

STEM CELL OR BONE MARROW TRANSPLANTATION

Effective Date: May 2, 2016

Review Dates: 1/93, 7/95, 12/95, 12/99, 12/01, 12/02, 11/03, 11/04, 10/05, 10/06, 6/07, 6/08, 6/09, 6/10, 6/11, 6/12, 6/13, 8/14, 8/15, 8/16, 8/17, 8/18

Date Of Origin: April 10, 1992

Status: Current

General Coverage Criteria for all Stem Cell or Bone Marrow or other Blood Cell Transplants

Allogeneic or Autologous Bone Marrow, Peripheral Stem Cell, or other Blood Cell Transplants are a covered benefit for specific indications that are not experimental or investigational and for which the procedure has been proven to be effective. All bone marrow, peripheral stem cell, or other blood cell transplants must be pre-authorized by Priority Health and performed at a Priority Health approved facility. Requests for authorization should be submitted on the [Bone Marrow/Peripheral Stem Cell or Other Blood Cell Transplant](#) prior authorization form.

Transplant referrals will be directed and approved in the following order:

- 1. Priority Health network facilities. If not available in network, then**
- 2. LifeTrac Select facilities. If not available, then**
- 3. LifeTrac Supplemental facilities. If not available, then**
- 4. Out of network (OON) facilities.**

An approved Bone Marrow, Peripheral Stem Cell, or other Blood Cell Transplant includes coverage for the following:

1. Pre-transplant care, including the transplant evaluation. One evaluation per transplant.
Note: A second opinion consult only to determine transplant candidacy would be approved at a contracted or in network transplant facility if a second transplant evaluation is requested and the member has been previously turned down for transplant.
2. Transplant care, facility and professional fees.
3. Harvesting of donor. Priority Health will cover donor fees for transplant recipients who are members, unless donor fees are covered by another Health Plan.
4. Post Transplant immunosuppressant drug therapy if the group has outpatient prescription drug coverage.
5. Post-transplant care:
 - a. Follow-up care and services are covered at the transplant facility for one year following the transplant, for both contracted and non-contracted transplant facilities.
 - b. Follow-up care beyond one year post-transplant:
 1. Covered at contracted transplant facilities.
 2. Non-contracted facilities: only physician services are covered. Testing, labs, and imaging are covered in network only.

General guidelines for consideration for bone marrow/stem cell transplantation must be met. These guidelines include, but are not limited to, the following:

The member must meet all of the criteria below:

1. Adequate major organ function and lack of major systemic complications to include adequate liver function, cardiac function, pulmonary function and renal function
2. Predicted ability to tolerate the surgical procedure as well as the post-transplant immunosuppression regimen and potential complications
3. Emotional and psychiatric stability, including a strong family or alternative support network (documented by formal social work evaluation)
4. Ability to understand the risks of the procedures

Priority Health does not cover bone marrow/stem cell transplantation when any of the following conditions are present:

1. Persistent or active substance or alcohol abuse
2. Presence of psychiatric disease that would interfere with the member's ability to comply with the pre or post transplant therapeutic regimen
3. Significant history of medical noncompliance
4. Unwillingness or inability to adhere to post transplant lifestyle restrictions and medical regimen

Transportation and lodging for the patient, donor or family are not covered benefits, unless otherwise specified in coverage documents.

Experimental, investigational or unproven bone marrow, peripheral stem cell, or other blood cell transplants are not a covered benefit unless coverage is determined to be appropriate under the Experimental/Investigational/Unproven Care/Benefit Exceptions medical policy, the Clinical Trials for Cancer Care or the Clinical Trials medical policy.

MEDICAL NECESSITY REVIEW

Required Not Required Not Applicable

APPLICATION TO PRODUCTS

Coverage is subject to member's specific benefits. Group specific policy will supersede this policy when applicable.

- ❖ **HMO/EPO:** *This policy applies to insured HMO/EPO plans.*
- ❖ **POS:** *This policy applies to insured POS plans.*
- ❖ **PPO:** *This policy applies to insured PPO plans. Consult individual plan documents as state mandated benefits may apply. If there is a conflict between this policy and a plan document, the provisions of the plan document will govern.*
- ❖ **ASO:** *For self-funded plans, consult individual plan documents. If there is a conflict between this policy and a self-funded plan document, the provisions of the plan document will govern.*

- ❖ **INDIVIDUAL:** *For individual policies, consult the individual insurance policy. If there is a conflict between this medical policy and the individual insurance policy document, the provisions of the individual insurance policy will govern.*
- ❖ **MEDICARE:** *Coverage is determined by the Centers for Medicare and Medicaid Services (CMS); if a coverage determination has not been adopted by CMS, this policy applies.*
- ❖ **MEDICAID/HEALTHY MICHIGAN PLAN:** *For Medicaid/Healthy Michigan Plan members, this policy will apply. Coverage is based on medical necessity criteria being met and the appropriate code(s) from the coding section of this policy being included on the Michigan Medicaid Fee Schedule located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42546_42551-159815--,00.html. If there is a discrepancy between this policy and the Michigan Medicaid Provider Manual located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_5100-87572--,00.html, the Michigan Medicaid Provider Manual will govern. If there is a discrepancy or lack of guidance in the Michigan Medicaid Provider Manual, the Priority Health contract with Michigan Medicaid will govern. For Medical Supplies/DME/Prosthetics and Orthotics, please refer to the Michigan Medicaid Fee Schedule to verify coverage.*

