Policy Number	**SUR703.050**
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Hematopoietic Cell Transplantation for Waldenstrom Macroglobulinemia

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None

Disclaimer

Carefully check state regulations and/or the member contract.
Each benefit plan, summary plan description or contract defines which services are covered, which services are excluded, and which services are subject to dollar caps or other limitations, conditions or exclusions. Members and their providers have the responsibility for consulting the member's benefit plan, summary plan description or contract to determine if there are any exclusions or other benefit limitations applicable to this service or supply. **If there is a discrepancy between a Medical Policy and a member's benefit plan, summary plan description or contract, the benefit plan, summary plan description or contract will govern.**

Coverage

Autologous hematopoietic cell transplantation (HCT) **may be considered medically necessary** as salvage therapy of chemosensitive Waldenström macroglobulinemia (WM).

Allogeneic hematopoietic cell transplantation **is considered experimental, investigational and/or unproven** to treat WM.

Policy Guidelines

None.

Description

Hematopoietic cell transplantation (HCT) refers to a procedure in which hematopoietic stem-cells are infused to restore bone marrow function in cancer patients who receive bone-marrow-

toxic doses of cytotoxic drugs with or without whole body radiation therapy. Hematopoietic stem-cells may be obtained from the transplant recipient (autologous HCT) or from a donor (allogeneic HCT). They can be harvested from bone marrow, peripheral blood, or umbilical cord blood shortly after delivery of neonates. Although cord blood is an allogeneic source, the stem-cells in it are antigenically “naïve” and thus are associated with a lower incidence of rejection or graft-versus-host disease (GVHD).

Waldenström Macroglobulinemia

Waldenström macroglobulinemia (WM) is a type of cancer that begins in the white blood cells. It is considered a type of non-Hodgkin's lymphoma. In WM, some white blood cells undergo changes that turn them into cancer cells. The cancer cells can build up in the bone marrow (where blood cells are made). The cancer cells crowd healthy blood cells out of the bone marrow. Cancer cells also may build up in other parts of the body, such as the lymph nodes and the spleen. WM cells make a protein that the body can't use. The protein is immunoglobulin M (IgM). IgM can build up in the blood. This may reduce blood flow in the body and cause other problems. (4) Symptoms include weakness, headaches, stroke-like symptoms (confusion, loss of coordination), vision problems, excessive bleeding, unexplained weight loss, and frequent infections. The median age of WM patients is 63 to 68 years, with men comprising 55% to 70% of cases. Median survival of WM ranges from 5 to 10 years, with age, hemoglobin concentration, serum albumin level, and ß2-microglobulin level as predictors of outcome.

The Revised European American Lymphoma (REAL) and World Health Organization (WHO) classification and a consensus group formed at the Second International Workshop on WM recognized WM primarily as a lymphoplasmacytic lymphoma with an associated immunoglobulin M (IgM) monoclonal gammopathy. The definition also requires the presence of a characteristic pattern of bone marrow infiltration with small lymphocytes demonstrating plasmacytic differentiation with variable cell surface antigen expression. The Second International Workshop indicated no minimum serum concentration of IgM is necessary for a diagnosis of WM. (5)

Treatment

The goal of therapy for patients with WM is to achieve symptomatic relief and reduce organ damage without compromising quality of life. Treatment of WM is indicated only in symptomatic patients and should not be initiated solely on the basis of serum IgM concentration. Clinical and laboratory findings that indicate the need for therapy of diagnosed WM include a hemoglobin concentration less than 10 g/dL; platelet count less than 100,000/µL; significant adenopathy or organomegaly; symptomatic Ig-related hyperviscosity (>50 g/L); severe neuropathy; amyloidosis; cryoglobulinemia; cold-agglutinin disease; or evidence of disease transformation. (6)

Primary chemotherapeutic options in patients that may undergo autologous HCT often combine rituximab with other agents (e.g., dexamethasone, cyclophosphamide, bortezomib, bendamustine), but other agents may also be used including purine analogues (cladribine, fludarabine). Plasma exchange is indicated for acute treatment of symptomatic hyperviscosity.

