Molina Clinical Policy
Hematopoietic Stem Cell Transplantation for Hodgkin and Non-Hodgkin Lymphoma: Policy No. 125

Last Approval: 2/9/2022
Next Review Due By: February 2023

DISCLAIMER

This Molina Clinical Policy (MCP) is intended to facilitate the Utilization Management process. Policies are not a supplementation or recommendation for treatment; Providers are solely responsible for the diagnosis, treatment and clinical recommendations for the Member. It expresses Molina's determination as to whether certain services or supplies are medically necessary, experimental, investigational, or cosmetic for purposes of determining appropriateness of payment. The conclusion that a particular service or supply is medically necessary does not constitute a representation or warranty that this service or supply is covered (e.g., will be paid for by Molina) for a particular Member. The Member's benefit plan determines coverage – each benefit plan defines which services are covered, which are excluded, and which are subject to dollar caps or other limits. Members and their Providers will need to consult the Member's benefit plan to determine if there are any exclusion(s) or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and a Member's plan of benefits, the benefits plan will govern. In addition, coverage may be mandated by applicable legal requirements of a State, the Federal government or CMS for Medicare and Medicaid Members. CMS's Coverage Database can be found on the CMS website. The coverage directive(s) and criteria from an existing National Coverage Determination (NCD) or Local Coverage Determination (LCD) will supersede the contents of this MCP and provide the directive for all Medicare members. References included were accurate at the time of policy approval and publication.

OVERVIEW

Lymphomas are neoplasms of the lymphatic system, a network of blood-filtering tissues that help fight infection and disease found in the lymph nodes, spleen, thymus gland, adenoids, tonsils, and bone marrow. Lymphomas affect lymphocytes which are specialized white blood cells responsible for immunity. Two major types of lymphoma are Hodgkin lymphoma and Non-Hodgkin lymphoma. ([1-4] NCI, 2021). Hodgkin lymphoma spreads in an orderly manner, typically from one group of lymph nodes to another whereas Non-Hodgkin lymphoma spreads quickly and without order. Both types are found among all age groups. Symptoms of both types of this lymphoma include swollen lymph nodes (particularly where the lymphoma originates), fever, night sweats, fatigue, and weight loss (CDC, 2018).

Hodgkin Lymphoma (HL)

Hodgkin lymphoma is marked by the presence of Reed-Sternberg cells which are large, abnormal lymphocytes (a type of white blood cell) that can contain more than one nucleus. The two types of Hodgkin lymphoma are classical and nodular lymphocyte-predominant NLPHL). Most cases are the classical type which includes four subtypes: nodular sclerosing; mixed cellularity; lymphocyte-depleted; lymphocyte-rich classic. Among non-classical types, NLPHL is rare and typically grows slower than classic Hodgkin lymphoma. This type presents as a swollen lymph node in the neck, chest, armpit, or groin; many have no additional signs or symptoms of cancer at diagnosis. Treatment typically differs from classic Hodgkin lymphoma. ([1] NCI, 2021).

Being in early or late adulthood, being male, past Epstein-Barr infection, and a family history of Hodgkin lymphoma can increase the risk of adult Hodgkin lymphoma. ([1] NCI, 2021). Among children and adolescents diagnosed with Hodgkin lymphoma, the nodular-sclerosing type is often diagnosed in older children and adolescents and typically presents as a chest mass at diagnosis. Mixed cellularity Hodgkin lymphoma is typically diagnosed in those age 10 and under; it presents as lymph nodes in the neck and there is a connection to Epstein-Barr virus (EBV) infection. Lymphocyte-rich classic Hodgkin lymphoma is rare in children; upon viewing under a microscope, tissue samples include Reed-Sternberg cells as well as normal lymphocytes and other blood cells. Lymphocyte-depleted Hodgkin lymphoma is also rare in children and is typically found in adults and adults with HIV/AIDS. Microscope analysis shows large, oddly shaped cancer cells and few normal lymphocytes and other blood cells. ([2] NCI, 2021).

