

Medical Policy

Healthcare Services Department

Policy Name	Policy Number	Scope
Colony Stimulating Factors	MP-RX-FP-18-23	☒ MMM MA ☒ MMM Multihealth

Service Category

- | | |
|--|---|
| ☐ Anesthesia | ☐ Medicine Services and Procedures |
| ☐ Surgery | ☐ Evaluation and Management Services |
| ☐ Radiology Procedures | ☐ DME/Prosthetics or Supplies |
| ☐ Pathology and Laboratory Procedures | ☒ Part B Drugs |

Service Description

This document addresses the use of white blood cell growth factors, also known as colony stimulating factors (CSF). There are two types of CSFs, granulocyte and granulocyte-macrophage. Granulocyte colony stimulating factors (G-CSF) are glycoproteins which exert major control over the reproduction and maturation of certain white blood cells. Granulocyte-macrophage colony stimulating factor (GM-CSF) is a hematopoietic growth factor that stimulates proliferation and differentiation of hematopoietic progenitor cells.

The following agents are included in the class.

- G-CSF:
 - Granix (tbo-filgrastim)
 - Neulasta Onpro/Neulasta (pegfilgrastim) and Biosimilars
 - Fulphila (pegfilgrastim- jmdb)
 - Fylnetra (pegfilgrastim-pbbk)
 - Nyvepria (pegfilgrastim-apgf)
 - Stimufend (pegfilgrastim-fpgk)
 - Udenyca/Udenyca Onbody (pegfilgrastim-cbqv)
 - Ziextenzo (pegfilgrastim-bmez)
 - Neupogen (filgrastim) and Biosimilars
 - Nivestym (filgrastim-aafi)
 - Nypozi (filgrastim-txid)
 - Releuko (filgrastim-ayow)
 - Zarxio (filgrastim-sndz)
 - Rolvedon (eflapeggrastim-xnst)
 - Ryzneuta (efbemalenograstim alfa-vuxw)
- GM-CSF
 - Leukine (sargramostim)

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Background Information

Ryzneuta (efbemalenograstim-alfa)

Ryzneuta is a leukocyte growth factor FDA indicated to decrease the incidence of infection, as manifested by febrile neutropenia, in adult patients with non-myeloid malignancies receiving myelosuppressive anti-cancer drugs associated with a clinically significant incidence of febrile neutropenia. Ryzneuta is not indicated for the mobilization of peripheral blood progenitor cells for hematopoietic stem cell transplantation. National Comprehensive Cancer Network (NCCN) provides a 2A recommendation for the treatment of patients with radiation-induced myelosuppression following a radiologic/nuclear incident (hematopoietic acute radiation syndrome [H- ARS]).

Rolvedon (eflapregrastim-xnst)

Rolvedon is a nonbiosimilar long-acting hematopoietic growth factor consisting of a recombinant human granulocyte-colony stimulating factor (rhG-CSF) analog conjugated to a human IgG4Fc fragment. The addition of the Fc fragment extend the drug's half-life, which has been used in other marketed biologics (e.g. etanercept). Rolvedon is indicated to decrease the incidence of infection, as manifested by febrile neutropenia, in adult patients with non-myeloid malignancies receiving myelosuppressive anti-cancer drugs associated with clinically significant incidence of febrile neutropenia. Rolvedon is not indicated for the mobilization of peripheral blood progenitor cells for hematopoietic stem cell transplantation. NCCN also provides a 2A recommendation for the treatment of patients with radiation-induced myelosuppression following a radiologic/nuclear incident (hematopoietic acute radiation syndrome [H-ARS]).

Primary prophylaxis of chemotherapy-induced febrile neutropenia

Neutropenia with fever (febrile neutropenia [FN]) is a serious consequence of myelosuppressive chemotherapy that usually results in hospitalization and the need for intravenous antibiotics (Lyman 2014). FN may result in dose reductions, delays, or even discontinuation of chemotherapy, which, in turn, may compromise patient outcomes. It is important to identify which patients are at high risk for developing FN so that patients can receive optimal chemotherapy while their risk for FN is appropriately managed. There are many factors that need to be evaluated to determine a patient's risk of developing FN, which includes type of chemotherapy regimen, type of cancer being treated, and other patient-specific risk factors.

A review of the literature was performed to gain a comprehensive and updated understanding of FN risk associated with chemotherapy regimens and patient-specific FN risk factors. Studies that have analyzed FN risk factors, often have several limitations, including their retrospective nature and small sample sizes. Our assessment of the following patient risk factors and chemotherapy regimens ([see appendix](#) below) is after a review of published literature and guidelines from the American Society of Clinical Oncology (ASCO) and National Comprehensive Cancer Network (NCCN).

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The patient risk factors for the development of febrile neutropenia include:

- Age greater than 65 years (Lyman 2014; Aagaard 2018); **OR**
- Poor performance status (Eastern Cooperative Oncology Group 3 or 4) or HIV infection (in particular, those with low CD4 counts ($\leq 450/\mu\text{L}$)) but chemotherapy still indicated (Lyman 2014); **OR**
- Prior radiation therapy (within previous 1 year) (Terbuch 2018) (Fujiwara 2017) (Shigeta 2015); **OR**
- Bone marrow involvement by tumor producing cytopenias (Lyman 2014); **OR**
- Persistent neutropenia (absolute neutrophil count [ANC] less than $1500/\text{mm}^3$) (Lyman 2014); **OR**
- Poor renal function (glomerular filtration rate [GFR] less than $60\text{mL}/\text{min}$) (Lyman 2014; Aagaard 2018); **OR**
- Liver dysfunction (liver function tests (AST or ALT levels) at least 2X upper limit of normal or bilirubin $> 2.0\text{ mg}/\text{dL}$) (Lyman 2014; Aagaard 2018); **OR**
- Recent surgery performed as part of cancer management within previous 30 days (not to include a procedure such as port placement, drain placement, IVC filter, etc.) (Lyman 2014; Aagaard 2018); **OR**
- History of active infection within previous 60 days (Lyman 2014; Aagaard 2018); **OR**
- Current open wound and chemotherapy cannot be delayed (Lyman 2014; Aagaard 2018).

Zynteglo (betibeglogene autotemcel) Gene Therapy

Before administration of Zynteglo, hematopoietic stem cells are mobilized with granulocyte colony-stimulating factor and plerixafor, and cells are collected by apheresis. In clinical trials, up to two mobilization cycles (separated by at least 2 weeks) were performed, determined by the need to reach the cumulated target collection number needed for beti-cel manufacture or manufacturing and for rescue cells cryopreserved and stored on site. Prior to apheresis, transfusions are recommended to obtain 8 hemoglobin levels of at least 11 g per deciliter; this hemoglobin level is recommended to be maintained during mobilization and apheresis to suppress stress erythropoiesis.