Conventional Preparative Conditioning for HCT

The conventional ("classical") practice of allogeneic HCT involves administration of cytotoxic agents (e.g., cyclophosphamide, busulfan) with or without total body irradiation at doses sufficient to destroy endogenous hematopoietic capability in the recipient. The beneficial treatment effect in this procedure is due to a combination of initial eradication of malignant cells and subsequent graft-versus-malignancy effect that develops after engraftment of allogeneic stem cells within patients' bone marrow space. While the slower graft-versus-malignancy effect is considered the potentially curative component, it may be overwhelmed by extant disease without the use of pre-transplant conditioning. However, intense conditioning regimens are limited to patients who are sufficiently fit medically to tolerate substantial adverse events that include pre-engraftment opportunistic infections secondary to loss of endogenous bone marrow function and organ damage and failure caused by the cytotoxic drugs. Furthermore, in any allogeneic HCT, immune suppressant drugs are required to minimize graft rejection and graft-versus-host disease, which also increases susceptibility of the patient to opportunistic infections.

The success of autologous HCT is predicated on the ability of cytotoxic chemotherapy with or without radiotherapy to eradicate cancerous cells from the blood and bone marrow. This permits subsequent engraftment and repopulation of bone marrow space with presumably normal hematopoietic stem cells obtained from the patient before undergoing bone marrow ablation. As a consequence, autologous HCT is typically performed as consolidation therapy when the patient's disease is in complete remission. Patients who undergo autologous HCT are susceptible to chemotherapy-related toxicities and opportunistic infections prior to engraftment, but not GVHD.

Reduced-Intensity Conditioning for Allogeneic HCT

Reduced-intensity conditioning (RIC) refers to the pre-transplant use of lower doses or less intense regimens of cytotoxic drugs or radiotherapy than are used in conventional full-dose myeloablative conditioning (MAC) treatments. The goal of RIC is to reduce disease burden but also to minimize as much as possible associated treatment-related morbidity and non-relapse mortality in the period during which the beneficial graft-versus-malignancy effect of allogeneic transplantation develops. Although the definition of RIC remains arbitrary, with numerous versions employed, all seek to balance the competing effects of non-relapse mortality and relapse due to residual disease. RIC regimens can be viewed as a continuum in effects, from nearly totally myeloablative to minimally myeloablative with lymphoablation, with intensity tailored to specific diseases and patient condition. Patients who undergo RIC with allogeneic HCT initially demonstrate donor cell engraftment and bone marrow mixed chimerism. Most will subsequently convert to full-donor chimerism, which may be supplemented with donor lymphocyte infusions to eradicate residual malignant cells. For this medical policy, the term reduced-intensity conditioning will refer to all conditioning regimens intended to be nonmyeloablative, as opposed to fully myeloablative (conventional) regimens.

Regulatory Status

The U.S. Food and Drug Administration (FDA) regulates human cells and tissues intended for implantation, transplantation, or infusion through the Center for Biologics Evaluation and Research (CBER), under Code of Federal Regulation (CFR) title 21, parts 1270 and 1271. Hematopoietic stem-cells are included in these regulations. (7)

Rationale

This medical policy is based on review of relevant specialty society guidelines.

Practice Guidelines and Position Statements

National Comprehensive Cancer Network

National Comprehensive Cancer Network guidelines on Waldenström macroglobulinemia (WM) and lymphoplasmacytic lymphoma (v.1.2026) indicate that, for patients with previously treated WM, stem cell transplantation may be appropriate in selected cases with either: high-dose therapy with autologous stem cell rescue or allogeneic cell transplant (myeloablative or nonmyeloablative). (1) The Network noted that allogeneic cell transplantation "should ideally be undertaken in the context of a clinical trial." For potential autologous cell transplantation candidates, the guidelines also provide suggested treatment regimens considered non-stem-cell toxic.

