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## Subject: Exagamglogene autotemcel (Casgevy) suspension for IV infusion

THIS MEDICAL COVERAGE GUIDELINE IS NOT AN AUTHORIZATION, CERTIFICATION, EXPLANATION OF BENEFITS, OR A GUARANTEE OF PAYMENT, NOR DOES IT SUBSTITUTE FOR OR CONSTITUTE MEDICAL ADVICE. ALL MEDICAL DECISIONS ARE SOLELY THE RESPONSIBILITY OF THE PATIENT AND PHYSICIAN. BENEFITS ARE DETERMINED BY THE GROUP CONTRACT, MEMBER BENEFIT BOOKLET, AND/OR INDIVIDUAL SUBSCRIBER CERTIFICATE IN EFFECT AT THE TIME SERVICES WERE RENDERED. THIS MEDICAL COVERAGE GUIDELINE APPLIES TO ALL LINES OF BUSINESS UNLESS OTHERWISE NOTED IN THE PROGRAM EXCEPTIONS SECTION.

<a href="#">Dosage/ Administration</a>	<a href="#">Position Statement</a>	<a href="#">Billing/Coding</a>	<a href="#">Reimbursement</a>	<a href="#">Program Exceptions</a>	<a href="#">Definitions</a>
<a href="#">Related Guidelines</a>	<a href="#">Other</a>	<a href="#">References</a>	<a href="#">Updates</a>		

### DESCRIPTION:

Sickle cell disease (SCD) represents a group of inherited disorders carried by the beta allele of the hemoglobin (Hb) gene. It is characterized by abnormal hemoglobin polymerization that results in a sickle-shaped erythrocyte. This sickled alteration results in a shortened lifespan of the erythrocyte (16 days vs 120 days in normal RBCs) and ultimately results in vascular occlusion. The term SCD includes the homozygous genotype HbSS and the heterozygous genotypes HbS $\beta$ 0 thalassemia, HbSC, HbSD, and HbS $\beta$ + thalassemia. An individual with one normal gene and one HbS gene (HbAS) is a carrier and referred to as “sickle cell trait”. Sickle cell trait typically does not have clinical manifestations of the disease. Acutely, patients with SCD present with recurrent pain episodes, life-threatening infections due to splenic infarction, acute chest syndrome, pulmonary hypertension, stroke, and cumulative multiorgan damage. These episodes are categorized as vaso-occlusive crises (VOCs). Treatment options for SCD include hydroxyurea, L-glutamine, crizanlizumab, voxelotor, and blood transfusions. The only curative option is hematopoietic stem cell transplantation (HSCT).

Beta thalassemia is a rare, inherited disorder characterized by gene mutations resulting in absent (beta zero, B<sup>0</sup>) or reduced (beta plus, B<sup>+</sup>) production of the  $\beta$ -globin chains in hemoglobin. The reduced synthesis of  $\beta$ -globin leads to an imbalance in the alpha/beta-globin chain ratio and the excess of unpaired alpha-globin chains leads to premature death of RBCs and their precursors in the bone marrow. Ineffective erythropoiesis leads to anemia and various subsequent complications including hemolysis, hypercoagulability, iron overload secondary to frequent RBC transfusions, heart disease, and hepatic cirrhosis. Over 200 different mutations that affect the  $\beta$ -globin gene, most often point mutations, have been described in patients with beta thalassemia. Patient genotypes may be either homozygous (e.g., B<sup>+</sup>/B<sup>+</sup>, B<sup>0</sup>/B<sup>0</sup>) or compound heterozygous (e.g., B<sup>0</sup>/B<sup>+</sup>). Persons with only one defective  $\beta$ -globin gene (e.g., B/B<sup>+</sup>, B/B<sup>0</sup>) are typically asymptomatic and are known as  $\beta$ -thalassemia carriers (also

