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## Evidence-based Series #6-12: Section 1

# Treatment for Anemia with Erythropoietic Agents in Patients with non-Myeloid Hematological Malignancies: A Clinical Practice Guideline

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A Quality Initiative of the  
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### WARNING

The Hematology Disease Site Group is aware of emerging evidence suggesting increased mortality in patients with anemia of cancer on erythropoietin-stimulating agents. The Disease Site Group plans to update this evidence-based series in June 2007, when new evidence is expected to become available. Further information can be obtained at:

<http://www.fda.gov/medwatch/safety/2007/safety07.htm#Aranesp>

**The full Evidence-based Series #6-12 is comprised of 3 sections and is available on the CCO website (<http://www.cancercare.on.ca>)**

**PEBC Hematology DSG page at:**

<http://www.cancercare.on.ca/toolbox/qualityguidelines/diseasesite/hema-eps/>

Section 1: Clinical Practice Guideline

Section 2: Systematic Review

Section 3: Guideline Development and External Review - Methods and Results

### Question

In adult patients with non-myeloid hematological malignancies who are at risk for developing anemia during the course, and therapy of their illness, does the use of erythropoietic agents affect any of the following outcomes?

1. Survival
2. Quality of life
3. Transfusion requirements
4. Correction of anemia
5. Adverse events

### **Target Population**

These recommendations apply to adult patients with multiple myeloma, non-Hodgkin's lymphoma, chronic lymphocytic leukemia, and Hodgkin lymphoma who are receiving chemotherapy and meet the following criteria:

Hemoglobin levels of 100 g/L or less and are likely to require transfusions.

### **Recommendations**

- Erythropoietic agents are recommended as a treatment option for patients with non-myeloid hematological malignancies who are receiving chemotherapy and who require or are likely to require red blood cell transfusions.
- Erythropoietin and darbepoetin alpha are both acceptable options for patients in whom treatment with erythropoietic agents is planned.
- Erythropoietic agents are not recommended when rapid correction of hemoglobin is required.
- There is insufficient evidence to draw conclusions regarding the effects of erythropoietic agents on quality of life or survival.

### **Qualifying Statements**

- As evidence supporting the role of erythropoietin is more abundant and mature than that in support of darbepoetin alpha in patients with lymphoma or myeloma, at this time, the DSG recommends erythropoietin as the preferred agent.
- As there are no clear predictors for response to erythropoietic agents, it was felt that this therapy should be offered to all patients who fulfill the above criteria.
- Dose modifications according to the product monograph should be adhered to in order to prevent thrombotic events.
- Acceptable dosing regimens for erythropoietin are 150 IU/kg subcutaneously three times per week or 40,000 U weekly, although the optimal dosing schedule has not been determined. Approved dosing regimens may be found in the product monograph.
- Common dosing strategies used for darbepoetin alpha are 2.25 µg/kg weekly, a flat dose of 200 µg every two weeks, or a flat dose of 500 µg every three weeks for three doses followed by 300 µg every three weeks. Insufficient comparative evidence currently exists to determine the optimal dosing strategy. However, approved dosing regimens may be found in the product monograph.

### **Key Evidence**

- Twelve fully published randomized controlled trials, four practice guidelines, one fully published systematic review, one abstract of a systematic review, and three abstracts of randomized controlled trials form the basis of evidence for this guideline. Most of the patients, if not all, were receiving chemotherapy. Two trials reported on the use of darbepoetin alpha and the remaining trials reported on the use of erythropoietin.
- Six studies assessed quality of life, using validated instruments. There were methodological problems with five of those trials that limit any inference about the quality of life with erythropoietic agents. The sixth trial reported no statistically significant difference in quality of life scores for patients who received erythropoietin compared to placebo.
- Five of 15 trials found a statistically significant improvement in transfusion requirements. The proportion of patients transfused was dependant on transfusion triggers; the reduction in the proportion transfused ranged between 15% and 24%, and the number needed to treat to prevent a transfusion ranged from four to six.

**Related Guidelines:**

Program in Evidence-based Care Practice Guidelines or Evidence-based Series:

- #12-1: *The Role of Erythropoietin in the Management of Cancer Patients with Non-Hematologic Malignancies Receiving Chemotherapy.*
- #12-9: *The Role of Darbepoetin in the Management of Patients with Non-Hematologic Malignancies Receiving Chemotherapy (currently in development).*
- #6-13: *Treatment with Hematopoietic Growth Factors in Patients with Myelodysplastic Syndrome (currently in development).*

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