Cohere Medical Policy - Electrophysiological Study (EPS)

Clinical Policy for Medical Necessity Review

Version: 2
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Important Notices

Notices & Disclaimers:

GUIDELINES ARE SOLELY FOR COHERE'S USE IN PERFORMING MEDICAL NECESSITY REVIEWS AND ARE NOT INTENDED TO INFORM OR ALTER CLINICAL DECISION-MAKING OF END USERS.

Cohere Health, Inc. ("**Cohere**") has published these clinical guidelines to determine the medical necessity of services (the "**Guidelines**") for informational purposes only, and solely for use by Cohere's authorized "**End Users**". These Guidelines (and any attachments or linked third-party content) are not intended to be a substitute for medical advice, diagnosis, or treatment directed by an appropriately licensed healthcare professional. These Guidelines are not in any way intended to support clinical decision-making of any kind; their sole purpose and intended use is to summarize certain criteria Cohere may use when reviewing the medical necessity of any service requests submitted to Cohere by End Users. Always seek the advice of a qualified healthcare professional regarding any medical questions, treatment decisions, or other clinical guidance. The Guidelines, including any attachments or linked content, are subject to change at any time without notice.

Other Notices:

Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein.

Policy Information:

Specialty Area: Cardiovascular Disease
Policy Name: Cohere Medical Policy - Electrophysiological Study (EPS)
Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

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Medical Necessity Criteria

Service: Electrophysiological Study (EPS)

Cohere Health takes an evidence-based approach to reviewing imaging and procedure requests, meaning that sufficient clinical information must be provided at the time of submission to determine medical necessity. Documentation must include a recent and detailed history, physical examination related to the onset or change in symptoms, relevant lab results, prior imaging, and details of previous treatments. Advanced imaging or procedures should be requested after a recent clinical evaluation by the treating provider, which may include referral to a specialist.

- When a specific clinical indication is not explicitly addressed in the Cohere Health medical policy, medical necessity will be determined based on established clinical best practices, as supported by evidence-based literature, peer-reviewed sources, professional society guidelines, and state or national recommendations, unless otherwise directed by the health plan.
- Requests submitted without clinical documentation, or those that do not align with the provided clinical information—such as mismatched procedure, laterality, body part, or CPT code—may be denied for lack of medical necessity due to insufficient or inconsistent clinical information.
- When there are multiple diagnostic or therapeutic procedures requested simultaneously or within the past three months, each will be reviewed independently. Clinical documentation must clearly justify all of the following:
    - The medical necessity of each individual request
    - Why prior imaging or procedures were inconclusive or why additional/follow-up studies are needed
    - How the results will impact patient management or treatment decisions
- Requests involving adjacent or contiguous body parts may be considered not medically necessary if the documentation demonstrates that the patient's primary symptoms can be adequately assessed with a single study or procedure.

Description

An electrophysiology study (EPS) is a procedure used to evaluate the electrical activity within the heart. It involves inserting catheters into the heart to measure electrical signals and to diagnose and treat various cardiac arrhythmias (abnormal heart rhythms).

Medical Necessity Criteria

Indications

An **electrophysiological study (EPS)** is considered appropriate if **ANY** of the following is **TRUE**:

- Symptomatic or significant bradycardia (e.g., sinus node dysfunction, atrioventricular [AV] block) with inconclusive 30 days of non-invasive evaluation(s) (e.g., extended ECG monitoring, stress testing)[1]; **OR**
- Focal atrial tachycardia, which is the likely etiology of new cardiomyopathy; **OR**
- Supraventricular tachycardia (SVT) with **ANY** of the following:
  - Ebstein anomaly (with or without pre-excitation or SVT) and no prior surgical intervention on the tricuspid valve[2,3]; **OR**
  - Symptomatic or sustained SVT[4]; **OR**
- For risk stratification of Brugada syndrome with spontaneous or induced type 1 ECG pattern[5]; **OR**
- Wolff-Parkinson-White (WPW) pattern with syncope and **ANY** of the following related to ventricular pre-excitation[6]:
  - The patient's employment would be impacted (e.g., pilots, military service)[7]; **OR**
  - The patient is asymptomatic, and EPS is needed to determine **ANY** of the following:
    - Inducibility of atrioventricular reentrant tachycardia (AVRT); **OR**
    - The rapidity of antegrade conduction is a risk factor for sudden cardiac arrest; **OR**
- **ANY** of the following related to syncope:
  - Evaluation following myocardial infarction if 30 days of non-invasive monitoring is unrevealing; **OR**
  - Unexplained syncope with 30 days of inconclusive non-invasive evaluation(s) (e.g., extended ECG monitoring, stress testing) with **ANY** of the following:
    - Asymptomatic sinus node dysfunction is suspected; **OR**