This form usually curable in some patients who receive early treatment. ([1-2] NCI, 2021). In 2021, there were 8,830 new cases diagnosed in the United States; this accounts for 0.5% of all new cancer cases. An estimated 960 people died in 2021 (0.2% of all cancer deaths). The five-year relative survival rate for Hodgkin lymphoma is 88.3%. ([1] NCI, n.d.). Rates of new diagnoses of Hodgkin lymphoma (per 100,000 people) are slightly higher in males (2.8) than females (2.3). By age, rates are highest in those ages 80-84 (4.1), ages 20-24 (4.0), ages 25-29 (3.8), ages 75-79 (3.8), ages 70-74 (3.6). By race and ethnicity, new diagnoses are highest in White (2.6), Black (2.5), and Hispanic (2.2) populations. (CDC, 2018).

Non-Hodgkin Lymphoma (NHL)

The risk of Non-Hodgkin lymphoma increases with age – rates are highest among teens and young adults (ages 15-29) and older adults (over age 75). The disease is most prevalent among White people. Those diagnosed with HIV/AIDS and those who have been exposed to high levels of ionizing radiation are also at higher risk; family history also increases risk. (CDC, 2018). In 2021, there were 81,560 new cases diagnosed in the United States; this accounts for 4.3% of all new cancer cases. An estimated 20,720 people died in 2021 (3.4% of all cancer deaths). The five-year relative survival rate for non-Hodgkin lymphoma is 73.2%. ([2] NCI, n.d.). Rates of new diagnoses of Non-Hodgkin lymphoma (per 100,000 people) are higher in males (22.1) than females (15.3). Rates for new diagnoses among those under age 44 are low (0.6 - 9.3) however, rates increase with age. Among those ages 45-64 rates range from 13.4 – 41.2. The highest rates among those ages 80-84 (110.9), ages 85+ (98.9), ages 75-79 (98.7), ages 70-74 (76.8), and ages 65-69 (59.8). By race and ethnicity, new diagnoses are highest in White (18.9), Hispanic (16.7), and Black (13.5) populations. (CDC, 2018).

Stem Cell Transplant

Hodgkin Lymphoma

The following are treatments for types of Hodgkin lymphoma seen in adults and children ([1-2] NCI, 2021):

- **Recurrent Classic Hodgkin Lymphoma.** Chemotherapy with stem cell transplant or combination chemotherapy followed by high-dose chemotherapy and stem cell transplant. Radiation therapy may be given if cancer remains; targeted therapy (brentuximab) may be given after stem cell transplant.

The following are treatments for types of Hodgkin lymphoma in children and adults ([2] NCI, 2021):

- **Primary Refractory or Recurrent Childhood Hodgkin Lymphoma.**
  - High-dose chemotherapy with stem cell transplant using the patient's own stem cells. Monoclonal antibody therapy (brentuximab) may also be given.
  - Radiation therapy may be given after stem cell transplant using the patient's own stem cells or if the cancer has not responded to other treatments and the area with cancer has not been treated before.
  - High-dose chemotherapy with stem cell transplant using a donor's stem cells.

Non-Hodgkin Lymphoma

Standard treatment for NHL includes high-dose chemotherapy with stem cell transplant ([4] NCI, 2021). The following are treatments for types of NHLs seen in adults ([3] NCI, 2021):

- **Indolent, Noncontiguous (Stage II, III, or IV) NHL.** A clinical trial of high-dose chemotherapy with or without total-body irradiation or radiolabeled monoclonal antibody therapy, followed by autologous or allogeneic stem cell transplant.
- **Indolent Non-Hodgkin Lymphoma.** For follicular lymphoma, treatment may be within a clinical trial of new monoclonal antibody therapy, new chemotherapy regimen, or a stem cell transplant; depends on NHL type.
- **Aggressive Non-Hodgkin Lymphoma.** For mantle cell lymphoma, monoclonal antibody therapy with combination chemotherapy, followed by stem cell transplant. Monoclonal antibody therapy may be given afterwards as maintenance therapy.
- **Indolent, Recurrent Adult NHL.** A clinical trial of an autologous or allogeneic stem cell transplant.
- **Aggressive, Recurrent Adult NHL.** Chemotherapy with or without stem cell transplant; monoclonal antibody therapy with or without combination chemotherapy followed by autologous stem cell transplant; or a clinical trial of autologous or allogeneic stem cell transplant.

