Clinical Policy: Non-Myeloablative Allogeneic Stem Cell Transplants

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Effective Date: 01/18
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Coding Implications
Revision Log

Description

Non-myeloablative allogeneic stem cell transplants (also known as "mini-transplants", "mini-allograft", "transplant lite" or "reduced intensity conditioning transplant") is a therapeutic option for an array of malignant and nonmalignant hematologic diseases. This approach can circumvent the need for high dose conditioning regimens that are associated with organ toxicity and mortality. Non-myeloablative allogeneic stem cell transplants use a reduced intensity protocol and is considered an established alternative. This policy describes the medical necessity requirements for these transplants.

Policy/Criteria

I. It is the policy of Pennsylvania Health and Wellness® (PHW) that non-myeloablative allogeneic transplants is **medically necessary** for members who meet all of the following criteria:

A. Candidate for conventional high dose chemotherapy (myeloablative) and allogeneic stem cell transplantation for any of the following diagnoses:

1. Acute lymphoblastic leukemia
2. Acute myelogenous leukemia
3. Aplastic anemia
4. Paroxysmal nocturnal hemoglobinuria
5. Chronic lymphoblastic leukemia
6. Chronic myelogenous leukemia
7. Congenital immunodeficiency syndromes: molecular remissions induced by Gleevec
8. Hodgkin's disease: primary refractory or relapsed, including those who have relapsed having an autologous bone marrow transplant
9. Non-Hodgkin's disease, any of the following:
    a. Primary refractory or relapsed, including those who have relapsed having an autologous bone marrow transplant
    b. Follicular lymphomas
    c. Mantle cell lymphoma
    d. Diffuse large cell lymphoma
10. Multiple myeloma if responsive to primary treatment
11. Myelodysplastic syndromes.
12. Myelofibrosis
13. Neuroblastoma, High Risk
14. Sickle Cell Anemia
15. Thalassemia Major

B. Unsuitable for conventional high-dose myeloablative allografting because of untreatable significant dysfunction of another major organ system and/or severe comorbidities, including, but not limited to, any of the following:

1. Bilirubin > 2 mg/dL
2. Hemostasis: international normalized ratio (INR) > 1.6 (unless on oral anticoagulants)

3. Cardiac function: multigated acquisition scan (MUGA) or echocardiogram with ejection fraction (EF) < 45%
4. Pulmonary function
   a. Forced expiratory volume in 1 second (FEV1) ≤ 50% of predicted value; or
   b. Diffusing capacity of the lung for carbon monoxide (DLCO) ≤ 50% of predicted value
5. Performance scale index
   a. Karnofsky or Lansky score < 70%; or
   b. Eastern Cooperative Oncology Group (ECOG) performance score ≤ 2

C. Does not have ANY of the following absolute contraindications:

1. Chronic infection with highly virulent and/or resistant microbes that are poorly controlled pre-transplant;
2. Current non-adherence to medical therapy or a history of repeated or prolonged episodes of non-adherence to medical therapy that are perceived to increase the risk of non-adherence after transplantation;
3. Psychiatric or psychological condition associated with the inability to cooperate or comply with medical therapy;
4. Absence of an adequate or reliable social support system;
5. Substance abuse or dependence (including tobacco and alcohol) without convincing evidence of risk reduction behaviors, such as meaningful and/or long-term participation in therapy for substance abuse and/or dependence. Serial blood and urine testing may be used to verify abstinence from substances that are of concern.

II. It is the policy of PHW that non-myeloablative allogeneic transplants are **experimental / investigational** for the following indications:

A. Treatment for other conditions, including but not limited to the following:

1. Astrocytomas and gliomas
2. Breast cancer
3. Dermatomyositis
4. Diffuse large cell B-cell Non-Hodgkin's disease
5. Ewing sarcoma
6. Germ cell Tumors
7. Idiopathic thrombocytopenic purpura
8. Juvenile rheumatoid arthritis
9. Lupus erythematosus
10. Medulloblastoma
11. Melanoma
12. Multiple sclerosis
13. Osteosarcoma
14. Ovarian epithelia and mixed epitheilia/germ cell cancers
15. Polycythemia vera
16. Polymyositis
17. Ovarian germ cell Tumors
18. Primitive Neuroectodermal Tumors (PNET), including medulloblastoma and ependymoma

19. Renal cell carcinoma
20. Retinoblastoma
21. Rhabdomyosarcoma
22. Severe systemic rheumatoid arthritis, Adult and Juvenile
23. Sarcoma
24. Systemic lupus erythematosus
25. Systemic sclerosis
26. Testicular Cancer
27. Wilms tumor

Background

Allogeneic stem cell transplant (AlloBMT) has been used as a treatment for cancer and diseases of the blood system for many years. For this treatment, stem cells are collected from either related or unrelated donors. During the conditioning phase, high doses of chemotherapy (HDC), with or without radiation therapy, are used to eradicate the disease and this is followed by infusion of an allogeneic stem cell transplantation to rescue bone marrow and restore normal immune function. Major limitations of this technique are the associations with serious side effects and high mortality. All stem cell transplants (SCTs) preparative regimens have the potential for extensive toxicity. Loss of appetite and energy, alopecia, and nausea/vomiting are very frequent and add to poor physical and emotional tolerance of the transplant procedure. In addition, mucositis, diarrhea, and transient pancytopenia are inevitable side effects of most preparative regimens, and these complications are synergistic in dramatically increasing the risk of bacterial and fungal infections. Any decrease in toxicity, without concomitant loss of efficacy, would be desirable.