Mozobil for hematopoietic Stem Cell Mobilization

NCCN provides a 2A recommendation for the use of Mozobil or plerixafor in the treatment for hematopoietic cell mobilization for autologous donors in combination with filgrastim, cyclophosphamide and either filgrastim or Sargramostim, pegfilgrastim, or filgrastim and disease-specific chemotherapy. NCCN also provides additional use for insufficient collection of stem cells in combination with either filgrastim or chemo-mobilization for autologous donors following treatment with filgrastim alone or filgrastim and disease-specific chemotherapy or filgrastim for allogeneic donors following treatment with filgrastim alone.

Consider as additional supportive care for neutropenic patients

The use of G-CSF has been suggested in the NCCN guidelines as a 2A recommendation in supportive care for Grade 1 fever in those using CAR T-cell therapy to prevent progression of cytokine release syndrome (CRS). A small retrospective analysis in diffuse large B- cell lymphoma members using G-CSF during CAR-T therapy (Gaut 2019) showed no difference in the incidence and severity of infection or incidence of developing CRS between those who received G-CSF and those that did not.

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Wilms Tumor (favorable history)

NCCN recommends the use of G-CSF has been suggested for use as supportive care in Wilms Tumor (nephroblastoma) after doses of myelosuppressive agents after courses of cyclophosphamide and etoposide and cyclophosphamide, doxorubicin, and vincristine in Regimen M and Regimen I.

Definitions:

- Absolute neutrophil count (ANC): A measure of the number of neutrophils (a type of white blood cell) in the blood.
- Acute Radiation Syndrome (ARS): Also known as radiation sickness.
- Adjuvant or adjunctive treatment: Treatment given after the primary treatment to increase the chances of a cure and may include chemotherapy, radiation, hormone or biological therapy.
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- Febrile neutropenia: Febrile neutropenia can occur as a result of severe neutropenia; defined as the occurrence of fever (greater than or equal to 38.3°C for more than 1 hour) in association with an ANC less than $0.5 \times 10^9/L$ or ANC less than $1.0 \times 10^9/L$ and a predicted decline to less than or equal to $0.5 \times 10^9/L$ over the subsequent 48 hours.
- ECOG or Eastern Cooperative Oncology Group Performance Status: A scale and criteria used by doctors and researchers to assess how an individual's disease is progressing, assess how the disease affects the daily living abilities of the individual, and determine appropriate treatment and prognosis. This scale may also be referred to as the WHO (World Health Organization) or Zubrod score which is based on the following scale:
 - 0 = Fully active, able to carry on all pre-disease performance without restriction
 - 1 = Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, for example, light house work, office work
 - 2 = Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours
 - 3 = Capable of only limited self-care, confined to bed or chair more than 50% of waking hours
 - 4 = Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair
 - 5 = Dead
- Neutropenia: A decrease in the number of neutrophils (white blood cells that respond quickly to infection) in the blood. Neutrophils less than 1,500/mm³ is considered to be neutropenic and at risk for infection. Neutrophils fewer than 500 cells/mm³ is considered at high risk of infection.
- Neutrophil: A type of white blood cell that helps fight infection.
- Primary prophylaxis: Prevention of febrile neutropenia with the first cycle of a specified chemotherapy regimen.
- Secondary prophylaxis: Prevention of febrile neutropenia given with the second and/or subsequent cycle of a given regimen of chemotherapy for individuals who

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Other Uses

Use of G-CSF agents in damaged myocardium

The use of G-CSF has been proposed as an adjunct to standard therapies to promote mobilization of stem cells and progenitor cells from the bone marrow into the circulating blood to improve repair of the damaged myocardium. The benefits of G-CSF in other fields, such as oncology, has led to research assessing the potential of G-CSF in repairing myocardial tissue and improving clinical outcomes in those with damaged hearts. To date, the published evidence regarding the safety and efficacy of G-CSF has been lacking.

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement policy. Benefit coverage for health services is determined by the member specific benefit plan document 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.

CPT	Description
96377	Application of on-body injector (includes cannula insertion) for timed subcutaneous injection [Neulasta OnPro injector]

HCPCS	Description
Q5148	Injection, filgrastim-txid (Nypozi), biosimilar, 1 mcg
Q5122	Injection, pegfilgrastim-apgf (Nyvepria), biosimilar, 0.5 mg
Q5120	Injection, pegfilgrastim-bmez (ZIEXTENZO), biosimilar, 0.5 mg
J1442	Injection, filgrastim (G-CSF), excludes biosimilars, 1 mcg [Neupogen]
J1447	Injection, tbo-filgrastim, 1 mcg [Granix]
J2506	Injection, pegfilgrastim, excludes biosimilar, 0.5 mg [Neulasta]
J2820	Injection, sargramostim (GM-CSF), 50 mcg [Leukine]
Q5101	Injection, filgrastim-sndz, biosimilar, (Zarxio), 1 mcg
Q5108	Injection, pegfilgrastim-jmdb (Fulphila), biosimilar, 0.5 mg
Q5110	Injection, filgrastim-aafi, biosimilar, (Nivestym), 1 mcg
Q5111	Injection, pegfilgrastim-cbqv, biosimilar, (Udenyca), 0.5 mg, [Udenyca, Udenyca Onbody]
Q5125	Injection, filgrastim-ayow, biosimilar, (Releuko), 1 mcg
J1449	Injection, eflapegrastim-xnst, 0.1 mg [Rolvedon]
Q5127	Injection, pegfilgrastim-fpgk (Stimufend), biosimilar, 0.5 mg
Q5130	Injection, pegfilgrastim-pbbk (Fylnetra), biosimilar, 0.5 mg
J9361	Injection, efbemalenograstim alfa-vuxw, 0.5 mg [Ryzneuta]

ICD-10	Description
	All applicable diagnoses

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Medical Necessity Guidelines

When a drug is being reviewed for coverage under a member's medical benefit plan or is otherwise subject to clinical review (including prior authorization), the following criteria will be used to determine whether the drug meets any applicable medical necessity requirements for the intended/prescribed purpose.

Provider must submit documentation (such as office chart notes, lab results or other clinical information) supporting that member has met all approval criteria.

