

National Coverage Decision
Bone Marrow or Stem Cell Transplantation

Contractor Number:
HONC-009

Contractor Name
Wisconsin Physicians Service (WPS)

Contractor Number
00951, 00952, 00953, 00954
05101, 05201, 05301, 05401,
05102, 05202, 05302, 05402, 52280

Contractor Type
Carrier B
Fiscal Intermediary A
MAC A
MAC B

Primary Geographic Jurisdiction

Carrier B: Wisconsin, Illinois, Michigan, Minnesota

Fiscal Intermediary A: Alaska, Alabama, Arizona, Arkansas, Connecticut, Delaware, District of Columbia, Florida, Georgia, Iowa, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Massachusetts, Maryland, Maine, Michigan, Minnesota, Missouri - Entire State, Mississippi, Montana, North Carolina, North Dakota, Nebraska, New Hampshire, New Jersey, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Virginia, Vermont, Washington, Wisconsin, West Virginia, Wyoming, U.S. Virgin Islands

MAC A/B: Iowa, Missouri, Nebraska, Kansas

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CMS National Coverage Policy

CMS Manual System
Department of Health & Human Services (DHHS)
Pub. 100-03 Medicare National Coverage Determinations
Centers for Medicare & Medicaid Services (CMS)
Transmittal 32; Date: APRIL 15, 2005; Change Request 3797
Transmittal 45; Date: DECEMBER 6, 2005; Change Request 4173

Medicare National Coverage Determinations Manual
Chapter 1, Part 2 (Sections 90 – 160.25) Coverage Determinations ; (Rev.32, 04-15-05)
110.8.1 – Stem Cell Transplantation (Various Effective Dates Below)
(Rev.32, Issued: 04-15-05, Effective: 03-15-05, Implementation: 05-16-05)

*Pub 100-03 Medicare National Coverage Determinations Manual, Transmittal 127

Date: October 8, 2010, Change Request 7137

SUBJECT: Allogeneic Hematopoietic Stem Cell Transplantation (HSCT) for Myelodysplastic Syndrome (MDS)

I. SUMMARY OF CHANGES: Effective for claims with dates of service on and after August 4, 2010, contractors shall be aware that the use of allogeneic HSCT for treatment of MDS is only covered by Medicare if provided in the context of a Medicare-approved clinical study meeting specific criteria under the CED paradigm.

EFFECTIVE DATE: AUGUST 4, 2010

IMPLEMENTATION DATE: November 10, 2010

*Pub 100-04 Medicare Claims Processing Manual, Transmittal 2062 Date: October 8, 2010
Change Request 7137

SUBJECT: Allogeneic Hematopoietic Stem Cell Transplantation (HSCT) for Myelodysplastic Syndrome (MDS)

EFFECTIVE DATE: AUGUST 4, 2010

IMPLEMENTATION DATE: November 10, 2010

Original Policy Effective Date

Existing Regulations

Revision Effective Date

*11/01/2010

Coverage:

General

Stem cell transplantation is a process in which stem cells are harvested from either a patient's (autologous) or donor's (allogeneic) bone marrow or peripheral blood for intravenous infusion. Autologous stem cell transplants (AuSCT) must be used to effect hematopoietic reconstitution following severely myelotoxic doses of chemotherapy (HDCT) and/or radiotherapy used to treat various malignancies. Allogeneic stem cell transplant may also be used to restore function in recipients having an inherited or acquired deficiency or defect. Hematopoietic stem cells are multi-potent stem cells that give rise to all the blood cell types; these stem cells form blood and immune cells. A hematopoietic stem cell is a cell isolated from blood or bone marrow that can renew itself, differentiate to a variety of specialized cells, can mobilize out of the bone marrow into circulating blood, and can undergo programmed cell death, called apoptosis - a process by which cells that are unneeded or detrimental self destruct.

The Centers for Medicare & Medicaid Services(CMS) is clarifying that bone marrow and peripheral blood stem cell transplantation is a process which includes mobilization, harvesting, and transplant of bone marrow or peripheral blood stem cells and the administration of high dose chemotherapy or radiotherapy prior to the actual transplant. When bone marrow or peripheral blood stem cell transplantation is covered, all necessary steps are included in coverage. When bone marrow or peripheral blood stem cell transplantation is non-covered, none of the steps are covered.

A. Allogeneic Hematopoietic Stem Cell Transplantation (HSCT)

Allogeneic hematopoietic stem cell transplantation (HSCT) is a procedure in which a portion of a healthy donor's stem cell or bone marrow is obtained and prepared for intravenous infusion.

