**October 22, 2024, AHD Learning Objectives**

**Edema/Diuretics:**

1. Describe the mechanism of each of the following classes of diuretics and know where they work in the nephron: carbonic anhydrase inhibitors, loop, thiazide, ENac blockers, mineralocorticoid receptor blockers, and SGLT-2 inhibitors.
2. Strategize ways to overcome challenges with diuresis such as electrolyte abnormalities, metabolic alkalosis and diuretic resistance
3. Understand the underlying mechanisms for development of edema

**Renal Replacement Therapy:**

1. Describe the indications for urgent/emergent dialysis.
2. Understand the importance of the timing of dialysis initiation in patients with CKD.
3. Describe the differences between SLED, CRRT and intermittent HD in the ICU setting.
4. Understand the causes and consequences of cardiovascular disease, metabolic bone disease, and anemia in ESRD patients.
5. Identify the best BP medications to use for patients with ESRD

**Hematuria/Stones:**

1. Define microscopic hematuria and gross hematuria.
2. Describe the appropriate evaluation for a patient with hematuria.
3. Understand the risk factors for calcium stones, uric acid stones, struvite stones, and cysteine stones.
4. Describe the initial evaluation for a patient that presents with a possible kidney stone to make the diagnosis. Understand the indications for urologic interventions.
5. Describe the medical evaluation for recurrent nephrolithiasis and the medications and dietary changes the may be beneficial to reduce the risk of future events.