



The Florida ESRD Network

Anemia Management *Educational Series # 2*

This is the **second** 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.

Erythropoietin deficiency alone may not solely contribute to anemia in CKD patients. Other factors that contribute to anemia or lead to ESA hypo-responsiveness can include:

- Inadequate EPO dose
 - Insufficient EPO dose based on body weight, missed or held doses, frequent dose changes, hospitalizations
- Iron Deficiency- true and functional
 - True iron deficiency may be caused by blood loss or insufficient iron replacement
 - Functional iron deficiency occurs when there is not enough iron delivered to the marrow for RBC production
- Blood loss ((GI, phlebotomy, clotting and/or poor rinse-back of blood during dialysis treatments, bleeding from the vascular access
- Infection and inflammation
 - Acute or chronic infections/inflammatory processes such as access infections, AIDS, rheumatologic disorders, surgical inflammation, dental ailments, and cancer
- Secondary Hyperparathyroidism
- Aluminum toxicity may interfere with iron metabolism and cause microcytic anemia (erythrocytes smaller in size than normal)
- Co-existing medical conditions
 - Malignancy, hematologic disorders, AIDS, pregnancy, chemotherapy
- Hemolysis – RBCs destruction which may be caused by water-borne toxins in dialysate, medications, hypotonic or hypertonic dialysis, mechanical problems, medications.
- Malnutrition indicated by a decreased serum albumin
- Vitamin deficiency (B12, Folic Acid, B6)

Evaluation for hypo-response is indicated when patient response to EPO administration is not observed. Once identified, the underlying source for the hyporesponse can be addressed, and the ESA dose may need to be adjusted during treatment to prevent anemia from worsening. Once the cause for the hyporesponse is resolved, ESA dose can be adjusted to prevent Hb from exceeding recommended range.

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.

FMQAI: The Florida ESRD Network 5201 West Kennedy Boulevard, Suite 900 • Tampa, Florida 33609
813-383-1530 • 813-354-1514 Fax