Tenth International Workshop on Waldenström's Macroglobulinemia

In 2020, consensus recommendations from the tenth International Workshop on WM were published. (2) The panel concluded that "autologous HCT is not appropriate for first-line therapy in patients who are responding to induction therapy, autologous HSCT [haematopoietic stem-cell transplantation] is appropriate following second or subsequent relapses in high-risk patients (i.e., aggressive clinical behaviour or refractory to previous therapies) with chemosensitive disease, and HSCT should not be considered in patients who are BTK [Bruton's tyrosine kinase] inhibitor-naive, provided that BTK inhibitors are available."

Myeloma Foundation of Australia

In 2022, the Myeloma Foundation of Australia published practice guidelines on the treatment of patients with WM. (3) The guidelines provided the following treatment recommendation for HCT: "Younger patients with good physical fitness should be considered for autologous and allogeneic stem cell transplantation at first or second relapse and should avoid stem cell-toxic therapies such as fludarabine (Level III, grade C)."

Coding

Procedure codes on Medical Policy documents are included **only** as a general reference tool for each policy. **They may not be all-inclusive.**

The presence or absence of procedure, service, supply, or device codes in a Medical Policy document has no relevance for determination of benefit coverage for members or reimbursement for providers. **Only the written coverage position in a Medical Policy should be used for such determinations.**

Benefit coverage determinations based on written Medical Policy coverage positions must include review of the member's benefit contract or Summary Plan Description (SPD) for defined coverage vs. non-coverage, benefit exclusions, and benefit limitations such as dollar or duration caps.

CPT Codes	36511, 38204, 38205, 38206, 38207, 38208, 38209, 38210, 38211, 38212, 38213, 38214, 38215, 38220, 38221, 38222, 38230, 38232, 38240, 38241, 38242, 38243, 81265, 81266, 81267, 81268, 81370, 81371, 81372, 81373, 81374, 81375, 81376, 81377, 81378, 81379, 81380, 81381, 81382, 81383, 86805, 86806, 86807, 86808, 86812, 86813, 86816, 86817, 86821, 86825, 86826, 86828, 86829, 86830, 86831, 86832, 86833, 86834, 86835, 86849, 86950, 86985, 88240, 88241
HCPCS Codes	S2140, S2142, S2150

*Current Procedural Terminology (CPT®) ©2024 American Medical Association: Chicago, IL.

References

1. National Comprehensive Cancer Network (NCCN) – NCCN Clinical Practice Guidelines in Oncology: Waldenström's Macroglobulinemia/Lymphoplasmacytic Lymphoma. V.1.2026. June 24, 2025; Available at <https://www.nccn.org> (accessed December 2, 2025).
2. Castillo JJ, Advani RH, Branagan AR, et al. Consensus treatment recommendations from the tenth International Workshop on Waldenström Macroglobulinemia. Lancet Haematol. Nov 2020; 7(11):e827-e837. PMID 33091356
3. Talaulikar D, Joshua D, Ho PJ, et al. Myeloma Foundation of Australia Medical and Scientific Advisory Group. Consensus clinical practice guidelines for the treatment of patients with Waldenström Macroglobulinemia. June 2022. Available at <https://myeloma.org.au> (accessed December 2, 2025).
4. Waldenstrom macroglobulinemia - Mayo Clinic. Diseases and Conditions. Dec. 20, 2024. Available at <https://www.mayoclinic.org> (accessed December 2, 2025).
5. Owen R, Treon S, Al-Katib A, et al. Clinicopathological definition of Waldenstrom's macroglobulinemia: consensus panel recommendations from the Second International Workshop on Waldenstrom's Macroglobulinemia. Semin Oncol. Apr 2003; 30(2):110-115. PMID 12720118
6. Ansell, Stephen. Treatment and prognosis of Waldenström macroglobulinemia. Sep 2024. In: UpToDate, Rajkumar, SV (Ed), UpToDate, Waltham, MA. Available at <https://www.uptodate.com> (accessed December 2, 2025).
7. FDA – Tissue and Tissue Products (Parts 1270 and 1271). Food and Drug Administration – Center for Biologics Evaluation and Research. Available at <https://www.accessdata.fda.gov> (accessed December 2, 2025).

