/ gut pathology.
         b. New, safer alternatives (exp: Patiromer, Sodium Zirconium cyclosilicate)
       - Dialysis: patients already on dialysis → consider extra session.