Drug Coverage Policy

Effective Date.....11/1/2024
Coverage Policy Number.....IP0139
Policy Title.....Plerixafor

Hematology – Plerixafor

- Mozobil® (plerixafor subcutaneous injection – Sanofi/Genzyme, generic)

INSTRUCTIONS FOR USE
The following Coverage Policy applies to health benefit plans administered by Cigna Companies. Certain Cigna Companies and/or lines of business only provide utilization review services to clients and do not make coverage determinations. References to standard benefit plan language and coverage determinations do not apply to those clients. Coverage Policies are intended to provide guidance in interpreting certain standard benefit plans administered by Cigna Companies. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement, Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document always supersedes the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Each coverage request should be reviewed on its own merits. Medical directors are expected to exercise clinical judgment and have discretion in making individual coverage determinations. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. In certain markets, delegated vendor guidelines may be used to support medical necessity and other coverage determinations.

Cigna Healthcare Coverage Policy

Plerixafor, a hematopoietic stem cell mobilizer, is indicated in combination with filgrastim to mobilize hematopoietic stem cells to the peripheral blood for collection and subsequent autologous transplantation in patients with non-Hodgkin's lymphoma (NHL) or multiple myeloma.[1]

Disease Overview
Multiple myeloma is a cancer formed by malignant plasma cells found in the bone marrow.[2,3] In 2023, it is estimated that there will be approximately 35,730 new cases of multiple myeloma and 12,590 deaths due to the disease. There are many therapies available for multiple myeloma.

Autologous stem cell transplantation (ASCT) has a vital role in the treatment of multiple myeloma. The outcomes of ASCT relies on the collection of sufficient hematopoietic stem and progenitor cells, usually from peripheral blood.

NHLs are a heterogeneous group of lymphoproliferative malignancies.[4,5] B-cell NHL accounts for about 85% of NHL cases; T-cells or natural killer cells can occur as well. Examples of B-cell lymphomas include diffuse large B-cell lymphoma, follicular lymphoma, and mantle cell lymphoma. The incidence is around 20 new cases per 100,000 persons per year. NHL usually originates in lymphoid tissues but can spread to other organs. ASCT has an important role in the management of NHL for selected patients.

Guidelines
Various guidelines address use of plerixafor.

- **Hematopoietic Cell Transplantation:** The National Comprehensive Cancer Network guidelines for Hematopoietic Cell Transplantation (version 1.2024 – April 26, 2024) cite plerixafor in various clinical scenarios given with granulocyte-colony stimulating factor (G-CSF) and granulocyte-macrophage colony stimulating factor products for stem cell mobilization for autologous donors (category 2A).[6] If there is insufficient collection of stem cell mobilization for allogeneic donors with G-CSF, plerixafor added to G-CSF can be considered (Category 2A).
- **Autologous Stem Cell Mobilization:** Consensus guidelines and recommendations regarding autologous stem cell mobilization strategies from the American Society for Blood and Marrow Transplant (2014) state that the minimum recommend stem cell dose is 2 x 10^6 CD34+ cells/kg for ASCT and the recommended stem cell collection target is 3 to 5 x 10^6 CD34+ cells/kg.[7] Plerixafor is also recommended in various settings.[7] Guidelines from the American Society for Blood and Marrow Transplantation regarding peripheral blood progenitor cell mobilization for autologous and allogeneic hematopoietic cell transplantation also cite plerixafor as useful in selected clinical scenarios.[8]

Medical Necessity Criteria

Plerixafor is considered medically necessary when ONE of the following are met:

FDA-Approved Indications

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1. Multiple Myeloma. Approve for 1 month if the patient meets ALL of the following (A, B, and C):
- **A)** The agent is utilized for mobilization of hematopoietic stem cells for subsequent autologous transplantation; AND
- **B)** Use is in combination with a granulocyte-colony stimulating factor; AND
  Note: Filgrastim products are an example of a granulocyte-colony stimulating factor and include Granix (tbo filgrastim subcutaneous injection) and Neupogen (filgrastim subcutaneous injection and intravenous infusion), as well as related biosimilars.
- **C)** The medication is prescribed by a hematologist or a stem cell transplant physician.