The following are treatments for types of NHLs seen in children and adolescents ([4] NCI, 2021):

- **Recurrent Burkitt Lymphoma / Leukemia, Recurrent Diffuse Large B-cell Lymphoma, Recurrent Anaplastic Large Cell Lymphoma and Peripheral T-cell Lymphoma.** High-dose chemotherapy with stem cell transplant with the patient's own cells or cells from a donor.
- **Recurrent Lymphoblastic Lymphoma.** High-dose chemotherapy with stem cell transplant with donor cells.

- **Lymphoproliferative Disease in Patients with Weakened Immune Systems.** Stem cell transplant with cells from a donor.
- **Subcutaneous Panniculitis-Like Cutaneous T-Cell Lymphoma.** Stem cell transplant.
- **Post-Transplant Lymphoproliferative Disease.** Surgery to remove tumor; lower doses of immunosuppressive drugs after a stem cell or organ transplant may be given.

COVERAGE POLICY

All transplants require prior authorization from the Corporate Transplant Department. Solid organ transplant requests will be reviewed by the Corporate Senior Medical Director or qualified clinical designee. All other transplants will be reviewed by the Corporate Senior Medical Director or covering Medical Director. If the criteria are met using appropriate NCD and/or LCD guidelines, State regulations, and/or MCP policies the Corporate Senior Medical Director's designee can approve the requested transplant.

Members must meet United Network for Organ Sharing (UNOS) / Organ Procurement and Transplantation Network (OPTN) policies and guidelines for pre-transplantation evaluation and listing criteria and the diagnosis must be made by a specialist in the disease and/or a Transplant Surgeon.

Pre-Transplant Evaluation

(MCG, 2021; ECOG, 2020; [3] NMDP, n.d.; [4] NMDP, 2021)

Please see *MCP-323 Pre-Transplant Evaluation* for additional criteria and information.

Criteria for transplant evaluation include:

1. History and physical examination; **AND**

2. Psychosocial evaluation and clearance:
   a. No behavioral health disorder by history or psychosocial issues:
      - If history of behavioral health disorder, no severe psychosis or personality disorder;
      - Mood/anxiety disorder must be excluded or treated;
      - Member has understanding of surgical risk and post procedure compliance and follow-up required.

   AND
   b. Adequate family and social support.

AND

3. EKG; **AND**

4. Chest x-ray; **AND**

5. Cardiac clearance in the presence of any of the following:
   a. Chronic smokers; **OR**
   b. Members > 50 years age; **OR**
   c. Those with a clinical or family history of heart disease or diabetes.

AND

6. Pulmonary clearance if evidence of pulmonary artery hypertension (PAH) or chronic pulmonary disease; **AND**

7. Neurological exam and clearance for transplant including **ONE** of the following:
   a. Normal exam by H&P; **OR**
   b. Abnormal neurological exam with positive findings including **ONE** of the following:
      - Lumbar puncture normal cytology; **OR**
      - Lumbar puncture with cytological exam abnormal: CNS disease treated prior to clearance.

AND

8. A Performance Status that includes **ONE** of the following:
   a. Karnofsky score 70-100%; **OR**
   b. Eastern Cooperative Oncology Group (ECOG) Grade 0-2.

AND

9. Lab studies that include:
   a. Complete blood count; kidney profile (blood urea nitrogen, creatinine); electrolytes; calcium; phosphorous; albumin; liver function tests; and coagulation profile (prothrombin time, and partial thromboplastin time);*
   b. Serologic screening for: HIV; Epstein Barr virus (EBV); Hepatitis virus B (HBV); Hepatitis C (HCV); cytomegalovirus (CMV); RPR and/or FTA:*
      - If HIV positive **ALL** of the following must be met:
        i. CD4 count >200 cells/mm-3 for >6 months; **AND**
        ii. HIV-1 RNA undetectable; **AND**
        iii. On stable anti-retroviral therapy >3 months; **AND**
        iv. No other complications from AIDS (e.g., opportunistic infection, including aspergillus, tuberculosis, coccidioides mycosis, resistant fungal infections, Kaposi's sarcoma, or other neoplasm).
      - If abnormal serology, need physician plan to address and/or treatment as indicated.
        i. Antinuclear antibody, smooth muscle antibody, antimitochondrial antibody
        ii. Ceruloplasmin, α1-antitrypsin phenotype
        iii. Alpha-fetoprotein
   c. Urine drug screen (UDS) if Member is current or gives a history of past drug abuse.