called thalassemia minor, beta thalassemia trait, and heterozygous beta thalassemia). Phenotypic findings range widely in non-carrier patients and are often categorized as thalassemia major (lack of or very minimal  $\beta$ -globin production; a.k.a., Cooley's anemia and Mediterranean anemia) or thalassemia intermedia (some residual  $\beta$ -globin production). Individuals with thalassemia major become severely symptomatic in the first two years of life and require regular RBC transfusions to survive. It is estimated that approximately 1,300 people in the U.S. currently live with transfusion-dependent  $\beta$ -thalassemia (TDT). Thalassemia intermedia includes patients who present later and often do not require regular transfusion; however, transfusion needs are highly variable in this group. There are also  $\beta$ -thalassemias associated with other Hb anomalies, such as  $\beta$ -thalassemia and hemoglobin E (HbE) (e.g.,  $B^E/B^+$ ,  $B^E/B^0$ ). Diagnosis of  $\beta$ -thalassemia is based on an assessment of various clinical signs and symptoms. Typical laboratory tests include a complete blood count (CBC), peripheral blood smear, iron studies, and qualitative and quantitative hemoglobin analysis (typically by electrophoresis or chromatography). In patients with  $\beta$ -thalassemia major or intermedia, hemoglobin analysis will find low levels of adult hemoglobin (HbA) and high level of fetal hemoglobin (HbF). Molecular genetic testing can also be done to determine the exact genotype of the patient. Current treatment options for TDT are extremely limited and include packed red blood cells (pRBC) and iron chelation therapy (ICT) in addition to potential curative options such as allogeneic HSCT and gene therapy with betibeglogene autotemcel (Zynteglo), which was approved by the FDA in August 2022.

On December 8, 2023, the FDA approved exagamglogene autotemcel (Casgevy) for sickle cell disease (SCD) with recurrent vaso-occlusive crises (VOCs), and on February 21, 2024 approved TDT as a second indication. Exagamglogene autotemcel (Casgevy) is a cellular gene therapy consisting of autologous CD34+ HSCs edited by CRISPR/Cas9-technology at the erythroid specific enhancer region of the BCL11A gene to reduce BCL11A expression in erythroid lineage cells. This reduction in BCL11A expression conversely results in an increase in gamma-globin expression and downstream fetal hemoglobin (HbF) formation. The edited CD34+ cells are formulated into a suspension that is subsequently administered to the patient via HSCT. In patients with SCD, HbF expression reduces intracellular hemoglobin S (HbS) concentration, preventing the red blood cells from sickling and addressing the underlying cause of disease, thereby eliminating VOCs. In patients with TDT, gamma-globin production improves the  $\alpha$ -globin to non- $\alpha$ -globin imbalance thereby reducing ineffective erythropoiesis and hemolysis and increasing total hemoglobin levels, addressing the underlying cause of disease, and eliminating the dependence on regular red blood cell (RBC) transfusions.

Exagamglogene autotemcel (Casgevy) efficacy and safety was evaluated as part of an ongoing single-arm, multi-center trial (CLIMB SCD-121; NCT03745287) in adult and adolescent patients with SCD. Eligible patients underwent mobilization and apheresis to collect CD34+ stem cells for manufacturing, followed by myeloablative conditioning and infusion of exagamglogene autotemcel (Casgevy). Enrolled patients included those 12 to 35 years of age that had a history of at least 2 protocol-defined severe vaso-occlusive crisis (VOC) events during each of the 2 years prior to screening. In this trial severe VOC was defined as an occurrence of at least one of the following events: acute pain event requiring a visit to a medical facility and administration of pain medications (opioids or intravenous non-steroidal anti-inflammatory drugs [NSAIDs]) or RBC transfusions, acute chest syndrome, priapism lasting greater than 2 hours and requiring a visit to a medical facility, and splenic sequestration. Patients were excluded if they had advanced liver disease, history of untreated Moyamoya disease, or presence of Moyamoya disease that in the opinion of the investigator put the patient at risk of bleeding. Patients aged 12 to 16