Nationally Covered Indications

The following uses of allogeneic (HSCT) bone marrow transplantation are covered under Medicare:

- *Effective for services performed on or after August 1, 1978, for the treatment of leukemia, leukemia in remission, or aplastic anemia when it is reasonable and necessary; and*
- *Effective for services performed on or after June 3, 1985, for the treatment of severe combined immunodeficiency disease (SCID), and for the treatment of Wiskott-Aldrich syndrome.*
- *Effective for services performed on or after August 4, 2010, for the treatment of Myelodysplastic Syndromes (MDS) pursuant to Coverage with Evidence Development (CED) in the context of a Medicare-approved, prospective clinical study.*

*Myelodysplastic Syndromes **MDS***

The MDS refers to a group of diverse blood disorders in which the bone marrow does not produce enough healthy, functioning blood cells. These disorders are varied with regard to clinical characteristics, cytologic and pathologic features, and cytogenetics. The abnormal production of blood cells in the bone marrow leads to low blood cell counts, referred to as cytopenias, which are a hallmark feature of MDS along with a dysplastic and hypercellular-appearing bone marrow.

Medicare payment for these beneficiaries will be restricted to patients enrolled in an approved clinical study. In accordance with the Stem Cell Therapeutic and Research Act of 2005 (US Public Law 109-129) a standard dataset is collected for all allogeneic transplant patients in the United States by the Center for International Blood and Marrow Transplant Research. The elements in this dataset, comprised of two mandatory forms plus one additional form, encompass the information we require for a study under CED.

A prospective clinical study seeking Medicare payment for treating a beneficiary with allogeneic HSCT for MDS pursuant to CED must meet one or more aspects of the following questions:

- *Prospectively, compared to Medicare beneficiaries with MDS who do not receive HSCT, do Medicare beneficiaries with MDS who receive HSCT have improved outcomes as indicated by:*
 - *Relapse-free mortality,*
 - *progression free survival,*
 - *relapse, and*
 - *overall survival?*

• *Prospectively, in Medicare beneficiaries with MDS who receive HSCT, how do International Prognostic Scoring System (IPSS) score, patient age, cytopenias and comorbidities predict the following outcomes:*

- *Relapse-free mortality,*
- *progression free survival,*
- *relapse, and*
- *overall survival?*

• *Prospectively, in Medicare beneficiaries with MDS who receive HSCT, what treatment facility characteristics predict meaningful clinical improvement in the following outcomes:*

- *Relapse-free mortality,*
- *progression free survival,*
- *relapse, and*
- *overall survival?*

In addition, the clinical study must adhere to the following standards of scientific integrity and relevance to the Medicare population:

a. The principal purpose of the research study is to test whether a particular intervention potentially improves the participants' health outcomes.

b. The research study is well supported by available scientific and medical information or it is intended to clarify or establish the health outcomes of interventions already in common clinical use.

c. The research study does not unjustifiably duplicate existing studies.

d. The research study design is appropriate to answer the research question being asked in the study.

e. The research study is sponsored by an organization or individual capable of executing the proposed study successfully.

f. The research study is in compliance with all applicable Federal regulations concerning the protection of human subjects found at 45 CFR Part 46.

g. All aspects of the research study are conducted according to appropriate standards of scientific integrity (see <http://www.icmje.org>).

h. The research study has a written protocol that clearly addresses, or incorporates by reference, the standards listed here as Medicare requirements for CED coverage.

i. The clinical research study is not designed to exclusively test toxicity or disease pathophysiology in healthy individuals. Trials of all medical technologies measuring therapeutic outcomes as one of the objectives meet this standard only if the disease or condition being studied is life threatening as defined in 21 CFR §312.81(a) and the patient has no other viable treatment options.

j. The clinical research study is registered on the ClinicalTrials.gov Web site by the principal sponsor/investigator prior to the enrollment of the first study subject.

k. The research study protocol specifies the method and timing of public release of all pre-specified outcomes to be measured including release of outcomes if outcomes are negative or study is terminated early. The results must be made public within 24 months of the end of data collection. If a report is planned to be published in a peer-reviewed journal, then that initial release may be an abstract that meets the requirements of the International Committee of Medical Journal Editors (<http://www.icmje.org>). However a full report of the outcomes must be made public no later than 3 years after the end of data collection.

l. The research study protocol must explicitly discuss subpopulations affected by the treatment under investigation, particularly traditionally underrepresented groups in clinical studies, how the inclusion and exclusion criteria effect enrollment of these populations, and a plan for the retention and reporting of said populations on the trial. If the inclusion and exclusion criteria are expected to have a negative effect on the recruitment or retention of underrepresented populations, the protocol must discuss why these criteria are necessary.

m. The research study protocol explicitly discusses how the results are or are not expected to be generalizable to the Medicare population to infer whether Medicare patients may benefit from the intervention. Separate discussions in the protocol may be necessary for populations eligible for Medicare due to age, disability or Medicaid eligibility.

Consistent with section 1142 of the Social Security Act, the Agency for Health Research and Quality (AHRQ) supports clinical research studies that CMS determines meet the above-listed standards and address the above-listed research questions.