Myeloablative means that the treatment kills (ablates) the myeloid stem cells in the bone marrow, the cells that produce new blood cells. Several less intense conditioning regimens have been developed recently and rely more on immuno-suppression than cytotoxic effects to permit engraftment of donor cells. These regimens are collectively termed non-myeloablative. Studies have shown that donor allogeneic stem cells can engraft in recipients using less-intensive conditioning regimens that are sufficiently immunosuppressive to permit graft-host tolerance. This manifests as a stable mixed donor-host hematopoietic chimerism, a term which means the coexistence of donor and recipient cells. Once chimerism has developed, a further infusion of donor leukocytes may be given to eradicate malignant cells by inducing a graft vs. tumor effect. Non-myeloablative allogeneic transplants, also referred to as “mini-transplant” or “transplant lite”, are thought to be potentially as effective as conventional HDC followed by an allogeneic stem cell transplantation, but with decreased morbidity and mortality related to the less intense non-myeloablative chemotherapy conditioning regimen. Consequently, for patients with malignancies who are eligible for conventional HDC/AlloBMT, conditioning with milder, non-myeloablative regimens represents a variation of an established procedure.

Coding Implications

This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2016, American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are

included for informational purposes only. 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.

CPT® Codes	Description
38204	Management of recipient hematopoietic progenitor cell donor search and cell acquisition
38205	Blood-derived hematopoietic progenitor cell harvesting for transplantation, per collection; allogeneic
38206	Blood-derived hematopoietic progenitor cell harvesting for transplantation, per collection; autologous
38207	Transplant preparation of hematopoietic progenitor cells; cryopreservation and storage
38208	Transplant preparation of hematopoietic progenitor cells; thawing of previously frozen harvest, without washing, per donor
38209	Transplant preparation of hematopoietic progenitor cells; thawing of previously frozen harvest, with washing, per donor
38210	Transplant preparation of hematopoietic progenitor cells; specific cell deletion within harvest. T-cell depletion
38211	Transplant preparation of hematopoietic progenitor cells; tumor depletion
38212	Transplant preparation of hematopoietic progenitor cells; red blood cell removal
38213	Transplant preparation of hematopoietic progenitor cells; platelet depletion
38214	Transplant preparation of hematopoietic progenitor cells; plasma (volume) depletion
38215	Transplant preparation of hematopoietic progenitor cells; cell concentration in plasma, mononuclear, or buffy coat layer
38230	Bone marrow harvesting for transplantation; allogeneic
38240	Hematopoietic progenitor cell (HPC), allogeneic transplantation per donor

HCPCS Codes	Description
S2142	Cord blood-derived stem cell transplantation, allogeneic
S2150	Bone marrow or blood-derived peripheral stem cells (peripheral orumbilical), allogeneic or autologous, harvesting, transplantation, and related complications; including pheresis and cell preparation/storage, marrow ablative therapy, drugs, supplies, hospitalization with outpatient follow-up, medical/surgical, diagnostic, emergency, and rehabilitative services, and the number of days of pre- and post-transplant care in the global definition

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

ICD-10-CM Code	Description
C74.00-C74.02	Malignant neoplasm of adrenal gland
C81.0-C96.9	Malignant neoplasm of lymphoid, hematpoietic and related tissue

ICD-10-CM Code	Description
D46.0-D46.9	Myeloplastic syndromes
D56.0-D56.9	Thalassemia
D57.00-D57.819	Sickle-cell disorders
D61.01-D61.09	Constitutional aplastic anemia
Z51.11	Encounter for antineoplastic chemotherapy
Z94.84	Stem cells transplant status

Reviews, Revisions, and Approvals	Date	Approval Date
Clarified in I. that policy statements applied to RIC and non-myeloablative regimens. Removed criteria in I.A. that patient be a candidate for conventional allogeneic transplantation. Added paroxysmal nocturnal hemoglobinuria as an indication. Changed chronic lymphoblastic leukemia to chronic lymphocytic leukemia. Added criteria to multiple myeloma requiring that it be responsive to primary treatment. For myelodysplastic syndromes, restricted indication to adults. Added myelofibrosis as an indication. Edited comorbidity in criteria I.B. to include the listed comorbidities as well as others not mentioned – "including but not limited to." Removed contraindication in II.A. of ineligibility for conventional high-dose chemotherapy/myeloablation, as well as restriction for members under 3 years of age.	02/18 CPC 03/18 PHW	

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