DIAGNOSIS OF IRON DEFICIENCY ANEMIA IN NON-DIALYSIS-DEPENDENT CHRONIC KIDNEY DISEASE

Anemia Definition

The World Health Organization defines anemia as a **hemoglobin (Hb) concentration of <12.0 g/dL in women** and **<13.0 g/dL in men**

Blood tests for Anemia in CKD

- CBC (including red blood cell indexes)
- Reticulocyte count
- Serum ferritin
- Transferrin saturation
- Folic acid
- Vitamin B12

Nephrologists should become involved in management when Hb concentration falls to **12 g/dL in NDD-CKD**.[1]

A medical history and physical exam can suggest IDA while a **blood test will confirm** presence of low iron levels.[2]

Diagnosis Considerations[3]

A **focused clinical assessment** is required for an initial assessment of anemia in CKD.

Although relative erythropoietin deficit will typically be the main contributing factor, **other causes should also be taken into account.**

It is important to undertake a **focused history**, **physical exam**, and **lab review**.

As in anemia without kidney disease, a thorough search for indications of **decreased erythrocyte production**, **hemolysis**, **sequestration**, and **bleeding** is required.

Testing for **occult blood loss** and **iron deficiency** in individuals with CKD should be prioritized due to the **high prevalence** of these conditions in this population.

References:

1. Fishbane S, Spinowitz B. Update on anemia in ESRD and earlier stages of CKD: Core curriculum 2018. American Journal of Kidney Diseases. 2018;71(3):423–435. doi:10.1053/j.ajkd.2017.09.026
2. National Heart, Lung, and Blood Institute. Iron-deficiency Anemia. Date updated March 2022. Date accessed August 2022. https://www.nhlbi.nih.gov/health/anemia/iron-deficiency-anemia
3. National Institute of Diabetes and Digestive and Kidney Diseases. Chronic Kidney Diseases Tests and Diagnosis. Date accessed August 2022. https://www.niddk.nih.gov/health-information/kidney-disease/chronic-kidney-disease-ckd/tests-diagnosis