Eflapegrastim-xnst (Rolvedon)

A. Criteria For Initial Approval

- i. Individual with nonmyeloid malignancy is using for primary prophylaxis of Febrile Neutropenia (FN); **AND**
- ii. Individual has a risk of FN of 20% or greater based on chemotherapy regimen (NCCN 2A) ([see Appendix, Table 1](#));

OR

- iii. Individual with nonmyeloid malignancy is using for primary prophylaxis of FN; **AND**
- iv. Individual has a risk of developing FN is greater than or equal to 10% and less than 20% based on chemotherapy regimen ([see Appendix, Table 1](#)) and individuals have any of the following risk factors for FN:
 - A. Age greater than 65 years (Lyman 2014; Aagaard 2018); **OR**
 - B. Poor performance status (Eastern Cooperative Oncology Group 3 or 4) or HIV infection (in particular, those with low CD4 counts ($\leq 450/\mu\text{L}$)) but chemotherapy still indicated (Lyman 2014); **OR**
 - C. Prior radiation therapy (within previous 1 year) (Terbuch 2018) (Fujiwara 2017) (Shigeta 2015); **OR**
 - D. Bone marrow involvement by tumor producing cytopenias (Lyman 2014); **OR**
 - E. Persistent neutropenia (absolute neutrophil count [ANC] less than 1500/mm³) (Lyman 2014); **OR**
 - F. Poor renal function (glomerular filtration rate [GFR] less than 60mL/min) (Lyman 2014; Aagaard 2018); **OR**
 - G. Liver dysfunction (liver function tests (AST or ALT levels) at least 2X upper limit of normal or bilirubin > 2.0 mg/dL) (Lyman 2014) (Aagaard 2018); **OR**
 - H. Recent surgery performed as part of cancer management within previous 30 days (not to include a procedure such as port placement, drain placement, IVC filter, etc.) (Lyman 2014; Aagaard 2018); **OR**
 - I. History of active infection within previous 60 days (Lyman 2014; Aagaard 2018); **OR**
 - J. Current open wound and chemotherapy cannot be delayed (Lyman 2014; Aagaard 2018).

OR

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- v. Individual with nonmyeloid malignancy is using for secondary prophylaxis of FN; **AND**
 - vi. Individual has experienced a neutropenic complication from a prior cycle of chemotherapy (for which prophylaxis was not received), in which a reduced dose may compromise disease-free or overall survival or treatment outcome (NCCN 2A);
- OR**
- vii. Individual is using as adjunctive treatment for FN; **AND**
 - viii. Individual has not received prophylactic therapy with pegfilgrastim (NCCN 2A); **AND**
 - ix. Individual has a high risk for infection-associated complications as demonstrated by any of the following:
 - A. Expected prolonged (greater than 10 days) and profound (less than $0.1 \times 10^9/L$) neutropenia; **OR**
 - B. Age greater than 65 years; **OR**
 - C. Pneumonia or other clinically documented infections; **OR**
 - D. Hypotension and multi organ dysfunction (sepsis syndrome); **OR**
 - E. Invasive fungal infection; **OR**
 - F. Prior episode of febrile neutropenia; **OR**
 - G. Hospitalized at the time of the development of fever;
- OR**
- x. Individual is using after accidental or intentional total body radiation of myelosuppressive doses (greater than 2 Grays [Gy]) (such as Hematopoietic Syndrome of Acute Radiation Syndrome) (NCCN 2A).

Efbemalenograstim alfa-vuxw (Ryzneuta)

- i. Individual with nonmyeloid malignancy is using for primary prophylaxis of Febrile Neutropenia (FN); **AND**
- ii. Individual has a risk of FN of 20% or greater based on chemotherapy regimen (NCCN 2A) ([see Appendix, Table 1](#));
- iii. Individual with nonmyeloid malignancy is using for primary prophylaxis of FN; **AND**
- iv. Individual has a risk of developing FN is greater than or equal to 10% and less than 20% based on chemotherapy regimen ([see Appendix, Table 1](#)) and individuals have any of the following risk factors for FN:
 - A. Age greater than 65 years (Lyman 2014; Aagaard 2018); **OR**
 - B. Poor performance status (Eastern Cooperative Oncology Group 3 or 4) or HIV infection (in particular, those with low CD4 counts ($\leq 450/\mu L$)) but chemotherapy still indicated (Lyman 2014); **OR**
 - C. Prior radiation therapy (within previous 1 year) (Terbuch 2018) (Fujiwara 2017) (Shigeta 2015); **OR**
 - D. Bone marrow involvement by tumor producing cytopenias (Lyman 2014); **OR**
 - E. Persistent neutropenia (absolute neutrophil count [ANC] less than $1500mm^3$) (Lyman 2014); **OR**

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- F. Poor renal function (glomerular filtration rate [GFR] less than 60mL/min) (Lyman 2014; Aagaard 2018); **OR**
- G. Liver dysfunction (liver function tests at least (AST or ALT levels) 2X upper limit of normal or bilirubin > 2.0 mg/dL) (Lyman 2014) (Aagaard 2018); **OR**
- H. Recent surgery performed as part of cancer management within previous 30 days (not to include a procedure such as port placement, drain placement, IVC filter, etc.) (Lyman 2014; Aagaard 2018); **OR**
- I. History of active infection within previous 60 days (Lyman 2014; Aagaard 2018); **OR**
- J. Current open wound and chemotherapy cannot be delayed (Lyman 2014; Aagaard 2018).

OR

- v. Individual with nonmyeloid malignancy is using for secondary prophylaxis of FN; **AND**
- vi. Individual has experienced a neutropenic complication from a prior cycle of chemotherapy (for which prophylaxis was not received), in which a reduced dose may compromise disease-free or overall survival or treatment outcome (NCCN 2A);

OR

- vii. Individual is using as adjunctive treatment for FN; **AND**
- viii. Individual has not received prophylactic therapy with pegfilgrastim (NCCN 2A); **AND**
- ix. Individual has a high risk for infection-associated complications as demonstrated by any of the following:
 - A. Expected prolonged (greater than 10 days) and profound (less than $0.1 \times 10^9/L$) neutropenia; **OR**
 - B. Age greater than 65 years; **OR**
 - C. Pneumonia or other clinically documented infections; **OR**
 - D. Hypotension and multi organ dysfunction (sepsis syndrome); **OR**
 - E. Invasive fungal infection; **OR**
 - F. Prior episode of febrile neutropenia; **OR**
 - G. Hospitalized at the time of the development of fever;

OR

- x. Individual is using after accidental or intentional total body radiation of myelosuppressive doses (greater than 2 Grays [Gy]) (such as Hematopoietic Syndrome of Acute Radiation Syndrome) (NCCN 2A).