TRANSPLANT COVERAGE CRITERIA BY CONDITION

Stem Cell Transplant for Treatment of Non-Malignant Conditions	4
Stem Cell Transplant for Autoimmune Diseases, Including Multiple Sclerosis	4
Stem Cell Transplant for Solid Tumors in Adults	5
Stem Cell Transplant for Childhood Solid Tumors	5
Stem Cell Transplant for Neuroblastoma	5
Stem Cell Transplant for Primitive Neuroectodermal Tumors (PNET) and Ependymoma	7
Stem Cell Transplant for Treatment of Ovarian or Testicular Germ Cell Tumors	7
Stem Cell Transplant for Hodgkin's Disease	7
Stem Cell Transplant for Non-Hodgkin's Lymphomas	7
Stem Cell Transplantation for Myelofibrosis	8
Stem Cell Transplant for Myelodysplastic Syndrome	8
Stem Cell Transplant for the Treatment of Chronic Myelogenous Leukemia (CML)	8
Stem Cell Transplant for Acute Myelogenous Leukemia (AML)	8
Stem Cell Transplant as a Treatment of Acute Lymphocytic Leukemia (ALL)	9
Stem Cell Transplant for Chronic Lymphocytic Leukemia (CLL) and Small Lymphocytic Lymphoma (SLL)	9
Stem Cell Transplant for:	
1. Multiple Myeloma	10
2. Amyloidosis	10
3. POEMS syndrome (Polyneuropathy, Organomegaly, Endocrinopathy, Monoclonal Gammopathy, skin abnormalities)	10
Nonmyeloablative Allogeneic Stem Cell Transplantation for Treatment of Malignancy	10
Tandem Stem Cell Transplants	11
Umbilical Cord Blood Stem Cell Transplant (UCBSCT)	11
Stem Cell Implant for Spinal Cord Injury	11
Other Non-covered Indications	11
Definitions	12

Stem Cell Transplant for Treatment of Non-Malignant Conditions

Allogeneic bone marrow transplants may be considered medically necessary for selected patients with the following disorders:

- Sickle cell anemia for children or young adults with either a history of prior stroke or at increased risk of stroke or end-organ damage, and with an HLA-identical donor. Factors associated with a high risk of stroke or end-organ damage include: recurrent chest pain syndrome, recurrent vaso-occlusive crises, red blood cell alloimmunization or chronic transfusion therapy
- Severe or very severe aplastic anemia, including congenital (e.g., Fanconi's anemia or Diamond-Blackfan syndrome) or acquired (e.g., secondary to drug or toxin exposure) forms. Appropriate patients include those with platelets less than $20 \times 10^9/L$, granulocytes less than $0.5 \times 10^9/L$, and reticulocytes less than 1% (corrected for hematocrit) and who have failed antithymocyte globulin therapy.
- Homozygous beta-thalassemia (i.e., thalassemia major)
- Wiskott-Aldrich syndrome
- Severe combined immunodeficiencies
- Chediak-Higashi syndrome
- Infantile malignant osteopetrosis (Albers-Schönberg disease or marble bone disease)
- Mucopolysaccharidoses (e.g., Hunter's, Hurler's Sanfilippo, Maroteaux-Lamy variants) in patients who are neurologically intact);
- Mucopolipidoses (e.g., Gaucher's disease, metachromatic leukodystrophy, globoid cell leukodystrophy, adrenoleukodystrophy) for patients who have failed conventional therapy (e.g., diet, enzyme replacement) and who are neurologically intact.
- Kostmann's syndrome (severe congenital neutropenia)
- Leukocyte adhesion deficiencies
- X-linked lymphoproliferative syndrome

Stem Cell Transplant for Autoimmune Diseases, Including Multiple Sclerosis

Stem-cell transplantation (autologous or allogeneic) for the treatment of an autoimmune disease, including, but not limited to any of the following indications, is considered experimental, investigational or unproven and not a covered benefit:

- autoimmune hemolytic anemia
- autoimmune hepatitis
- celiac disease
- Crohn's disease
- cryptogenic cirrhosis
- dermatomyositis
- immune vasculitis
- juvenile idiopathic arthritis
- multiple sclerosis
- neuromyelitis optica
- polymyositis
- rheumatoid arthritis
- systemic lupus erythematosus

- systemic sclerosis, also known as scleroderma
- thrombotic thrombocytopenia purpura
- type I diabetes mellitus
- ulcerative colitis

Stem Cell Transplant for Solid Tumors in Adults

Autologous or allogeneic hematopoietic stem cell transplant (ablative and non-myeloablative) for the treatment of any of the following solid tumors in adults is considered experimental and investigational because its effectiveness for these indications has not been established:

- bile duct
- breast
- central nervous system tumors (e.g., astrocytoma, choroid plexus tumors, ependymoma, gliomas, oligodendroglioma)
- cervix
- colon
- epithelial ovarian
- esophagus
- gallbladder
- kidney
- lung
- melanoma
- nasopharynx
- pancreas
- paranasal sinus
- prostate
- rectum
- renal cell carcinoma
- soft tissue sarcomas
- stomach
- thymus
- thyroid
- uterus

Stem Cell Transplant for Childhood Solid Tumors

High-dose chemotherapy followed by autologous hematopoietic stem-cell transplantation is a covered benefit for the following:

- relapsed Wilms' tumor
- metastatic non-central nervous system (non-CNS) retinoblastoma
- relapsed or progressive Ewing family of tumors

Stem Cell Transplant for Neuroblastoma

Autologous stem-cell transplantation (SCT) is a covered benefit for the treatment of high-risk neuroblastoma. A maximum of three tandem autologous HSCTs are covered for high-risk neuroblastoma.

Allogeneic SCT from an appropriately-matched human leukocyte antigen (HLA) donor following high-dose chemotherapy is covered for the treatment of high-risk neuroblastoma when the individual is not a candidate for autologous HSCT.

