These guidelines are informational only. They are not intended or designed as a substitute for the reasonable exercise of independent clinical judgement by practitioners, considering each patient’s needs on an individual basis. Guideline recommendations apply to populations of patients. Clinical judgement is necessary to design treatment plans for individual patients.

Guidelines for the Use of Erythropoiesis-Stimulating Glycoproteins (ESG) for the Treatment of Anemia

Indications for ESG Use in Anemic Cancer Patients
• Either epoetin or darbepoetin administration is recommended when baseline Hb < 10 g/dL. (Evidence-Based/IRGSG approved)
• Darbepoietin is non-formulary and requires prior authorization for use.
• Anemia secondary to chemotherapy administration for non-myeloid malignant disease
• Anemia secondary to Myelodysplastic Syndrome (MDS).

Indications for Erythropoietin use in Patients with Myelodysplastic Syndrome
1. Low risk myelodysplasia with less than 5% blasts.
2. Pretreatment *erythropoietin levels of 100 or less.
3. Anemia with Hb/HCT less than 10 / 30% at initiation of therapy. If after two months of treatment, there is no significant increase in Hb/HCT and/or a significant decrease in transfusion requirements, erythropoietin analogs therapy should be stopped.

1) Non-Indications for Erythropoietin
2) Any anemia in cancer disease or the anemia not related to cancer treatment
3) Any anemia in due to:
   a. Folate deficiency
   b. B12 deficiency
   c. Iron deficiency
   d. Hemolysis
   e. Bleeding
   f. Bone marrow fibrosis
4) Anemia associated with the treatment of acute and chronic myelogenous leukemias (CML, AML) or erythroid cancers
5) Anemia associated with only radiotherapy in treatment of cancer
6) Prophylactic use to prevent chemotherapy-induced anemia
7) Prophylactic use to reduce tumor hypoxia

8) Patient Exclusion Criteria
1) Erythropoietin should not be used in patients treated with chemotherapy who have uncontrolled hypertension
2) Erythropoietin should not be used in patients with known hypersensitivity to mammalian-derived cell product
3) Erythropoietin should not be used in patients known hypersensitivity to human albumin

Goals for treatment with erythropoietin
- For patients receiving chemotherapy for non-myeloid malignancies, the goal of therapy is to maintain the Hb/HCT at 10/30. ESA therapy will not be reimbursed when the Hb/Hct is greater than 10/30.
- For all other indications (MDS) the goal of therapy is to maintain a stable Hb/HCT, with a target of 10-12 g/dL /30-36%.
- There are rare patients whose cardiac, pulmonary or other medical diseases warrant the use of ESAs to maintain a hemoglobin/hematocrit (Hb/HCT) higher than the target level outlined above. Documentation to support this practice must be available upon request. This does not apply to ESA therapy for anemia related to cancer chemotherapy, which follows the rules mandated by the National CMS guidelines.

Iron Supplementation for Patients Receiving ESG Therapy
- Test baseline iron studies and supplement if ferritin level < 100 mg/ml or transferrin saturation <20%.
- For the patients prescribed erythropoietin, stores of iron should be regularly monitored every quarter (or more frequently as needed) to ensure a transferrin saturation greater than 20% and/or serum ferritin levels greater than 100 ng/ml.
- Iron supplementation may be necessary after long-term ESG maintenance if a repeat iron test suggests functional iron deficiency. (Consensus/ IRGSG sponsored)

Appropriate Dose & Schedule of Administration of ESG
- For patients with non-myeloid malignancies where anemia is due to the effect of chemotherapy the Hb/HCT less that 10/30% at initiation of therapy.
- The starting dose for erythropoietin therapy is 20,000u subcutaneously once weekly or is no more than 150 U/kg/three times weekly for epoetin.
- The starting dose for darbepoietin alpha 2.25 mcg/kg/weekly for darpoetin alpha. Equivalent doses may be given over other FDA approved time periods.
- The maintenance dose of ESA therapy is the same as the starting dose if the Hb/HCT level remains below 10/30 four weeks after initiation of therapy AND the rise in Hb/HCT is greater than or equal to 1/3.
- If Hb/HCT rises <1/3 compared to baseline after 4 weeks of therapy and Hb/HCT level
remains <10/30, the above starting dose may be increased by 25%.

- Continued use of the drug is not reasonable and necessary if the Hb/HCT rises <1/3 after 8 weeks of treatment.
- Continued administration of the drug is not reasonable and necessary if there is a rapid rise in Hb/HCT >1/3 over 2 weeks of treatment unless the Hb/HCT remains below or subsequently falls to <10/30. Continuation and reinstitution of ESA therapy must include a dose reduction of 25% from previously administered dose.
- The FDA labeling states that ESAs are indicated for treatment of anemia of malignancy when receiving concomitant chemotherapy, which means during an established course of planned chemotherapy.
- Erythropoietin therapy is indicated for eight weeks following the final dose of myelosuppressive chemotherapy in a chemotherapy regimen.

**Medication Management Clinic (MMC)**

- All patients should be referred the MMC for erythropoietin growth factor therapy. Patients can be referred to the clinic by telephone, fax, or sending a note through the electronic medical record to the in-basket of the MMC. The patient will be evaluated for eligibility for erythropoietin therapy.
- If the erythropoietin is indicated per the OPMG approved algorithm, the clinical pharmacy specialist will enroll the patient into the MMC for erythropoietin therapy and complete a consult agreement as authorized under Chapter 4729 of the Ohio Revised Code to manage an individual’s drug therapy to the extent specified in Kaiser Permanente Policy. This includes obtaining the signatures of the Supervising Physician designated.
- If erythropoietin is determined to be inappropriate, the clinical pharmacist will document and make an alternative recommendations to the provider. The physician will be informed either by verbal communication or electronic medical record (EMR).
- Upon receipt of the completed consult agreement, it becomes part of the patient’s permanent medical record.
- A separate consult agreement must be entered into for each individual who is referred to the MMC. The consult agreement is only effective for the specific (diagnosis(es) listed in the agreement...