years were required to have normal transcranial doppler (TCD), and patients aged 12 to 18 years were excluded if they had any history of abnormal TCD in the middle cerebral artery and the internal carotid artery. Patients with an available 10/10 human leukocyte antigen matched related hematopoietic stem cell donor were excluded. Patients with more than 10 unplanned hospitalizations or emergency department visits related to chronic pain rather than SCD-related acute pain crises in the year before screening were also excluded. At the time of the interim analysis, a total of 63 patients enrolled in the trial, of which 58 (92%) patients started mobilization. A total of 44 (76%) patients received exagamglogene autotemcel (Casgevy) infusion and formed the full analysis set (FAS). Thirty-one patients from the FAS (70%) had adequate follow-up to allow evaluation of the primary efficacy endpoint and formed the primary efficacy set (PES). The baseline characteristics and demographics are consistent between the PES and the FAS. An interim analysis was conducted with the 31 patients in the PES. The median total duration of follow-up was 26 months (range: 17.8 - 48.1 months) from the time of infusion. There were no cases of graft failure or graft rejection. The primary efficacy outcome was the proportion of patients who did not experience any protocol-defined severe VOCs for at least 12 consecutive months after the infusion, starting 60 days after their last RBC transfusion. The proportion of patients who did not require hospitalization due to severe VOCs for at least 12 consecutive months was also assessed. The primary efficacy outcome response rate was 29/31 (93.5%, 98% one-sided CI: 77.9%, 100.0%). These responders did not experience protocol-defined severe VOCs during the evaluation period with a median duration of 22.2 months at the time of the interim analysis. One patient who initially responded experienced an acute pain episode meeting the definition of a severe VOC at Month 22.8 requiring a 5-day hospitalization; this patient was reported to have a parvovirus B19 infection at the time. Of the 31 patients evaluable for the proportion of patients who did not require hospitalization due to severe VOCs, one patient was not evaluable and the remaining 30 patients (100%, 98% one-sided CI: 87.8%, 100.0%) achieved this endpoint.

Exagamglogene autotemcel (Casgevy) efficacy and safety was evaluated as part of an ongoing open-label, multi-center, single-arm trial (CLIMB THAL-111; NCT03655678) in adult and adolescents age 12 to 35 years with TDT. Eligible patients underwent mobilization and apheresis to collect CD34+ stem cells for manufacturing, followed by myeloablative conditioning and infusion of exagamglogene autotemcel (Casgevy). Patients were then followed for 24 months after the infusion. Patients were eligible for the trial if they had a history of requiring at least 100 mL/kg/year or 10 units/year of RBC transfusions in the 2 years prior to enrollment. Patients were excluded if they had severely elevated iron in the heart (i.e., patients with cardiac T2\* less than 10 msec by magnetic resonance imaging [MRI] or left ventricular ejection fraction [LVEF] < 45% by echocardiogram) or advanced liver disease (aspartate transaminase [AST] or alanine transaminase [ALT] > 3 × the upper limit of normal [ULN], or direct bilirubin value > 2.5 × ULN, or if a liver biopsy demonstrated bridging fibrosis or cirrhosis [liver biopsy was performed if liver iron content was ≥ 15 mg/g by MRI]). Patients were also excluded if they had an available 10/10 human leukocyte antigen matched related hematopoietic stem cell donor. At the time of the interim analysis, a total of 59 patients enrolled in the trial, of which 59 (100%) patients started mobilization. A total of 52 (88%) patients received exagamglogene autotemcel (Casgevy) infusion and formed the full analysis set (FAS). Thirty-five patients from the FAS (67%) had adequate follow-up to allow evaluation of the primary efficacy endpoint and formed the primary efficacy set (PES). The baseline characteristics and demographics are consistent between the PES and the FAS. An interim analysis was conducted with 35 patients eligible for the PES. The median total duration of follow-up was 23.8 months (range: 16.1 - 48.1 months) from the time of the infusion. There were no cases of graft failure or graft rejection. The

