



MEDICAL COVERAGE GUIDELINES
SECTION: SURGERY

ORIGINAL EFFECTIVE DATE: 08/27/06
LAST REVIEW DATE: 08/07/18
LAST CRITERIA REVISION DATE: 12/16/08
ARCHIVE DATE:

EXTRACRANIAL/INTRACRANIAL BYPASS SURGERY

Non-Discrimination Statement and Multi-Language Interpreter Services information are located at the end of this document.

Coverage for services, procedures, medical devices and drugs are dependent upon benefit eligibility as outlined in the member's specific benefit plan. This Medical Coverage Guideline must be read in its entirety to determine coverage eligibility, if any.

This Medical Coverage Guideline provides information related to coverage determinations only and does not imply that a service or treatment is clinically appropriate or inappropriate. The provider and the member are responsible for all decisions regarding the appropriateness of care. Providers should provide BCBSAZ complete medical rationale when requesting any exceptions to these guidelines.

The section identified as "Description" defines or describes a service, procedure, medical device or drug and is in no way intended as a statement of medical necessity and/or coverage.

The section identified as "Criteria" defines criteria to determine whether a service, procedure, medical device or drug is considered medically necessary or experimental or investigational.

State or federal mandates, e.g., FEP program, may dictate that any drug, device or biological product approved by the U.S. Food and Drug Administration (FDA) may not be considered experimental or investigational and thus the drug, device or biological product may be assessed only on the basis of medical necessity.

Medical Coverage Guidelines are subject to change as new information becomes available.

For purposes of this Medical Coverage Guideline, the terms "experimental" and "investigational" are considered to be interchangeable.

BLUE CROSS®, BLUE SHIELD® and the Cross and Shield Symbols are registered service marks of the Blue Cross and Blue Shield Association, an association of independent Blue Cross and Blue Shield Plans. All other trademarks and service marks contained in this guideline are the property of their respective owners, which are not affiliated with BCBSAZ.

Description:

Extracranial/intracranial (EC/IC) bypass surgery reroutes a healthy artery in the scalp to an area of the brain affected by arterial blockage. EC/IC bypass surgery has been used in the treatment of moyamoya disease, a rare, progressive, cerebrovascular disorder caused by blocked arteries at the base of the brain. EC/IC bypass surgery has been investigated for the treatment of other conditions.



MEDICAL COVERAGE GUIDELINES
SECTION: SURGERY

ORIGINAL EFFECTIVE DATE: 08/27/06
LAST REVIEW DATE: 08/07/18
LAST CRITERIA REVISION DATE: 12/16/08
ARCHIVE DATE:

EXTRACRANIAL/INTRACRANIAL BYPASS SURGERY (cont.)

Criteria:

- Extracranial/intracranial bypass surgery for the treatment of moyamoya disease is considered **medically necessary**.
- Extracranial/intracranial bypass surgery for all other indications not previously listed is considered **experimental or investigational** based upon:
 1. Insufficient scientific evidence to permit conclusions concerning the effect on health outcomes, and
 2. Insufficient evidence to support improvement of the net health outcome.

These indications include, *but are not limited to*:

- Giant cerebral aneurysm
- Carotid aneurysm
- Vertebral aneurysm
- Ischemic cerebrovascular disease of carotid or middle cerebral arteries

Resources:

Literature reviewed 08/07/18. We do not include marketing materials, poster boards and non-published literature in our review.

Resources prior to 07/19/16 may be requested from the BCBSAZ Medical Policy and Technology Research Department.

1. Akbarian-Tefaghi H, Kalakoti P, Sun H, et al. Impact of Hospital Caseload and Elective Admission on Outcomes After Extracranial-Intracranial Bypass Surgery. *World Neurosurg.* Dec 2017;108:716-728.
2. Arias EJ, Bruck B, Vellimana AK, et al. Plasmapheresis for Management of Antiphospholipid Syndrome in the Neurosurgical Patient. *Operative neurosurgery (Hagerstown, Md).* May 24 2018.
3. Ban SP, Cho WS, Kim JE, et al. Bypass Surgery for Complex Intracranial Aneurysms: 15 Years of Experience at a Single Institution and Review of Pertinent Literature. *Operative neurosurgery (Hagerstown, Md).* Jun 14 2017.
4. Chan JY, Wong ST, Chan RC, Wei WI. Extracranial/intracranial vascular bypass and craniofacial resection: New hope for patients with locally advanced recurrent nasopharyngeal carcinoma. *Head & neck.* Apr 2016;38 Suppl 1:E1404-1412.
5. Chen X, Lin CL, Su YC, et al. Risk of subsequent stroke, with or without extracranial-intracranial bypass surgery: a nationwide, retrospective, population-based study. *J Neurosurg.* Jun 1 2018:1-8.



MEDICAL COVERAGE GUIDELINES
SECTION: SURGERY

ORIGINAL EFFECTIVE DATE: 08/27/06
LAST REVIEW DATE: 08/07/18
LAST CRITERIA REVISION DATE: 12/16/08
ARCHIVE DATE:

EXTRACRANIAL/INTRACRANIAL BYPASS SURGERY (cont.)

Resources: (cont.)