Neulasta/Neulasta Onpro (pegfilgrastim), Fulphila (pegfilgrastim-jmdb), Fylnetra (pegfilgrastim-pbbk), Nyvepria (pegfilgrastim- apgf), Stimufend (pegfilgrastim-fpgk), Udenyca/Udenyca Onbody (pegfilgrastim-cbqv), or Ziextenzo (pegfilgrastim-bmez

- i. Individual with nonmyeloid malignancy is using for primary prophylaxis of Febrile Neutropenia (FN); **AND**
- ii. Individual has a risk of FN of 20% or greater based on chemotherapy regimen ([see Appendix, Table 1](#));

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- iii. Individual with nonmyeloid malignancy is using for primary prophylaxis of FN; **AND**
- iv. Individual's risk of developing FN is greater than or equal to 10% and less than 20% based on chemotherapy regimen ([see Appendix](#), Table 1) and individual has any of the following risk factors for FN:
 - A. Age greater than 65 years (Lyman 2014; Aagaard 2018); **OR**
 - B. Poor performance status (Eastern Cooperative Oncology Group 3 or 4) or HIV infection (in particular, those with low CD4 counts ($\leq 450/\mu\text{L}$)) but chemotherapy still indicated (Lyman 2014); **OR**
 - C. Prior radiation therapy (within previous 1 year) (Terbuch 2018) (Fujiwara 2017) (Shigeta 2015); **OR**
 - D. Bone marrow involvement by tumor producing cytopenias (Lyman 2014); **OR**
 - E. Persistent neutropenia (absolute neutrophil count [ANC] less than 1500mm³) (Lyman 2014); **OR**
 - F. Poor renal function (glomerular filtration rate [GFR] less than 60mL/min) (Lyman 2014; Aagaard 2018); **OR**
 - G. Liver dysfunction (liver function tests (AST or ALT levels) at least 2X upper limit of normal or bilirubin > 2.0 mg/dL) (Lyman 2014) (Aagaard 2018); **OR**
 - H. Recent surgery performed as part of cancer management within previous 30 days (not to include a procedure such as port placement, drain placement, IVC filter, etc) (Lyman 2014; Aagaard 2018); **OR**
 - I. History of active infection within previous 60 days (Lyman 2014; Aagaard 2018); **OR**
 - J. Current open wound and chemotherapy cannot be delayed (Lyman 2014; Aagaard 2018);
- OR**
- v. Individual with nonmyeloid malignancy is using for secondary prophylaxis of FN; **AND**
- vi. Individual has experienced a neutropenic complication from a prior cycle of chemotherapy (for which prophylaxis was not received), in which a reduced dose may compromise disease-free or overall survival or treatment outcome (NCCN 2A);
- OR**
- vii. Individual is using as adjunctive treatment for FN; **AND**
- viii. Individual has not received prophylactic therapy with pegfilgrastim (NCCN 2A); **AND**
- ix. Individual has a high risk for infection-associated complications as demonstrated by any of the following:
 - A. Expected prolonged (greater than 10 days) and profound (less than $0.1 \times 10^9/\text{L}$) neutropenia; **OR**
 - B. Age greater than 65 years; **OR**
 - C. Pneumonia or other clinically documented infections; **OR**
 - D. Hypotension and multi organ dysfunction (sepsis syndrome); **OR**
 - E. Invasive fungal infection; **OR**
 - F. Prior episode of febrile neutropenia; **OR**
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OR

- x. Individual has a diagnosis of Classic Hodgkin lymphoma (age 18-60 years) (NCCN 2A); **AND**
 - A. Individual is using in combination with brentuximab vedotin with AVD; **OR**
 - B. Individual is using in combination with brentuximab vedotin, etoposide, cyclophosphamide, doxorubicin, dacarbazine, and dexamethasone;

OR

- xi. Individual has a diagnosis of Pediatric Aggressive Mature B-Cell Lymphomas (NCCN 2A);

OR

- xii. Individual is receiving dose dense therapy (treatment given more frequently, such as every 2 weeks instead of every 3 weeks) for adjuvant treatment of breast cancer (ASCO Smith 2015);

OR

- xiii. Individual is using after accidental or intentional total body radiation of myelosuppressive doses (greater than 2 Grays [Gy]) (such as Hematopoietic Syndrome of Acute Radiation Syndrome) (Label, NCCN 2A);

OR

- xiv. Individual is using after a hematopoietic progenitor stem cell transplant (HPCT/HSCT) to promote myeloid reconstitution OR when engraftment is delayed or has failed (NCCN 2A);

OR

- xv. Individual is using for treatment for hematopoietic cell mobilization in combination with plerixafor (NCCN 2A);

OR

- xvi. Individual is using for Wilms Tumor (Nephroblastoma) (NCCN 2A); **AND**
- xvii. Using with Regimen M and Regimen I for one of the following courses:
 - A. Cyclophosphamide and etoposide; **OR**
 - B. Cyclophosphamide, doxorubicin, and vincristine;

OR

- xviii. Individual is using for autologous hematopoietic stem cell (HSC) mobilization as part of the development of an FDA-approved ex vivo gene therapy (e.g. Zynteglo (betibeglogene autoemcel)).

Neupogen (filgrastim), Nivestym (filgrastim-aafi), Nypozi (filgrastim-txid), Releuko (filgrastim-ayow), or Zarxio (filgrastim-sndz)

- i. Individual with nonmyeloid malignancy is using for primary prophylaxis of FN; **AND**
- ii. Individual has a risk of FN of 20% or greater based on chemotherapy regimen ([see Appendix, Table 1](#));

OR

- iii. Individual with nonmyeloid malignancy is using for primary prophylaxis of FN; **AND**
- iv. Individual's risk of developing FN is greater than or equal to 10% and less than 20% based on chemotherapy regimen ([see Appendix, Table 1](#)) and individual has any risk factors for FN:

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- A. Age greater than 65 years (Lyman 2014; Aagaard 2018); **OR**
- B. Poor performance status (Eastern Cooperative Oncology Group 3 or 4) or HIV infection (in particular, those with low CD4 counts ($\leq 450/\mu\text{L}$) but chemotherapy still indicated (Lyman 2014); **OR**
- C. Prior radiation therapy (within previous 1 year) (Terbuch 2018) (Fujiwara 2017) (Shigeta 2015); **OR**
- D. Bone marrow involvement by tumor producing cytopenias (Lyman 2014); **OR**
- E. Persistent neutropenia (absolute neutrophil count [ANC] less than 1500mm^3) (Lyman 2014); **OR**
- F. Poor renal function (glomerular filtration rate [GFR] less than 60mL/min) (Lyman 2014) (Aagaard 2018); **OR**
- G. Liver dysfunction (liver function tests (AST or ALT levels) at least 2X upper limit of normal or bilirubin $> 2.0\text{ mg/dL}$) (Lyman 2014; Aagaard 2018); **OR**
- H. Recent surgery performed as part of cancer management within previous 30 days (not to include a procedure such as port placement, drain placement, IVC filter, etc) (Lyman 2014; Aagaard 2018); **OR**
- I. History of active infection within previous 60 days (Lyman 2014; Aagaard 2018); **OR**
- J. Current open wound and chemotherapy cannot be delayed (Lyman 2014; Aagaard 2018);

OR

- v. Individual with nonmyeloid malignancy is using for secondary prophylaxis of FN; **AND**
- vi. Individual has experienced a neutropenic complication from a prior cycle of chemotherapy (for which prophylaxis was not received), in which a reduced dose may compromise disease-free or overall survival or treatment outcome (NCCN 2A);