AND

10. Colonoscopy (if indicated or if Member is age ≥ 50) with complete workup and treatment of abnormal results as indicated; an initial screening colonoscopy after initial negative screening requires a follow-up colonoscopy every 10 years).*

AND

11. Gynecological examination with Pap smear for women ages ≥ 21 to ≤ 65 years of age or if indicated (not indicated in women who have had a total abdominal hysterectomy [TAH] or a total vaginal hysterectomy [TVH]) within the last three years with complete workup and treatment of abnormal results as indicated.

Within the last 12 months:

1. Dental examination or oral exam showing good dentition and oral care or no abnormality on panorex or plan for treatment of problems pre- or post-transplant; **AND**
2. Mammogram (if indicated or > age 40) with complete workup and treatment of abnormal results as indicated;* **AND**
3. PSA if history of prostate cancer or previously elevated PSA with complete workup and treatment of abnormal results as indicated.*

* Participating Centers of Excellence may waive these criteria.

Criteria for Transplantation

(MCG, 2021; [1-4] NCI, 2021; [1-2] NCCN, 2021; [4] NMDP, 2021; AMR, 2019; Hayes, 2018; [2-3] NMDP, n.d.)

Hodgkin's Lymphoma (Autologous and Allogeneic Transplantation)

Hematopoietic Autologous Stem Cell Transplantation (AuSCT)

Hematopoietic Autologous Stem Cell Transplantation (AuSCT) **may be authorized in adults and children** for the treatment of acute Hodgkin's Lymphoma when **ANY** of the following criteria are met:

1. All pre-transplant criteria are met; **AND**

2. Member has **ONE** of the following:
   a. First relapse in chemosensitive disease; **OR**
   b. Partial remission after radiotherapy for isolated lesions; **OR**
   c. Primary refractory disease.

Hematopoietic Allogeneic Stem Cell Transplantation (HSCT)

Hematopoietic Allogeneic Stem Cell Transplantation (HSCT) from a human leukocyte antigen (HLA)-matched donor** or haploidentical related donor # or from cord blood when there are no matched siblings or unrelated donors ^ **may be authorized in adults and children** for the treatment of acute Hodgkin's Lymphoma (HL) when **ALL** of the following criteria are met:

1. All pre-transplant criteria are met; **AND**

2. Member has **ONE** of the following:
   a. Biopsy-proven relapse from primary treatment in less than 12 months; **OR**
   b. Refractory to primary treatment; **OR**
   c. Biopsy-proven relapse after autologous transplant; **OR**
   d. Multiple biopsy-proven relapses.

** At least six out of eight match of the HLA-A, HLA-B, HLA-C and HLA-DRB1 markers.
# Sharing a haplotype; having the same alleles at a set of closely linked genes on one chromosome.
^ At least four out of six match of the HLA-A, HLA-B and HLA-DRB-1 markers.

AND

3. The requesting transplant recipient (NHL/HL autologous / allogeneic) should not have any of the following absolute contraindications:
   a. Cardiac, pulmonary, and nervous system disease that cannot be corrected and is a prohibitive risk for surgery; **OR**
   b. Malignant neoplasm with a high risk for reoccurrence, non-curable malignancy (excluding localized skin cancer); **OR**
   c. Systemic and/or uncontrolled infection; **OR**
   d. AIDS (CD4 count < 200cells/mm3); **OR**
   e. Unwilling or unable to follow post-transplant regimen:
      - Documented history of non-compliance
      - Inability to follow through with medication adherence or office follow-up

   OR
   f. Chronic illness with one year or less life expectancy; **OR**
   g. Limited, irreversible rehabilitation potential; **OR**
   h. Active untreated substance abuse issues, requires documentation supporting free from addiction for minimally 6 months if previous addiction was present; **OR**
   i. Recreational or unmanaged medical marijuana use. Managed medical marijuana use must include documentation that the Member's marijuana use is in compliance with a formal program of managed medical marijuana. Documentation should include the plan of care for medical marijuana, the medical decision making that led to the plan of care, transplant Provider agreement with the plan of care, and transplant Provider agreement to be accountable for managing the plan of care for the use of medical marijuana (a photocopy of the Member's medical marijuana card is insufficient to meet the definition of managed medical marijuana); **OR**
   j. No adequate social/family support.