High Risk Neuroblastoma Definition:

Children’s Oncology group neuroblastoma risk strata

Risk	Stage	Age	MYCN status	DNA ploidy	INPC	Other
High Δ	2a/2b	Any	Amp	Any	Any	Any degree of resection
	3	Any	Amp	Any	Any	
	3	≥ 547 days	Not Amp	Any	UH	
	4	< 365 days	Amp	Any	Any	
	4	365 - < 547 days	Amp	Any	Any	
	4	365 - < 547 days	Any	DI = 1	Any	
	4	365 - < 547 days	Any	Any	UH	
	4	≥ 547 days	Any	Any	Any	
	4s	< 365 days	Amp	Any	Any	Asymptomatic or symptomatic

INPC: International Neuroblastoma Pathology Classification; UH: unfavorable histology; Amp: amplified; DI: DNA Index

Δ High risk group as defined in the Children’s Oncology Group trial AnBL0532

Risk strata from:

http://www.uptodate.com/contents/image?imageKey=ONC/68159&topicKey=ONC/5203&source=outline_link&search=neuroblastoma_risk_strata_children&utdPopup=true

High risk

- Any child who is Stage 2A or 2B, whose cancer has extra copies of the *MYCN* gene
- Any child who is Stage 3, whose cancer has extra copies of the *MYCN* gene
- Any child who is Stage 3, older than 18 months of age, whose cancer has unfavorable histology
- Any child who is Stage 4, whose cancer has extra copies of the *MYCN* gene regardless of age
- Any child who is Stage 4 and older than 18 months
- Any child who is Stage 4 and between 12 and 18 months old whose cancer has extra copies of the *MYCN* gene, unfavorable histology, and/or normal DNA ploidy (a DNA index of 1)
- Any child who is Stage 4S (younger than age 1), whose cancer has extra copies of the *MYCN* gene

Definitions from: <https://childrensoncologygroup.org/index.php/anbl0532> (Retrieved 7/15/15)

Stem Cell Transplant for Primitive Neuroectodermal Tumors (PNET) and Ependymoma

Autologous stem cell transplantation is a covered benefit for the treatment of primitive neuroectodermal tumors (PNET) including medulloblastoma and pineoblastoma.

Allogeneic stem cell transplantation is considered experimental and investigational for the treatment of PNET including medulloblastoma and pineoblastoma because of insufficient evidence of its safety and effectiveness.

Autologous stem cell transplantation is a covered benefit for the treatment of ependymoma if patient is ineligible for radiotherapy.

Allogeneic stem cell transplantation is considered experimental and investigational for the treatment of ependymoma because of insufficient evidence of its safety and effectiveness.

Stem Cell Transplant for Treatment of Ovarian or Testicular Germ Cell Tumors

Single or tandem autologous hematopoietic stem-cell transplantation (SCT) is a covered benefit for relapsed or refractory testicular and ovarian germ cell tumors.

The following procedures are experimental, investigational or unproven and not covered for germ cell cancers:

- autologous SCT as front-line therapy
- allogeneic SCT

Note: SCT is not covered for epithelial ovarian cancer (see section on solid tumors in adults)

Stem Cell Transplant for Hodgkin's Disease

High dose chemotherapy with either autologous or allogeneic stem cell support may be covered in patients with refractory, primary progressive or recurrent Hodgkin's disease.

Nonmyeloablative allogeneic SCT is covered for relapsed or refractory Hodgkin disease following a prior SCT. Nonmyeloablative allogeneic HSCT for any other indication is considered experimental and investigational.

Tandem stem cell transplant (sequential) for Hodgkin's disease is considered investigational.

Note: Relapse is the re-appearance of disease in regions of prior disease (recurrence) and/or in new regions (extension) after initial therapy and attainment of complete response

Stem Cell Transplant for Non-Hodgkin's Lymphomas

Autologous or allogeneic stem cell is a covered benefit for relapsed or primary refractory non-Hodgkin's lymphoma (NHL)

High dose chemotherapy with autologous or allogeneic stem cell support is considered investigational as initial therapy of all non-Hodgkin's lymphomas.

Non-myeloablative allogeneic hematopoietic cell transplantation ("mini-transplant", reduced intensity conditioning transplant) may be covered for relapsed or primary refractory NHL when a reduced intensity regimen is preferred by the transplant center.

Tandem autologous hematopoietic cell transplantation (auto-auto) or tandem autologous stem cell transplantation followed by allogeneic stem cell transplantation (auto-allo) is considered experimental and investigational for NHL.

Stem Cell Transplantation for Myelofibrosis

Allogeneic (ablative and non-myeloablative) stem cell transplantation is a covered benefit myelofibrosis (MF) when any of the following criteria is met:

- The individual is transfusion (RBC or Platelet) dependent; *or*
- The individual is resistant to conservative therapy; *or*
- The individual has intermediate or high risk MF

Repeat allogeneic (ablative or non-myeloablative) hematopoietic cell transplantation medically necessary for individuals with myelofibrosis and primary graft failure or who have relapsed.

Autologous stem cell transplantation is considered experimental and investigational for myelofibrosis.

Stem Cell Transplant for Myelodysplastic Syndrome

Allogeneic (ablative and non-myeloablative) stem cell transplantation is a covered benefit for intermediate-risk or high-risk myelodysplastic syndrome (MDS), when individual has not responded to prior therapy and has an available human leukocyte antigen (HLA)-matched donor.

A repeat allogeneic (ablative or non-myeloablative) stem cell transplant is a covered benefit for individuals with intermediate-risk or high-risk MDS due to primary graft failure or failure to engraft.

A repeat allogeneic (ablative or non-myeloablative) SCT is considered experimental for individuals with MDS who have relapsed.

Autologous stem cell transplantation is considered experimental and investigational for MDS because the effectiveness has not been established.

