



PHARMACY POLICY STATEMENT North Carolina Marketplace

DRUG NAME	Neupogen (Filgrastim)
BILLING CODE	For medical - J1442 For Rx - must use valid NDC
BENEFIT TYPE	Medical or Pharmacy
SITE OF SERVICE ALLOWED	Home/Office/Outpatient Hospital
COVERAGE REQUIREMENTS	Prior Authorization Required (Non-Preferred Product) Alternative preferred product includes Zarxio QUANTITY LIMIT— N/A
LIST OF DIAGNOSES CONSIDERED NOT MEDICALLY NECESSARY	Click Here

Neupogen (Filgrastim) is a **non-preferred** product and will only be considered for coverage under the **medical or pharmacy** benefit when the following criteria are met:

Members must be clinically diagnosed with one of the following disease states and meet their individual criteria as stated.

ACUTE MYELOID LEUKEMIA (AML)

For **initial** authorization:

1. Member has diagnosis of AML documented in chart notes; AND
2. Member must have tried and failed treatment with Zarxio; AND
3. Medication is being used to reduce the time to neutrophil recovery and the duration of fever following induction or consolidation chemotherapy treatment; AND
4. Medication is being administered 24 hours after the last dose of chemotherapy until neutrophil recovery ($ANC \geq 1000/mm^3$ for 3 consecutive days or $\geq 10,000/mm^3$ for 1 day) or for a maximum of 35 days.
5. **Dosage allowed:** 5 mcg/kg/day subcutaneous injection, short intravenous infusion (15 to 30 minutes), or continuous intravenous infusion.

If member meets all the requirements listed above, the medication will be approved for 3 months.

For **reauthorization**:

1. Member must be in compliance with all initial criteria; AND
2. Chart notes have been provided that show the member is stable or has shown improvement on Neupogen therapy.

If member meets all the reauthorization requirements above, the medication will be approved for an additional 12 months.

AUTOLOGOUS BONE MARROW TRANSPLANT (BMT)

For **initial** authorization:

1. Member has diagnosis of non-myeloid malignancy and is undergoing myeloablative chemotherapy followed by autologous BMT; AND
2. Member must have tried and failed treatment with Zarxio; AND



3. Medication is being used to reduce duration of neutropenia following autologous BMT.
4. **Dosage allowed:** 10 mcg/kg/day beginning at least 24 hours after cytotoxic chemotherapy and 24 hours after bone marrow infusion.

If member meets all the requirements listed above, the medication will be approved for 3 months.

For **reauthorization**:

1. Member must be in compliance with all initial criteria; AND
2. Chart notes have been provided that show the member is stable or has shown improvement on Neupogen therapy.

If member meets all the reauthorization requirements above, the medication will be approved for an additional 12 months.

AUTOLOGOUS PERIPHERAL BLOOD PROGENITOR CELL (PBPC) MOBILIZATION

For **initial** authorization:

1. Medication is being used to mobilize autologous peripheral blood progenitor cells for collection by leukapheresis; AND
2. Member must have tried and failed treatment with Zarxio; AND
3. Medication is being administered for at least 4 days before first leukapheresis and continued until the last leukapheresis (until a sustainable ANC ($\geq 1000/\text{mm}^3$) is reached).
4. **Dosage allowed:** 10 mcg/kg/day subcutaneous injection.

If member meets all the requirements listed above, the medication will be approved for 3 months.

For **reauthorization**:

1. Member must be in compliance with all initial criteria; AND
2. Chart notes have been provided that show the member is stable or has shown improvement on Neupogen therapy.

If member meets all the reauthorization requirements above, the medication will be approved for an additional 12 months.

HEMATOPOIETIC SYNDROME OF ACUTE RADIATION SYNDROME

For **initial** authorization:

1. Medication is prescribed by physician with expertise in treating acute radiation syndrome; AND
2. Documentation of member's suspected or confirmed exposure to radiation levels greater than 2 gray (Gy).
3. **Dosage allowed:** 10 mcg/kg/day subcutaneous injection.

If member meets all the requirements listed above, the medication will be approved for 14 days.

For **reauthorization**:

1. Neupogen will not be reauthorized for the same radiation phase. If another round of radiation therapy needed in the future, the initial authorization criteria will be applied.

PREVENTION OF FEBRILE NEUTROPENIA



For **initial** authorization:

1. Member must have tried and failed treatment with Zarxio; AND
2. Member has a non-myeloid malignancy; AND
3. Medication will not be administered within 24 hours before or after chemotherapy; AND
4. Member has a documented history of febrile neutropenia (defined as an ANC < 1000/mm³ and temperature > 38.2°C) following a previous course of chemotherapy and is receiving myelosuppressive chemotherapy; OR
5. Member is receiving myelosuppressive anti-cancer drugs associated with a high risk (> 20%, see Appendix for description) for incidence of febrile neutropenia; OR
6. Member is receiving myelosuppressive anti-cancer drugs associated with an intermediate risk (10-20%, see Appendix for description) for incidence of febrile neutropenia including **one** of the following:
 - a) Previous chemotherapy or radiation therapy;
 - b) Persistent neutropenia;
 - c) Bone marrow involvement with tumor;
 - d) Recent surgery and/or open wounds;
 - e) Liver dysfunction (bilirubin > 2.0);
 - f) Renal dysfunction (creatinine clearance < 50);
 - g) Age > 65 years receiving full chemotherapy dose intensity.
7. **Dosage allowed:** 5 mcg/kg per day.