OR

- vii. Individual is using as adjunctive treatment for FN (NCCN 2A); **AND**
- viii. Individual has been on prophylactic therapy with filgrastim;

OR

- ix. Individual has not received prophylactic therapy with a granulocyte colony stimulating factor (NCCN Guidelines Myeloid Growth Factors); **AND**
- x. Individual has a high risk for infection-associated complications as demonstrated by any of the following (NCCN 2A):
 - A. Expected prolonged (greater than 10 days) and profound (less than $0.1 \times 10^9/\text{L}$) neutropenia; **OR**
 - B. Age greater than 65 years; **OR**
 - C. Pneumonia or other clinically documented infections; **OR**
 - D. Hypotension and multi organ dysfunction (sepsis syndrome); **OR**
 - E. Invasive fungal infection; **OR**
 - F. Prior episode of febrile neutropenia; **OR**
 - G. Hospitalized at the time of the development of fever;

OR

- xi. Individual has relapsed or refractory adult acute lymphoblastic leukemia (ALL) (NCCN 2A); **AND**
 - A. Individual has a poor prognosis; **AND**

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- B. Individual is using in combination with fludarabine, cytarabine, and idarubicin (FLAG-IDA); **OR**
- C. Individual is using in combination with fludarabine, cytarabine

OR

- xii. Individual has a diagnosis of Pediatric Aggressive Mature B-Cell Lymphomas (NCCN 2A); **AND**

OR

- xiii. Individual is 18 years of age or older and has a diagnosis of acute myeloid leukemia (AML); **AND**
- xiv. Individual is using shortly after the completion of induction or repeat induction chemotherapy, or after the completion of consolidation chemotherapy for AML (Label, NCCN 2A);

OR

- xv. Individual has a diagnosis of hairy cell leukemia with severe neutropenia (AHFS, NCCN Guidelines Hairy Cell Leukemia);

OR

- xvi. Individual has a diagnosis of myelodysplastic syndrome (MDS) (NCCN 2A); **AND**
- xvii. Individual has severe neutropenia (ANC less than or equal to 500mm³) or experiencing recurrent or resistant infections;

OR

- xviii. Individual has a diagnosis of myelodysplastic syndrome with ring sideroblasts (MDS-RS) or MDS/MPN-RS-T; **AND**
- xix. Individual is using in combination with Reblozyl (Reblozyl Label);

OR

- xx. Individual has IPSS-R (Very Low, Low, Intermediate) risk myelodysplastic syndrome associated with symptomatic anemia (NCCN 2A); **AND**
- xxi. Individual does not have a del(5q) chromosomal abnormality; **AND**
- xxii. Individual has serum erythropoietin ≤ 500 mU/ML; **AND**
- xxiii. Individual will use in combination with an erythropoiesis-stimulating agent (ESA) following no response to either an ESA alone or luspatercept-aamt (Reblozyl);

OR

- xxiv. Individual is receiving dose dense therapy (treatment given more frequently, such as every 2 weeks instead of every 3 weeks) for adjuvant treatment of breast cancer (ASCO Smith 2015);

OR

- xxv. Individual is using for chronic administration to reduce the incidence and duration of sequelae of neutropenia (for example, fever, infections, oropharyngeal ulcers) in symptomatic individuals with congenital neutropenia, cyclic neutropenia, or idiopathic neutropenia;

OR

- xxvi. Individual is using for the treatment of (non-chemotherapy) drug-induced neutropenia (AHFS);

OR

- xxvii. Individual is less than 21 years of age and is diagnosed with glycogen storage disease type 1b; **AND**
- xxviii. Individual is using for the treatment of low neutrophil counts (AHFS);

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OR

xxix. Individual is using for the treatment of neutropenia associated with human immunodeficiency virus infection and antiretroviral therapy (AHFS);

OR

xxx. Individual is using after accidental or intentional total body radiation of myelosuppressive doses (greater than 2 Grays [Gy]) (such as Hematopoietic Syndrome of Acute Radiation Syndrome);

OR

xxxi. Individual is using after a hematopoietic progenitor stem cell transplant (HPCT/HSCT) to promote myeloid reconstitution or when engraftment is delayed or has failed (NCCN 2A);

OR

xxxii. Individual is using to mobilize progenitor cells into peripheral blood for collection by leukapheresis, as an adjunct to peripheral blood/hematopoietic stem cell transplantation (PBSCT/PHSCT);

OR

xxxiii. Individual is using as an alternate or adjunct to donor leukocyte infusions (DLI) in those with leukemic relapse after an allogenic hematopoietic stem cell transplant (DrugPoints B lia);

OR

xxxiv. Individual is using to reduce the duration of neutropenia and neutropenia related clinical sequelae in those with nonmyeloid malignancies undergoing myeloblastic chemotherapy followed by bone marrow transplant (BMT) (Label);

OR

xxxv. Individual is using for treatment for hematopoietic cell mobilization for autologous donors (NCCN 2A);

OR

xxxvi. Individual is using for additional therapy for insufficient collection of stem cells in combination with plerixafor following treatment with filgrastim alone (or its biosimilars) or filgrastim (or its biosimilars) and disease-specific chemotherapy (NCCN 2A);

OR

xxxvii. Individual is using for Wilms Tumor (Nephroblastoma) (NCCN 2A); **AND**

xxxviii. Using with Regimen M and Regimen I for one of the following courses:

- A. Cyclophosphamide and etoposide; **OR**
- B. Cyclophosphamide, doxorubicin, and vincristine;

OR

xxxix. Individual is using for autologous hematopoietic stem cell (HSC) mobilization as part of the development of an FDA-approved ex vivo gene therapy (e.g. Zynteglo (betibeglogene autoemcel)) (NCCN 2A);

OR

xl. Individual is using for hematopoietic cell mobilization for allogenic donors as a single agent (NCCN 2A);

OR

xli. Individual is using as supportive management of neutropenic events due to immunotherapy related toxicities from CAR T-cell therapy (NCCN 2A).