Stem Cell Transplant for the Treatment of Chronic Myelogenous Leukemia (CML)

High dose chemotherapy with allogeneic stem cell support is a covered benefit for the treatment of chronic myelogenous leukemia.

High dose chemotherapy with autologous stem cell support is considered investigational as a treatment of chronic myelogenous leukemia.

Stem Cell Transplant for Acute Myelogenous Leukemia (AML)

Autologous or allogeneic stem cell transplant is a covered benefit for the treatment of AML in first complete remission, for primary refractory AML (i.e., leukemia that does not achieve a complete remission after conventional dose chemotherapy), or relapsed AML. Both ablative and

non-myeloablative transplants are covered for these indications.

A repeat autologous or allogeneic hematopoietic cell transplantation (ablative or mini-allograft) is a covered benefit when the first autologous or allogeneic hematopoietic cell transplantation was unsuccessful due to primary graft failure or failure to engraft or for persons who have relapsed after a prior stem cell transplantation.

A repeat autologous or allogeneic stem cell transplantation (ablative or mini-allograft) for persistent or progressive disease is considered experimental and investigational.

Tandem stem cell transplant for AML is considered investigational and not a covered benefit

Stem Cell Transplant as a Treatment of Acute Lymphocytic Leukemia (ALL)

Allogeneic stem cell transplantation is a covered benefit for the treatment of ALL, including primary refractory ALL (i.e., leukemia that does not achieve a complete remission after conventional dose chemotherapy), except for refractory relapse, defined as persons in relapse who are unresponsive to 3 or more months of adequate chemotherapy.

A non-myeloablative allogeneic hematopoietic cell transplantation, also known as mini-allograft or reduced intensity conditioning transplant, is a covered benefit for the treatment of ALL for members with no persistent disease who meet all of the selection criteria above. Note: Persons with persistent disease should not be candidates for a mini-allograft transplant.

A second myeloablative allogeneic HSCT from an appropriately-matched HLA donor is a covered benefit for the treatment of ALL when relapsed disease occurs more than six months after first allogeneic SCT.

Autologous stem cell transplantation is a covered benefit for ALL where no suitable donor is available.

Tandem stem cell transplant for ALL is considered experimental and not a covered benefit.

Stem Cell Transplant for Chronic Lymphocytic Leukemia (CLL) and Small Lymphocytic Lymphoma (SLL)

Allogeneic stem-cell transplantation is a covered benefit for the treatment of chronic lymphocytic leukemia (CLL) that is not responsive to standard therapy.

Autologous SCT is a covered benefit for the treatment of CLL in an individual in complete or good partial remission.

Stem Cell Transplant for Multiple Myeloma, Amyloidosis or Polyneuropathy, Organomegaly, Endocrinopathy, Monoclonal gammopathy, and skin changes (POEMS syndrome)

1. Multiple Myeloma

Autologous stem-cell transplantation is covered for the treatment of active (i.e., symptomatic) multiple myeloma (MM) for EITHER of the following indications:

- after response to primary therapy
- refractory to primary therapy in an individual with relapse or progressive disease

A second course of autologous hematopoietic cell transplantation may be considered medically necessary for the treatment of responsive MM that has relapsed after a durable complete or partial remission following an autologous transplantation.

A third autologous SCT for the treatment of active (i.e., symptomatic) MM is a covered benefit in an individual with progressive disease following a previous autologous HSCT.

Tandem (eg. Sequential or double) autologous transplants or autologous transplant followed by allogeneic transplant from an haploidentical to fully matched related donor or well-matched unrelated donor (i.e., meeting National Donor Marrow Program (NDMP) criteria for selection of unrelated donors) medically necessary if planned 1st and 2nd transplantation are within a 6-month period.

Allogeneic SCT is a covered benefit from an appropriately-matched human leukocyte antigen (HLA) donor for the treatment of active (i.e., symptomatic) MM in an individual with progressive disease following autologous HSCT.

2. Amyloidosis

Autologous stem cell support is a covered benefit for primary systemic amyloidosis (e.g. Amyloid light chain, AL).

The following are considered experimental and investigational and are not covered for amyloidosis:

- second autologous SCT for the treatment of recurrent or refractory amyloidosis
- tandem autologous SCT
- allogeneic SCT

3. Polyneuropathy, Organomegaly, Endocrinopathy, Monoclonal Gammopathy and skin changes (POEMS Syndrome)

Autologous SCT is a covered benefit.

Nonmyeloablative Allogeneic Stem Cell Transplantation for Treatment of Malignancy

Nonmyeloablative allogeneic stem cell transplantation ("mini-transplant," reduced intensity conditioning transplant) may be considered medically necessary in patients who would otherwise meet patient selection criteria for high dose chemotherapy and allogeneic stem cell transplantation for the following conditions.

- Non-Hodgkin lymphoma
- Hodgkin's disease
- myelodysplastic diseases / myelodysplastic syndrome
- acute myelogenous leukemia

- chronic myelogenous leukemia
- acute lymphocytic/lymphoblastic leukemia
- chronic lymphocytic leukemia
- multiple myeloma
- aplastic anemia
- myelofibrosis
- neuroblastoma
- sickle cell anemia
- thalassemia major

Other applications of nonmyeloablative allogeneic stem cell transplantation are considered investigational, including its use in patients who do not meet criteria for high dose chemotherapy and allogeneic stem cell transplantation due to either age or co-morbidities, or as a treatment of other malignancies, including melanoma, or other solid tumors (e.g. renal cell carcinoma, breast cancer, ovarian cancer, testicular cancer).

Tandem Stem Cell Transplants

Tandem stem cell transplants may be a covered benefit for specific conditions if noted as covered in the applicable section of this policy. Use of tandem transplants for some conditions is considered experimental and investigational.

