

# Reblozyl® (Luspatercept-Aamt) (for Louisiana Only)

**Policy Number:** CSLA2021D0084ED  
**Effective Date:**

[➔ Instructions for Use](#)

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## Application

This Medical Benefit Drug Policy only applies to the state of Louisiana.

## Coverage Rationale

Reblozyl is proven and/or medically necessary for the treatment of anemia in adult patients with beta thalassemia who meet all of the following criteria:<sup>1-4</sup>

- **Initial Therapy**
  - Diagnosis of beta thalassemia including beta<sup>+</sup> thalassemia, beta<sup>0</sup> thalassemia, and hemoglobin E/beta thalassemia; **and**
  - Patient is 18 years of age or older; **and**
  - Patient is transfusion dependent as evidenced by **both** of the following in the previous 24 weeks:
    - Has required regular transfusion of at least six units of packed red blood cells (PRBC); **and**
    - No transfusion free period greater than 35 days
  - and**
  - Reblozyl is prescribed by, or in consultation with, a hematologist, or other specialist with expertise in the diagnosis and management of beta thalassemia; **and**
  - Reblozyl dosing is in accordance with the United States Food and Drug Administration approved labeling; **and**
  - Initial authorization will be for no more than 6 months
- **Continuation of Therapy**
  - Diagnosis of beta thalassemia including beta<sup>+</sup> thalassemia, beta<sup>0</sup> thalassemia, and hemoglobin E/beta thalassemia; **and**
  - Reblozyl is prescribed by, or in consultation with, a hematologist, or other specialist with expertise in the diagnosis and management of beta thalassemia; **and**
  - Patient has experienced a reduction in transfusion requirements from pretreatment baseline of at least 2 units PRBC while receiving Reblozyl; **and**
  - Reblozyl dosing is in accordance with the United States Food and Drug Administration approved labeling; **and**
  - Reauthorization will be for no more than 12 months

Reblozyl is proven and/or medically necessary for the treatment of symptomatic anemia in patients with myelodysplastic syndromes or myelodysplastic/myeloproliferative neoplasms who meet all of the following criteria:<sup>7, 9-14</sup>

• **Initial Therapy**

- One of the following:
  - Diagnosis of myelodysplastic syndrome
  - Diagnosis of myelodysplastic/myeloproliferative neoplasm**and**
- Patient has documented lower risk disease as defined as **one** of the following:
  - Revised International Prognostic Scoring System (IPSS-R) - Very Low, Low, Intermediate (Score 0 to ≤ 4.5)
  - IPSS - Low/Intermediate-1 (Score 0 to 1)
  - WHO-Based Prognostic Scoring System (WPSS) - Very Low, Low, Intermediate (Score 0 to 2)**and**
- Documentation of **both** of the following:
  - Hemoglobin <10 g/dL
  - Patient requires at least 2 units of packed red blood cells (pRBCs) in the prior 8 weeks**and**
- Prescriber has ruled out and/or addressed other causes of anemia (e.g., gastrointestinal bleeding, hemolysis, renal disease, nutritional deficiency, etc.); **and**
- Documentation of **one** of the following:
  - Ring sideroblasts ≥ 15%
  - Ring sideroblasts ≥ 5% with an SF3B1 mutation**and**
- Documentation of **one** of the following:
  - Patient is ineligible for erythropoiesis-stimulating agent (ESA) therapy [e.g., Retacrit (epoetin alfa)] (e.g., serum erythropoietin >200 mU/mL); **or**
  - **Both** of the following:
    - Serum erythropoietin ≤200 mU/mL
    - Disease is not responsive or patient is intolerant to ESA [e.g., Retacrit (epoetin alfa)] therapy**and**
- Reblozyl is prescribed by, or in consultation with, a hematologist, oncologist, or other specialist with expertise in the diagnosis and management of myelodysplastic syndromes; **and**
- Reblozyl dosing is in accordance with the United States Food and Drug Administration approved labeling; **and**
- Initial authorization will be for no more than 3 months

