Clinical Policy: Filgrastim, Filgrastim-sndz, Tbo-filgrastim

Reference Number: PA.CP.PHAR.297
Effective Date: 01/18
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Coding Implications
Revision Log

Description
The intent of the criteria is to ensure that patients follow selection elements established by Pennsylvania Health and Wellness clinical policy for Filgrastim (Neupogen® injection, for subcutaneous or intravenous use), Filgrastim–sndz (Zarxio® injection, for subcutaneous or intravenous use), and Tbo-filgrastim (Granix® injection, for subcutaneous use).

Policy/Criteria
It is the policy of Pennsylvania Health and Wellness® that Neupogen, Zarxio, and Granix are **medically necessary** when the following criteria are met:

I. Initial Approval Criteria (or the Continuity of Care policy (PA.LTSS.PHAR.01) applies):

A. Non-Myeloid Malignancy – Febrile Neutropenia Prophylaxis (must meet all):

1. If request is for Neupogen or Granix, member has a contraindication or intolerance to Zarxio;
2. The prescribed drug is for use following myelosuppressive chemotherapy for non-myeloid cancer;
3. Member is at risk for febrile neutropenia due to the chemotherapy regimen or patient-related risk factors;
4. Member has no known history of serious allergic reaction to filgrastim or pegfilgrastim.

Approval duration: 6 months

B. Acute Myeloid Leukemia (must meet all):

1. If the request is for Neupogen or Granix, member has a contraindication or intolerance to Zarxio;
2. The prescribed drug is for use following induction and/or consolidation chemotherapy for acute myeloid leukemia (AML);
3. Member has no known history of serious allergic reaction to filgrastim or pegfilgrastim.

Approval duration: 6 months

C. Bone Marrow Transplantation (must meet all):

1. If the request is for Neupogen or Granix, member has a contraindication or intolerance to Zarxio;
2. The prescribed drug is for use following bone marrow transplantation (BMT) following myeloablative chemotherapy for a non-myeloid cancer;
3. Prescribed frequency/route is once daily by intravenous infusion;
4. Member has no known history of serious allergic reaction to filgrastim or pegfilgrastim.

Approval duration: 6 months

D. Peripheral Blood Progenitor Cell Collection (must meet all):
1. If the request is for Neupogen or Granix, member has a contraindication or intolerance to Zarxio;
2. The prescribed drug is for the mobilization of autologous hematopoietic progenitor cells into the peripheral blood for collection by leukapheresis;
3. The prescribed drug will be initiated before leukapheresis (e.g., prescribed for 6 to 7 days with leukapheresis on days 5, 6 and 7);
4. Member has no known history of serious allergic reaction to filgrastim or pegfilgrastim.

Approval duration: 6 months

E. Chronic Neutropenia (must meet all):
1. If the request is for Neupogen or Granix, member has a contraindication or intolerance to Zarxio;
2. The prescribed drug is for use in symptomatic (e.g., fever, infections, oropharyngeal ulcers) severe chronic neutropenia caused by congenital neutropenia, cyclic neutropenia, or idiopathic neutropenia;
3. Member has no known history of serious allergic reaction to filgrastim or pegfilgrastim.

Approval duration: 6 months

F. Acute Radiation Syndrome (must meet all):
1. Agent is prescribed for use following suspected or confirmed acute exposure to myelosuppressive doses of radiation (>2 gray [Gy]);
2. Member has no known history of serious allergic reaction to filgrastim or pegfilgrastim.

Approval duration: 6 months

G. Other diagnoses/indications: Refer to PA.CP.PHAR.57 - Global Biopharm Policy.
1. Off-label NCCN recommended uses:
    a. If request is for Neupogen or Granix, member has contraindication or intolerance to Zarxio:
        i. Treatment of chemotherapy-induced febrile neutropenia associated with myelosuppressive chemotherapy for non-myeloid cancer if pegfilgrastim (Neulasta) has not been administered in the same chemotherapy cycle;
        ii. Mobilization of donor hematopoietic progenitor cells;
        iii. Mobilization of autologous hematopoietic progenitor cells;
        iv. Granulocyte transfusion in the allogeneic setting;
        v. Supportive care in the post-hematopoietic cell transplant setting if not covered elsewhere in the policy;
        vi. Neutropenia or anemia associated with myelodysplastic syndromes;

vii. Agranulocytosis;
viii. Aplastic anemia;
ix. Neutropenia associated with HIV/AIDS;
x. Neutropenia associated with pre-eclampsia;

2. Member has no known history of serious allergic reaction to filgrastim or pegfilgrastim.

Approval duration: 6 months

Background

Description/Mechanism of Action:

Granix (tbo-filgrastim), Neupogen (filgrastim) and Zarxio (filgrastim-sndz) are human granulocyte colony-stimulating factors (G-CSF) manufactured by recombinant DNA technology using Escherichia coli (E coli) bacteria. Colony-stimulating factors are glycoproteins which act on hematopoietic cells by binding to specific cell surface receptors and stimulating proliferation, differentiation commitment, and some end-cell functional activation.

