

Hospital Billing Guide 2026

remedē® System

Transvenous Phrenic
Nerve Stimulation for
Central Sleep Apnea



The **remedē® System** Hospital Billing Guide

This guide contains hospital coding and reimbursement information for procedures associated with the placement of the **remedē System** to treat moderate to severe central sleep apnea.

At ZOLL, we're committed to partnering with you throughout every step of the coverage, coding, and reimbursement processes—delivering the hands-on assistance you need to enjoy a seamless experience.

At any time, reach out to the **remedē Reimbursement team** at 1-952-540-4470 or reimbursement@remede.zoll.com for support with:

- Prior authorizations & appeals (including peer-to-peers)
- Claim appeals
- Billing, coding or coverage questions
- Any additional information

We look forward to collaborating with you to remove access barriers and ensure that **remedē's** cost and reimbursements are aligned—so that more patients can benefit from this life-changing therapy.

This guide and all supporting documents are available for download at remede.zoll.com/reimbursement.

Disclaimer: The information provided in this guide is general reimbursement information only; it is not legal advice, nor is it advice about how to code, complete or submit any claim for payment, nor is it intended to increase or maximize reimbursement by any third-party payer. All coding and reimbursement information is subject to change without notice.

The content provided by the Center for Medicare and Medicaid Services is updated frequently. It is the responsibility of the health services provider to confirm the appropriate coding required by their local Medicare carriers, fiscal intermediaries, and commercial payers.

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TRANSVENOUS PHRENIC NERVE STIMULATION FOR CENTRAL SLEEP APNEA

Therapy Overview

The **remedē**® System is an implantable system that safely and effectively treats moderate to severe Central Sleep Apnea (CSA) in adult patients.¹ CSA is a serious breathing disorder that disrupts the normal breathing pattern during sleep and has been shown to negatively impact quality of life and cardiovascular health.² The **remedē** System is an implantable system that stimulates a nerve in the chest (the phrenic nerve) to send signals to the large muscle that controls breathing (the diaphragm).

In a clinical study, the **remedē** System has been shown to significantly improve CSA patient outcomes:

- 96% reduction in Central Apnea Index³
- 95% of patients reported they would "elect to have the medical procedure again"⁴
- 78% of patients reported improved quality of life⁴
- Significant reduction in arousals and improvement in sleep architecture³

Device and Implant Procedure

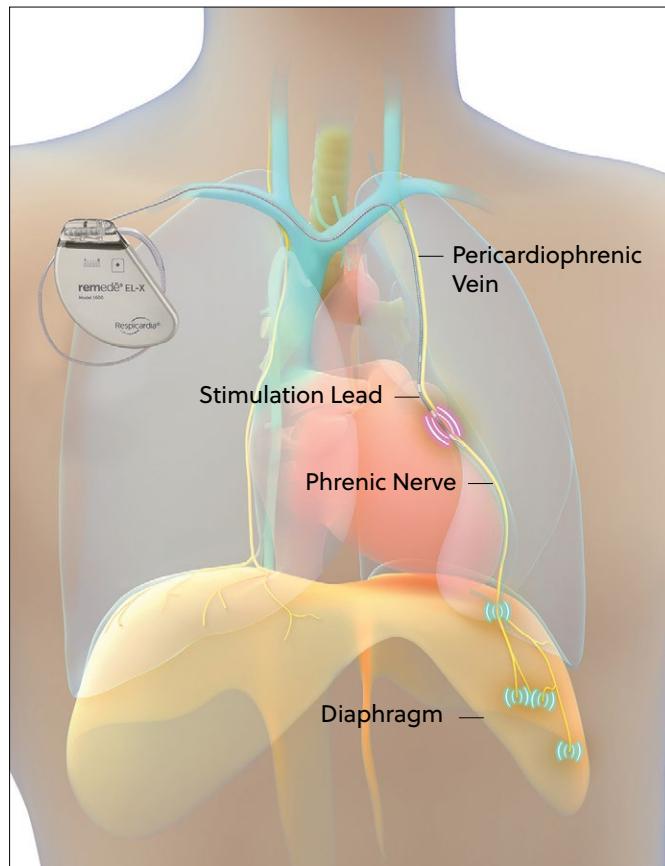
The **remedē** System is placed during a minimally invasive procedure. The system consists of a battery powered Implantable Pulse Generator (IPG) device placed under the skin in the upper chest area with one or two small thin wires (leads). One lead delivers the therapy to stimulate the phrenic nerve (stimulation lead). For select models, an optional sensing lead may be used for diagnostic purposes to sense breathing (sensing lead).