• **Continuation of Therapy**

- Patient has previously received Reblozyl for the treatment of symptomatic anemia associated with myelodysplastic syndromes or myelodysplastic/myeloproliferative neoplasms; **and**
- Patient has experienced a reduction in transfusion requirements while receiving Reblozyl documented by one of the following:
  - A transfusion reduction of at least 4 units of pRBCs per 8 weeks for patients with a baseline transfusion burden of at least 4 units of pRBCs per 8 weeks; or
  - A mean increase of hemoglobin of at least 1.5 g/dL for patients with a baseline transfusion burden less than 4 units of pRBCs per 8 weeks; and
- ~~Documentation that the patient no longer requires pRBC transfusions (transfusion independence); and~~
- Reblozyl is prescribed by, or in consultation with, a hematologist, or other specialist with expertise in the diagnosis and management of myelodysplastic syndromes; **and**
- Reblozyl dosing is in accordance with the United States Food and Drug Administration approved labeling; **and**
- Reauthorization will be for no more than 12 months

**Reblozyl is not proven or medically necessary for the treatment of:**

- Non-transfusion dependent beta thalassemia
- Beta thalassemia in pediatric patients
- Sickle beta thalassemia (hemoglobin S [HbS]/beta thalassemia)
- Alpha thalassemia
- Myelodysplastic syndromes without ring sideroblasts
- Myeloproliferative neoplasm (MPN)-associated myelofibrosis

## Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this policy does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by federal, state, or contractual requirements and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

HCPCS Code	Description
J0896	Injection, luspatercept-aamt, 0.25 mg

Diagnosis Code	Description
D46.1	Refractory anemia with ring sideroblasts
D46.20	Refractory anemia with excess of blasts, unspecified
D46.21	Refractory anemia with excess of blasts 1
D46.22	Refractory anemia with excess of blasts 2
D46.B	Refractory cytopenia with multilineage dysplasia and ring sideroblasts
D56.1	Beta thalassemia
D56.5	Hemoglobin E-beta thalassemia

## Background

Beta-thalassemias are a group of hereditary blood disorders characterized by anomalies in the synthesis of the beta chains of hemoglobin resulting in variable phenotypes ranging from severe anemia to clinically asymptomatic individuals. The total annual incidence of symptomatic individuals is estimated at 1 in 100,000 throughout the world and 1 in 10,000 people in the European Union. Three main forms have been described: thalassemia major, thalassemia intermedia and thalassemia minor. Individuals with thalassemia major usually present within the first two years of life with severe anemia, requiring regular red blood cell (RBC) transfusions. Findings in untreated or poorly transfused individuals with thalassemia major, as seen in some developing countries, are growth retardation, pallor, jaundice, poor musculature, hepatosplenomegaly, leg ulcers, development of masses from extramedullary hematopoiesis, and skeletal changes that result from expansion of the bone marrow. Regular transfusion therapy leads to iron overload related complications including endocrine complication (growth retardation, failure of sexual maturation, diabetes mellitus, and insufficiency of the parathyroid, thyroid, pituitary, and less commonly, adrenal glands), dilated cardiomyopathy, liver fibrosis and cirrhosis). Patients with thalassemia intermedia present later in life with moderate anemia and do not require regular transfusions. Main clinical features in these patients are hypertrophy of erythroid marrow with medullary and extramedullary hematopoiesis and its complications (osteoporosis, masses of erythropoietic tissue that primarily affect the spleen, liver, lymph nodes, chest and spine, and bone deformities and typical facial changes), gallstones, painful leg ulcers and increased predisposition to thrombosis. Thalassemia minor is clinically asymptomatic but some subjects may have moderate anemia.