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Leukine (Sargramostim)

- i. Individual is using as adjunctive treatment for FN: **AND**
- ii. Individual has not previously received prophylactic granulocyte colony-stimulating factors (NCCN 2A); **AND**
- iii. Individual has a high risk for infection-associated complications as demonstrated by any of the following (NCCN 2A):
 - A. Expected prolonged (greater than 10 days) and profound (less than $0.1 \times 10^9/L$) neutropenia; **OR**
 - B. Age greater than 65 years; **OR**
 - C. Pneumonia or other clinically documented infections; **OR**
 - D. Hypotension and multi organ dysfunction (sepsis syndrome); **OR**
 - E. Invasive fungal infection; **OR**
 - F. Prior episode of febrile neutropenia; **OR**
 - G. Hospitalized at the time of the development of fever;
- OR**
- iv. Individual is receiving dose dense therapy (treatment given more frequently, such as every 2 weeks instead of every 3 weeks) for adjuvant treatment of breast cancer (ASCO Smith 2015);
- OR**
- v. Individual has a diagnosis of acute myeloid leukemia (AML); **AND**
- vi. Individual is 55 years and older; **AND**
- vii. Individual is using shortly after the completion of induction or repeat induction chemotherapy of AML;
- OR**
- viii. Individual has a diagnosis of myelodysplastic syndrome (MDS); **AND**
- ix. Individual has severe neutropenia (ANC less than or equal to 500mm^3) or experiencing recurrent or resistant infections (NCCN Guidelines Myelodysplastic Syndromes; AHFS);
- OR**
- x. Individual is 18 years or older; **AND**
- xi. Individual is using for the mobilization of hematopoietic progenitor cells into peripheral blood for collection by leukapheresis and autologous transplantation;
- OR**
- xii. Individual is 2 years of age and older; **AND**
- xiii. Individual is using for the acceleration of myeloid reconstitution following autologous or allogenic bone marrow transplantation or peripheral blood progenitor cell transplantation;
- OR**
- xiv. Individual is 2 years of age and older; **AND**
- xv. Individual is using for the treatment of delayed neutrophil recovery or graft failure after autologous or allogenic bone marrow transplantation;
- OR**
- xvi. Individual is using for hematopoietic cell mobilization for autologous donors in combination with cyclophosphamide with or without plerixafor (NCCN 2A);

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OR

- xvii. Individual is using to increase survival in adult and pediatric individuals (from birth to 17 years of age) acutely exposed to myelosuppressive doses of radiation (such as Hematopoietic Syndrome of Acute Radiation Syndrome (H-ARS));

OR

- xviii. Individual is 18 years of age or younger; **AND**
- xix. Individual is diagnosed with relapsed/refractory high-risk neuroblastoma; **AND**
- xx. Individual is using in a regimen with dinutuximab (Unituxin) (NCCN 1, 2A); **AND**
- xxi. Individual achieved a partial response to first-line multi-agent, multi-modality therapy (i.e. induction combination chemotherapy, or myeloablative consolidation chemotherapy followed by autologous stem cell transplant);

OR

- xxii. Individual is diagnosed with relapsed/refractory high-risk neuroblastoma; **AND**
- xxiii. Individual is using in combination with Danyelza (naxitamab-gqgk).

Granix (Tbo-Filgrastim)

- i. Individual with non-myeloid malignancy is using for primary prophylaxis of Febrile Neutropenia (FN); **AND**
- ii. Individual has a risk of FN of 20% or greater based on chemotherapy regimen ([see Appendix, Table 1](#));

OR

- iii. Individual with nonmyeloid malignancy is using for primary prophylaxis of FN; **AND**
- iv. Individual's risk of developing FN is greater than or equal to 10% and less than 20% based on chemotherapy regimen ([see Appendix, Table 1](#)) and individual has any risk factors for FN:
 - A. Age greater than 65 years (Lyman 2014; Aagaard 2018); **OR**
 - B. Poor performance status (Eastern Cooperative Oncology Group 3 or 4) or HIV infection (in particular, those with low
 - C. CD4 counts ($\leq 450/\mu\text{L}$) but chemotherapy still indicated (Lyman 2014); **OR**
 - D. Prior radiation therapy (within previous 1 year) (Terbuch 2018) (Fujiwara 2017) (Shigeta 2015); **OR**
 - E. Bone marrow involvement by tumor producing cytopenias (Lyman 2014); **OR**
 - F. Persistent neutropenia (absolute neutrophil count [ANC] less than 1500mm³) (Lyman 2014); **OR**
 - G. Poor renal function (glomerular filtration rate [GFR] less than 60mL/min) (Lyman 2014; Aagaard 2018); **OR**
 - H. Liver dysfunction (liver function tests (AST or ALT levels) at least 2X upper limit of normal or bilirubin > 2.0 mg/dL) (Lyman 2014; Aagaard 2018); **OR**
 - I. Recent surgery performed as part of cancer management within previous 30 days (not to include a procedure such as port placement, drain placement, IVC filter, etc.) (Lyman 2014; Aagaard 2018); **OR**
 - J. History of active infection within previous 60 days (Lyman 2014; Aagaard 2018); **OR**

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K. Current open wound and chemotherapy cannot be delayed (Lyman 2014; Aagaard 2018);

OR

- v. Individual with nonmyeloid malignancy is using for secondary prophylaxis of FN; **AND**
- vi. Individual has experienced a neutropenic complication from a prior cycle of chemotherapy (for which prophylaxis was not received), in which a reduced dose may compromise disease-free or overall survival or treatment outcome (NCCN 2A);

OR

- vii. Individual is using as an adjunctive treatment for FN; **AND**
- viii. Individual was previously using Granix (tbo-filgrastim) prophylactically (NCCN 2A);

OR

- ix. Individual has not received prophylactic therapy with a granulocyte colony stimulating factor (NCCN Guidelines Myeloid Growth Factors);

AND

- x. Individual has a high risk for infection-associated complications as demonstrated by any of the following:
 - A. Expected prolonged (greater than 10 days) and profound (less than $0.1 \times 10^9/L$) neutropenia (NCCN 2A); **OR**
 - B. Age greater than 65 years; **OR**
 - C. Pneumonia or other clinically documented infections; **OR**
 - D. Hypotension and multi organ dysfunction (sepsis syndrome); **OR**
 - E. Invasive fungal infection; **OR**
 - F. Prior episode of febrile neutropenia; **OR**
 - G. Hospitalized at the time of the development of fever;

OR

- xi. Individual is using after a hematopoietic progenitor stem cell transplant (HPCT/HSCT) to promote myeloid reconstitution or when engraftment is delayed or has failed (NCCN 2A);

OR

- xii. Individual has a diagnosis of myelodysplastic syndrome (MDS); **AND**
- xiii. Individual has severe neutropenia (ANC less than or equal to $500/mm^3$) or experiencing recurrent or resistant infections (NCCN 2A);

OR

- xiv. Individual has a diagnosis of myelodysplastic syndrome with ring sideroblasts (MDS-RS) or MDS/MPN-RS-T; **AND**
- xv. Individual is using in combination with Reblozyl;

OR

- xvi. Individual has IPSS-R (Very Low, Low, Intermediate) risk myelodysplastic syndrome associated with symptomatic anemia (NCCN 2A); **AND**
- xvii. Individual does not have a del(5q) chromosomal abnormality; **AND**
- xviii. Individual has serum erythropoietin ≤ 500 mU/ML; **AND**
- xix. Individual will use in combination with an erythropoiesis-stimulating agent (ESA) following no response to either an ESA alone or luspatercept-aamt (Reblozyl);