If member meets all the requirements listed above, the medication will be approved for 6 months.

For **reauthorization**:

1. Member must be in compliance with all initial criteria; AND
2. Chart notes have been provided that show the member is stable or has shown improvement on Neupogen therapy.

If member meets all the reauthorization requirements above, the medication will be approved for an additional 12 months.

SEVERE CHRONIC NEUTROPENIA (SCN)

For **initial** authorization:

1. Member must have tried and failed treatment with Zarxio; AND
2. Member has a history of SCN (i.e. congenital neutropenia, cyclic neutropenia, or idiopathic neutropenia) with chart notes confirming **both** of the following:
 - a) Absolute neutrophil count (ANC) < 500/mm³ on three occasions during a 6 month period (or for cyclic neutropenia 5 consecutive days of ANC < 500/mm³ per cycle); AND
 - b) Member must have experienced a clinically significant infection during the previous 12 months.
3. **Dosage allowed:** Idiopathic neutropenia: 3.6 mcg/kg/day; Cyclic neutropenia: 6 mcg/kg/day; Congenital neutropenia: 6 mcg/kg/day divided 2 times per day.

If member meets all the requirements listed above, the medication will be approved for 6 months.

For **reauthorization**:

1. Member must be in compliance with all initial criteria; AND
2. Chart notes have been provided that show the member is stable or has shown improvement on Neupogen therapy.

If member meets all the reauthorization requirements above, the medication will be approved for an additional 12 months.



CareSource considers Neupogen (Filgrastim) not medically necessary for the treatment of the following disease states based on a lack of robust clinical controlled trials showing superior efficacy compared to currently available treatments:

- Agranulocytosis
- AIDS - Neutropenia
- Aplastic anemia
- Febrile neutropenia, In myeloid malignancies following bone marrow transplant - Prophylaxis
- Infectious disease - Prophylaxis
- Leukemia
- Myelodysplastic syndrome
- Neutropenia - Pre-eclampsia

DATE	ACTION/DESCRIPTION
10/19/2017	New policy for Neupogen created. Age limits and degree of hematotoxicity were removed; radiation exposure level requirement was decreased. Criteria coverage for Prevention of Febrile Neutropenia was expanded. Chemotherapy regimens with high and intermediate risk of febrile neutropenia were added to the policy's appendix. Length of therapy of preferred trial agent was deleted. List of not covered diagnoses was added.
2/19/2020	Requirement for chart notes detailing chemotherapy regimen cycle removed.
3/11/2021	Annual review, no changes

References:

1. Myeloid Cytokines for Acute Exposure to Myelosuppressive Doses of Radiation (Hematopoietic Subsyndrome of ARS). US Department of Health & Human Services. <https://www.remm.nlm.gov/Cytokine.pdf>.
2. Neupogen (filgrastim) [prescribing information]. Thousand Oaks, CA: Amgen; July 2015.
3. Radiation Emergency Medical Management. Myeloid cytokines for acute exposure to myelosuppressive doses of radiation (hematopoietic subsyndrome of ARS). U.S. Department of Health and Human Services. Available from <https://www.remm.nlm.gov/cytokines.htm>. Updated February 22, 2017. Accessed July 27, 2017.
4. Schmitz N, Linch DC. Randomised trial of filgrastim-mobilized peripheral blood progenitor cell transplantation versus autologous bone-marrow transplantation in lymphoma patients. *Lancet*. 1996;347(8998): 353-358. Doi: 10.1016/S0140-6736(96)90536-X.
5. Crawford J, Becker PS, Armitage JO, et al. Myeloid growth factors. NCCN Clinical Practice Guidelines in Oncology. Available from www.nccn.org. Published April 28, 2017. Accessed July 27, 2017.
6. Filgrastim. Micromedex Solutions. Truven Health Analytics, Inc. Ann Arbor, MI. Available at: <http://www.micromedexsolutions.com>. Accessed March 15, 2017.

Effective date: 01/01/2023

Revised date: 03/11/2021



Appendix

Chemotherapy Regimens with a High Risk for Febrile Neutropenia (> 20%)