primary outcome was the proportion of patients achieving transfusion independence for 12 consecutive months (TI12), defined as maintaining weighted average Hb  $\geq 9$  g/dL without RBC transfusions for at least 12 consecutive months after the infusion. The TI12 responder rate was 32/35 (91.4%, 98.3% one-sided CI: 75.7%, 100%). All patients who achieved TI12 remained transfusion-independent, with a median duration of transfusion-independence of 20.8 months (range: 13.3 - 45.1 months) and normal mean weighted average total Hb levels (mean [SD] 13.1 [1.4] g/dL). The median time to last RBC transfusion for patients who achieved TI12 was 30 days (range: 11 - 91 days) following the infusion. Three patients did not achieve TI12. These patients had reductions in annualized RBC transfusion volume requirements of 79.8%, 83.9% and 97.9%, and reductions in annualized transfusion frequency of 78.6%, 67.4% and 94.6%, respectively, compared to baseline requirements.

Patients from the CLIMB SCD-121 (NCT03745287) and CLIMB THAL-111 (NCT03655678) trial were encouraged to enroll in an ongoing long-term follow-up trial (NCT04208529) for a total of 15 years after exagamglogene autotemcel (Casgevy) infusion.

As outline in the exagamglogene autotemcel (Casgevy) prescribing information, the most common Grade 3 or 4 non-laboratory adverse reactions (incidence  $\geq 25\%$ ) were mucositis and febrile neutropenia in patients with SCD and TDT, and decreased appetite in patients with SCD. The most common Grade 3 or 4 laboratory abnormalities ( $\geq 50\%$ ) were neutropenia, thrombocytopenia, leukopenia, anemia, and lymphopenia.

## POSITION STATEMENT:

The administration of exagamglogene autotemcel (Casgevy) **meets the definition of medical necessity** when **ALL** of the following are met:

1. Member is at least 12 years of age at the time of treatment
2. One of the following disease-states (“a” or “b”):
  - a. Sickle Cell Disease (SCD) with the following (“i” and “ii”):
    - i. Diagnosis (e.g., genotypes  $\beta S/\beta S$  or  $\beta S/\beta 0$  or  $\beta S/\beta +$ ) as determined by one of the following (“1” or “2”): - laboratory documentation must be submitted
      1. Identification of significant quantities of HbS with or without an additional abnormal  $\beta$ -globin chain variant by hemoglobin assay
      2. Identification of biallelic HBB pathogenic variants where at least one allele is the p.Glu6Val pathogenic variant on molecular genetic testing
    - ii. Two or more vaso-occlusive crises/events\* per year during the previous 2 years that required a visit to a medical facility (e.g., hospital, ER) and intervention while receiving hydroxyurea and add-on therapy (e.g., crizanlizumab, voxelotor). If not on therapy, documentation of intolerance/contraindication must be provided. - laboratory or medical record documentation must be submitted
  - b. Beta-thalassemia (e.g.,  $\beta 0/\beta 0$  like genotypes such as  $\beta 0/\beta +(\text{IVS-I-110})$  and  $\beta +(\text{IVS-I-110})/\beta +(\text{IVS-I-110})$  and non- $\beta 0/\beta 0$  like genotypes such as  $\beta 0/\beta +$ ,  $\beta E/\beta 0$ , and  $\beta +/\beta +$ ) with the following (“i”, “ii”, and “iii”):