OR

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- xx. Individual has a diagnosis of Classic Hodgkin lymphoma (age 18-60 years) (NCCN 2A); **AND**
- A. Individual is using in combination with brentuximab vedotin with AVD; **OR**
 - B. Individual is using in combination with brentuximab vedotin, etoposide, cyclophosphamide, doxorubicin, dacarbazine, and dexamethasone;

OR

- xxi. Individual is using to mobilize progenitor cells into peripheral blood for collection by leukapheresis, as an adjunct to peripheral blood/hematopoietic stem cell transplantation (PBSCT/PHSCT) (AHFS);

OR

- xxii. Individual is using for treatment for hematopoietic cell mobilization (for autologous or allogenic donors) in combination with plerixafor (NCCN 2A);

OR

- xxiii. Individual is using for autologous hematopoietic stem cell (HSC) mobilization as part of the development of an FDA-approved ex vivo gene therapy (e.g. Zynteglo (betibeglogene autoemcel));

OR

- xxiv. Individual is using for hematopoietic cell mobilization for autologous donors in combination with Aphexda (motixafortide) (Aphexda Label).

OR

- xxv. Individual is using for with radiation-induced myelosuppression following a radiologic/nuclear incident (hematopoietic acute radiation syndrome [H-ARS]).

B. Criteria For Continuation of Therapy

- i. MMM considers continuation of Colony Stimulating Factors therapy medically necessary for all members (including new members) requesting authorization who meet all initial medical necessity selection criteria.

C. Authorization Duration

- i. Initial and Reauthorization Approval Duration: The Colony Stimulating products covered under this Medical Policy will be approved as requested for the full course of therapy, provided that all initial authorization criteria are met

D. Conditions Not Covered

Any other use is considered experimental, investigational, or unproven, including the following (this list may not be all inclusive)- Colony Stimulating Factors (filgrastim and their biosimilars, pegfilgrastim and their biosimilars, sargramostim, and tbo-filgrastim) may not be approved for any of the following:

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- I. Individual is using as prophylaxis for febrile neutropenia, except when above criteria are met; **OR**
- II. Individual using as treatment for neutropenia in those who are afebrile, except when above criteria are met; **OR**
- III. Individual is using as adjunctive therapy in those with uncomplicated febrile neutropenia, defined as a fever less than 10 days duration, no evidence of pneumonia, cellulitis, abscess, sinusitis, hypotension, multi-organ dysfunction, or invasive fungal infection, and no uncontrolled malignancies; **OR**
- IV. Individual is using for chemosensitization of myeloid leukemias; **OR**
- V. Individual is continuing use if no response is seen within 28-42 days (individuals who have failed to respond within this time frame are considered non-responders); **OR**
- VI. Individual is using as a technique to increase the numbers of circulating hematopoietic stem cells as treatment of damaged myocardium.

Limits or Restrictions

Step Therapy

This medical policy may be subject to Step Therapy. Please refer to the document published on the MMM Website: <https://www.mmm-pr.com/planes-medicos/formulario-medicamentos>

Quantity Limitations: N/A

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Appendix

Febrile Neutropenia Risk of Selected Chemotherapy Regimens

The following table represents selected chemotherapy regimens requiring further examination in their disease are other regimens that are associated with risk for the development of FN. The FN risk of these other regimens will follow the guidance within the NCCN Guidelines Management of Neutropenia. A high-risk chemotherapy regimen is defined as a $\geq 20\%$ probability of developing febrile neutropenia, an intermediate-risk chemotherapy regimen is associated with ≥ 10 to $\leq 20\%$ incidence of developing FN, and a low-risk chemotherapy regimen is associated with $<10\%$ incidence of developing FN.

Disease State	Chemotherapy regimen	Risk of developing FN	References
Breast Cancer	Adjuvant TC in those ≥ 65 years old	Intermediate	Do 2015; Jones 2009; Jones 2006; Kosaka 2015; Younis 2012
Breast Cancer (Metastatic)	Fam-trastuzumab deruxtecan-nxki	Low	Modi S et al. 2020; Modi S et al. 2022; Cortes J et al 2022;
Breast cancer (Neoadjuvant)	Pembrolizumab, paclitaxel, and carboplatin	Intermediate	Schmid P, et al. 2022
Breast Cancer (Metastatic)	Pembrolizumab, and chemotherapy	Low	Cortes J, et al 2022; Tolane SM et al 2021; Tolane SM et al 2020; Perez-Garcia JM et al 2021; Shah AN et al 2020; de la Cruz-Merino L et al 2022
Breast Cancer	Metastatic Sacituzumab govitecan-hziy	Low	Bardia A et al 2021; Bardia A et al 2019; Rugo HS et al 2022; Kathpalia M et al. 2023
Breast Cancer	Neoadjuvant TCHP (docetaxel, carboplatin, trastuzumab, and pertuzumab)	High	Gilbar 2014; Hurvitz 2018
Breast Cancer (Advanced)	Docetaxel (dosing of less than 75 mg/m^2)	Low	Harvey V 2006; Mauri D 2010; Rivera E 2008; Sparano JA 2008; Tabernero J 2004
Breast Cancer (Advanced)	Docetaxel (dosing of 75 mg/m^2)	Intermediate	Andersson M 2011; Baselga J 2012; Burris HA 1999; Harvey V 2006; Jones SE 2005; Marty M 2005;
Castrate-Resistant Prostate Cancer (CRPC) (Advanced)	Cabazitaxel	Intermediate	De Bono JS. 2010; Eisenberger M 2017; Oudard S 2017
	Cisplatin and paclitaxel $\pm$ bevacizumab	Intermediate	Angioli R 2015; Lissoni AA 2009; Lorusso D 2014; Monk BJ 2009; Moore DH 2004; Tewari KS 2014, 2017; Yang Z 2016