AND

4. The requesting transplant recipient should be evaluated carefully and potentially treated if any of the relative contraindications below are present.

a. Irreversible lung disease patients require consultation and clearance by a Pulmonologist prior to consideration of transplantation including:
   - Smoking, documentation supporting free from smoking for 6 months or meets transplant center criteria.

OR

b. Active peptic ulcer disease; **OR**
c. Active gastroesophageal reflux disease; **OR**
d. CVA with long term impairment that is not amendable to rehabilitation or a patient with CVA/transient ischemic attack within past 6 months; **OR**
e. Obesity with body mass index of >30 kg/m^2 may increase surgical risk; **OR**
f. Chronic liver disease such as Hepatitis B/C/D, or cirrhosis which increases the risk of death from sepsis and hepatic failure requires consultation by a gastroenterologist or hepatologist; **OR**
g. Gall bladder disease requires ultrasound of the gall bladder with treatment prior to transplantation.

Non-Hodgkin Lymphomas (NHL) – Autologous and Allogeneic Transplantation
([1-3] Freedman & Friedberg, 2021; Fuchs & Luznik, 2021; Holmberg et al., 2021; Moskowitz & Alencar, 2021; LaCasce, 2020)

Hematopoietic Autologous Stem Cell Transplantation (AuSCT)

Hematopoietic Autologous Stem Cell Transplantation (AuSCT) **may be authorized in adults and children** for the treatment of acute NHL when **ANY** of the following criteria are met:

1. All pre-transplant criteria are met; **AND**
2. Member has **ONE** of the following classifications of lymphoma:

   a. Diffuse Large B Cell:
      - Relapsed; **OR**
      - Treatment refractory or chemosensitive; **OR**
      - Double or triple cytogenetic rearrangement (MYC and BCL-2 and/or BCL-6) at diagnosis.

   OR

   b. Mantel Cell (partial or complete response following induction chemotherapy / consolidation therapy); **OR**

   c. Burkitt's Lymphoma (relapsed disease); **OR**

   d. Follicular Lymphoma as evidenced by **ONE** of the following:
      - Histologic transformation to diffuse large B-cell lymphoma with partial or complete response to treatment; **OR**
      - Consolidative therapy for patient in second or third remission; **OR**
      - Relapsed or refractory disease.

   OR

   e. High Grade as evidenced by **ONE** of the following:
      - C-myc rearrangement at diagnosis; **OR**
      - Primary induction failure; **OR**
      - First complete remission (CR1); **OR**
      - First relapse; **OR**
      - Second complete remission (CR2) or subsequent remission.

   OR

   f. Mature T-Cell as evidenced by **ONE** of the following:
      - First complete remission (CR1); **OR**
      - First relapse.

OR

g. Other High-Risk Lymphomas at diagnosis.

AND

3. The requesting transplant recipient (NHL/HL autologous / allogeneic) should not have any of the following absolute contraindications:
   a. Cardiac, pulmonary, and nervous system disease that cannot be corrected and is a prohibitive risk for surgery; **OR**
   b. Malignant neoplasm with a high risk for reoccurrence, non-curable malignancy (excluding localized skin cancer); **OR**
   c. Systemic and/or uncontrolled infection; **OR**
   d. AIDS (CD4 count < 200cells/mm3); **OR**
   e. Unwilling or unable to follow post-transplant regimen:
      - Documented history of non-compliance
      - Inability to follow through with medication adherence or office follow-up

   OR
   f. Chronic illness with one year or less life expectancy; **OR**
   g. Limited, irreversible rehabilitation potential; **OR**
   h. Active untreated substance abuse issues, requires documentation supporting free from addiction for minimally 6 months if previous addiction was present; **OR**
   i. Recreational or unmanaged medical marijuana use. Managed medical marijuana use must include documentation that the Member's marijuana use is in compliance with a formal program of managed medical marijuana. Documentation should include the plan of care for medical marijuana, the medical decision making that led to the plan of care, transplant Provider agreement with the plan of care, and transplant Provider agreement to be accountable for managing the plan of care for the use of medical marijuana (a photocopy of the Member's medical marijuana card is insufficient to meet the definition of managed medical marijuana); **OR**
   j. No adequate social/family support.

