



The Florida ESRD Network

Anemia Management ***Educational Series # 1***

This is the **first** of three educational series targeted to address anemia management in ESRD. The objectives for this educational series are to provide information to increase the level of knowledge regarding anemia management strategies, recognize hypo response to erythropoiesis-stimulating agents (ESAs), and provide recommendations for addressing anemia in the patient comprehensive assessments and facility quality assessment performance improvement (QAPI) program.

Anemia can develop early in the course of Chronic Kidney Disease (CKD) and is nearly universal in CKD stage 5 patients. Anemia commonly contributes to poor quality of life in CKD patients that may experience symptoms such as fatigue, pallor, dyspnea, weakness, dizziness, and impaired cognition. An increase in morbidity and mortality is often due to cardiovascular impairment also associated with anemia. An overall decrease in the patient's quality of life may be affected due to decreased energy levels, inability to perform activities of daily living, disturbance in sleep and social withdrawal.

Understanding the cellular and molecular biology of erythropoiesis is important for the evaluation and treatment of anemia in CKD patients. Erythropoietin (EPO) is the hormone produced in the healthy kidneys in response to hypoxia and regulates the production of red blood cells from stem cells through to the mature red blood cell (RBC). When kidneys fail, less EPO is produced resulting in decreased production of RBCs.

Erythropoiesis-stimulating agents (ESAs) are used to treat anemia in CKD and other patients. Most hemodialysis patients will also require iron supplementation while receiving EPO. Iron stores may be used up rapidly once a patient starts on EPO. The anemia manager may use an algorithm to dose EPO and intravenous iron based on the laboratory values of the individual patient and/or consulting with the patient's nephrologist. Hemoglobin (Hb) which is a protein in RBCs that carry oxygen, Transferrin saturation (Tsat) which measures amount of iron available to make RBCs, and Ferritin which measures iron storage in the body, are the KDOQI recommended lab values for monitoring anemia in dialysis patients. The reticulocyte hemoglobin content (CHr), which measures hemoglobin content of the reticulocyte, is also used to monitor a patient's iron status.

Additional resource information pertaining to anemia target ranges is available in the KDOQI Clinical Practice Guideline and Clinical Practice Recommendations for Anemia in Chronic Kidney Disease: 2007 update and the Measures Assessment Tool (MAT) in the October 2008 ESRD Program Interpretive Guidance. The MAT serves as a reference guide, listing professionally-accepted standards and values for clinical elements identified in the quality assessment & performance improvement (QAPI) Condition/Standard in the ESRD Conditions for Coverage. Clinical assessment of anemia measurements should be collected, maintained, and reviewed as part of the facility CQI program.

To download a copy, this educational fax blast will be posted on the FMQAI website at <http://fmqai.com/esrd-fax-blasts.aspx>.

Additional information can be located in the K/DOQI Guidelines at
http://www.kidney.org/PROFESSIONALS/kdoqi/guidelines_anemiaUP/index.htm

The Florida ESRD Network (Network 7) is providing this fax blast as a technical assistance activity for the Florida renal community.

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