Beta-thalassemias are caused by point mutations or, more rarely, deletions in the beta globin gene on chromosome 11, leading to reduced (beta<sup>+</sup>) or absent (beta<sup>0</sup>) synthesis of the beta chains of hemoglobin. Transmission is autosomal recessive; however, dominant mutations have also been reported. Diagnosis of thalassemia is based on hematologic and molecular genetic testing. Treatment of thalassemia major includes regular RBC transfusions, iron chelation and management of secondary complications of iron overload. In some circumstances, spleen removal may be required. Bone marrow transplantation remains the only definitive cure currently available. Individuals with thalassemia intermedia may require splenectomy, folic acid supplementation, treatment of extramedullary erythropoietic masses and leg ulcers, prevention and therapy of thromboembolic events. Prognosis for individuals with beta-thalassemia has improved substantially following recent medical advances in transfusion, iron chelation and bone marrow transplantation therapy. However, cardiac disease remains the main cause of death in patients with iron overload.

Myelodysplastic syndromes (MDS) are a heterogeneous group of malignant hematopoietic stem cell disorders characterized by dysplastic and ineffective blood cell production and a risk of transformation to acute leukemia. Patients with MDS have impaired blood cell production and function that often leads to anemia, bleeding, and increased risk of infection. MDS occurs most commonly in male patients 65 years of age and older. Anemia is the most common cytopenia and can manifest as fatigue, weakness, exercise intolerance, angina, etc. Other symptoms include infection, easy bruising, or bleeding. MDS can be classified by one of three prognostic systems, based upon a combination of morphology, immunophenotype, genetics, and clinical features. These scoring systems are: the Revised International Prognostic Scoring System (IPSS-R), International Prognostic Scoring System (IPSS) and the WHO-Based Prognostic Scoring System (WPSS). The IPSS should be used for initial prognostic and planning purposes. WPSS permits dynamic estimation of prognosis at multiple time points during the course of MDS. The IPSS-R calculator can be found at <http://www.ipss-r.com> or <https://www.mds-foundation.org/ipss-r-calculator/>.

## Clinical Evidence

### Beta Thalassemia

The efficacy of Reblozyl was evaluated in adult patients with beta thalassemia in the BELIEVE trial (NCT02604433). BELIEVE is a multicenter, randomized, double-blind, placebo-controlled trial in which (n=336) patients with beta thalassemia **(including beta<sup>+</sup> thalassemia, beta<sup>0</sup> thalassemia, and hemoglobin E/beta thalassemia; beta thalassemia with mutation and/or multiplication of alpha globin was also allowed)** requiring regular red blood cell transfusions (6-20 RBC units per 24 weeks) with no transfusion-free period greater than 35 days during that period were randomized 2:1 to Reblozyl (n=224) or placebo (n=112). In BELIEVE, Reblozyl was administered subcutaneously once every 3 weeks as long as a reduction in transfusion requirement was observed or until unacceptable toxicity. All patients were eligible to receive best supportive care, which included RBC transfusions; iron-chelating agents; use of antibiotic, antiviral, and antifungal therapy; and/or nutritional support, as needed.

The BELIEVE trial excluded patients with hemoglobin S/ $\beta$ -thalassemia or alpha-thalassemia or who had major organ damage (liver disease, heart disease, lung disease, renal insufficiency). Patients with recent deep vein thrombosis or stroke or recent use of ESA, immunosuppressant, or hydroxyurea therapy were also excluded. The median age was 30 years (range: 18-66).

The primary efficacy outcome measure was the proportion of patients achieving RBC transfusion burden reduction from baseline of at least 33%, with a reduction of at least 2 units from week 13 to week 24. Of the patients who received Reblozyl, 21.4% (n=48) achieved the primary endpoint compared with 4.5% (n=5) of those who received placebo (risk difference 17.0; 95% CI 10.4, 23.6; p<0.0001). Secondary outcome measures included the proportion of patients achieving RBC transfusion burden reduction from baseline of at least 33%, with a reduction of at least 2 units from week 37 to 48 and the proportion of patients achieving RBC transfusion burden reduction from baseline of at least 50%, with a