Dosing. Approve ONE of the following dosing regimens after the patient has received a granulocyte-colony stimulating factor for 4 days after which plerixafor is given approximately 11 hours prior to initiation of each apheresis for up to 4 consecutive days (A or B):
- **A)** For patients ≤ 83 kg, give by subcutaneous injection a 20 mg fixed dose or 0.24 mg/kg of body weight once daily; OR
- **B)** For patients > 83 kg, give by subcutaneous injection a 0.24 mg/kg body weight dose up to 40 mg/day once daily.

2. **Non-Hodgkin's Lymphoma.** Approve for 1 month if the patient meets ALL of the following (A, B, and C):
   - **A)** The agent is utilized for mobilization of hematopoietic stem cells for subsequent autologous transplantation; AND
   - **B)** Use is in combination with a granulocyte-colony stimulating factor; AND
     Note: Filgrastim products are an example of a granulocyte-colony stimulating factor and include Granix (tbo filgrastim subcutaneous injection) and Neupogen (filgrastim subcutaneous injection and intravenous infusion), as well as related biosimilars.
   - **C)** The medication is prescribed by a hematologist or a stem cell transplant physician.

   Dosing. Approve ONE of the following dosing regimens after the patient has received a granulocyte-colony stimulating factor for 4 days after which plerixafor is given approximately 11 hours prior to initiation of each apheresis for up to 4 consecutive days (A or B):
   - **A)** For patients ≤ 83 kg, give by subcutaneous injection a 20 mg fixed dose or 0.24 mg/kg of body weight once daily; OR
   - **B)** For patients > 83 kg, give by subcutaneous injection a 0.24 mg/kg body weight dose up to 40 mg/day once daily.

Other Uses with Supportive Evidence

3. **Hematopoietic Stem Cell Donors.** Approve for 1 month if the patient meets BOTH of the following (A and B):
   - **A)** Patient meets ONE of the following (i or ii):
     - **i.** Patient meets both of the following (a and b):
       - **a)** The agent is utilized for mobilization of hematopoietic stem cells for subsequent autologous transplantation; AND
       - **b)** Use is in combination with a colony stimulating factor; OR
         Note: Filgrastim products are an example of a colony stimulating factor and include Granix (tbo filgrastim subcutaneous injection) and Neupogen (filgrastim subcutaneous injection and intravenous infusion), as well as related biosimilars. Other examples are Neulasta (pegfilgrastim subcutaneous injection), and related biosimilars, and Leukine (sargramostim subcutaneous injection and intravenous infusion).
     - **ii.** Patient meets both of the following (a and b):
       - **a)** The agent is utilized for mobilization of hematopoietic stem cells for subsequent allogeneic transplantation; AND
       - **b)** Use is in combination with filgrastim.
         Note: Filgrastim products include Granix (tbo filgrastim subcutaneous injection) and Neupogen (filgrastim subcutaneous injection and intravenous infusion), as well as related biosimilars.
   - **B)** The medication is prescribed by a hematologist or a stem cell transplant physician.

   Dosing. Approve ONE of the following dosing regimens after the patient has received a colony stimulating factor for 4 days after which plerixafor is given prior to initiation of each apheresis for up to 4 consecutive days (A or B):
   - **A)** For patients ≤ 83 kg, give by subcutaneous injection a 20 mg fixed dose or 0.24 mg/kg of body weight once daily; OR
   - **B)** For patients > 83 kg, give by subcutaneous injection a 0.24 mg/kg body weight dose up to 40 mg/day once daily.

When coverage is available and medically necessary, the dosage, frequency, duration of therapy, and site of care should be reasonable, clinically appropriate, and supported by evidence-based literature and adjusted based upon severity, alternative available treatments, and previous response to therapy.

Receipt of sample product does not satisfy any criteria requirements for coverage.

Conditions Not Covered

Any other use is considered experimental, investigational, or unproven, including the following (this list may not be all inclusive; criteria will be updated as new published data are available):

1. **Leukemia.** Plerixafor may cause mobilization of leukemia cells resulting in the potential for contamination of the products obtained during apheresis.[1] Therefore, plerixafor is not intended to be utilized for hematopoietic stem cell mobilization and harvest in patients with leukemia.

