**October 1, 2024, AHD Nephrology Learning Objectives**

**Hypertension**

1. Understand the importance of standardized office BP measurements (in preference to routine office BP measurements) and the use of ambulatory or home BP monitoring to complement standardized office BP readings in the management of HTN.
2. Define normal blood pressure, stage 1 hypertension, and stage 2 hypertension, and know when to initiate pharmacological treatment for hypertension based on various guidelines (KDIGO, ACC/AHA).
3. Define white coat hypertension, masked hypertension and resistant hypertension.
4. Describe the initial management of a patient who is diagnosed with hypertension, including lifestyle modifications and medications.
5. Recognize the flaws and consequences of the use of race-based guidelines in hypertension management.
6. Describe the patient that should be evaluated for secondary hypertension and know the appropriate evaluation for each condition.
7. Understand hypertension management in the hospital, including the risks of over-treating hypertension in the hospital as well as guidelines for the treatment of hypertensive emergency.

**Chronic Kidney Disease:**

* 1. Define chronic kidney disease. Describe the stages of CKD according to the GFR and albuminuria.
  2. Describe the appropriate use of creatinine and cystatin C based equations to

estimate and monitor glomerular filtration rate.  Understand the harm done by historical race-based estimated GFR formulas.

* 1. Understand the cardiovascular risk to those with CKD and describe the recommendations for hypertension and hyperlipidemia for patients with CKD.
  2. Understand the importance ACE-I/ARBs, SGLT-2 inhibitors, mineralocorticoid

receptor blockers, and GLP-1 receptor agonists in slowing the progression of CKD and reducing cardiovascular mortality.

* 1. Describe the pathophysiology of renal osteodystrophy and the resulting

secondary and tertiary hyperparathyroidism.

* 1. Describe the evaluation and appropriate management of the anemia of chronic

kidney disease including the indications for erythropoietin stimulating agents and iron supplementation.

7. Describe the syndrome of uremia and the indications for urgent dialysis.

**Hyperkalemia:**

1. Describe the ECG changes seen with progressively increasing hyperkalemia and the sensitivity of the ECG in manifesting these changes.
2. Define hyperkalemic emergency and describe the patient who needs rapid acting therapy.
3. Understand the treatment of hyperkalemic emergency including the medications used, their mechanisms of action, and the duration of action of rapid acting therapies.
4. Describe the drugs used to remove potassium from the body and their potential side effects.