- i. Diagnosis as evidence by beta globin (HBB) gene analysis showing pathogenic variants on **BOTH** genes - laboratory record documentation must be submitted
  - ii. Transfusion-dependent disease defined by one of the following ("1" or "2"): - laboratory or medical record documentation must be submitted
    1. History of receiving transfusions of  $\geq 100$  milliliter per kilogram of body weight per year (mL/kg/year) of packed red cells (pRBCs) in the prior two years
    2. History of receiving eight or more transfusions of pRBCs per year in the prior two years
  - iii. None of the following ("1" and "2"): - documentation within the last 6 months must be submitted
    1. Severely elevated iron in the heart defined as a cardiac T2\* less than 10 msec by magnetic resonance imaging (MRI), left ventricular ejection fraction (LVEF) < 45% by echocardiogram, or other evidence of severe iron overload in the opinion of treating physician
    2. MRI of the liver with results demonstrating liver iron content  $\geq 15$  mg/g (unless biopsy confirms absence of advanced disease)
3. Member is clinically stable and able to undergo a hematopoietic stem cell transplant (HSCT) in the opinion of treating physician
4. Member does **NOT** have an available, suitable, and willing fully matched related donor to participate in an allogeneic HSCT
5. Member has **NOT** previously received gene therapy for SCD or TDT (including exagamglogene autotemcel) **OR** an allogeneic HSCT in their lifetime
6. Member has a negative serologic test for hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus 1 and 2 (HIV-1/HIV-2) - laboratory documentation within the last 6 months must be submitted
7. One of the following ("a" or "b"):
  - a. SCD members will be transfused prior to apheresis and at least 8 weeks prior to initiation of myeloablative conditioning to a total Hb less than or equal to 11 g/dL and a HbS level less than 30%
  - b. TDT members will be transfused prior to apheresis to a total Hb greater than or equal to 11 g/dL for 60 days prior to myeloablative conditioning
8. Attestation that the following medications will **NOT** be administered:
  - a. Iron chelators for 7 days prior to myeloablative conditioning and use of non-myelosuppressive iron chelators for at least 3 months and use of myelosuppressive iron chelators for at least 6 months after the exagamglogene autotemcel infusion
  - b. Hydroxyurea, voxelotor, and crizanlizumab for at least 8-weeks prior to mobilization and conditioning
  - c. Granulocyte-colony stimulating factor (G-CSF) for mobilization of hematopoietic stem cells (HSC) in SCD members

9. Member does **NOT** have **ANY** of the following (“a” to “c”): - documentation within the last 6 months must be submitted
- a. Advanced liver disease defined as **ANY** of the following (“i” to “iv”):
    - i. Persistent aspartate transaminase (AST) or alanine transaminase (ALT) value greater than 3-times the upper limit of normal (ULN) or direct bilirubin value greater than 2.5-times the ULN
    - ii. Baseline prothrombin time or partial thromboplastin time greater than 1.5-times the ULN
    - iii. Imaging test (e.g., MRI, CT, ultrasound) of the liver demonstrating clear evidence of cirrhosis
    - iv. Liver biopsy demonstrating cirrhosis, any evidence of bridging fibrosis, or active hepatitis
  - b. Baseline estimated glomerular filtration rate (eGFR) less than 60 mL/min/1.73 m<sup>2</sup>
  - c. Clinically significant and active bacterial, viral, fungal, or parasitic infection
10. Exagamglogene autotemcel will be administered at a Casgevy Authorized Treatment Center
11. The administration of exagamglogene autotemcel will not exceed one single dose as provided by the manufacturer

**Approval duration:** 9 months to allow for a one-time infusion of therapy

\*Vaso-occlusive crises/events are defined as events requiring a visit to a medical facility (e.g., hospital, ER) **AND** necessitating intervention (e.g., opioid pain management, non-steroidal anti-inflammatory drugs, RBC transfusion, medical procedure) for one or more of the following: acute pain with no medically determined cause other than vaso-occlusion, acute chest syndrome, acute splenic sequestration, acute hepatic sequestration, and priapism lasting greater than 2 hours.

Exagamglogene autotemcel (Casgevy) is considered **experimental or investigational** for any other indications due to insufficient evidence in the peer-reviewed medical literature to support safety, efficacy, and net health outcome.

