



MEDICAL COVERAGE GUIDELINES
SECTION: SURGERY

ORIGINAL EFFECTIVE DATE: 09/29/15
LAST REVIEW DATE: 08/21/18
LAST CRITERIA REVISION DATE: 08/30/16
ARCHIVE DATE:

IMPLANTABLE NEUROSTIMULATOR FOR THE TREATMENT OF CENTRAL SLEEP APNEA

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.

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Description:

Central sleep apnea (CSA) is a disorder characterized by repetitive cessation or decrease of breathing effort and airflow during sleep. CSA may be primary (i.e., idiopathic) or secondary (i.e., associated with an underlying medical cause). CSA treatment may include continuous positive airway pressure (CPAP) or supplemental oxygen during sleep.



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Description: (cont.)

The Respicardia Remedē® system, an implantable neurostimulator system, has been investigated as a treatment for CSA. A transvenous implantable lead delivers electrical stimulation to the phrenic nerve to stimulate the diaphragm and to restore a natural breathing pattern. The Remedē system includes wires for sensing and stimulation, a neurostimulation device and a portable tablet programmer.

Criteria:

For surgical treatment of snoring and obstructive sleep apnea syndrome, see BCBSAZ Medical Coverage Guideline #0781, “*Surgical Treatment of Snoring and Obstructive Sleep Apnea Syndrome*”.

For diagnosis and medical management of obstructive sleep apnea syndrome, see BCBSAZ Medical Coverage Guideline #0782, “*Diagnosis and Medical Management of Obstructive Sleep Apnea Syndrome*”.

- Implantable neurostimulator for the treatment of central sleep apnea is considered ***experimental or investigational*** based upon:
 1. Lack of final approval from the Food and Drug Administration, and
 2. Insufficient scientific evidence to permit conclusions concerning the effect on health outcomes, and
 3. Insufficient evidence to support improvement of the net health outcome, and
 4. Insufficient evidence to support improvement of the net health outcome as much as, or more than, established alternatives, and
 5. Insufficient evidence to support improvement outside the investigational setting.

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

- Respicardia Remedē system



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Resources:

Literature reviewed 08/15/17. We do not include marketing materials, poster boards and non-published literature in our review.

1. Abdunnur SV, Kim DH. Phrenic Nerve Stimulation: Technology and Clinical Applications. *Progress in neurological surgery*. 2015;29:64-75.
2. Abraham WT, Jagielski D, Oldenburg O, et al. Phrenic nerve stimulation for the treatment of central sleep apnea. *JACC Heart Fail*. May 2015;3(5):360-369.
3. Costanzo MR, Augostini R, Goldberg LR, Ponikowski P, Stellbrink C, Javaheri S. Design of the remede System Pivotal Trial: A Prospective, Randomized Study in the Use of Respiratory Rhythm Management to Treat Central Sleep Apnea. *Journal of cardiac failure*. Nov 2015;21(11):892-902.
4. Costanzo MR, Khayat R, Ponikowski P, et al. Mechanisms and clinical consequences of untreated central sleep apnea in heart failure. *J Am Coll Cardiol*. Jan 6 2015;65(1):72-84.
5. Costanzo MR, Ponikowski P, Javaheri S, et al. Transvenous neurostimulation for central sleep apnoea: a randomised controlled trial. *Lancet*. Sep 03 2016;388(10048):974-982.
6. Fox H, Bitter T, Horstkotte D, Oldenburg O, Gutleben KJ. Long-Term Experience with First-Generation Implantable Neurostimulation Device in Central Sleep Apnea Treatment. *Pacing Clin Electrophysiol*. May 2017;40(5):498-503.
7. Germany R, Joseph S, James K, Kao A. A novel therapeutic approach for the treatment of central sleep apnea: The remede(R) system. *Cardiovasc Revasc Med*. Jun 2014;15(4):235-239.
8. Jagielski D, Ponikowski P, Augostini R, Kolodziej A, Khayat R, Abraham WT. Transvenous stimulation of the phrenic nerve for the treatment of central sleep apnoea: 12 months' experience with the remede(R) System. *European journal of heart failure*. Jul 4 2016.
9. Joseph S, Costanzo MR. A novel therapeutic approach for central sleep apnea: Phrenic nerve stimulation by the remede(R) System. *International journal of cardiology*. Mar 2016;206 Suppl:S28-34.



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Resources: (cont.)

10. Khayat RN, Abraham WT. Current treatment approaches and trials in central sleep apnea. *International journal of cardiology*. Mar 2016;206 Suppl:S22-27.
11. Ponikowski P, Javaheri S, Michalkiewicz D, et al. Transvenous phrenic nerve stimulation for the treatment of central sleep apnoea in heart failure. *Eur Heart J*. Apr 2012;33(7):889-894.
12. Zhang X, Ding N, Ni B, Yang B, Wang H, Zhang SJ. Safety and feasibility of chronic transvenous phrenic nerve stimulation for treatment of central sleep apnea in heart failure patients. *Clin Respir J*. Jun 15 2015.



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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 nilinigií Blue Cross Blue Shield of Arizona haada yit'éego bina'idíłkido go éí doodago Háida bíjá anilyeedígíí t'áadoo le'é yina'idíłkido beehaz'áanii hółq díí t'áa hazaadk'ehjí háká a'doowołgo bee haz'ą doo baqah ilinígóó. Ata' halne'ígíí kojį' bich'į' hodíłnih 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، ف لديك الحق في الحصول على المساعدة والمعلومات الضرورية بلغتك من دون أية تكلفة. للتحدث مع مترجم اتصل ب 877-475-4799.

