Sentara® Health Plans

Oncologic Use of White Blood Cell Colony Stimulating Factors Filgrastim (Neupogen) and filgrastim biosimilars Tbo-filgrastim (Granix) Peg-filgrastim (Neulasta) and peg-filgrastim biosimilars Sargramostim (Leukine) Eflapegrastim-xnst (Rolvedon)

Clinical Indications

Primary Prophylaxis of febrile neutropenia

(Any agent listed)

Consideration should be given to equally effective and safe alternative chemotherapy treatment options that do not require colony stimulating factor (CSF) support, when available.

One white blood cell (WBC) growth factor agent is considered clinically appropriate for primary prophylaxis of chemotherapy-induced febrile neutropenia when **ALL** of the following (1, 2, and 3) are met:

1. The individual has a **non-myeloid malignancy** and is **NOT receiving chemotherapy with radiation concurrently**;

2. Chemotherapy intent must include **one** of the following:
    a. Curative intent (adjuvant treatment for early stage disease, for example); OR
    b. Intent is survival prolongation, and the **use of a different regimen or dose reduction would reduce the likelihood of reaching the treatment goal**; OR
    c. Intent is symptom management, and the **use of a different regimen or dose reduction would reduce the likelihood of reaching the treatment goal**

3. The individual falls into **one** of the following risk categories for febrile neutropenia:
    a. High risk of febrile neutropenia **(≥ 20%)** based on chemotherapy regimen; OR
    b. Intermediate risk of febrile neutropenia **(≥ 10% but < 20%)** based on chemotherapy regimen, and **at least ONE** of the following significant risk factors:
        i. Age > 65
        ii. Poor performance status (ECOG 3 or 4, but chemotherapy still indicated)
        iii. Preexisting neutropenia, for example resulting from bone marrow

damage or tumor infiltration (ANC < 1500 mm^3)

iv. Previous febrile neutropenia episode
v. Liver dysfunction, with bilirubin ≥ 1.0 or liver enzymes ≥ 2x upper limit of normal
vi. Presence of open wounds or active infections, when chemotherapy cannot be delayed to accommodate recovery
vii. Renal dysfunction with creatinine clearance of less than 50 mL/min
viii. Poor nutritional status (baseline albumin less ≤ 3.5 g/dL or BMI less than 20)
ix. HIV infection (active)
x. Advanced cancer
xi. Multiple comorbid conditions

Secondary Prophylaxis of febrile neutropenia

(Any agent listed)

Secondary prophylaxis of febrile neutropenia is considered clinically appropriate when there has been a previous neutropenic complication (in the absence of primary prophylaxis), **and a change to the regimen (including dose reduction, schedule change, or change in therapy) would be expected to compromise patient outcome**, particularly in the setting of curative intent.

Adjunctive treatment of febrile neutropenia (primary prophylaxis not given)

(Any agent listed)

Adjunctive treatment of febrile neutropenia is considered clinically appropriate when **any** of the following risk factors are present (in the absence of prior growth factor use within the same cycle of treatment):

1. Age > 65
2. Neutrophil recovery is expected to be delayed (greater than 10 days)
3. Neutropenia is profound (less than 0.1 x 10^9)
4. Active pneumonia
5. Sepsis syndrome (hypotension and/or multi-organ damage/dysfunction noted)
6. Invasive fungal or opportunistic infection
7. Onset of fever during inpatient stay

Note: Febrile neutropenia is defined as an oral temperature > 38.3˚C (101.0°F) or 2 consecutive readings of 38.0°C (100.4°F) for 1 hour, with an absolute neutrophil count less than 500 cells/microL (0.5 x 10^9/L) or less than 1000 cells/microL and expected to fall below 500 cells/microL over the next 48 hours.

The use of multiple WBC growth factor agents for prophylaxis and/or adjunctive treatment within a given chemotherapy cycle is NOT clinically indicated.

