

Corporate Medical Policy

Autologous Hematopoietic Stem-Cell Transplantation for Malignant Astrocytomas and Gliomas

File Name:	hematopoietic_stem_cell_transplantation_for_astrocytomas_and_gliomas
Origination Date	2/2001
Last CAP Review:	4/2012
Next CAP Review:	4/2013
Last Review:	4/2012

Description of Procedure or Service

Hematopoietic Stem-Cell Transplantation

Hematopoietic stem-cell transplantation (HSCT) 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. Bone marrow stem cells may be obtained from the transplant recipient (autologous HSCT) and can be harvested from bone marrow, peripheral blood, or umbilical cord blood and placenta 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.

Preparative Conditioning for Hematopoietic Stem-Cell Transplantation

Autologous HSCT necessitates myeloablative chemotherapy to eradicate cancerous cells from the blood and bone marrow, thus permitting subsequent engraftment and repopulation of bone marrow space with presumably normal hematopoietic progenitor cells. As a consequence, autologous HSCT is typically performed as consolidation therapy when the patient’s disease is in complete remission. Patients who undergo autologous HSCT are susceptible to chemotherapy-related toxicities and opportunistic infections prior to engraftment, but not graft-versus-host disease.

Astrocytomas and Gliomas

Diffuse fibrillary astrocytomas are the most common type of brain tumor in adults. These tumors are classified histologically into 3 grades of malignancy: grade II astrocytoma, grade III anaplastic astrocytoma, and grade IV glioblastoma multiforme. Oligodendrogliomas are diffuse neoplasms that are clinically and biologically most closely related to diffuse fibrillary astrocytomas. However, these tumors generally have better prognoses than diffuse astrocytomas, with mean survival times of 10 years versus 2–3 years. In addition, oligodendrogliomas appear to be more chemosensitive than other types of astrocytomas. Glioblastoma multiforme is the most malignant stage of astrocytoma, with survival times of less than 2 years for most patients.

Treatment of primary brain tumors focuses on surgery, either with curative intent or optimal tumor debulking. Surgery may be followed by radiation therapy and/or chemotherapy. Survival after chemoradiotherapy is largely dependent on the extent of residual tumor after surgical debulking. Therefore, tumors arising in the midline, basal ganglia, or corpus callosum or those arising in the eloquent speech or motor areas of the cortex, which typically cannot be extensively resected, have a particularly poor outcome. Treatment of children younger than 3 years is complicated by the long-term effects of radiation therapy on physical and intellectual function. Therefore, in young children, radiation of the central nervous system (CNS) is avoided whenever possible.

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Note: Astrocytomas and gliomas arise from the glial cells. Tumors arising from the neuroepithelium constitute a separate category of malignancies that include CNS neuroblastoma, medulloblastoma, ependymoblastomas, and pinealblastomas. Collectively these tumors may be referred to as primitive neuroectodermal tumors (PNETs). Ependymomas also arise from the neuroepithelium but, because of their more mature histologic appearance, are not considered a member of the PNET family. The use of high-dose chemotherapy in tumors arising from the neuroepithelium is addressed separately in the policy entitled, Hematopoietic Stem-Cell Transplantation for CNS Embryonal Tumors and Ependymoma

Related Policies:

Cord Blood as a Source of Stem Cells

Hematopoietic Stem-Cell Transplantation for CNS Embryonal Tumors and Ependymoma

****Note: This Medical Policy is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.*

Policy

Autologous Hematopoietic Stem-Cell Transplantation for Astrocytomas and Gliomas is considered investigational for all applications. BCBSNC does not cover investigational services or procedures.

Some patients may be eligible for coverage under Clinical Trials. Refer to the policy on Clinical Trial Services for Life-Threatening Conditions.

Benefits Application

This medical policy relates only to the services or supplies described herein. Please refer to the Member's Benefit Booklet for availability of benefits. Member's benefits may vary according to benefit design; therefore member benefit language should be reviewed before applying the terms of this medical policy.

Some health benefit plans may exclude benefits for transplantation.

When Autologous Hematopoietic Stem-Cell Transplantation for Astrocytomas and Gliomas is covered

Not applicable.

When Autologous Hematopoietic Stem-Cell Transplantation for Astrocytomas and Gliomas is not covered

Autologous Hematopoietic Stem-Cell Transplantation is considered investigational as a treatment of malignant astrocytomas and gliomas. (The latter diagnosis includes both glioblastoma multiforme and oligodendroglioma.)

Policy Guidelines

The 2011 National Comprehensive Cancer Network Guidelines on Central Nervous System Tumors do not list high-dose chemotherapy with hematopoietic stem-cell support as a treatment option for patients

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with astrocytomas or gliomas.

Billing/Coding/Physician Documentation Information

This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at www.bcbsnc.com. They are listed in the Category Search on the Medical Policy search page.

Applicable Codes: 38205, 38206, 38230, 38232, 38240, 38241, 38242, S2150

BCBSNC may request medical records for determination of medical necessity. When medical records are requested, letters of support and/or explanation are often useful, but are not sufficient documentation unless all specific information needed to make a medical necessity determination is included.