Postoperative Care

Postoperative care is recommended to optimize therapy with the **remedē** System. Regular patient follow-up should be scheduled every 3-6 months to monitor the condition of the IPG battery and to confirm that therapy settings are appropriately programmed.

The IPG should be replaced when the IPG battery has been depleted and either the Elective Replacement Indicator (ERI) or end of life (EOL) indicator is displayed on the **remedē** System programmer.

The decision to remove the **remedē** System is the responsibility of the physician and patient, and should be determined on a case-by-case basis.



COVERAGE

FDA Approval

The **remedē**® System received Premarket Approval (PMA) from the FDA on October 6, 2017. The FDA-approved indications for use are as follows:

Indications for use: The **remedē** System is an implantable phrenic nerve stimulator indicated for the treatment of moderate to severe Central Sleep Apnea (CSA) in adult patients.

Contraindications: The **remedē** System is contraindicated for patients with an active infection.

The Instructions for Use document provides further information regarding the procedure, indications for use, contraindications, warnings, precautions, and potential adverse events. The FDA has posted 1) the Summary of Safety and Effectiveness Data (SSED), 2) the FDA Approval Letter, 3) the Implant System Directions for Use (Physician Labeling), and 4) the Patient Guide (Patient Labeling) on its website located at:

<https://www.fda.gov/medical-devices/recently-approved-devices/medtronic-remedē-system-p160039>

Medicare Coverage

Currently, there is no National Coverage Determination (NCD) that directly addresses the **remedē** System. NCD 160.19 (Phrenic Nerve Stimulator) addresses the use of phrenic nerve stimulation as an alternative for patients with respiratory insufficiency but does not explicitly address the use of a phrenic nerve stimulator for CSA. Check with your local Medicare Administrative Contractor (MAC) regarding any Local Coverage Determinations (LCDs) related to the **remedē** System. Medicare may cover the **remedē** System on a case-by-case basis, with evidence of medical necessity. Prior authorization is not required or allowed for original Medicare (except for WISER prior authorization model jurisdictions).

For providers in NJ, OH, OK, TX, AZ, WA: While original Medicare does not require or allow prior authorization or prior approval for **remedē** System procedures, effective January 2026, phrenic nerve stimulation for central sleep apnea (de novo implant procedure) is included in the CMS WISER Prior Authorization Model in these states. For patients with original Medicare coverage, you may choose to 1) submit a prior authorization request to the local WISER model contractor or MAC or 2) have claims held for pre-payment medical necessity review against WISER program coverage criteria. Please reach out to the **remedē** Reimbursement Team for more information.

Medicare Advantage plans may require prior authorization or may have specific Medicare Advantage coverage policies. Check with your plan administrator for any prior authorization requirements.

Commercial Payer Coverage

Commercial insurance coverage policies vary and a prior authorization is recommended even if it is not required by the payer. Proceeding without a prior authorization may result in a claim denial and non-payment. We encourage health care professionals (HCPs) to contact payer(s) directly with questions regarding coverage policies or guidelines for the **remedē** System.

ZOLL offers the **remedē** Patient Access Program which can assist in determining the availability of coverage for your patients and facilitating prior authorization support services.

Denials and Appeals

Payers may not write a coverage policy initially, instead opting to review on a case by case basis for medical necessity. In some cases, an appeal may be required to obtain a successful prior authorization or claim approval for the **remedē** System. Most commercial and Medicare Advantage health plans have a method by which denials can be appealed through a process documented in the plan's Provider Manual. The **remedē** Patient Access Program can assist you with this process. Contact the **remedē** Reimbursement Hotline for additional information and resources to support your patient's appeal process.