## DOSAGE/ADMINISTRATION:

**THIS INFORMATION IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE USED AS A SOURCE FOR MAKING PRESCRIBING OR OTHER MEDICAL DETERMINATIONS. PROVIDERS SHOULD REFER TO THE MANUFACTURER’S FULL PRESCRIBING INFORMATION FOR DOSAGE GUIDELINES AND OTHER INFORMATION RELATED TO THIS MEDICATION BEFORE MAKING ANY CLINICAL DECISIONS REGARDING ITS USAGE.**

### FDA-approved

- Exagamglogene autotemcel (Casgevy) is an autologous genome edited hematopoietic stem cell-based gene therapy indicated for the treatment of patients aged 12 years and older with sickle cell disease (SCD) with recurrent VOCs and transfusion-dependent  $\beta$ -thalassemia (TDT).
- The minimum recommended dose of exagamglogene autotemcel (Casgevy) is  $3 \times 10^6$  CD34+ cells/kg, which is provided as a single dose for intravenous infusion containing a suspension of CD34+ cells in one or more vials.

- For exagamlogene autotemcel (Casgevy) therapy, confirm that hematopoietic stem cell (HSC) transplantation is appropriate for the patient before mobilization, apheresis and myeloablative conditioning are initiated.
- Patients must be screen for HIV-1, HIV-2, HBV, HCV, and any other infectious agents before collection of cells for manufacturing, as exagamlogene autotemcel (Casgevy) should not be used in patients with active HIV-1, HIV-2, HBV or HCV.
- Patients are required to undergo CD34+ HSC mobilization followed by apheresis to isolate the CD34+ cells needed for exagamlogene autotemcel (Casgevy) manufacturing. Plerixafor and granulocyte-colony stimulating factor (G-CSF) are used for mobilization in patients with TDT. Single agent plerixafor is used for mobilization in patients with SCD. G-CSF should not be administered for mobilization in patients with SCD.
- Prior to apheresis and at least 8 weeks prior to the initiation of myeloablative conditioning, it is recommended that SCD patients be transfused with a goal to maintain hemoglobin S (HbS) levels < 30% of total hemoglobin (Hb) while keeping total Hb concentration  $\leq 11$  g/dL. Prior to the apheresis procedure and 60 days prior to myeloablative conditioning, it is recommended that TDT patients be transfused with a goal to maintain hemoglobin (Hb)  $\geq 11$  g/dL.
- Discontinue disease modifying therapies (i.e., hydroxyurea, crizanlizumab, voxelotor) 8 weeks before the planned start of mobilization and conditioning.
- Stop iron chelation therapy at least 7 days prior to myeloablative conditioning and avoid the use of non-myelosuppressive iron chelators for at least 3 months and use of myelosuppressive iron chelators for at least 6 months after the exagamlogene autotemcel (Casgevy) infusion.
- Prior to initiating busulfan conditioning, consider administration of anti-seizure prophylaxis (e.g., agents other than phenytoin) and prophylaxis for hepatic veno-occlusive disease (VOD)/hepatic sinusoidal obstruction syndrome.
- Do not begin myeloablative conditioning until the complete set of vial(s) comprising the total dose of exagamlogene autotemcel (Casgevy) has been received and stored at the treatment center and the availability of the back-up collection of unmodified rescue cells is confirmed.
- Ensure the patient's identity matches the unique patient identification information on the product labels and Lot Information Sheet prior to thawing the vial, and when the dose consists of multiple vials, thaw and administer one vial at a time.
- Exagamlogene autotemcel (Casgevy) is shipped to the treatment center frozen in a vapor phase of liquid nitrogen shipper, which should be transferred upon receipt to the treatment center vapor phase of liquid nitrogen storage at  $\leq -135$  °C ( $\leq -211$  °F).
- Inspect the vial(s) for any breaks or cracks prior to thawing. If a vial is compromised, do not infuse the contents. Additionally, do not sample, alter, or irradiate the product.
- When preparing exagamlogene autotemcel (Casgevy) follow universal precautions (wearing gloves, protective clothing, and eye protection) and local biosafety guidelines applicable for handling and disposal of such products to avoid potential transmission of infectious diseases.
- Administer premedication consisting of an antipyretic (e.g., acetaminophen) and an antihistamine (e.g., diphenhydramine hydrochloride) prior to infusing exagamlogene autotemcel (Casgevy).