Scientific Background and Reference Sources

Bone Marrow Transplant for Astrocytomas and Gliomas

BCBSA Medical Policy Reference Manual, 12/1/1999

BCBSA Medical Policy Reference Manual, 10/8/2002; 8.01.31

Specialty Matched Consultant Advisory Panel - 11/2002

National Comprehensive Cancer Network. (2003) NCCN practice guidelines in oncology, central nervous system cancers. Retrieved 8/3/04 from http://www.nccn.org/professionals/physician_gls/PDF/cns.pdf.

BCBSA Medical Policy Reference Manual [Electronic]. 8.01.31, 7/15/2004

Specialty Matched Consultant Advisory Panel - 11/2004

BCBSA Medical Policy Reference Manual [Electronic]. 8.01.31, 6/27/05

National Comprehensive Cancer Network. (2005) NCCN practice guidelines in oncology, central nervous system cancers. Retrieved 1/20/06 from http://www.nccn.org/professionals/physician_gls/PDF/cns.pdf.

Specialty Matched Consultant Advisory Panel - 3/2006

BCBSA Medical Policy Reference Manual [Electronic]. 8.01.31, 9/18/07

National Comprehensive Cancer Network. (2008) NCCN practice guidelines in oncology, central nervous system cancers. V.1.2008 Retrieved 5/1/08 from http://www.nccn.org/professionals/physician_gls/PDF/cns.pdf.

Specialty Matched Consultant Advisory Panel - 3/2008

BCBSA Medical Policy Reference Manual [Electronic]. 8.01.31, 7/9/2009

National Comprehensive Cancer Network. (2008) NCCN practice guidelines in oncology, central nervous system cancers. V.1.2008 Retrieved 5/1/08 from

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http://www.nccn.org/professionals/physician_gls/PDF/cns.pdf

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Specialty Matched Consultant Advisory Panel – 5/24/2010

National Comprehensive Cancer Network. (2011) NCCN practice guidelines in oncology, central nervous system cancers. V.2.2011 Retrieved 2/24/2011 from http://www.nccn.org/professionals/physician_gls/pdf/cns.pdf

BCBSA Medical Policy Reference Manual [Electronic]. 8.01.31, 9/16/2010

Specialty Matched Consultant Advisory Panel - 4/2011

BCBSA Medical Policy Reference Manual [Electronic]. 8.01.31, 9/1/2011

Specialty Matched Consultant Advisory Panel – 4/2012

Policy Implementation/Update Information

Bone Marrow Transplant for Astrocytomas and Gliomas

- 1/01 Specialty Matched Consultant Advisory Group.
- 2/01 Original Policy Issued.
- 2/03 Specialty Matched Consultant Advisory Panel review 11/2002. No change in criteria. Codes 86812-86822 removed; codes 38231 and 86915 deleted and codes 38242, 38205 and 38206 added to the Billing/Coding section. System coding changes.
- 1/04 Benefits Application and Billing/Coding sections updated for consistency.
- 2/04 Individual CPT codes listed for CPT code ranges 38240-38242 under Billing/Coding section.
- 7/29/04 HCPCS code S2150 added to Billing/Coding section.
- 12/9/04 Specialty Matched Consultant Advisory Panel review 11/29/2004. No change to criteria. Description of Procedure or Service section revised. Revised statement in When Bone Marrow Transplant for Astrocytomas and Gliomas are not covered. Added rationale to Policy Guidelines section. Policy number added to Policy Key Word section. "Hematopoietic" and "Opportunistic" added to Definitions. References added.
- 12/23/04 Corrected Source to read as "National Comprehensive Cancer Network" instead of "Nation".
- 4/10/06 Specialty Matched Consultant Advisory Panel meeting 3/15/2006. No changes to policy. References added.
- 6/2/08 Specialty Matched Consultant Advisory Panel meeting 3/17/2008. No change to policy statement. "Policy Guidelines" section updated. Policy status changed to "Active policy, no longer scheduled for routine review." References added. (btw)
- 6/22/10 Policy Number(s) removed. (amw)

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- 7/6/10 Policy name changed from Bone Marrow Transplant for Astrocytomas and Gliomas to Autologous Hematopoietic Stem-Cell Transplantation for Malignant Astrocytomas and Gliomas. Status changed from “Active Policy, no longer scheduled for routine review” to active status. Description completely re-written. References to “Bone marrow transplant” changed to hematopoietic stem-cell transplantation throughout policy where appropriate. Updated “Policy Guidelines”. Specialty Matched Consultant Advisory Panel review 5/24/2010. References added. (btw)
- 5/24/11 Specialty Matched Consultant Advisory Panel review 4/27/11. Minor formatting changes made. No change to policy intent. References added. (btw)
- 1/24/12 New CPT code 38232 added to Billing/Coding section. Reference added. (btw)
- 5/15/12 Specialty Matched Consultant Advisory Panel review 4/18/12. No change to policy intent. (btw)

Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.