Formulations:

Injectable solution for subcutaneous and intravenous use:

- Vials:
  - Neupogen: filgrastim 300 mcg/mL (1 mL); filgrastim 480 mcg/1.6 mL (1.6 mL)
- Prefilled syringes:
  - Neupogen: filgrastim 300 mcg/0.5 mL (0.5 mL); filgrastim 480 mcg/0.8 mL (0.8 mL)
  - Zarxio: filgrastim-sndz 300 mcg/0.5 mL (0.5 mL); filgrastim-sndz 480 mcg/0.8 mL (0.8 mL)

Injectable solution for subcutaneous use:

- Prefilled syringes:
  - Granix: tbo-filgrastim 300 mcg/0.5 mL (0.5 mL); tbo-filgrastim 480 mcg/0.8 mL (0.8 mL)

FDA Approved Indications:

Granix (subcutaneous formulation) and Neupogen/Zarxio (subcutaneous and intravenous formulations) are leukocyte growth factors with the following indications:

Granix, Neupogen, Zarxio

- Patients with cancer receiving myelosuppressive chemotherapy:
  - To decrease the incidence of infection, as manifested by febrile neutropenia, in patients with non-myeloid malignancies receiving myelosuppressive anti-cancer drugs associated with a significant incidence of severe neutropenia with fever.

Neupogen, Zarxio

- Patients with AML receiving induction or consolidation chemotherapy:
  - To reduce the time to neutrophil recovery and the duration of fever following induction or consolidation chemotherapy treatment of patients with AML.
- Patients with cancer undergoing BMT:

- To reduce the duration of neutropenia and neutropenia-related clinical sequelae (e.g., febrile neutropenia) in patients with non-myeloid malignancies undergoing myeloablative chemotherapy followed by BMT.

- Patients undergoing autologous peripheral blood progenitor cell collection and therapy;
  - To mobilize autologous hematopoietic progenitor cells into the peripheral blood for collection by leukapheresis.
- Patients with severe chronic neutropenia:
  - Chronic administration to reduce the incidence and duration of sequelae of neutropenia (e.g., fever, infections, oropharyngeal ulcers) in symptomatic patients with severe, chronic neutropenia due to congenital neutropenia, cyclic neutropenia, or idiopathic neutropenia.

Neupogen:

- Patients with hematopoietic syndrome of acute radiation syndrome:
  - To increase survival in patients acutely exposed to myelosuppressive doses of radiation.

Appendices

Appendix A: Abbreviation Key

AML: acute myeloid/myelogenous leukemia
BMT: bone marrow transplantation
G-CSF: granulocyte colony stimulating factor
Gy: gray

Coding Implications

Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

HCPCS Codes	Description
J1442	Injection, filgrastim (G-CSF), excludes biosimilars, 1 microgram
J1447	Injection, tbo-filgrastim, 1 microgram
Q5101	Injection, filgrastim (G-CSF), biosimilar, 1 microgram

Reviews, Revisions, and Approvals	Date	Approval Date

References

1. Granix Prescribing Information. North Wales, PA: Teva Pharmaceuticals USA.; December 2014. Available at http://www.granixhcp.com/Pdf/prescribing-information.pdf. Accessed October 26, 2016.

2. Neupogen Prescribing Information. Thousand Oaks, CA: Amgen, Inc.; June 2016. Available at http://pi.amgen.com/united_states/neupogen/neupogen_pi_hcp_english.pdf. Accessed October 26, 2016.
3. Zarxio Prescribing Information. Princeton, NJ: Sandoz, Inc.; April 2016. Available at https://dailymed.nlm.nih.gov/dailymed/fda/fdaDrugXsl.cfm?setid=fe707775-a0ae-41b5-a744-28c41889fce8&type=display. Accessed October 26, 2016.
4. Myeloid growth factors (Version 2.2016). In: National Comprehensive Cancer Network Guidelines. Available at NCCN.org. Accessed October 26, 2016.
5. Myelodysplastic syndromes (Version 1.2017 – August 18, 2016). In: National Comprehensive Cancer Network Guidelines. Available at NCCN.org. Accessed October 26, 2016.
6. Filgrastim. In: National Comprehensive Cancer Network Drugs and Biologics Compendium. Available at NCCN.org. Accessed October 26, 2016.
7. Filgrastim-sndz. In: National Comprehensive Cancer Network Drugs and Biologics Compendium. Available at NCCN.org. Accessed October 26, 2016.
8. Tbo-filgrastim. In: National Comprehensive Cancer Network Drugs and Biologics Compendium. Available at NCCN.org. Accessed October 26, 2016.
9. Filgrastim. In: Micromedex. Ann Arbor, MI: Truven Health Analytics; 2016. Available from: www.micromedexsolutions.com. Accessed October 26, 2016.
10. Filgrastim-sndz. In: Micromedex. Ann Arbor, MI: Truven Health Analytics; 2016. Available from: www.micromedexsolutions.com. Accessed October 26, 2016.