CODING

This coding information is provided for general reimbursement information purposes only. It is not intended to provide advice about how to code, complete or submit any claim for payment, nor is it intended to increase or maximize reimbursement by any third-party payer. It is the responsibility of the health services provider to confirm the appropriate coding required by their local Medicare carriers, fiscal intermediaries, and commercial payers.

Diagnosis Codes

The **remedē** System is used to treat moderate to severe Central Sleep Apnea (CSA) in adult patients. Diagnosis coding for Central Sleep Apnea may include the following codes:

ICD-10-CM Diagnosis Codes

ICD-10-CM CODE ⁵	DESCRIPTION
Insertion/Replacement/Removal	
G47.31	Central Sleep Apnea
G47.32	Central Sleep Apnea due to high altitude periodic breathing
G47.37	Central sleep apnea in conditions classified elsewhere
Procedure or Device Follow-up Care	
Z45.42	Encounter for adjustment and management of neuromodulator; brain, peripheral nerve, spinal cord

Hospital Outpatient Codes

Hospitals report outpatient procedures using CPT® codes. Category I CPT codes for the **remedē** System became active in January 2024, replacing Category III CPT codes.

For hospital outpatient payments, Medicare assigns each CPT code to a specific Ambulatory Payment Classification (APC). Each APC has a fixed payment amount which includes the cost of any devices. The Status Indicator (SI) "J1" indicates the primary code and all other procedures performed are considered adjunctive and included in the single APC payment rate. Status Indicator "S" means that the code is not subject to a reduction in payment when submitted with another higher-ranked code but does not receive separate payment when included on a claim with another J1 code. Codes with Status Indicator "N" do not have a separate APC payment, as the payment is packaged into payment for other services. Regardless of whether a code receives separate payment, all appropriate HCPCS and CPT codes that correctly describe procedures performed and documented may be billed.

Medicare APCs, Status Indicators, and national average payments are provided below for procedures commonly associated with the **remedē** System. The Medicare fee schedules listed are a national average and have not been geographically or wage adjusted.

Hospital Outpatient Codes

CPT® CODE ⁶	DESCRIPTION	OPPS APC ⁷	OPPS STATUS INDICATOR ⁷	2026 MEDICARE NATIONAL AVERAGE PAYMENT ⁷
Insertion/Replacement				
33276	Insertion of phrenic nerve stimulator system (pulse generator and stimulating lead[s]), including vessel catheterization, all imaging guidance, and pulse generator initial analysis with diagnostic mode activation, when performed	1580	S	\$45,000.50
33277	Insertion of phrenic nerve stimulator transvenous sensing lead	none	N	n/a
Removal without Replacement				
33278	Removal of phrenic nerve stimulator, including vessel catheterization, all imaging guidance, and interrogation and programming, when performed; system, including pulse generator and lead(s)	5461	J1	\$3,571.83
33279	Transvenous stimulation or sensing lead(s) only	5461	J1	\$3,571.83
33280	pulse generator only	5461	J1	\$3,571.83
Removal and Replacement				
33287	Removal and replacement of phrenic nerve stimulator, including vessel catheterization, all imaging guidance, and interrogation and programming, when performed; pulse generator	5465	J1	\$31,526.06
33288	Transvenous stimulation or sensing lead(s) only	5463	J1	\$11,384.04
Repositioning				
33281	Repositioning of phrenic nerve stimulator transvenous lead(s)	5461	J1	\$3,571.83
Programming				
93150	Therapy activation of implanted phrenic nerve stimulator system including all interrogation and programming	5742	S	\$97.13
93151	Interrogation and programming (minimum one parameter) of implanted phrenic nerve stimulator system	5742	S	\$97.13
93152	Interrogation and programming of implanted phrenic nerve stimulator system during polysomnography	5743	S	\$313.79
93153	Interrogation without programming of implanted phrenic nerve stimulator system	5742	S	\$97.13

Hospitals use HCPCS Level I (eg, CPT®) and HCPCS Level II codes to report hospital outpatient services. CPT codes are assigned for the implant procedure and HCPCS Level II codes are assigned to identify the device itself. Level II HCPCS codes are reported by facilities when they have purchased and supplied the device and are required to be reported to Medicare. The following HCPCS Level II C-codes may be appropriate for Medicare hospital outpatient reporting. Some non-Medicare payers recognize HCPCS Level II L-codes and the following HCPCS Level II L-codes may be appropriate for non-Medicare payers. In general, C-codes are used for billing Medicare and L-codes are used for billing private payers, although some private payers may also accept C-codes.