Umbilical Cord Blood Stem Cell Transplant (UCBSCT)

Priority Health covers UCBSCT in patients who meet all eligibility requirements for an allogeneic stem cell transplant. Priority Health does not cover UCBSCT for patients not meeting patient selection criteria for allogeneic stem cell transplant. This coverage decision is based on lack of evidence regarding safety and efficacy of stem cell transplant in patients whose primary disease or overall physical condition do not warrant this procedure.

Stem Cell Implant for Spinal Cord Injury

Stem cell implants for spinal cord injury are considered experimental and not a covered benefit.

Other Non-covered Indications

The following are considered experimental and unproven and are excluded from coverage:

- autologous stem cell transplantation for Crohn's Disease
- stem cell therapy for erectile dysfunction
- autologous bone marrow cells, including transendocardial delivery, for coronary artery disease, left ventricular dysfunction, heart failure or angina
- age-related macular degeneration
- amyotrophic lateral sclerosis
- multiple sclerosis
- diabetes mellitus (type I)
- essential thrombocythemia
- polycythemia vera
- recessive dystrophic epidermolysis bullosa
- retinitis pigmentosa

- thrombotic thrombocytopenic purpura

Definitions

Tandem Transplantation is defined as two or more planned courses of high dose chemotherapy and stem cell support, either autologous or allogeneic. Tandem transplants are typically administered at intervals of two to six months, contingent on recovery from prior toxicity. Multiple cycles of high-dose chemotherapy with stem cell transplantation differs from tandem transplant in that more time is allowed between transplantation to permit hematopoietic recovery.

Responsive is defined as a tumor showing either a complete or partial remission.

Partial remission is defined as at least a 50% reduction in tumor burden.

Relapse is defined as a tumor recurrence after a prior complete remission

Refractory disease is a failure to attain a complete or partial response. The refractoriness can be primary (failure to respond to initial therapy) or secondary (initial response but failure to respond after disease relapse).

Myeloablative Chemotherapy is high-dose chemotherapy that kills cells in the bone marrow, including cancer cells. It lowers the number of normal blood-forming cells in the bone marrow, and can cause severe side effects. Myeloablative chemotherapy is usually followed by a bone marrow or stem cell transplant to rebuild the bone marrow.

Non-myeloablative transplants or “mini-transplants” or mini-allograft or reduced intensity conditioning transplant: lower and less toxic doses of chemotherapy and radiation are given, followed by the infusion of donor stem cells.

Sources of Stem Cells

Autologous: Stem cells may be harvested from the patient's bone marrow or more commonly, peripheral blood. Peripheral stem cells are harvested via one or more pheresis procedures. A prior course of chemotherapy (typically cyclophosphamide) or growth factors or both can increase the number of circulating stem cells.

Syngeneic: Syngeneic stem cells refer to genetically identical bone marrow or peripheral stem cells harvested from an identical twin.

Allogeneic: Allogeneic stem cell support (i.e. using stem cells from a donor) provides two theoretical advantages; the lack of tumor contamination of autologous stem cells and the possibility of a beneficial graft vs. tumor effect. Allogeneic stem cells can be harvested from either the bone marrow or peripheral blood. See policy on Non-Myeloablative Allogeneic Stem Cell Transplant.

Umbilical Cord Blood: Blood harvested from the umbilical cord and placenta shortly after

delivery of neonates contains stem and progenitor cells. Although cord blood is an allogeneic source, these stem cells are antigenically "naïve" and thus are associated with a lower incidence of rejection or graft vs. host disease.

CODING INFORMATION

ICD-10 Codes that may apply C81.00 – C81.99 Hodgkin lymphoma

- C82.00 – C82.99 Follicular lymphoma
- C83.00 – C83.99 Small cell B-cell lymphoma
- C84.60 – C84.99 Anaplastic large cell lymphoma, ALK-positive
- C84.A0 – C84.A9 Cutaneous T-cell lymphoma, unspecified
- C84.Z0 – C84.Z9 Other mature T/NK-cell lymphomas,
- C85.10 – C85.99 Other specified and unspecified types of non-Hodgkin lymphoma
- C86.0 – C86.6 Other specified types of T/NK-cell lymphoma
- C88.4 Extranodal marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue [MALT-lymphoma]
- C88.8 Other malignant immunoproliferative diseases
- C88.9 Malignant immunoproliferative disease, unspecified
- C90.00 – C90.32 Multiple myeloma and malignant plasma cell neoplasms
- C91.00 – C91.Z2 Lymphoid leukemia
- C92.00 – C92.Z2 Myeloid leukemia
- C93.00 – C93.Z2 Monocytic leukemia
- C94.00 – C94.82 Other leukemias of specified cell type
- C95.00 – C95.92 Leukemia of unspecified cell type
- C96.9 Malignant neoplasm of lymphoid, hematopoietic and related tissue, unspecified
- C96.Z Other specified malignant neoplasms of lymphoid, hematopoietic and related tissue
- D89.9 Disorder involving the immune mechanism, unspecified
- Z48.290 Encounter for aftercare following bone marrow transplant
- Z94.81 Bone marrow transplant status
- Z94.89 Stem cells transplant status

NOT COVERED INDICATIONS

ICD-10 Codes that may apply

- C50.011- C50.929 Malignant neoplasm, breast
- C56.1 – C56.9 Malignant neoplasm of ovary
- C71.0 – C71.9 Malignant neoplasm of brain
- D59.0 Drug-induced autoimmune hemolytic anemia - Use additional code for adverse effect, if applicable, to identify drug
- D59.1 Other autoimmune hemolytic anemias
- D65 Disseminated intravascular coagulation [defibrination syndrome]
- G35 Multiple sclerosis
- G36.0 Neuromyelitis optica [Devic]
- I20.0 – I20.9 Angina pectoris
- I24.0 – I24.9 Other acute ischemic heart diseases