6. Dubovoy AV, Ovsyannikov KS, Guzhin VE, et al. [The use of high-flow extracranial-intracranial artery bypass in pathology of the cerebral and brachiocephalic arteries: technical features and surgical outcomes]. *Zh Vopr Neurokhir Im N N Burdenko*. 2017;81(2):5-21.
7. Komatani H, Okamoto Y, Aoki T, Noguchi K, Morioka M. Long-term Prognosis after Extracranial-intracranial Bypass Surgery for Symptomatic Cerebrovascular Occlusive Disease. *The Kurume medical journal*. Jun 12 2017.
8. Li C, Cao X, Ma Z, Sun X, Hu F, Wang L. Effect of pre-surgery assessments on the prognosis of patients received extracranial-intracranial bypass surgery. *Restorative neurology and neuroscience*. Jun 28 2018.
9. Orita E, Murai Y, Sekine T, et al. Four-Dimensional Flow MRI Analysis of Cerebral Blood Flow Before and After High-Flow Extracranial-Intracranial Bypass Surgery With Internal Carotid Artery Ligation. *Neurosurgery*. May 11 2018.
10. Radovnický T, Vachata P, Bartos R, Sames M. The masaryk hospital extracranial-intracranial bypass study. *Neurosurg Rev*. May 18 2016.
11. Sato K, Endo H, Fujimura M, et al. Endovascular Treatments in Combination with Extracranial-Intracranial Bypass for Complex Intracranial Aneurysms. *World Neurosurg*. May 2018;113:e747-e760.
12. Sun H, Kalakoti P, Sharma K, et al. Proposing a validated clinical app predicting hospitalization cost for extracranial-intracranial bypass surgery. *PLoS one*. 2017;12(10):e0186758.
13. Teo KAC, Yeo TT, Sharma VK. Long-term outcome in extracranial-intracranial bypass surgery for severe steno-occlusive disease of intracranial internal carotid or middle cerebral artery. *Clin Neurol Neurosurg*. Jun 2018;169:149-153.
14. UpToDate. Intracranial large artery atherosclerosis. 05/25/2017, 01/28/2014.
15. UpToDate.com. Anesthesia for intracranial neurovascular procedures in adults. 11/02/2016.
16. UpToDate.com. Secondary prevention for specific causes of ischemic stroke and transient attack. 10/05/2017.
17. Yu LB, Zhang D, Yang SH, Zhao JZ. Surgical management of giant intrapetrous internal carotid aneurysm presenting with coil exposure after endovascular treatment. *Neurosurg Rev*. Jul 2018;41(3):891-894.



MEDICAL COVERAGE GUIDELINES
SECTION: SURGERY

ORIGINAL EFFECTIVE DATE: 08/27/06
LAST REVIEW DATE: 08/07/18
LAST CRITERIA REVISION DATE: 12/16/08
ARCHIVE DATE:

EXTRACRANIAL/INTRACRANIAL BYPASS SURGERY (cont.)

Non-Discrimination Statement:

Blue Cross Blue Shield of Arizona (BCBSAZ) complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability or sex. BCBSAZ provides appropriate free aids and services, such as qualified interpreters and written information in other formats, to people with disabilities to communicate effectively with us. BCBSAZ also provides free language services to people whose primary language is not English, such as qualified interpreters and information written in other languages. If you need these services, call (602) 864-4884 for Spanish and (877) 475-4799 for all other languages and other aids and services.

If you believe that BCBSAZ has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability or sex, you can file a grievance with: BCBSAZ's Civil Rights Coordinator, Attn: Civil Rights Coordinator, Blue Cross Blue Shield of Arizona, P.O. Box 13466, Phoenix, AZ 85002-3466, (602) 864-2288, TTY/TDD (602) 864-4823, crc@azblue.com. You can file a grievance in person or by mail or email. If you need help filing a grievance BCBSAZ's Civil Rights Coordinator is available to help you. You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights electronically through the Office for Civil Rights Complaint Portal, available at <https://ocrportal.hhs.gov/ocr/portal/lobby.jsf>, or by mail or phone at: U.S. Department of Health and Human Services, 200 Independence Avenue SW., Room 509F, HHH Building, Washington, DC 20201, 1-800-368-1019, 800-537-7697 (TDD). Complaint forms are available at <http://www.hhs.gov/ocr/office/file/index.html>

Multi-Language Interpreter Services:

Spanish: Si usted, o alguien a quien usted está ayudando, tiene preguntas acerca de Blue Cross Blue Shield of Arizona, tiene derecho a obtener ayuda e información en su idioma sin costo alguno. Para hablar con un intérprete, llame al 602-864-4884.

Navajo: Díí kwe'é atah nilínigíí Blue Cross Blue Shield of Arizona haada yit'éego bina'idííkidgo éí doodago Háida bíjá anilyeedígíí t'áadoo le'é yína'idííkidgo beehaz'áanii hólo díí t'áa hazaad'ehjí háká a'doowolgo bee haz'á doo baqah ilínigóó. Ata' halne'ígíí kojí' bich'í' hodíilnih 877-475-4799.

Chinese: 如果您，或是您正在協助的對象，有關於插入項目的名稱 Blue Cross Blue Shield of Arizona 方面的問題，您有權利免費以您的母語得到幫助和訊息。洽詢一位翻譯員，請撥電話 在此插入數字 877-475-4799。

Vietnamese: Nếu quý vị, hay người mà quý vị đang giúp đỡ, có câu hỏi về Blue Cross Blue Shield of Arizona quý vị sẽ có quyền được giúp và có thêm thông tin bằng ngôn ngữ của mình miễn phí. Để nói chuyện với một thông dịch viên, xin gọi 877-475-4799.

Arabic:

إن كان لديك أو لدى شخص تساعد أسئلة بخصوص Blue Cross Blue Shield of Arizona، فلديك الحق في الحصول على المساعدة والمعلومات الضرورية بلغتك من دون أية تكلفة. للتحدث مع مترجم اتصل بـ 877-475-4799.