HCPCS Level II Device Crosswalk - New Patient (de novo) Implant Procedure

DEVICE CATEGORY	DEVICE DESCRIPTION	MODEL NUMBER(S)	HCPCS C-CODE(S) ⁸	HCPCS L-CODE(S) ⁸
remedē System	Complete remedē System	See below for IPG and lead models	C1823*	n/a
IPG	Implantable Pulse Generator (IPG)	1001, 1100, 1600	C1767	L8686
Stimulation Lead	LQS Stimulation Lead	4065, 4165, 4665	C1778	L8680
	R Stimulation Lead	3102, 3103, 3652, 3653		
Delivery System	Guide Catheter	7120-S	C1887	n/a
Lead Test Adapter	EP Lab Lead Test Adapter single use, non-implantable	1007	n/a	n/a
Programmer	System Programmer & Wand	1002A/1004A/1004A-F	C1787	L8681

*The HCPCS code C1823 describes the complete remedē System when reporting a claim with CPT 33276. The HCPCS code C1823 should only be used when reporting a claim with CPT 33276. CMS has established a medically unlikely edit (MUE) of one for C1823. This code is most often used for a new patient and is only appropriate when the full system is implanted. A comprehensive charge should be inclusive of all implantable medical device components for the system, including a sensing lead from another manufacturer, if used. See pages 12 and 13 for an example.

HCPCS Level II Device Descriptions

HCPCS CODE	HCPCS LONG DESCRIPTION ⁸
C1767	Generator, neurostimulator (implantable), non-rechargeable
C1778	Lead, neurostimulator (implantable)
C1787	Patient programmer, neurostimulator
C1823	Generator, neurostimulator (implantable), non-rechargeable, with transvenous sensing and stimulation leads
C1887	Catheter, guiding
L8686	Implantable neurostimulator pulse generator, single array, non-rechargeable, includes extension
L8680	Implantable neurostimulator electrode, each
L8681	Patient programmer (external) for use with implantable programmable neurostimulator pulse generator, replacement only

Hospital Inpatient Codes

ICD-10-PCS procedure codes are used by hospitals to report inpatient procedures. Each major component of the procedure is coded separately. Procedures involving the **remedē®** System may involve the following codes:

Hospital Inpatient ICD-10-PCS Codes

ICD-10-PCS CODE ⁹	DESCRIPTION
0JH60DZ	Insertion of multiple array stimulator generator into chest subcutaneous tissue
05H33MZ	Insertion of neurostimulator lead into right innominate (brachiocephalic) vein
05H43MZ	Insertion of neurostimulator lead into left innominate (brachiocephalic) vein
05H03MZ	Insertion of neurostimulator lead into azygos vein

Medicare uses MS-DRG codes to reimburse hospitals for inpatient admissions. Each inpatient stay is assigned to a specific diagnosis-related group (DRG) based on the ICD-10-CM diagnosis codes and ICD-10-PCS procedure codes. Only one MS-DRG is assigned for each inpatient stay, regardless of the number of procedures performed. When more than one procedure is coded, DRG assignment is based on the highest-ranked code. Each MS-DRG has a fixed payment amount which includes the cost of any devices.