The clinical research study should also have the following features:

- It should be a prospective, longitudinal study with clinical information from the period before HSCT and short- and long-term follow-up information.*
- Outcomes should be measured and compared among pre-specified subgroups within the cohort.*
- The study should be powered to make inferences in subgroup analyses.*
- Risk stratification methods should be used to control for selection bias. Data elements to be used in risk stratification models should include:*

Patient selection:

- Patient Age at diagnosis of MDS and at transplantation*
- Date of onset of MDS*
- Disease classification (specific MDS subtype at diagnosis prior to preparative/conditioning regimen using World Health Organization (WHO) classifications). Include presence/absence of refractory cytopenias*
- Comorbid conditions*

- *IPSS score (and WHO-adapted Prognostic Scoring System (WPSS) score, if applicable) at diagnosis and prior to transplantation*
- *Score immediately prior to transplantation and one year post-transplantation*
- *Disease assessment at diagnosis at start of preparative regimen and last assessment prior to preparative regimen Subtype of MDS (refractory anemia with or without blasts, degree of blasts, etc.)*
- *Type of preparative/conditioning regimen administered (myeloablative, non-myeloablative, reduced-intensity conditioning)*
- *Donor type*
- *Cell Source*
- *IPSS Score at diagnosis*

Facilities must submit the required transplant essential data to the Stem Cell Therapeutics Outcomes Database.

Nationally Noncovered Indications

Effective for services performed on or after May 24, 1996, allogeneic stem cell transplantation is not covered as treatment for multiple myeloma.

B. Autologous Stem Cell Transplantation (AuSCT)

Autologous stem cell transplantation (AuSCT) is a technique for restoring stem cells using the patient's own previously stored cells.

Nationally Covered Indications

Effective for services performed on or after April 28, 1989, AuSCT is considered reasonable and necessary under §1862(a)(1)(A) of the Social Security Act for the following conditions and is covered under Medicare for patients with:

- *Acute leukemia in remission who have a high probability of relapse and who have no human leucocyte antigens (HLA)-matched;*
- *Resistant non-Hodgkin's lymphomas or those presenting with poor prognostic features following an initial response;*
- *Recurrent or refractory neuroblastoma; or*
- *Advanced Hodgkin's disease who have failed conventional therapy and have no HLA-matched donor.*

Effective October 1, 2000, single AuSCT is only covered for Durie-Salmon Stage II or III patients that fit the following requirements:

- *Newly diagnosed or responsive multiple myeloma. This includes those patients with previously untreated disease, those with at least a partial response to prior chemotherapy (defined as a 50% decrease either in measurable paraprotein [serum and/or urine] or in bone marrow infiltration, sustained for at least 1 month), and those in responsive relapse; and*
- *Adequate cardiac, renal, pulmonary, and hepatic function.*

Effective for services performed on or after March 15, 2005, when recognized clinical risk factors are employed to select patients for transplantation, high dose melphalan (HDM) together with AuSCT is reasonable and necessary for Medicare beneficiaries of any age group with primary amyloid light chain (AL) amyloidosis who meet the following criteria:

- *Amyloid deposition in 2 or fewer organs; and,*

- *Cardiac left ventricular ejection fraction (EF) greater than 45%.*

Nationally Noncovered Indications

Insufficient data exist to establish definite conclusions regarding the efficacy of AuSCT for the following conditions:

- *Acute leukemia not in remission;*
- *Chronic granulocytic leukemia;*
- *Solid tumors (other than neuroblastoma);*
- *Up to October 1, 2000, multiple myeloma;*
- *Tandem transplantation (multiple rounds of AuSCT) for patients with multiple myeloma;*
- *Effective October 1, 2000, non primary AL amyloidosis; and,*
- *Effective October 1, 2000, thru March 14, 2005, primary AL amyloidosis for Medicare beneficiaries age 64 or older.*

In these cases, AuSCT is not considered reasonable and necessary within the meaning of §1862(a)(1)(A) of the Act and is not covered under Medicare.

Other

All other indications for stem cell transplantation not otherwise noted above as covered or noncovered nationally remain at local contractor discretion.

(Rev. 127, Issued: 10-08-10, Effective: 08-04-10, Implementation: 11-10-10)

*** This NCD last reviewed August 2010.**

Other Comments

There is a coding article associated with this document.

Start Date of Notice Period

(Published)

Existing Policy; *11/01/2010

Revision History

03/23/92, 04/25/96, 08/31/00, Tri-State; 12/01/00, Merged; 01/01/2003 (03 HCPCS); 05/01/2005
Converted document from LMRP to NCD, added new coverage; 01/01/2006, Added language
clarifying what is included in the transplant service; *11/01/2010 Added information that
effective August 4, 2010, coverage is extended for the treatment of Myelodysplastic Syndromes
(MDS) pursuant to Coverage with Evidence Development (CED)