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Disease State	Chemotherapy regimen	Risk of developing FN	References
Cervical Cancer (Advanced)	Topotecan	Intermediate	Bookman MA 2000; Coronel J 2009; Lorusso D 2011; Muderspach LI 2001;
	Pembrolizumab and platinum-based chemotherapy ± bevacizumab	Low	Colombo N et al. 2021
Gastroesophageal Cancer	Cisplatin and irinotecan	Intermediate	Ajani JA 2002; Enzinger PC 2016; Ilson DH 2004, 2012; Knox JJ 2010; Newman E 2005
	Nivolumab and FOLFOX or XELOX	Low	Janjigian YY et al. 2021
Germ Cell Tumors (Advanced)	Bleomycin, etoposide, and cisplatin	Intermediate	de Wit R 2012; Fizazi K 2014; Garcia del Muro X 2008; Nichols CR 1991
	Etoposide and cisplatin	Intermediate	Arranz A 2001; Horwich A 2000; Motzer RJ 1995
Head and Neck Cancer (Recurrent/Metastatic)	EGFR-inhibitor (cetuximab or panitumumab) and platinum- based chemotherapy	Low	Burtneess B 2005; Vermorken JB 2008; Vermorken JB 2013;
	Pembrolizumab plus platinum-based chemotherapy	Low	Burtneess B 2019;
Non-Hodgkin Lymphoma	Gemcitabine, dexamethasone, and cisplatin ± rituximab	Intermediate	Baetz T 2003; Crump M 2004, 2014
Non-Small Cell Lung Cancer	Cisplatin and vinorelbine	Intermediate	Douillard JY 2006; Fossella F 2003; Gebbia V 2008; Georgoulis V 2005; Kenmotsu H 2020; Pujol JL 2005; Winton T 2005
Non-Small Cell Lung Cancer (Advanced)	Docetaxel	Intermediate	Abe T 2015; Barlesi F 2018; Camps C 2006; Georgoulis V 2004; Gridelli C 2004; Hanna N 2004; Herbst RS 2010; Karampeazis A 2011; Kudoh S 2006; Okamoto I 2020; Paz-Ares L 2008
Non-Small Cell Lung Cancer (Advanced)	Docetaxel and cisplatin	Low	Abe T 2015; Fossella F 2003; Kubota K 2015; Schiller JH 2002
Non-Small Cell Lung Cancer (Advanced)	Docetaxel and ramucirumab	Intermediate	Garon 2014; Yoh 2016

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Disease State	Chemotherapy regimen	Risk of developing FN	References
Non-Small Cell Lung Cancer (Metastatic)	Carboplatin/cisplatin, pemetrexed, and pembrolizumab	Low	Gandhi 2018; Langer 2016; Rodrigues-Pereira 2011; Scagliotti 2008
Non-Small Cell Lung Cancer (Metastatic, non-squamous)	Carboplatin, paclitaxel, and atezolizumab ± bevacizumab	Low	Lilenbaum 2005; Ohe 2007; Socinski 2018; Williamson 2005
Non-Small Cell Lung Cancer (Metastatic, squamous)	Carboplatin, paclitaxel/nab-paclitaxel, and pembrolizumab	Low	Gadgeel 2018; Lilenbaum 2005; Ohe 2007; Paz-Ares 2018; Williamson 2005
Ovarian Cancer	Carboplatin and paclitaxel	Low	Clamp 2019; Coleman 2017; Katsumata 2009, 2013; Lhomme 2008; Pignata 2014; Sugiyama 2016; Vasey 2004
Ovarian Cancer (Advanced)	Topotecan	Intermediate	Aoki 2011; Gordon 2001, 2004; Gore 2002; McGonigle 2011; Meier 2009; Sehouli J 2008; Spannuth WA 2007; Swisher 1997
Ovarian Cancer (Advanced)	Carboplatin and docetaxel	High	Vasey 2004; Vorobiof 2003; Wang 2014
Pancreatic Cancer	FOLFIRINOX	Intermediate	Chlorea 2019; Conroy 2011; Conroy 2005; Hosein 2012; Okusaka 2014; Peddi 2012; Suker 2016; Thibodeau 2018; Tong 2018
Small Cell Lung Cancer (Extensive Stage)	Carboplatin, etoposide, and atezolizumab	Low	Horn 2018; Kosmidis 1994; Socinski 2009
Soft Tissue Sarcoma (Advanced)	Doxorubicin	High	Judson I 2014; Lorigan P 2007; Nielsen OS 1998; Seddon B 2017; Tap WD 2017; Tap WD 2020

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Policy History

Revision Type	Summary of Changes	P&T Approval Date	UM/CMPC Approval Date
Annual Review 8/28/2025	Add criteria due to NCCN recommendations for use of Neulasta/Neupogen and their biosimilars or Granix in Classic Hodgkin Lymphoma. Add NCCN recommendation for use of Neulasta/ Neupogen in Pediatric Aggressive Mature B-cell lymphomas Add NCCN 2A recommendation for use of Neupogen in relapsed or refractory adult ALL in combination with FLAG or FLAG-IDA. Add NCCN 2A recommendation for use of Granix in H-ARS (similar to other G-CSFs). Add references. Update table for FN risk. NCCN updated the risk association for FN in ovarian cancer with docetaxel and carboplatin to high from intermediate risk. Wording and formatting updates. Coding Reviewed: Removed HCPCS C9173 effective 7/1/25.	9/5/2025	9/16/2025
Annual Review	- Add combination use of Mozobil (plerixafor) with Leukine (Sargramostim) for use in treatment for hematopoietic cell mobilization. Clarify existing language for use in combination with Mozobil in filgrastim, pegfilgrastim, and tbo-filgrastim criteria. - Add criteria to stipulate liver dysfunction risk factor for febrile neutropenia can be 2X ULN for either AST or ALT levels Rolvedon and Ryzneuta: Add NCCN criteria for use in Hematopoietic Syndrome of Acute Radiation Syndrome. - Remove may not be approved criteria for "Individual is using for prophylaxis of FN during concomitant chemotherapy and radiation therapy". - Neupogen: Add criteria for use in IPSS-R risk myelodysplastic syndrome associated with symptomatic anemia. Clarify criteria for use in hematopoietic cell mobilization. Add criteria for use in combination with plerixafor when used for insufficient collection of stem cells following prior filgrastim therapy (alone	11/18/2024	12/17/2024

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	or in combination). Add criteria for use in hematopoietic cell mobilization for allogenic donors as a single agent. Add criteria for use as supportive management of neutropenic events due to immunotherapy related toxicities from CAR-T cell therapy. • Leukine: Add criteria for use in hematopoietic cell mobilization in combination with cyclophosphamide with or without plerixafor. Clarify existing criteria for use in r/r high-risk neuroblastoma in combination with Unituxin (dinutuximab). • Granix: Add criteria for use in IPSS-R risk myelodysplastic syndrome associated with symptomatic anemia. Add definition for “older adult” in FN Risk table for use in Breast cancer for adjuvant TC. • Add Appendix table: Febrile Neutropenia Risk of Selected Chemotherapy Regimens • Coding Reviewed: Add new FDA approved Udenyca Onbody to the PA, ST, and QL. Added Udenyca Onbody to HCPCS J3490, J3590. Effective 4/1/2024 Added Udenyca Onbody to Q5111. Minor updates to HCPCS code descriptions. Removed Prokine from HCPCS J2820. Effective 7/1/2024 CMS update: Remove HCPCS J3490 and J3590 for Ryzneuta. Add HCPCS J9361 for Ryzneuta. Add HCPCS C9399 and J3590 for Nypozi.		
Policy Inception	Elevance Health’s Medical Policy adoption	N/A	11/30/2023