While an inpatient procedure may be unlikely, a hospital inpatient procedure involving the **remedē** System may involve the following DRG codes:

DRG Classification

DRG ¹⁰	DESCRIPTOR
040	Peripheral/Cranial Nerve & other nervous system procedures with a major complication or comorbidity (MCC)
041	Peripheral/Cranial Nerve & other nervous system procedures with a complication or comorbidity (CC) or Peripheral Neurostimulator
042	Peripheral/Cranial Nerve & other nervous system procedures without a CC or MCC

Ambulatory Surgical Center Codes

Procedures involving the **remedē** System may also be performed in Ambulatory Surgery Centers (ASC). ASCs report CPT® codes, but they are assigned to individual fee schedules. The following CPT codes may be used as a guide for ASC reporting. The actual code(s) billed should reflect the services provided to each individual patient. The Medicare fee schedules listed below are a national average and have not been geographically or wage adjusted.

Device interrogation and programming are nonsurgical procedures that are not payable by Medicare and most commercial payers in an ASC. The ASC should not report these codes to Medicare. If the physician performs device programming, they may report those codes on the physician claim. For more guidance, please see the 2026 **remedē** System Physician Billing Guide.

ASC Codes

CPT® CODE ⁵	DESCRIPTION	ASC PAYMENT INDICATOR ¹¹	2026 MEDICARE NATIONAL AVERAGE PAYMENT ¹¹
Insertion/Replacement			
33276	Insertion of phrenic nerve stimulator system (pulse generator and stimulating lead[s]), including vessel catheterization, all imaging guidance, and pulse generator initial analysis with diagnostic mode activation, when performed	J8	\$39,223.94
33277	Insertion of phrenic nerve stimulator transvenous sensing lead	N1	n/a
Removal without Replacement			
33278	Removal of phrenic nerve stimulator, including vessel catheterization, all imaging guidance, and interrogation and programming, when performed; system, including pulse generator and lead(s)	G2	\$2,003.41
33279	Transvenous stimulation or sensing lead(s) only	J8	\$2,538.35
33280	pulse generator only	G2	\$2,003.41
Removal and Replacement			
33287	Removal and replacement of phrenic nerve stimulator, including vessel catheterization, all imaging guidance, and interrogation and programming, when performed; pulse generator	J8	\$27,008.77
33288	Transvenous stimulation or sensing lead(s) only	J8	\$9,608.02
Repositioning			
33281	Repositioning of phrenic nerve stimulator transvenous lead(s)	G2	\$2,003.41

ASC Status Indicator

DRG CODE	ASC PAYMENT STATUS
J8	Device-intensive procedure; paid at adjusted rate
G2	Non office-based surgical procedure added in CY 2008 or later; payment based on OPPS relative payment weight
N1	Packaged service/item; no separate payment made

MEDICARE BILLING AND PAYMENT

Billing Considerations

For hospital inpatient and outpatient procedures, device category HCPCS codes (i.e. C-codes) for implantable devices, along with the associated charge for the device may be reported. Complete and accurate reporting of implantable devices and the associated HCPCS codes assures accurate payment and provides necessary data for the reimbursement system.

Medical Unlikely Edit (MUE) Billing Guidance

The **remedē** System consists of an Implantable Pulse Generator (IPG) and a stimulation lead. An optional sensing lead may also be used with some models. All device components are reported under the same HCPCS code, C1823. The HCPCS code C1823 describes the entire **remedē** System and CMS has established a medically unlikely edit (MUE) of one for this code.

Hospitals should combine all of the individual charges for **remedē** System components into a single charge line as shown below with a quantity of one (1). This comprehensive charge should be inclusive of all implantable medical device components for the system, including a sensing lead from another manufacturer, if used. The following two pages illustrate an example.

Example:

Recommended: Charges as they should be reported on the UB-04.

MODEL NUMBER	DEVICE DESCRIPTION	HCPCS CODE	QUANTITY	HOSPITAL CHARGES
1100	remedē System, Complete System	C1823	1	\$X

Example:

Not Recommended: Unadjusted hospital charges generated from operating room/supply documentation system.