- Exagamlogene autotemcel (Casgevy) must be administered between 48 hours and 7 days after the last dose of the myeloablative conditioning.
- Administer each vial of exagamlogene autotemcel (Casgevy) via intravenous infusion within 20 minutes of thawing but do not use an in-line blood filter when infusing.

### Dose Adjustments

- Exagamlogene autotemcel (Casgevy) has not been studied in patients with renal impairment (i.e., GFR less than 60 mL/min/1.73 m<sup>2</sup>) or hepatic impairment.

### Drug Availability

- Exagamlogene autotemcel (Casgevy) is a cell suspension for intravenous infusion.
- The minimum recommended dose of exagamlogene autotemcel (Casgevy) is  $3 \times 10^6$  CD34+ cells per kg of body weight, which may be composed of multiple vials. Each vial contains 4 to  $13 \times 10^6$  CD34+ cells/mL suspended in 1.5 to 20 mL cryopreservative medium containing 5% DMSO and dextran 40 (NDC 51167-290-09).

## PRECAUTIONS:

### Boxed Warning

- None

### Contraindications

- None

### Precautions/Warnings

- **Neutrophil Engraftment Failure:** There is potential risk of neutrophil engraftment failure after treatment with exagamlogene autotemcel (Casgevy). In the clinical trials, all treated patients achieved neutrophil engraftment and no patients received rescue CD34+ cells. Monitor absolute neutrophil counts (ANC) and manage infections according to standard guidelines and medical judgement. In the event of neutrophil engraftment failure, patients should be infused with rescue CD34+ cells.
- **Delayed Platelet Engraftment:** Delayed platelet engraftment has been observed with exagamlogene autotemcel (Casgevy) treatment. There is an increased risk of bleeding until platelet engraftment is achieved. In the clinical trials, there was no association observed between incidence of bleeding events and time to platelet engraftment. Monitor patients for bleeding according to standard guidelines and medical judgement. Conduct frequent platelet counts until platelet engraftment and platelet recovery are achieved. Perform blood cell count determination and other appropriate testing whenever clinical symptoms suggestive of bleeding arise.
- **Hypersensitivity Reactions:** Hypersensitivity reactions, including anaphylaxis, can occur due to dimethyl sulfoxide (DMSO) or dextran 40 in the cryopreservative solution. Monitor patients for hypersensitivity reactions during and after infusion.
- **Off-Target Genome Editing Risk:** Although off-target genome editing was not observed in the edited CD34+ cells evaluated from healthy donors and patients, the risk of unintended, off-target editing in



an individual's CD34+ cells cannot be ruled out due to genetic variants. The clinical significance of potential off-target editing is unknown.

## BILLING/CODING INFORMATION:

### HCPCS Coding

J3392	Injection, exagamglogene autotemcel, per treatment
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### ICD-10 Diagnosis Codes That Support Medical Necessity

D56.1	Beta thalassemia
D57.00	Hb-SS disease with crisis unspecified
D57.01	Hb-SS disease with acute chest syndrome
D57.02	Hb-SS disease with splenic sequestration
D57.04	Hb-SS disease with dactylitis
D57.09	Hb-SS disease with crisis with other specified complication
D57.211	Sickle cell/Hb-C disease with acute chest syndrome
D57.212	Sickle cell/Hb-C disease with splenic sequestration
D57.214	Sickle-cell/Hb-C disease with dactylitis
D57.219	Sickle cell/Hb-C disease with crisis, unspecified
D57.411	Sickle cell thalassemia with acute chest syndrome
D57.412	Sickle cell thalassemia with splenic sequestration
D57.414	Sickle-cell thalassemia, unspecified, with dactylitis
D57.418	Sickle-cell thalassemia, unspecified, with crisis with other specified complication
D57.419	Sickle cell thalassemia with crisis, unspecified
D57.434	Sickle-cell thalassemia beta zero with dactylitis
D57.454	Sickle-cell thalassemia beta plus with dactylitis
D57.811	Other sickle cell disorders with acute chest syndrome
D57.812	Other sickle cell disorders with splenic sequestration
D57.814	Other sickle-cell disorders with dactylitis
D57.818	Other sickle-cell disorders with crisis with other specified complication
D57.819	Other sickle cell disorders with crisis unspecified