I25.10 – I25.9	Chronic ischemic heart disease
K50.00 – K50.919	Crohn's disease [regional enteritis]
K74.0	Hepatic fibrosis
K74.60	Unspecified cirrhosis of liver
K74.69	Other cirrhosis of liver
K90.0	Celiac disease
L53.8	Other specified erythematous conditions
L90.0	Lichen sclerosus et atrophicus
L94.0	Localized scleroderma [morphea]
L94.1	Linear scleroderma
L94.3	Sclerodactyly
M05.00 – M06.9	Rheumatoid arthritis with rheumatoid factor
M32.0 – M32.9	Systemic lupus erythematosus (SLE)
M33.00 – M33.99	Dermatopolymyositis
M34.0 – M34.9	Systemic sclerosis [scleroderma]
S14.0xxA- S14.9xxS	Injury of nerves and spinal cord at neck level
S24.0xxA – S24.9xxS	Injury of nerves and spinal cord at thorax level
S34.01xA – S34.9xxS	Injury of lumbar and sacral spinal cord and nerves at abdomen, lower back and pelvis level

CPT/HCPCS Codes

38204	Management of recipient hematopoietic progenitor cell donor search and cell acquisition <i>(Not payable for Medicaid)</i>
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 depletion within harvest, T-cell depletion
38211	Transplant preparation of hematopoietic progenitor cells; tumor cell 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
38232	Bone marrow harvesting for transplantation; autologous
38240	Hematopoietic progenitor cell (HPC); allogeneic transplantation per donor
38241	Hematopoietic progenitor cell (HPC); autologous transplantation
38242	Allogeneic lymphocyte infusions
38243	Hematopoietic progenitor cell (HPC); HPC boost <i>(no prior authorization required)</i>

81267	Chimerism (engraftment) analysis, post transplantation specimen (eg, hematopoietic stem cell), includes comparison to previously performed baseline analyses; without cell selection
81268	Chimerism (engraftment) analysis, post transplantation specimen (eg, hematopoietic stem cell), includes comparison to previously performed baseline analyses; with cell selection (eg, CD3, CD33), each cell type
86367	Stem cells (i.e., CD34), total count
88240	Cryopreservation, freezing and storage of cells, each cell line
88241	Thawing and expansion of frozen cells, each aliquot
86812 – 86821	Tissue typing
86822	HLA typing; lymphocyte culture, primed (PLC) (<i>Not covered for Medicaid</i>)
86920 – 86923	Compatibility testing
96401 – 96549	Chemotherapy (<i>no prior authorization required</i>)
S2140	Cord blood harvesting for transplantation, allogeneic (<i>Not payable for Medicaid or Medicare</i>)
S2142	Cord blood-derived stem-cell transplantation, allogeneic (<i>Not payable for Medicaid or Medicare</i>)
<u>Not Covered</u>	
0263T	Intramuscular autologous bone marrow cell therapy, with preparation of harvested cells, multiple injections, 1 leg, including ultrasound guidance, if performed; complete procedure including unilateral or bilateral bone marrow harvest
0264T	Intramuscular autologous bone marrow cell therapy, with preparation of harvested cells, multiple injections, 1 leg, including ultrasound guidance, if performed; complete procedure excluding bone marrow harvest
0265T	Intramuscular autologous bone marrow cell therapy, with preparation of harvested cells, multiple injections, 1 leg, including ultrasound guidance, if performed; unilateral or bilateral bone marrow harvest only for intramuscular autologous bone marrow cell
S2150	Bone marrow or blood-derived stem cells (peripheral or umbilical), 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

REFERENCES

Hayes, Inc. Autologous Stem Cell Transplant Followed by Nonmyeloablative Allogeneic Stem Cell Transplant for the Treatment of Multiple Myeloma, November 2008

Hayes, Inc. High-Dose Chemotherapy with Peripheral Stem Cell/Autologous Transplantation, Treatment for Multiple Myeloma, September 11, 2006

The Regence Group. Tandem Hematopoietic Stem Cell Transplant, March 2010 @ <http://blue.regence.com/trgmedpol/transplant/tra44.html> (Retrieved May 19, 2010)
Hematopoietic Cell Transplantation Index.
<http://blue.regence.com/trgmedpol/transplant/tra45.pdf> (Retrieved July 3, 2017)

Hayes, Inc. High-Dose Chemotherapy and Radiation Therapy Followed by Allogeneic Transplantation for Multiple Myeloma March 6, 2000 & updated searches

Hayes, Inc. Nonmyeloablative Transplantation for Hematological Malignancies February 28, 2006 & March 2009

Hayes, Inc. Hayes, Inc. Allogeneic Stem Cell Transplantation for Chronic Lymphocytic Leukemia (CLL). Health Technology Brief, March 3, 2009

Aetna Clinical Policy Bulletin: High Dose Chemotherapy with Bone Marrow or Peripheral Stem Cell Transplant for Multiple Myeloma, September 2008 @ http://www.aetna.com/cpb/medical/data/400_499/0497.html (Retrieved May 7, 2013 & July 5, 2015)

Hematopoietic Cell Transplantation for Multiple Myeloma (Retrieved July 3, 2017)

Aetna Clinical Policy Bulletin: High Dose Chemotherapy and Allogeneic Bone Marrow or Peripheral Stem Cell Transplant for Thalassemia Major and Sickle Cell Anemia, November 2008 @ http://www.aetna.com/cpb/medical/data/600_699/0626.html (Retrieved July 5, 2015)

Hematopoietic Cell Transplantation for Thalassemia Major and Sickle Cell Anemia (Retrieved July 3, 2017)

Aetna Clinical Policy Bulletin: High Dose Chemotherapy and Bone Marrow or Peripheral Stem Cell Transplantation for Chronic Myelogenous Leukemia, November 2008 @ http://www.aetna.com/cpb/medical/data/600_699/0674.html (Retrieved May 7, 2013, & July 5, 2015)

Hematopoietic Cell Transplantation for Chronic Myelogenous Leukemia (Retrieved July 3, 2017)

Aetna Clinical Policy Bulletin: High Dose Chemotherapy Bone Marrow or Peripheral Stem Cell Transplant for Hodgkin's Disease, September 2008 @ http://www.aetna.com/cpb/medical/data/400_499/0495.html (Retrieved May 7, 2013, July 21, 2014 & July 5, 2015)

Hematopoietic Cell Transplantation for Hodgkin's Disease (Retrieved July 3, 2017).