MODEL NUMBER	DEVICE DESCRIPTION	HCPCS CODE	QUANTITY	HOSPITAL CHARGES
1100	Pulse Generator, Non-rechargeable remedē System	C1823	1	\$X
4165	Left Stimulation Lead, remedē System	C1823	1	\$X
XXXX	Right Sensing Lead	C1823	1	\$X

Hospital Outpatient Billing Example

Medicare has specific instructions for submitting hospital outpatient claims related to implantable devices which must be followed to ensure appropriate payment. For Medicare claims, device charges on the CMS-1450 (also known as the UB-04) listed under Column 47 (Total Charges) should be on the same line as a C-Code.

The most appropriate revenue code for phrenic nerve stimulation with the remedē System is 0278, Medical/Surgical Supplies: Other Implants. This revenue code was developed to separate high-cost implants from low-cost supplies, which improves charge consistency when creating revenue-code-specific cost-to-charge ratios. Charges for the procedure to implant the device are shown in revenue code 0481, Cardiac Cath Lab.

Prior Authorization Number (box 63) should also be completed for claims to commercial insurance providers, when required. An example of an outpatient CMS-1450 hospital claim is illustrated below with procedure and device charges specific to the remedē System completed.

Several billing practices have been observed that did not reflect appropriate cost capture and led to undervalued or overvalued payments including:

- Multiple line items resulting in a quantity greater than one for C1823 (see MUE Billing Guidance above)
- Incorrectly listing the device as a non-covered charge (Column 48)
- Failing to markup the device appropriately based on the hospital's applicable cost-to-charge ratio
- Using an undesignated revenue code

For questions or examples of inpatient billing, please contact the remedē Reimbursement Hotline.

Hospital Outpatient CMS-1450 Example

1		2		3a PAT. INFO. B. MED. REC. #		4 TYPE OF BILL																
				5 FED. TAX NO.		6 STATEMENT COVERS PERIOD FROM 010122 THROUGH 010123																
8 PATIENT NAME b XXXX		9 PATIENT ADDRESS b City		a Street Address		c St d Zip																
10 DIRTHDATE		11 SEX		12 DATE ADMISSION 13 HR 14 TYPE 15 SRC		16 DHR 17 STAT 18 19 20 21		CONDITION CODES 22 23 24 25 26 27 28 29 ACOT STATE 30														
31 OCCURRENCE DATE CODE		32 OCCURRENCE DATE CODE		33 OCCURRENCE DATE CODE		34 OCCURRENCE DATE CODE		35 OCCURRENCE SPAN FROM THROUGH		36 OCCURRENCE SPAN FROM THROUGH		37										
a		b		c		d		e		f		g										
38 Patient Name 1234 Main Street City, State 12345												39 VALUE CODES CODE AMOUNT		40 VALUE CODES CODE AMOUNT		41 VALUE CODES CODE AMOUNT						
a		b		c		d		e		f		g										
42 REV. CD.	43 DESCRIPTION			44 HCPCS / RATE / HIPPS CODE			45 SERV. DATE	46 SERV. UNITS	47 TOTAL CHARGES	48 NON-COVERED CHARGES	49											
1 0481	INSRT REPL PHRENIC NERVE STIM			33276					1 XXXXXX		1											
2 0278	PHRENIC NERVE STIM COML SYS			C1823					1 XXXXXX		2											
3											3											
4											4											
5											5											
6											6											
7											7											
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22											22											
23 0001	PAGE 1 OF 1			CREATION DATE			TOTALS ➔			23												
50 PAYER NAME			51 HEALTH PLAN ID			52 REL. INFO.	53 AGC. SER.	54 PRIOR PAYMENTS	55 EST. AMOUNT DUE	56 NPI	XXXXXXXXXXXX											
a			XXXXXX							57												
b										OTHER												
c										PRV ID												
58 INSURED'S NAME			59 PHN.	60 INSURED'S UNIQUE ID			61 GROUP NAME	62 INSURANCE GROUP NO.														
a				XXXXXXXXXXXX				b														
b								c														
c																						
63 TREATMENT AUTHORIZATION CODES				64 DOCUMENT CONTROL NUMBER				65 EMPLOYER NAME														
a				b				c														
b				c				d														
c				d				e														
66 IX G47.31	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	60	
67 I 1	J	K	L	M	N	O	P	Q	R	S	T	68										
69 ADMIT DX	70 PATIENT REASON DX	a	b	c	d	e	f	g	h	i	j	71 PPS CODE	72 ECI	a	b	c	d	e	f	73		
74 PRINCIPAL PROCEDURE CODE	75 DATE	a	b	c	d	e	f	g	h	i	j	76 ATTENDING NPI	77 OPERATING NPI	78 OTHER NPI	79 OTHER NPI	80 OTHER NPI	81 OTHER NPI	82 OTHER NPI	83 OTHER NPI	84 OTHER NPI	85 OTHER NPI	
c. OTHER PROCEDURE CODE	76 DATE	a	b	c	d	e	f	g	h	i	j	LAST	LAST	LAST	LAST	LAST	LAST	LAST	LAST	LAST	LAST	
80 REMARKS	b1CC	a	b	c	d	e	f	g	h	i	j	LAST	LAST	LAST	LAST	LAST	LAST	LAST	LAST	LAST	LAST	
86 04 CMS-1450 © 2005 NHC	87 OMB APPROVAL PENDING NUBO 04 CMS-1450 © 2005 NHC											88 THE CERTIFICATIONS ON THE REVERSE APPLY TO THIS BILL AND ARE MADE A PART HEREOF.										