AND

4. The requesting transplant recipient should be evaluated carefully and potentially treated if any of the relative contraindications below are present.
   a. Irreversible lung disease patients require consultation and clearance by a Pulmonologist prior to consideration of transplantation including:
      - Smoking, documentation supporting free from smoking for 6 months or meets transplant center criteria.

   OR
   b. Active peptic ulcer disease; **OR**
   c. Active gastroesophageal reflux disease; **OR**
   d. CVA with long term impairment that is not amendable to rehabilitation or a patient with CVA/transient ischemic attack within past 6 months; **OR**
   e. Obesity with body mass index of >30 kg/m^2 may increase surgical risk; **OR**
   f. Chronic liver disease such as Hepatitis B/C/D, or cirrhosis which increases the risk of death from sepsis and hepatic failure requires consultation by a gastroenterologist or hepatologist; **OR**
   g. Gall bladder disease requires ultrasound of the gall bladder with treatment prior to transplantation.

Hematopoietic Allogeneic Stem Cell Transplantation (HSCT)

Hematopoietic Allogeneic Stem Cell Transplantation (HSCT) from a human leukocyte antigen (HLA)-matched donor (e.g., at least six out of eight match of the HLA-A, HLA-B, HLA-C and HLA-DRB1 markers) or from cord blood when there are no matched siblings or unrelated donors (i.e. at least four out of six match of the HLA-A, HLA-B and HLA-DRB-1 markers) **may be authorized in adults and children** for the treatment of acute NHL when **ANY** of the following criteria are met:

1. All pre-transplant criteria are met; **AND**

2. Member has **ONE** of the following classifications of lymphoma:

   a. Diffuse Large B Cell:
      - Chemosensitive relapsed disease; **OR**
      - Relapsed disease post-autologous transplant.

   OR

   b. Burkitt's Lymphoma (chemosensitive relapsed disease); **OR**

   c. Follicular Lymphoma as evidenced by **ONE** of the following:
      - Histologic transformation to diffuse large B-cell lymphoma; **OR**
      - Consolidative therapy for patient in second or third remission.

   OR

   d. Cutaneous T-cell Lymphoma (mycosis fungoides, Sezary Syndrome) that is **ONE** of the following:
      - Refractory; **OR**
      - Progressive (e.g., Stage IIB, III, or IV).

   OR

   e. Adult T-cell Lymphoma with acute or lymphoma subtype responsive to chemotherapy; **OR**

   f. Mantel Cell (in relapse needing second-line therapy – autologous is first-line); **OR**

AND

3. The requesting transplant recipient (NHL/HL autologous / allogeneic) should not have any of the following absolute contraindications:
   a. Cardiac, pulmonary, and nervous system disease that cannot be corrected and is a prohibitive risk for surgery; **OR**
   b. Malignant neoplasm with a high risk for reoccurrence, non-curable malignancy (excluding localized skin cancer); **OR**
   c. Systemic and/or uncontrolled infection; **OR**
   d. AIDS (CD4 count < 200cells/mm3); **OR**
   e. Unwilling or unable to follow post-transplant regimen:
      - Documented history of non-compliance
      - Inability to follow through with medication adherence or office follow-up

   OR

   f. Chronic illness with one year or less life expectancy; **OR**
   g. Limited, irreversible rehabilitation potential; **OR**
   h. Active untreated substance abuse issues, requires documentation supporting free from addiction for minimally 6 months if previous addiction was present; **OR**
   i. Recreational or unmanaged medical marijuana use. Managed medical marijuana use must include documentation that the Member's marijuana use is in compliance with a formal program of managed medical marijuana. Documentation should include the plan of care for medical marijuana, the medical decision making that led to the plan of care, transplant Provider agreement with the plan of care, and transplant Provider agreement to be accountable for managing the plan of care for the use of medical marijuana (a photocopy of the Member's medical marijuana card is insufficient to meet the definition of managed medical marijuana); **OR**
   j. No adequate social/family support.