Other oncologic uses for WBC growth factors

The following indications by growth factor type are also considered clinically appropriate when the requirements below are met:

Filgrastim/filgrastim biosimilars

1. Acute lymphocytic leukemia (ALL)
    a. After start of induction or first post-remission chemotherapy course; OR
    b. As an alternate or adjunct to donor leukocyte infusions (DLI) for relapsed disease after transplant
2. Acute myeloid leukemia (AML)
    a. After induction, reinduction, or consolidation; OR
    b. As an alternate or adjunct to donor leukocyte infusions (DLI) for relapsed disease after transplant
3. Aplastic anemia, moderate or severe
4. Hairy cell leukemia
    a. To treat severe neutropenia
5. Hematopoietic stem cell transplant
    a. To promote bone marrow myeloid recovery; OR
    b. To treat delayed or failed engraftment; OR
    c. To mobilize stem cells for collection by pheresis
6. Myelodysplastic syndrome (MDS)
    a. To treat recurrent infection; OR
    b. To treat neutrophil count < 500 mm^3
7. Radiation exposure
    a. Following radiation therapy in the absence of chemotherapy, if prolonged delays are expected; OR
    b. After accidental or intentional body irradiation of doses greater than 2 Gy (hematopoietic syndrome of acute radiation syndrome)
8. Support for dose dense or dose intensive chemotherapy in **any** of the following scenarios:
    a. Adjuvant treatment of high-risk breast cancer with combination therapy that includes anthracycline (doxorubicin or epirubicin)/cyclophosphamide followed by paclitaxel; OR
    b. High-dose intensity methotrexate, vinblastine, doxorubicin, and cisplatin (HD-M-VAC) in urothelial cancer; OR
    c. Chemotherapy intensification for newly diagnosed, localized Ewing sarcoma

Peg-filgrastim/peg-filgrastim biosimilars

1. Acute lymphocytic leukemia (ALL)
    a. After start of induction or first post-remission chemotherapy course
2. Hematopoietic stem cell transplant
    a. To promote bone marrow myeloid recovery; OR

b. To treat delayed or failed engraftment
3. Myelodysplastic syndrome (MDS)
    a. To treat recurrent infection; OR
    b. To treat neutrophil count < 500 mm^3
4. Radiation exposure
    a. After accidental or intentional body irradiation of doses greater than 2 Gy (hematopoietic syndrome of acute radiation syndrome)
5. Support for dose dense chemotherapy in **any** of the following scenarios:
    a. Adjuvant treatment of high-risk breast cancer with combination therapy that includes anthracycline (doxorubicin or epirubicin)/cyclophosphamide followed by paclitaxel; OR
    b. High-dose intensity methotrexate, vinblastine, doxorubicin, and cisplatin (HD-M-VAC) in urothelial cancer; OR
    c. Chemotherapy intensification for newly diagnosed, localized Ewing sarcoma

Sargramostim

1. Acute lymphocytic leukemia (ALL)
    a. After start of induction or first post-remission chemotherapy course
2. Acute myeloid leukemia (AML)
    a. After induction, reinduction, for individuals over 55 years of age
3. Hematopoietic stem cell transplant
    a. To promote bone marrow myeloid recovery; OR
    b. To treat delayed or failed engraftment; OR
    c. To mobilize stem cells for collection by pheresis
4. Myelodysplastic syndrome (MDS)
    a. To treat recurrent infection; OR
    b. To treat neutrophil count < 500 mm^3
5. Radiation exposure
    a. After radiation therapy in the absence of chemotherapy, if prolonged delays are expected; OR
    b. After accidental or intentional body irradiation of doses greater than 2 Gy (hematopoietic syndrome of acute radiation syndrome)
6. Support for dose dense chemotherapy in **any** of the following scenarios:
    a. Adjuvant treatment of high-risk breast cancer with combination therapy that includes anthracycline (doxorubicin or epirubicin)/cyclophosphamide followed by paclitaxel; OR
    b. High-dose intensity methotrexate, vinblastine, doxorubicin, and cisplatin (HD-M-VAC) in urothelial cancer; OR
    c. Chemotherapy intensification for newly diagnosed, localized Ewing sarcoma

Tbo-filgrastim

1. Hematopoietic stem cell transplant
    a. To promote bone marrow myeloid recovery; OR
    b. To treat delayed or failed engraftment; OR
    c. To mobilize stem cells for collection by pheresis

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