## REIMBURSEMENT INFORMATION:

Refer to section entitled [POSITION STATEMENT](#).

## PROGRAM EXCEPTIONS:

**Federal Employee Program (FEP):** Follow FEP guidelines.

**State Account Organization (SAO):** Follow SAO guidelines.

**Medicare Part D:** Florida Blue has delegated to Prime Therapeutics authority to make coverage determinations for the Medicare Part D services referenced in this guideline.

**Medicare Advantage:** No National Coverage Determination (NCD) and/or Local Coverage Determination

(LCD) were found at the time of the last guideline review date.

If this Medical Coverage Guideline contains a step therapy requirement, in compliance with Florida law 627.42393, members or providers may request a step therapy protocol exemption to this requirement if based on medical necessity. The process for requesting a protocol exemption can be found at [Coverage Protocol Exemption Request](#).

## DEFINITIONS:

**Gene therapy** - Gene therapies treat diseases by modifying or manipulating the expression of a gene or altering the properties of living cells for therapeutic use including: (1) replacing a disease-causing gene with a healthy copy of the gene, (2) inactivating a disease-causing gene that is not functioning properly, or (3) introducing a new or modified gene into the body to help treat a disease.

## RELATED GUIDELINES:

None

## OTHER:

None

## REFERENCES:

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4. Frangoul H, Locatelli F, Bhatia M, Mapara MY, Molinari L, Sharma A, et al. Efficacy and Safety of a Single Dose of Exagamglogene Autotemcel for Severe Sickle Cell Disease. *Blood* 2022; 140 (Supplement 1): 29–31. doi: <https://doi.org/10.1182/blood-2022-162353>
5. Locatelli F, Lang P, Li A, Corbacioglu S, de la Fuente J, Wall DA, et al. Efficacy and Safety of a Single Dose of Exagamglogene Autotemcel for Transfusion-Dependent  $\beta$ -Thalassemia. *Blood* 2022; 140 (Supplement 1): 4899–4901. doi: <https://doi.org/10.1182/blood-2022-166881>
6. Micromedex Healthcare Series [Internet Database]. Greenwood Village, CO: Thomson Healthcare. Updated periodically. Accessed 02/24/25.

## COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Pharmacy Policy Committee on 05/14/25.

## **GUIDELINE UPDATE INFORMATION:**

04/01/24	New Medical Coverage Guideline – Exagamglogene autotemcel (Casgevy) for the treatment of patients aged 12 years and older with genetically confirmed sickle cell disease, with recurrent vaso-occlusive crises, and transfusion-dependent $\beta$ -thalassemia who are clinically stable and able to undergo a HSCT but do not have a HLA-matched willing family donor.
01/01/25	Revision: Added HCPCS code J3392 and deleted code J3590.
04/15/25	Review and revision of guideline consisting of updating references and billing codes.
06/15/25	Review and revision of guideline consisting of revising the position statement to list examples of genotypes, allowing VOC/VOEs to present to a medical facility, assessment of LVEF for potential cardiac iron overload, defining “previous gene therapy” as those specifically for SCD and TDT, removing cell count requirements, clarifying parameters for liver disease assessment such as direct bilirubin 2xULN and imaging tests such as MRI, ultrasound and CT, outlining the types of active infections, and requesting lab and imaging documentation to be within the last 6 months.