Centers for Medicare and Medicaid Services (CMS)

The information contained in this section is for informational purposes only. HCSC makes no representation as to the accuracy of this information. It is not to be used for claims adjudication for HCSC Plans.

The Centers for Medicare and Medicaid Services (CMS) does not have a national Medicare coverage position. Coverage may be subject to local carrier discretion.

A national coverage position for Medicare may have been developed since this medical policy document was written. See Medicare's National Coverage at <https://www.cms.hhs.gov>.

Policy History/Revision	
Date	**Description of Change**
01/01/2026	Document updated. The following change was made to Coverage: Removed NOTE; intent unchanged. No new references added; others updated/removed.
05/15/2024	Document updated with literature review. Coverage unchanged. Added references 1-4 and 11; others updated.
07/01/2023	Reviewed. No changes.
01/01/2023	Document updated with literature review. Coverage unchanged. Added/updated the following references: 4-7, 9 and 10.
02/15/2022	Reviewed. No changes.
11/01/2020	Document updated with literature review. Coverage unchanged. No new references added; some updated, others deleted. Title changed from: Hematopoietic Stem-Cell Transplantation for Waldenstrom Macroglobulinemia.
05/01/2019	Reviewed. No changes.
07/15/2018	Document updated with literature review. Coverage unchanged. Rationale reorganized. References 1,3, 6-8 were added; numerous references removed.
04/15/2017	Reviewed. No changes.
07/01/2016	Document updated with literature review. Coverage unchanged.
02/01/2015	Document updated with literature review. Coverage language modified, without change to coverage position. CPT/HCPCS code(s) updated. Title changed from: Stem-Cell Transplant for Waldenstrom Macroglobulinemia.
10/15/2013	New medical document originating from: SUR703.046, Stem-Cell Transplant for Primary Amyloidosis and Waldenström's Macroglobulinemia (WM). Allogeneic stem-cell support (AlloSCS), autologous stem-cell support (AutoSCS), tandem or triple stem-cell transplant, donor leukocyte infusion (DLI), and hematopoietic progenitor cell boost are considered experimental, investigational and unproven. Any related services for the treatment of WM, such as short tandem repeat (STR) markers, are considered experimental, investigational and unproven. Previously the coverage information originated from SUR703.046, Stem-Cell Transplant for Primary Amyloidosis

	and Waldenström's Macroglobulinemia (as a combined policy document) and from: SUR703.017, Peripheral/Bone Marrow Stem Cell Transplantation (PSCT/BMT) for Non-Malignancies; SUR703.018, Peripheral/Bone Marrow Stem Cell Transplantation (PSCT/BMT) for Malignancies; SUR703.022, Cord Blood as a Source of Stem Cells (CBSC); SUR703.023, Donor Leukocyte Infusion (DLI); and SUR703.024, Tandem/Triple High-Dose Chemoradiotherapy with Stem Cell Support for Malignancies. Stem cell transplant continues to be medically necessary when stated criteria are met. NOTE: A link to the medical policies with the following titles can be found at the end of the medical policy SUR703.002, Stem-Cell Reinfusion or Transplantation Following Chemotherapy (General Donor and Recipient Information): • Peripheral/Bone Marrow Stem Cell Transplantation (PSCT/BMT) for Non-Malignancies; • Peripheral/Bone Marrow Stem Cell Transplantation (PSCT/BMT) for Malignancies; • Cord Blood as a Source of Stem Cells; • Donor Leukocyte Infusion (DLI); and Tandem/Triple High-Dose Chemoradiotherapy with Stem Cell Support for Malignancies.