AND

4. The requesting transplant recipient should be evaluated carefully and potentially treated if any of the relative contraindications below are present.
   a. Irreversible lung disease patients require consultation and clearance by a Pulmonologist prior to consideration of transplantation including:
      - Smoking, documentation supporting free from smoking for 6 months or meets transplant center criteria.

   OR
   b. Active peptic ulcer disease; **OR**
   c. Active gastroesophageal reflux disease; **OR**
   d. CVA with long term impairment that is not amendable to rehabilitation or a patient with CVA/transient ischemic attack within past 6 months; **OR**
   e. Obesity with body mass index of >30 kg/m^2 may increase surgical risk; **OR**
   f. Chronic liver disease such as Hepatitis B/C/D, or cirrhosis which increases the risk of death from sepsis and hepatic failure requires consultation by a gastroenterologist or hepatologist; **OR**
   g. Gall bladder disease requires ultrasound of the gall bladder with treatment prior to transplantation.

Continuation of Therapy (Autologous and Allogeneic)

When extension of a previously approved transplant authorization is requested, review using updated clinical information is appropriate.

1. If Molina Healthcare has authorized prior requests for transplantation **ALL** of the following information is required for medical review:
   a. Presence of no absolute contraindication as listed above; **AND**
   b. History and physical within the last 12 months; **AND**
   c. Kidney profile within the last 12 months; **AND**
   d. Cardiac update if history of cardiac disease within two years (≥ 50 years of age); **AND**
   e. Psychosocial evaluation or update within the last 12 months; **AND**
   f. Per initial and updated history and physical, any other clinically indicated tests and/or scans as determined by transplant center physician or Molina Medical Director.

2. If authorized prior requests for transplantation were obtained from another insurer, **ALL**of the following information is required for medical review:
   a. Authorization letter/documentation from previous insurer; **AND**
   b. Presence of no absolute contraindication as listed above; **AND**
   c. History and physical within the last 12 months; **AND**
   d. Cardiac update if history of cardiac disease within two years (≥ 50 years of age); **AND**
   e. Psychosocial evaluation or update within the last 12 months; **AND**
   f. Per initial and updated history and physical, any other clinically indicated tests and/or scans as determined by transplant center physician or Molina Medical Director.

Limitations and Exclusions (Autologous and Allogeneic)

- Allogeneic (ablative or non-myeloablative) stem cell transplantation or autologous stem cell transplantation when the above criteria are not met.
- Hematopoietic stem cell collection, storage and freezing for a future unplanned transplant is not covered.
- Tandem autologous hematopoietic autologous (auto-auto) or allogeneic (allo-allo), also known as sequential stem cell transplantation are considered experimental, investigational and unproven due to limited evidence in the peer reviewed medical literature.

DOCUMENTATION REQUIREMENTS. Molina Healthcare reserves the right to require that additional documentation be made available as part of its coverage determination; quality improvement; and fraud; waste and abuse prevention processes. Documentation required may include, but is not limited to, patient records, test results and credentials of the provider ordering or performing a drug or service. Molina Healthcare may deny reimbursement or take additional appropriate action if the documentation provided does not support the initial determination that the drugs or services were medically necessary, not investigational or experimental, and otherwise within the scope of benefits afforded to the member, and/or the documentation demonstrates a pattern of billing or other practice that is inappropriate or excessive.

SUMMARY OF MEDICAL EVIDENCE

The published medical evidence and outcomes for hematopoietic stem cell transplantation for NHL/HL in children and adults in the United States consists of registry data obtained from transplant centers that perform adult and pediatric transplantation and is available from the United Network for Organ Sharing (UNOS) database. Registry data demonstrates graft survival rates and outcomes for stem cell transplantation based on demographic and clinical information. ([1] NMDP, n.d.)