2. **WHIM syndrome (Warts, Hypogammaglobulinemia, Infections, and Myelokathexis).** Data are insufficient for the use of plerixafor in WHIM syndrome; further study is required.[9-11] In a single-center, crossover trial involving 19 patients with WHIM syndrome, plerixafor was not superior to granulocyte-colony stimulating factor regarding the primary endpoint of total infection severity score.[11] Xolremdi™ (mavorixafor capsules), a CXC chemokine receptor 4 antagonist, is indicated in patients ≥ 12 years of age with WHIM syndrome to increase the number of circulating mature neutrophils and lymphocytes.[12]

Coding Information

1) This list of codes may not be all-inclusive.
2) Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

HCPCS Codes	Description
J2562	Injection, plerixafor, 1 mg

References

1. Mozobil® subcutaneous injection [prescribing information]. Cambridge, MA: Sanofi/Genzyme; September 2023.
2. Cowan AJ, Green DJ, Kwok M, et al. Diagnosis and management of multiple myeloma. A review. *JAMA*. 2022;327(5):464-477.
3. The NCCN Multiple Myeloma Clinical Practice Guidelines in Oncology (version 4.2024 – April 26, 2024). © 2024 National Comprehensive Cancer Network, Inc. Available at: http://www.nccn.org. Accessed on August 1, 2024.
4. Silkenstedt E, Salles G, Campo E, Dreyling M. B-cell non-Hodgkin lymphomas. *Lancet*. 2024;403(10438):1791-1807.

5. PDQ Adult Treatment Editorial Board. Non-Hodgkin Lymphoma Treatment (PDQ): Health Professional Version. 2024 July 11. In: PDQ Cancer Information Summaries [Internet]. Bethesda (MD): National Cancer Institute (US); 2002-PMID: 37437080.
6. The NCCN Hematopoietic Cell Transplantation Guidelines in Oncology (version 1.2024 – April 26, 2024). © 2024 National Comprehensive Cancer Network, Inc. Available at: http://www.nccn.org. Accessed on August 1, 2024.
7. Giralt S, Costa L, Schriber J, et al. Optimizing autologous stem cell mobilization strategies to improve patient outcomes: consensus guideline and recommendations. *Biol Blood Marrow Transplant*. 2014;20:295-308.
8. Duong HK, Savani BN, Copelan E, et al. Peripheral blood progenitor cell mobilization for autologous and allogeneic hematopoietic cell transplantation: guidelines from the American Society for Blood and Marrow Transplantation. *Biol Blood Marrow Transplant*. 2014;20:1262-1273.
9. Dale DC, Bolyard AA, Kelley ML, et al. The CXCR antagonist plerixafor is a potential therapy for myelokathexis, WHIM syndrome. *Blood*. 2011;118(18):4963-4966.
10. McDermott DH, Pastrana DV, Calvo KR, et al. Plerixafor for the treatment of WHIM syndrome. *N Engl J Med*. 2019;380(2):163-170.
11. McDermott DH, Velez D, Cho E, et al. A phase III randomized crossover trial of plerixafor versus G-CSF for treatment of WHIM syndrome. *J Clin Invest*. 2023;133(19):E164918.
12. Xolremdi™ oral capsules [prescribing information]. Boston, MA: X4 Pharmaceuticals; April 2024.

Revision Details

Type of Revision	Summary of Changes	Date
Annual Review	**Policy Name:** **Updated from** "Plerixafor" **to** "Hematology – Plerixafor" **Multiple Myeloma.** **Added** "The medication is prescribed by a hematologist or a stem cell transplant physician" Added dosing **Non-Hodgkin's Lymphoma.** **Added** "The medication is prescribed by a hematologist or a stem cell transplant physician" Added dosing **Hematopoietic Stem Cell Donors.** **Added** new condition of approval **Added** dosing **Conditions Not Covered.** **Removed** "As a mobilizing agent for an allogeneic stem cell donor" **Removed** "Following myeloablative allogeneic hematopoietic stem cell transplant to augment hematopoietic recovery" **Added** "WHIM syndrome (Warts, Hypogammaglobulinemia, Infections, and Myelokathexis)"	11/1/2024

The policy effective date is in force until updated or retired.