reduction of at least 2 units for 12 consecutive weeks from week 13 to week 24 and from week 37 to 48. Of the patients who received Reblozyl, 19.6% (n=44) achieved a 33% reduction and 2 unit reduction in transfusion burden from week 37 to 48 compared to 3.6% (n=4) with placebo (risk difference 16.1; 95% CI 9.8, 22.4; p<0.0001). 7.6% (n=17) and 10.3% (n=23) of patients receiving Reblozyl experienced a 50% reduction in transfusion burden with a 2 unit reduction for 12 consecutive weeks compared to 1.8% (n=2) and 0.9% (n=1) from week 13 to 24 and from week 37 to week 48 respectively (p<0.05 for both comparisons).

The efficacy of Reblozyl was evaluated in a phase 2 open-label, nonrandomized, uncontrolled study in 32 patients with transfusion dependent (requiring >4 RBC units per 8 weeks) received Reblozyl ranging from 0.6 to 1.25 mg/kg every 3 weeks. The median age was 38.5 years (range: 20-62). The primary endpoint in the transfusion-dependent population was a 20% reduction in transfusion burden over a 12 week interval. Transfusion dependence was defined as those who received an average of >4 RBC units every 8 weeks over the 6-month period before study initiation. Twenty-six (81%) of patients receiving Reblozyl achieved a 20% reduction in transfusion over any 12 weeks on study compared with the 12 weeks before baseline. RBC transfusion burden reduction of  $\geq 33\%$  was achieved in 23 patients (72%), and  $\geq 50\%$  reduction was achieved in 20 patients (63%) while receiving Reblozyl. An additional secondary endpoint included changes in liver iron concentration (LIC) measured using magnetic resonance imaging. Of 9 patients with transfusion dependence with baseline LIC >3 mg/g dry weight who were treated for >4 months, 5 (56%) achieved a decrease in LIC >2 mg/g dry weight. Mean LIC (+/- SD) for transfusion dependent patients at the end of the initial stage of treatment was -0.27 mg/g dry weight (+/- 1.64), compared with 5.03 mg/g (+/- 5.32) at baseline. All LIC responders were receiving ongoing concomitant iron chelation therapy.

## Myelodysplastic Syndromes

The efficacy and safety of Reblozyl for the treatment of patients with symptomatic anemia and lower-risk myelodysplastic syndromes was evaluated in a double-blind, placebo-controlled, phase 3 trial. Patients with symptomatic anemia and very-low, low, or intermediate-risk myelodysplastic syndromes where erythropoiesis-stimulating agent therapy was not effective, were randomized (n=229) to receive either luspatercept (n=153, at a dose of 1.0mg up to 1.75mg per kilogram body weight) or placebo (n=76), administered subcutaneously every 3 weeks. The primary end point was transfusion independence for 8 weeks or longer during weeks 1 through 24, and the key secondary end point was transfusion independence for 12 weeks or longer, assessed during weeks 1 through 24 and 1 through 48. Transfusion independence for 8 weeks or longer was observed in 38% of the patients in the luspatercept group, as compared with 13% of those in the placebo group (p<0.001). A higher percentage of patients in the luspatercept group than in the placebo group met the key secondary end point (28% vs. 8% for weeks 1 through 24, and 33% vs. 12% for weeks 1 through 48; p<0.001 for both comparisons). The most common luspatercept associated adverse events (of any grade) included fatigue, diarrhea, asthenia, nausea, and dizziness. The authors concluded that luspatercept reduced the severity of anemia in patients with lower-risk myelodysplastic syndromes with ring sideroblasts who had been receiving regular red-cell transfusions and who had disease that was refractory to or unlikely to respond to erythropoiesis stimulating agents or who had discontinued such agents owing to an adverse event.