National and Specialty Organizations

Please see the Reference section for links to the national and professional organizations guidelines listed below:

The **American Society for Blood and Marrow Transplantation (ASBMT)** published the guideline titled *Indications for Hematopoietic Cell Transplantation and Immune Effector Cell Therapy: Guidelines from the American Society for Transplantation and Cellular Therapy* (Kanate et al., 2020). In addition, the ASBMT also partnered with the National Marrow Donor Program (NMDP) to publish *Transplant Consultation Timing Guidelines*.

The **American Society for Transplantation and Cellular Therapy** published the guideline titled *Indications for Hematopoietic Cell Transplantation and Immune Effector Cell Therapy* (Kanate et al., 2020).

The **National Comprehensive Cancer Network (NCCN)** (2021) has published two guidelines – *Hodgkin Lymphoma* and *B-Cell Lymphomas.*

The **National Marrow Donor Program (NMDP)** has published the following guidance:

- *Hematopoietic Cell Transplant Indications and Outcomes*
- *HLA Matching*
- *Measuring Engraftment*
- *Patient Eligibility for HCT*

SUPPLEMENTAL INFORMATION

None.

CODING & BILLING INFORMATION

CPT Codes

CPT	Description
	Collection Codes
38205	Blood-derived hematopoietic progenitor cell harvesting for transplantation, per collection; allogeneic
38206	Blood-derived hematopoietic progenitor cell harvesting for transplantation, per collection; autologous
38230	Bone marrow harvesting for transplantation; allogeneic
38232	Bone marrow harvesting for transplantation; autologous
	Cell Processing Services
38207	Transplant preparation of hematopoietic progenitor cells; cryopreservation and storage
38208	Transplant preparation of hematopoietic progenitor cells; thawing of previously frozen harvest, without washing
38209	Transplant preparation of hematopoietic progenitor cells; thawing of previously frozen harvest, with washing
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
	Cell Infusion Codes
38240	Bone marrow or blood-derived peripheral stem cell transplantation; allogeneic
38241	Bone marrow or blood-derived peripheral stem cell transplantation; autologous
38242	Bone marrow or blood-derived peripheral stem cell transplantation; allogeneic donor lymphocyte infusions
38243	Bone marrow or blood-derived peripheral stem cell transplantation; allogeneic hematopoietic cellular transplant boost

HCPCS Codes

HCPCS	Description
S2140	Cord blood harvesting for transplantation, allogeneic
S2142	Cord blood derived stem-cell transplantation, allogeneic
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

CODING DISCLAIMER. Codes listed in this policy are for reference purposes only and may not be all-inclusive. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement. Listing of a service or device code in this policy does not guarantee coverage. Coverage is determined by the benefit document. Molina adheres to Current Procedural Terminology (CPT®), a registered trademark of the American Medical Association (AMA). All CPT codes and descriptions are copyrighted by the AMA; this information is included for informational purposes only. Providers and facilities are expected to utilize industry standard coding practices for all submissions. When improper billing and coding is not followed, Molina has the right to reject/deny the claim and recover claim payment(s). Due to changing industry practices, Molina reserves the right to revise this policy as needed.

APPROVAL HISTORY

2/9/2022	Policy reviewed; updated items from 2016 ISHLT criteria; included marijuana use under absolute contraindications; updated Summary of Medical Evidence and Reference sections.
12/9/2020	Policy reviewed, no changes.
12/10/2019	Policy reviewed; criteria updated for allogenic and autologous stem cell transplants; removed age criteria for both Hodgkin and Non-Hodgkin transplants; added tandem allogenic transplants are I/E; updated guidelines and references; clarified that haploidentical transplants may be medically necessary when there are no matched sibling or unrelated donors for Hodgkin allogeneic transplants only.
3/8/2018	Policy reviewed, no changes.
9/19/2017	Policy reviewed, no changes.
9/21/2016	Policy reviewed, criteria updated for allogenic and autologous stem cell transplants; tandem HSCT are considered I/E to treat patients with any stage, grade, or subtype of Hodgkin and NHL Lymphoma. Updated professional guidelines.
6/2/2015	Revised pre-transplantation criteria.
4/24/2013	New policy.

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APPENDIX

Reserved for State specific information. *Information includes, but is not limited to, State contract language, Medicaid criteria and other mandated criteria.*