Aetna, Clinical Policy Bulletin: Non-myeloablative Bone Marrow/Peripheral Stem Cell Transplantation (Mini-Allograft / Reduced Intensity Conditioning Transplant), November 2008 @ http://www.aetna.com/cpb/medical/data/600_699/0634.html (Retrieved May 7, 2013, July 21, 2014 & July 5, 2015)

Non-myeloablative Hematopoietic Cell Transplantation (Mini-Allograft / Reduced Intensity Conditioning Transplant) (Retrieved July 3, 2017)

Hayes, Inc. Stem Cell Implantation for Spinal Cord Injury, Health Technology Brief, January 5, 2010.

Hayes, Inc. Autologous Stem Cell Transplantation for Crohn's Disease, April 2012

Hayes, Inc. Stem Cell Therapy for the Treatment of Erectile Dysfunction, March 2012.

Perin, E. C., Willerson, J. T., et. al. Effect of transendocardial delivery of autologous bone marrow mononuclear cells on functional capacity, left ventricular function, and perfusion in chronic heart failure, The FOCUS-CCTRN Trial. JAMA, April 25, 2012. Vol. 307, No. 16.

Hayes, Inc. Tandem Autologous Peripheral Blood Stem Cell Transplantation for Neuroblastoma, July 2011 and annual updates

National Cancer Institute Children's Oncology Group (COG) Neuroblastoma High-Risk Group Assignment Schema

@ <http://www.cancer.gov/cancertopics/pdq/treatment/neuroblastoma/HealthProfessional/page7> (Retrieved July 18, 2014, July 7, 2015 & July 3, 2017)

Aetna Clinical Policy Bulletin:

Hematopoietic Cell Transplantation for Myelofibrosis @

http://www.aetna.com/cpb/medical/data/800_899/0838.html (Retrieved July 21, 2014, July 5, 2015, July 3, 2017 & June 6, 2018)

Aetna Clinical Policy Bulletin:

Hematopoietic Cell Transplantation for Myelodysplastic Syndrome @

http://www.aetna.com/cpb/medical/data/800_899/0836.html (Retrieved July 21, 2014, July 5, 2015, July 3, 2017 & June 6, 2018)

Stem-Cell Transplantation for Solid Tumors in Children, Cigna Medical coverage Policy @

https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0385_coveragepositioncriteria_stem_cell_pediatric_solid organ_tumors.pdf (Retrieved July 18, 2014, July 7, 2015, July 18, 2016, July 3, 2017 & June 6, 2018)

Aetna Clinical Policy Bulletin:

Hematopoietic Cell Transplantation for Solid Tumors in Adults @

http://www.aetna.com/cpb/medical/data/800_899/0811.html (Retrieved July 18, 2014, July 5, 2015, July 18, 2016, July 3, 2017 & June 6, 2018)

Stem-Cell Transplantation for Neuroblastoma Cigna Medical coverage policy @

https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0189_coveragepositioncriteria_stem_cell_transplant_for_neuroblastoma.pdf (Retrieved July 18, 2014, July 7, 2015 & July 3, 2017)

Stem-Cell Transplantation for Multiple Myeloma, POEMS Syndrome and Amyloidosis Cigna Medical coverage policy @

https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0294_coveragepositioncriteria_stem_cell_transpl_mult_myeloma_poems.pdf (Retrieved July 21, 2014, July 7, 2015 & July 3, 2017)

Aetna Clinical Policy Bulletin: Hematopoietic Cell Transplantation for Autoimmune Diseases and Miscellaneous Indications
@ http://www.aetna.com/cpb/medical/data/600_699/0606.html (Retrieved July 17, 2014, July 5, 2015, July 18, 2016 , July 3, 2017 & June 6, 2018)

Aetna Clinical Policy Bulletin: Hematopoietic Cell Transplantation for Primary Immunodeficiency Disorders @http://www.aetna.com/cpb/medical/data/800_899/0830.html (Retrieved July 22, 2014, July 5, 2015 & July 3, 2017)

Aetna Clinical Policy Bulletin: Hematopoietic Cell Transplantation for Aplastic Anemia and other Bone Marrow Failure Syndromes @
http://www.aetna.com/cpb/medical/data/600_699/0627.html (Retrieved July 22, 2014, July 5, 2015 & July 3, 2017)

Stem-Cell Transplantation for Aplastic Anemia and Fanconi Anemia Cigna Medical Coverage Policy @
https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0293_coveragepositioncriteria_stem_cell_transplant_aplastic_anemia.pdf (Retrieved July 22, 2014 & July 3, 2017)

Stem-Cell Transplantation for Autoimmune Diseases Cigna Medical Coverage Policy @
https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0357_coveragepositioncriteria_stem_cell_transplant_autoimmune_diseases.pdf (Retrieved July 22, 2014, July 7, 2015 & July 3, 2017)