## Professional Societies

The National Comprehensive Cancer Network (NCCN) Drugs and Biologics Compendium recommend (2A) Reblozyl for the treatment of lower risk\* myelodysplastic syndromes associated with symptomatic anemia with ring sideroblasts  $\geq 15\%$  (or ring sideroblasts  $\geq 5\%$  with an SF3B1 mutation) and:

- With serum erythropoietin >500 mu/ml; or
- With serum erythropoietin  $\leq 500$  mU/mL following no response to the combination of an erythropoiesis-stimulating agent (ESA) and granulocyte-colony stimulating factor (G-CSF)

\*Lower risk defined as IPSS-R (Very Low, Low, Intermediate), IPSS (Low/Intermediate-1), WPSS (Very Low, Low, Intermediate)

The NCCN Drugs and Biologics Compendium also recommend (2B) Reblozyl for the treatment of myelodysplastic syndromes/myelodysplastic neoplasms associated with symptomatic anemia with ring sideroblasts and thrombocytosis.

NCCN defines a lack of response to luspatercept as a lack of 1.5 g/dL rise in hemoglobin or lack of a decrease in RBC transfusion requirement by 6 to 8 weeks of treatment.

## U.S. Food and Drug Administration (FDA)

This section is to be used for informational purposes only. FDA approval alone is not a basis for coverage.

Reblozyl (luspatercept-aamt) is an erythroid maturation agent indicated for the treatment of:

- Anemia in adult patients with beta thalassemia who require regular red blood cell (RBC) transfusions.
  - The recommended starting dose of Reblozyl is 1 mg/kg once every 3 weeks by subcutaneous injection. Hemoglobin (Hgb) should be assessed prior to each administration. If an RBC transfusion occurred prior to dosing, the pretransfusion Hgb must be considered for dosing purposes. If the pre-dose hemoglobin (Hgb) is greater than or equal to 11.5 g/dL and the Hgb level is not influenced by recent transfusion, delay dosing until the Hgb is less than or equal to 11 g/dL. If a patient does not achieve a reduction in RBC transfusion burden after at least 2 consecutive doses (6 weeks) at the 1 mg/kg starting dose, increase the Reblozyl dose to 1.25 mg/kg. Reblozyl should be discontinued if a patient does not experience a decrease in transfusion burden after 9 weeks of treatment (administration of 3 doses) at the maximum dose level or if unacceptable toxicity occurs at any time.
- Anemia failing an erythropoiesis stimulating agent and requiring 2 or more RBC units over 8 weeks in adult patients with very low- to intermediate-risk myelodysplastic syndromes with ring sideroblasts (MDS-RS) or with myelodysplastic/myeloproliferative neoplasm with ring sideroblasts and thrombocytosis (MDS/MPN-RS-T).
  - The recommended starting dose of Reblozyl is 1 mg/kg once every 3 weeks by subcutaneous injection for patients with anemia of MDS-RS or MDS/MPN-RS-T. If an RBC transfusion occurred prior to dosing, use the pretransfusion hemoglobin for dose evaluation. If a patient is not RBC transfusion-free after at least 2 consecutive doses (6 weeks) at the 1 mg/kg starting dose, increase the Reblozyl dose to 1.33 mg/kg. If a patient is not RBC transfusion-free after at least 2 consecutive doses (6 weeks) at the 1.33 mg/kg dose level, increase the Reblozyl dose to 1.75 mg/kg. Do not increase the dose more frequently than every 6 weeks (2 doses) or beyond the maximum dose of 1.75 mg/kg. Discontinue Reblozyl if a patient does not experience a decrease in transfusion burden after 9 weeks of treatment (administration of 3 doses) at the maximum dose level or if unacceptable toxicity occurs at any time.

**Limitations of Use:** Reblozyl is not indicated for use as a substitute for RBC transfusions in patients who require immediate correction of anemia.