APPEALING A DENIED CLAIM OR PRIOR AUTHORIZATION REQUEST

Payers may not write a coverage policy initially, instead opting to review on a case by case basis for medical necessity. In some cases, a payer's appeal process may need to be utilized in order to obtain payment or authorization for patient care. ZOLL offers a Patient Access Program that works on behalf of patients who qualify for the **remedē** System to exhaust all avenues in the prior-authorization appeal process. By working on behalf of the patient directly, additional avenues of appeal can be utilized that are not always available to providers.

For denied Medicare or post-service claims, the **remedē** team can also support the provider or the patient with the appeal process. Contact the **remedē** Reimbursement Hotline for more information.

We have found that successfully responding to a denial requires evaluating why the authorization request or claim was denied, presenting the clinical need for the therapy, and citing the relevant evidence to convince the reviewer. We can provide letter templates and recommend you include the following details in your appeal:

1. Evaluate the Denial

- What was the stated rationale for denial? Take time to understand the specific points listed in the denial notice (i.e. reason codes, remark codes and denial codes)
- What is the appeal process? Most insurers have a defined process with deadlines and specific requests; be sure to adhere to this process
- What is the background and specialty of the peer reviewer? Assess the reviewer's relevant experience in order to best tailor an argument to that person's background

2. Present the Clinical Need

- Highlight the patient's CSA symptoms and relevant comorbidities: Describe how long the patient has suffered from CSA, and how CSA has reduced the patient's quality of life (e.g. severe fatigue, cognitive decline, inability to hold a job or participate regularly in activities, mood changes, frequent night-time arousals and abrupt awakenings accompanied by shortness of breath, describe any relevant comorbidities that may be worsened by the disease, including heart failure, atrial fibrillation, and stroke risk)
- Provide clinical rationale for the decision to implant the **remedē** System: Explain why the **remedē** System was the best or only available treatment option, e.g.:
 - ASV was contraindicated because patient had reduced ejection fraction
 - Patient was unable to tolerate PAP therapies
 - Patient had attempted PAP therapy but symptoms did not improve
 - Physician perceived a mortality risk for positive airway pressure therapy
 - Patient cognitive decline made it necessary to utilize a therapy that did not require patient compliance

3. Cite Clinical Evidence

Contact the **remedē** Reimbursement Hotline for an extensive list of publications related to Central Sleep Apnea and the **remedē** System as well as sample appeal letter templates.

For questions or case management support, please call the **remedē** Reimbursement Hotline at **1-952-540-4470** or email questions to reimbursement@remede.zoll.com.

FREQUENTLY ASKED QUESTIONS

Q: What is the **remedē Patient Access Program?**

ZOLL has partnered with an external firm called PRIA Healthcare to provide the **remedē** Patient Access Program. PRIA is a healthcare management firm determined to bring the latest medical devices, treatments, and procedures to physicians and patients nationwide. PRIA works on behalf of the patient by executing on prior authorizations and patient-based appeals of denied care.

