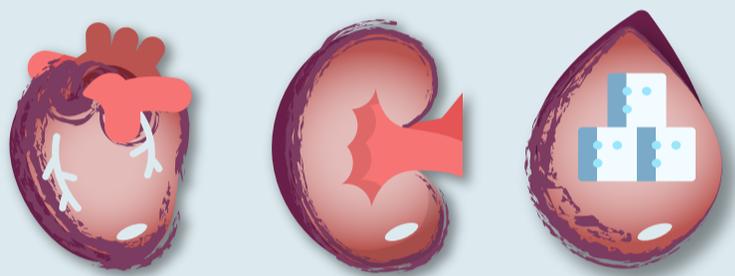




## IMPACT OF IRON DEFICIENCY ANEMIA IN NON-DIALYSIS-DEPENDENT CHRONIC KIDNEY DISEASE

Anemia in CKD has been shown to be associated with an **increased risk of morbidity and mortality** due to the following:

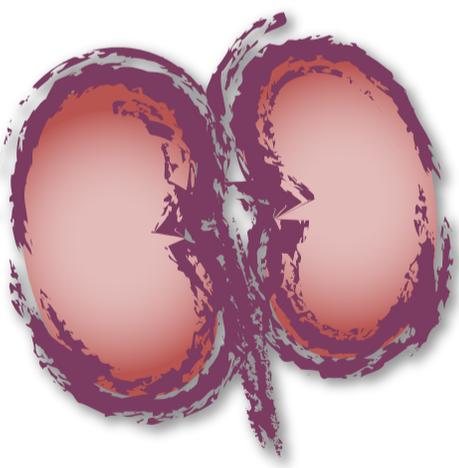
- Coronary artery disease
- Congestive heart failure
- Diabetes mellitus
- End-stage kidney disease



Anemia accelerates the progression of heart disease and **increases the risk of death**<sup>1</sup>

Anemia in CKD may be frequently associated with a **reduced quality of life**<sup>1</sup>

### Key Points: Anemia of CKD<sup>2</sup>



- **Decreased EPO production**
- **Increased hepcidin** due to decreased renal clearance and increased IL-6. Leads to iron sequestration in macrophages and iron-restricted erythropoiesis, erythropoietin resistance
- **True iron deficiency** due to increased blood loss and hepcidin-mediated decrease in intestinal iron absorption
- **Suppression of erythropoiesis** by inflammatory cytokines. Important in acute inflammation
- **Shortened erythrocyte lifespan** due to inflammation and uremia

### References:

1. Gafter-Gvili A, Schechter A, Rozen-Zvi B. Iron Deficiency Anemia in Chronic Kidney Disease. Acta Haematol. 2019;142(1):44-50. doi: 10.1159/000496492. Epub 2019.
2. Batchelor EK, Kapitsinou P, Pergola PE, et al. Iron Deficiency in Chronic Kidney Disease: Updates on Pathophysiology, Diagnosis, and Treatment. J Am Soc Nephrol. 2020;31(3):456-468. doi: 10.1681/ASN.2019020213. Epub 2020.