## References

1. Reblozyl [package insert]. Summit, NJ: Celgene Corporation, April 2020.
2. Galanello R, Origa R. Beta-thalassemia. Orphanet Journal of Rare Diseases. 2010; 5:11.
3. Piga A, Perrotta S, Gamberini MR, et al. Luspatercept improves hemoglobin levels and blood transfusion requirements in a study of patients with beta-thalassemia. Blood. 2018; 133(12):1279-89.

4. An Efficacy and Safety Study of Luspatercept (ACE-536) Versus Placebo in Adults Who Require Regular Red Blood Cell Transfusions Due to Beta ( $\beta$ ) Thalassemia (BELIEVE). Clinicaltrials.gov website: <https://clinicaltrials.gov/ct2/show/NCT02604433?term=luspatercept&draw=2&rank=6>. Accessed November 8, 2019.
5. Origa R. Beta-thalassemia. Genet Med. 2017;19(6):609-19.
6. A Safety and Efficacy Study to Evaluate Luspatercept in Subjects With Myeloproliferative Neoplasm-associated Myelofibrosis Who Have Anemia With and Without Red Blood Cell-transfusion Dependence. Clinicaltrials.gov website <https://clinicaltrials.gov/ct2/show/NCT03194542?term=luspatercept&draw=2&rank=2>. Accessed November 8, 2019.
7. Fenaux P, Platzbecker U, Mufti GJ, et al. Luspatercept in Patients with Lower-Risk Myelodysplastic Syndromes. N Engl J Med 2020;382:140-51.
8. Efficacy and Safety Study of Luspatercept (ACE-536) Versus Epoetin Alfa for the Treatment of Anemia Due to IPSS-R Very Low, Low or Intermediate Risk Myelodysplastic Syndromes (MDS) in ESA Naïve Subjects Who Require Red Blood Cell Transfusions (COMMANDS). Clinicaltrials.gov website: <https://clinicaltrials.gov/ct2/show/NCT03682536?term=luspatercept&draw=2&rank=10>. Accessed November 8, 2019.
9. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®). Myelodysplastic Syndromes. Version 1.2021. September 11, 2020. Accessed November 3, 2020.
10. NCCN Drugs and Biologics Compendium (NCCN Compendium®). Available at <http://www.nccn.org>. Accessed November 3, 2020.
11. Greenberg P, Cox C, LeBeau M, et al. International scoring system for evaluating prognosis in myelodysplastic syndromes. Blood 1997;89:2079-2088.
12. Greenberg PL, Tuechler H, Schanz J, et al. Revised international prognostic scoring system for myelodysplastic syndromes. Blood 2012; 120:2454-2465.
13. Malcovati L, Della Porta MG, StruppC, et al. Impact of the degree of anemia on the outcome of patients with myelodysplastic syndromes and its integration into the WHO classification-based Prognostic Scoring System (WPSS). Haematologica 2011;96:1433-1440.
14. Della Porta MG, Tuechler H, Malcovati L, et al. Validation of WHO classification-based Prognostic Scoring System (WPSS) for myelodysplastic syndromes and comparison with the revised International Prognostic Scoring System (IPSS-R). A study of the International Working Group for Prognosis in Myelodysplasia (IWG-PM). Leukemia 2015;29:1502-1513.

## Policy History/Revision Information

Date	Summary of Changes
	<u>Off-Cycle review. Updated coverage criteria for continuation of therapy of Reblozyl for anemia associated with myelodysplastic syndromes.</u>

## Instructions for Use

This Medical Benefit Drug Policy provides assistance in interpreting UnitedHealthcare standard benefit plans. When deciding coverage, the federal, state or contractual requirements for benefit plan coverage must be referenced as the terms of the federal, state or contractual requirements for benefit plan coverage may differ from the standard benefit plan. In the event of a conflict, the federal, state or contractual requirements for benefit plan coverage govern. Before using this policy, please check the federal, state or contractual requirements for benefit plan coverage. UnitedHealthcare reserves the right to modify its Policies and Guidelines as necessary. This Medical Benefit Drug Policy is provided for informational purposes. It does not constitute medical advice.

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