# Erythropoiesis Stimulating Agents (Procrit®, Epogen®, Retacrit™, Aranesp®)

EOCCO POLICY

## Policy Type: PA/SP  Pharmacy Coverage Policy: EOCCO124

### Description

Epoetin alfa (Retacrit, Procrit, Epogen) is a glycoprotein that stimulates red blood cell production; whereas, darbepoetin alfa (Aranesp) stimulates erythropoiesis by the same mechanism as endogenous erythropoietin.

### Length of Authorization

Initial and Renewal:

Epoetin alfa (Procrit, Epogen, Retacrit):

- Chronic kidney disease with or without dialysis – Three months
- Cancer chemotherapy – 12 months
- Anemia due to zidovudine therapy – 12 months
- Allogeneic blood transfusion in surgery patients – 14-days

Darbepoetin alfa (Aranesp):

- Chronic kidney disease with or without dialysis – Three months
- Cancer chemotherapy – 12 months

### Quantity Limits

| Product Name | Dosage Form | Indication | Quantity Limit |
|---|---|---|---|
| darbepoetin alfa (Aranesp) | 25 mcg/mL vial | Chronic Kidney Disease With or Without Dialysis; Cancer chemotherapy | 4 vials/syringes per 30 days |
| | 40 mcg/mL vial | | |
| | 60 mcg/mL vial | | |
| | 100 mcg/mL vial | | |
| | 150 mcg/mL vial | | |
| | 200 mcg/0.75 mL vial | | |
| | 300 mcg/mL vial | | |
| | 10 mcg/0.4 mL syringe | | |
| | 25 mcg/0.42 mL syringe | | |
| | 40 mcg/0.4 mL syringe | | |
| | 60 mcg/0.3 mL syringe | | |

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| | 100 mcg/0.5 syringe | | |
| | 150 mcg/0.3 syringe | | |
| | 200 mcg/0.4 mL syringe | | |
| | 300 mcg/0.6 mL syringe | | |
| | 500 mcg/mL syringe | | |
| epoetin alfa (Retacrit) | 2000 units/mL vial | Chronic Kidney Disease With or Without Dialysis; Cancer chemotherapy; Anemia due to zidovudine therapy; Allogeneic blood transfusion | **2,000U, 3,000U, 4,000U and 10,000U vials**: 12 vials per 30 days **20,000U and 40,000U vials:** 4 vials per 30 days |
| | 3000 units/mL vial | | |
| | 4000 units/mL vial | | |
| | 10000 units/mL vial | | |
| | 40000 units/mL vial | | |
| epoetin alfa (Procrit) | 2000 units/mL vial | Chronic Kidney Disease With or Without Dialysis; Cancer chemotherapy; Anemia due to zidovudine therapy; Allogeneic blood transfusion | **2,000U, 3,000U, 4,000U and 10,000U vials**: 12 vials per 30 days **20,000U and 40,000U vials:** 4 vials per 30 days |
| | 3000 units/mL vial | | |
| | 4000 units/mL vial | | |
| | 10000 units/mL vial | | |
| | 20000 units/mL vial | | |
| | 20000 units/2 mL vial | | |
| | 40000 units/mL vial | | |
| epoetin alfa (Epogen) | 2000 units/mL vial | Chronic Kidney Disease With or Without Dialysis; Cancer chemotherapy; Anemia due to zidovudine therapy; Allogeneic blood transfusion | **2,000U, 3,000U, 4,000U and 10,000U vials**: 12 vials per 30 days **20,000U and 40,000U vials:** 4 vials per 30 days |
| | 3000 units/mL vial | | |
| | 4000 units/mL vial | | |
| | 10000 units/mL vial | | |
| | 20000 units/mL vial | | |
| | 20000 units/2 mL vial | | |

## Initial Evaluation

I. **Darbepoetin alfa (Aranesp), epoetin alfa ( Procrit, Epogen, Retacrit)** may be considered medically necessary when the following criteria below are met:

A. Lab values are obtained within 30 days of administration (unless otherwise indicated); **AND**

B. Prior to initiation of therapy, member should have adequate iron stores as demonstrated by serum ferritin ≥ 100 ng/mL (mcg/L) and transferrin saturation (TSAT) ≥ 20%; **AND**

C. Upon initiation of therapy Hemoglobin (Hb) is < 10 g/dL and/or Hematocrit (Hct) < 30% (unless otherwise specified); **AND**

D. A diagnosis of one of the following when the request is for **darbepoetin alfa (Aranesp) or epoetin alfa (Procrit, Epogen, Retacrit)**:

1. **Anemia secondary to myelodysplastic syndrome (MDS); AND**

i. Member has an endogenous serum erythropoietin level of ≤ 500 mUnits/mL; **AND**
ii. Member has lower risk disease [i.e. defined as IPSS-R (Very Low, Low, Intermediate), IPSS (Low/Intermediate-1), WPSS (Very Low, Low, Intermediate)]; **AND**
a. Used for treatment of symptomatic anemia, as an alternative to lenalidomide, in members with del(5q); **OR**
b. Used for treatment of symptomatic anemia in members without del(5q); **AND**
i. Member has ring sideroblasts < 15% and used as a single agent **OR** in combination with lenalidomide in members who have failed single agent therapy; **OR**
ii. Member has ring sideroblasts ≥ 15% and used in combination with a granulocyte-colony stimulating factor (G-CSF); **OR**

2. **Anemia secondary to Myeloproliferative Neoplasms (MPN) – Myelofibrosis; AND**
i. Member has an endogenous serum erythropoietin level of < 500 mUnits/mL; **OR**
3. **Anemia secondary to chemotherapy treatment; AND**
i. Member is receiving concomitant myelosuppressive chemotherapy; **AND**
ii. Chemotherapy treatment plan is not intended to cure the disease (i.e. palliative chemotherapy); **AND**
iii. There are a minimum of two additional months of planned chemotherapy; **OR**
4. **Anemia secondary to chronic kidney disease; AND**
i. Member is at least one month of age or older; **OR**

E. A diagnosis of one of the following when the request is for **epoetin alfa (Procrit, Epogen, Retacrit)**:
1. **Anemia secondary to rheumatoid arthritis; OR**
2. **Anemia secondary to zidovudine treated, HIV-infected members; AND**
i. Member has an endogenous serum erythropoietin level of < 500 mUnits/mL; **AND**
ii. Member is receiving zidovudine administered at ≤ 4200 mg/week; **OR**
3. **Reduction of allogenic blood transfusions in elective, non-cardiac, non-vascular surgery; AND**
i. Hemoglobin (Hb) between 10 g/dL and 13 g/dL and/or Hematocrit (Hct) between 30% and 39%; **AND**
ii. Member is at high-risk of blood-loss from surgery that is elective, non-cardiac and non-vascular; **AND**

iii. Member is unwilling or unable to participate in an autologous blood donation program prior to surgery

II. Darbepoetin alfa (Aranesp), epoetin alfa (Procrit, Epogen, Retacrit) are considered investigational when used for all other conditions.

### Renewal Evaluation

I. Lab values are obtained within 30 days of the date of administration (unless otherwise indicated); **AND**
II. Adequate iron stores as demonstrated by serum ferritin ≥ 100 ng/mL (mcg/L) and transferrin saturation (TSAT) ≥ 20% measured within the previous 3 months; **AND**
III. Documentation of continued need for therapy indicated by Hemoglobin (Hb) and/or Hematocrit (Hct) as follows:

| Indication | Hb and/or Hct Response |
|---|---|
| Anemia secondary to myelodysplastic syndrome (MDS) | Hemoglobin (Hb) <12 g/dL and/or Hematocrit (Hct) <36% |
| Anemia secondary to myeloproliferative neoplasms (MF, post-PV myelofibrosis, post-ET myelofibrosis) | Hemoglobin (Hb) <10 g/dL and/or Hematocrit (Hct) <30% |
| Reduction of allogeneic blood transfusions in elective, non-cardiac, non-vascular surgery | Hemoglobin(Hb) between 10 g/dL and 13 g/dL and/or Hematocrit(Hct) between 30% and 39% |
| Anemia secondary to chemotherapy treatment | Hemoglobin (Hb) <10 g/dL and/or Hematocrit (Hct) < 30% |
| Anemia secondary to zidovudine treated, HIV-infected patients | Hemoglobin (Hb)< 12 g/dL and/or Hematocrit (Hct) < 36%; |
| Anemia secondary to chronic kidney disease | *Pediatric patients*: Hemoglobin (Hb) < 12 g/dL and/or Hematocrit (Hct) < 36%<br>*Adults*: Hemoglobin (Hb) < 11 g/dL and/or Hematocrit (Hct) < 33% |
| All other indications | Hemoglobin (Hb) < 11 g/dL and/or Hematocrit (Hct) < 33% |

## References

1. Procrit [package insert]. Horsham, PA; Janssen, LP; July 2018.
2. Epogen [package insert]. Thousand Oaks, CA; Amgen, Inc; July 2018.
3. Aranesp [package insert] Thousand Oaks, CA; Amgen Inc; January 2019
4. Younossi ZM, Nader FH, Bai C, et al. A phase II dose finding study of darbepoetin alpha and filgrastim for the management of anaemia and neutropenia in chronic hepatitis C treatment. Journal of Viral Hepatitis 2008; 15(5):370-8
5. Cervantes F, Alvarez-Laran A, Hernandez-Boluda JC, et al. Darbepoetin-alpha for the anaemia of myelofibrosis with myeloid metaplasia. British Journal of Haematology, 134: 184–186. doi:10.1111/j.1365-2141.2006.06142.x
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8. Saag, MS, Bowers, P, Leitz, GJ, Levine, AM. Once-weekly epoetin alfa improves quality of life and increases hemoglobin in anemic HIV+ patients. AIDS Res Hum Retroviruses 2004; 20:1037.
9. Grossman, HA, Goon, B, Bowers, P, Leitz, G. Once-weekly epoetin alfa dosing is as effective as three times-weekly dosing in increasing hemoglobin levels and is associated with improved quality of life in anemic HIV-infected patients. J Acquir Immune Defic Syndr 2003; 34:368.
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11. Shaffer CL, Ransom JL. Current and theoretical considerations of erythropoietin use in anemia of bronchopulmonary dysplasia. J of Pediatric Pharmacy Practice 1996; 1:23-29
12. Reiter PD, Rosenberg AA, Valuck RJ. Factors associated with successful epoetin alfa therapy in premature infants. Ann Pharmacother 2000; 34:433-439.

## Policy Implementation/Update:

| Action and Summary of Changes | Date |
|---|---|
| Updated renewal section criteria point III to read as "Documentation of continued need for therapy indicated by Hemoglobin (Hb) and/or Hematocrit (Hct) as follows:". | 04/2020 |
| Removed box stating Retacrit is preferred product. Removed requirement to try/fail Retacrit before others. | 01/2020 |
| • Transitioned to policy format<br>• Added language regarding preferred product, Retacrit and removal of PA requirement<br>• Aligned criteria with medical benefit for consistency across benefits, which included clarifying initial requirements (e.g. labs obtained within 30 days, adequate iron stores, Hg/Hct levels)<br>• Added coverage criteria for anemia associated with rheumatoid arthritis, anemia secondary to MDS, and anemia secondary to myelofibrosis<br>• Added specific renewal criteria | 12/2019 |
| Previous reviews | 10/2018,<br>11/2012,<br>08/2012 |
| Policy created | 06/2011 |