Q: Can I enroll my patient case in the **remedē Patient Access Program after our practice submitted the case and received a prior authorization denial?**

Yes. The **remedē** System Patient Access program leverages the patient's legally protected right to appeal an adverse benefit determination and can be used at any time, even after a claim or appeal submitted by a provider is denied. PRIA will work on behalf of patients until all avenues in the appeal process are exhausted. By working directly on behalf of the patient, additional avenues of appeal may be utilized that are not always available to providers.

¹ Costanzo M, et al. Transvenous neurostimulation for central sleep apnoea: a randomised controlled trial. *The Lancet*. 2016; 388: 974–82.

² Costanzo MR, Khayat R, Ponikowski P, et al. State-of-the-art review: Mechanisms and clinical consequences of untreated central sleep apnea in heart failure. *J Am Coll Cardiol* 2015;65:72–84.

³ Costanzo MR, Javaheri S, Ponikowski P, et al. Transvenous Phrenic Nerve Stimulation for Treatment of Central Sleep Apnea: Five-Year Safety and Efficacy Outcomes. *Nat Sci Sleep*. 2021;13:515–526.

⁴ Costanzo MR, Ponikowski P, Javaheri S, et al. Sustained Twelve Month Benefit of Phrenic Nerve Stimulation for Central Sleep Apnea. *Am J Cardiol*. 2018. pii: S0002-9149(18)30258-3. doi: 10.1016/j.amjcard.2018.02.022.

⁵ ICD-10-CM Expert for Physicians and Hospitals, 2024. AAPC.

⁶ Current Procedural Terminology (CPT®) Professional Edition 2024.

⁷ CMS-1834-FC; Hospital Outpatient Prospective Payment and Ambulatory Surgical Center Payment Systems and Quality Reporting Programs. CY2026 NFRM Addendum B.

⁸ 2025 Alpha-Numeric HCPCS File.

⁹ ICD-10-PCS Expert for Hospitals, 2024.

¹⁰ 2026 Medicare Inpatient Prospective Payment System (IPPS) Final Rule.

¹¹ CMS-1834-FC; Hospital Outpatient Prospective Payment and Ambulatory Surgical Center Payment Systems and Quality Reporting Programs. CY2026 NFRM Addendum AA.

Important Safety Information

The remedē® System is indicated for moderate to severe Central Sleep Apnea (CSA) in adult patients. A doctor will need to evaluate the patient's condition to determine if the remedē System is appropriate. The remedē® System should not be implanted during an active infection and patients will not be able to have diathermy (special heat therapies). The device is MR Conditional. The conditions and precautions can be found in the remedē System MRI guidelines manual. The remedē System may be used with another stimulation device such as a heart pacemaker or defibrillator; special testing will be needed to ensure the devices are not interacting. As with any surgically implanted device, there are risks related to the surgical procedure itself which may include, but are not limited to, pain, swelling, and infection. Once the therapy is turned on, some patients may experience discomfort from stimulation and/or from the presence of the device. The majority of these events are resolved either on their own or by adjusting the therapy settings. The remedē System may not work for everyone. There are additional risks associated with removing the system. If it is decided to remove the system, another surgery will be required. Be sure to understand all the risks and benefits associated with the implantation of the remedē System. For further information please visit remede.zoll.com, call 952-540-4470 or email info@remede.zoll.com. **Contraindications:** The remedē System is contraindicated for use in patients with an active infection. See the Instructions for Use for complete information regarding the procedure, indications for use, contraindications, warnings, precautions, and potential adverse events. **Rx Only.** The remedē® System, remedē® EL System, and remedē® EL-X System have received FDA approval. The remedē® System model 1001 has received CE Mark approval.

ZOLL Respicardia, Inc.

12400 Whitewater Dr., Suite 150 | Minnetonka, MN 55343
952-540-4470 | info@remede.zoll.com | remede.zoll.com

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