Cancer Type	Regimen
Acute Lymphoblastic Leukemia (ALL)	ALL induction regimens (see NCCN guidelines)
Bladder Cancer	MVAC (methotrexate, vinblastine, doxorubicin, cisplatin) (neoadjuvant, adjuvant, metastatic)
Breast Cancer	Docetaxel + trastuzumab (metastatic or relapsed)
	Dose-dense AC followed by T (doxorubicin, cyclophosphamide, paclitaxel) (adjuvant)
	TAC (docetaxel, doxorubicin, cyclophosphamide) (adjuvant)
Esophageal and Gastric Cancers	Docetaxel/cisplatin/fluorouracil
Hodgkin Lymphoma	BEACOPP (bleomycin, etoposide, doxorubicin, cyclophosphamide, vincristine, procarbazine, prednisone)
Kidney Cancer	Doxorubicin/gemcitabine
Non-Hodgkin's Lymphoma	ICE (ifosfamide, carboplatin, etoposide) (diffuse large B-cell lymphoma [DLBCL], peripheral T-cell lymphomas [PTCL], 2nd line)
	RICE (rituximab, ifosfamide, carboplatin, etoposide)
	CHOP-14 (cyclophosphamide, doxorubicin, vincristine, prednisone) + rituximab
	MINE (mesna, ifosfamide, novantrone, etoposide) (DLBCL, 2nd line, refractory)
	DHAP (dexamethasone, cisplatin, cytarabine)
	ESHAP (etoposide, methylprednisolone, cisplatin, cytarabine (Ara-C)) (DLBCL, PTCL, 2nd line, recurrent)
	HyperCVAD + rituximab (cyclophosphamide, vincristine, doxorubicin, dexamethasone + rituximab)
Melanoma	Dacarbazine-based combination (dacarbazine, cisplatin, vinblastine) (advanced, metastatic, or recurrent)
	Dacarbazine-based combination with IL-2, interferon alpha (dacarbazine, cisplatin, vinblastine, IL-2, interferon alpha) (advanced, metastatic, or recurrent)
Ovarian Cancer	Topotecan
	Paclitaxel
	Docetaxel
Soft Tissue Sarcoma	MAID (mesna, doxorubicin, ifosfamide, dacarbazine)
	Doxorubicin
	Ifosfamide/doxorubicin
Small Cell Lung Cancer	Topotecan



Testicular Cancer	VeIP (vinblastine, ifosfamide, cisplatin)
	VIP (etoposide, ifosfamide, cisplatin)
	BEP (bleomycin, etoposide, cisplatin)
	TIP (paclitaxel, ifosfamide, cisplatin)

National Comprehensive Cancer Network (NCCN): Myeloid Growth Factors, 2016.

Chemotherapy Regimens with an Intermediate Risk of Febrile Neutropenia (10% to 19%)

Cancer Type	Regimen
Occult Primary Adenocarcinoma	Gemcitabine/docetaxel
Breast Cancer	Docetaxel every 21 days
	CMF classic (cyclophosphamide, methotrexate, fluorouracil) (adjuvant)
	AC (doxorubicin, cyclophosphamide) + sequential docetaxel (adjuvant) (taxane portion only)
	AC + sequential docetaxel + trastuzumab (adjuvant)
	FEC (fluorouracil, epirubicin, cyclophosphamide) + sequential docetaxel
	TC (docetaxel, cyclophosphamide)
Cervical Cancer	Cisplatin/topotecan (recurrent or metastatic)
	Paclitaxel/cisplatin
	Topotecan (recurrent or metastatic)
	Irinotecan (recurrent or metastatic)
Colorectal Cancer	FOLFOX (fluorouracil, leucovorin, oxaliplatin)
Esophageal and Gastric Cancers	Irinotecan/cisplatin
	Epirubicin/cisplatin/5-fluorouracil
	Epirubicin/cisplatin/capecitabine
Multiple Myeloma	DT-PACE (dexamethasone/thalidomide/cisplatin/doxorubicin/cyclophosphamide/etoposide)
	DT-PACE + bortezomib (VTD-PACE)
Non-Hodgkin's Lymphoma	EPOCH (etoposide, prednisone, vincristine, cyclophosphamide, doxorubicin) (AIDS-related NHL, Burkitt lymphoma, recurrent, other NHL subtypes)
	EPOCH-IT chemotherapy (AIDS-related NHL, DLBCL, recurrent)
	GDP (gemcitabine, dexamethasone, cisplatin) (DLBCL, PTCL, 2nd line)
	GDP (gemcitabine, dexamethasone, cisplatin) + rituximab (DLBCL, 2nd line, Burkitt lymphoma, other NHL subtypes)
	FMR (fludarabine, mitoxantrone, rituximab)



	CHOP + rituximab (cyclophosphamide, doxorubicin, vincristine, prednisone, rituximab) including regimens with pegylated liposomal doxorubicin or mitoxantrone substituted for doxorubicin
Non-Small Cell Lung Cancer	Cisplatin/paclitaxel (advanced/metastatic)
	Cisplatin/vinorelbine (adjuvant, advanced/metastatic)
	Cisplatin/docetaxel (adjuvant, advanced/metastatic)
	Cisplatin/etoposide (adjuvant, advanced/metastatic)
	Carboplatin/paclitaxel (adjuvant, advanced/metastatic)
	Docetaxel (advanced/metastatic)
Ovarian Cancer	Carboplatin/docetaxel
Pancreatic Cancer	FOLFIRINOX
Prostate Cancer	Cabazitaxel
Small Cell Lung Cancer	Etoposide/carboplatin
Testicular Cancer	Etoposide/cisplatin
Uterine Sarcoma	Docetaxel (advanced or metastatic)

National Comprehensive Cancer Network (NCCN): Myeloid Growth Factors, 2016.