Stem-Cell Transplantation for Inherited Metabolic Disorders Cigna Medical Coverage Policy @
https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0386_coveragepositioncriteria_stem_cell_for_inherited_metabolic.pdf (Retrieved July 22, 2014, July 7, 2015 & July 3, 2017)

Stem-Cell Transplantation for Sickle Cell Disease and Thalassemia Major Cigna Medical Coverage Policy @
https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0464_coveragepositioncriteria_stem_cell_transplant_sickle_cell_disease.pdf (Retrieved July 22, 2014 & July 3, 2017)

Stem-Cell Transplantation for Primary Immunodeficiency Disorders Cigna Medical Coverage Policy @
https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0378_coveragepositioncriteria_stem_cell_transplant_inherited_immunodefic.pdf (Retrieved July 22, 2014, July 7, 2015 & July 3, 2017)

Aetna Clinical Policy Bulletin:
Hematopoietic Cell Transplantation for Thalassemia Major and Sickle Cell Anemia@

http://www.aetna.com/cpb/medical/data/600_699/0626.html (Retrieved July 22, 2014, July 5, 2015 & July 3, 2017)

Aetna Clinical Policy Bulletin:

Hematopoietic Cell Transplantation for Chronic Myelogenous Leukemia @

http://www.aetna.com/cpb/medical/data/600_699/0674.html (Retrieved July 24, 2014, July 5, 2015 & July 3, 2017)

Aetna Clinical Policy Bulletin:

Hematopoietic Cell Transplantation for Selected Leukemias @

http://www.aetna.com/cpb/medical/data/600_699/0640.html (Retrieved July 24, 2014, July 5, 2015 & July 3, 2017)

Stem-Cell Transplantation for Acute Myelogenous Leukemia Cigna Medical coverage Policy @

https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0164_coveragepositioncriteria_stem_cell_transplant_acute_myelogenous_leukemia.pdf (Retrieved July 24, 2014 & July 3, 2017)

Stem-Cell Transplantation for Acute Myelogenous Leukemia Cigna Medical coverage Policy @

https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0164_coveragepositioncriteria_stem_cell_transplant_acute_myelogenous_leukemia.pdf (Retrieved July 24, 2014 & July 3, 2017)

Stem-Cell Transplantation for Acute Myelogenous Leukemia Cigna Medical coverage Policy @

https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0164_coveragepositioncriteria_stem_cell_transplant_acute_myelogenous_leukemia.pdf (Retrieved July 24, 2014 & July 3, 2017)

Stem-Cell Transplantation for Chronic Myelomonocytic Leukemia (CMML) and Juvenile Myelomonocytic Leukemia (JMML) Cigna Medical Coverage Policy @

https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0243_coveragepositioncriteria_stem_cell_transplant_for_cmml.pdf (Retrieved July 24, 2014 & July 3, 2017)

Stem-Cell Transplantation for Acute Lymphocytic/Lymphoblastic Leukemia Cigna Medical coverage Policy @

https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0163_coveragepositioncriteria_stem_cell_transplant_acute_lympho_leukemia_adult.pdf (Retrieved July 24, 2014 & July 3, 2017)

Stem-Cell Transplantation for Chronic Myelogenous Leukemia and Chronic Lymphocytic Leukemia Cigna Medical Coverage Policy @

https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0242_coveragepositioncriteria_stem_cell_transpl_chronic_myelogen_leuk.pdf (Retrieved July 24, 2014 & July 3, 2017)

Hematopoietic stem cell transplant in selected childhood solid tumors Aetna Medical coverage policy @ http://www.aetna.com/cpb/medical/data/400_499/0496.html (retrieved July 5, 2015 , July 18, 2016 & June 6, 2018)

Hematopoietic Cell Transplantation for Selected Childhood solid Tumors (retrieved July 3, 2017)

Children's Oncology Group neuroblastoma risk strata @ http://www.uptodate.com/contents/image?imageKey=ONC/68159&topicKey=ONC/5203&source=outline_link&search=neuroblastoma+risk+strata+children&utmPopup=true

Stem-Cell Transplantation for Central Nervous System Tumors Cigna Medical coverage policy @ https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0369_coveragepositioncriteria_stem_cell_transplant_for_CNS_tumors.pdf (Retrieved July 7, 2015 & July 3, 2017)

Stem-Cell Transplantation for Adult Solid Tumors Cigna Medical Coverage Policy @ https://cignaforhcp.cigna.com/public/content/pdf/coveragePolicies/medical/mm_0479_coveragepositioncriteria_stem_cell_transplant_adult_solid_tumors.pdf (Retrieved July 7, 2015 , July 3, 2017 & June 6, 2018)

AMA CPT Copyright Statement:

All Current Procedure Terminology (CPT) codes, descriptions, and other data are copyrighted by the American Medical Association.

This document is for informational purposes only. It is not an authorization, certification, explanation of benefits, or contract. Receipt of benefits is subject to satisfaction of all terms and conditions of coverage. Eligibility and benefit coverage are determined in accordance with the terms of the member's plan in effect as of the date services are rendered. Priority Health's medical policies are developed with the assistance of medical professionals and are based upon a review of published and unpublished information including, but not limited to, current medical literature, guidelines published by public health and health research agencies, and community medical practices in the treatment and diagnosis of disease. Because medical practice, information, and technology are constantly changing, Priority Health reserves the right to review and update its medical policies at its discretion.

Priority Health's medical policies are intended to serve as a resource to the plan. They are not intended to limit the plan's ability to interpret plan language as deemed appropriate. Physicians and other providers are solely responsible for all aspects of medical care and treatment, including the type, quality, and levels of care and treatment they choose to provide.

The name "Priority Health" and the term "plan" mean Priority Health, Priority Health Managed Benefits, Inc., Priority Health Insurance Company and Priority Health Government Programs, Inc.