        - Bifascicular block suspected[8]; **OR**
        - Ventricular arrhythmia suspected[1]; **OR**
- Congenital heart disease (CHD) with **ANY** of the following:
    - Complex CHD with nonsustained ventricular tachycardia[9]; **OR**
    - Complex CHD with unexplained syncope[9]; **OR**
    - **ALL** of the following:
        - All evaluations were inconclusive, including comprehensive ECG monitoring and stress testing; **AND**
        - **ANY** of the following symptoms of significant rhythm abnormalities:
            - Palpitations; **OR**
            - Shortness of breath; **OR**
            - Syncope; **OR**
- Ischemic cardiomyopathy with **ALL** of the following[10]:
    - Ejection fraction (EF) less than or equal to 40%; **AND**
    - Non-sustained ventricular tachycardia (NSVT) to determine inducibility of sustained VT or ventricular fibrillation; **AND**
    - Need for ICD implant; **OR**
- Pre-surgical surgical intervention on the tricuspid valve and the patient has an Ebstein anomaly[2,3]; **OR**
- Tachyarrhythmia and **ANY** of the following are being considered[10]:
    - Automatic ICD; **OR**
    - Mapping and ablation; **OR**
- Ventricular arrhythmia(s) with an indication for invasive evaluation of other conduction diseases[1]; **OR**
- Ventricular pre-excitation pattern in an asymptomatic patient and EPS is to determine **ANY** of the following:
    - Inducibility of atrioventricular reentrant tachycardia (AVRT); **OR**
    - The rapidity of antegrade conduction as a risk factor for sudden cardiac arrest.

Non-Indications

An **electrophysiological study (EPS)** is not considered appropriate if **ANY** of the following is **TRUE**:

- **ANY** of the following, as indicated by symptoms with other outpatient testing:
    - Symptomatic AV block; **OR**
    - Symptomatic sinus bradycardia (arrest)[10]; **OR**

- Syncope associated with arrhythmias that are indications for pacemaker or ICD implantation[10]; **OR**
- Tachyarrhythmias associated with syncope or near syncope and coronary intervention may be needed in the near future[10]; **OR**
- Non-sustained, asymptomatic supraventricular tachycardia; **OR**
- Risk assessment for an implantable cardioverter defibrillator (ICD) indication and the patient has heart failure with an ejection fraction (EF) less than or equal to 35%[1]; **OR**
- Any clinical scenario or documented arrhythmia that is a class I or class II indication for pacemaker or ICD implantation.

Level of Care Criteria

Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
93462	Left heart catheterization by transseptal puncture through intact septum or by transapical puncture (List separately in addition to code for primary procedure)
93600	Bundle of His recording
93602	Intra-atrial recording
93603	Right ventricular recording
93610	Intra-atrial pacing
93612	Intraventricular pacing
93613	Intracardiac electrophysiologic 3-dimensional mapping (List separately in addition to code for primary procedure)
93618	Induction of arrhythmia by electrical pacing
93619	Comprehensive electrophysiologic evaluation with right atrial pacing and recording, right ventricular pacing and recording, His bundle recording, including insertion and repositioning of multiple electrode catheters, without induction or attempted induction of arrhythmia

93620	Comprehensive electrophysiologic evaluation including insertion and repositioning of multiple electrode catheters with induction or attempted induction of arrhythmia; with right atrial pacing and recording, right ventricular pacing and recording, His bundle recording
93623	Programmed stimulation and pacing after intravenous drug infusion (List separately in addition to code for primary procedure)
93624	Electrophysiologic follow-up study with pacing and recording to test effectiveness of therapy, including induction or attempted induction of arrhythmia
93631	Intra-operative epicardial and endocardial pacing and mapping to localize the site of tachycardia or zone of slow conduction for surgical correction
93653	Comprehensive electrophysiologic evaluation with insertion and repositioning of multiple electrode catheters, induction or attempted induction of an arrhythmia with right atrial pacing and recording and catheter ablation of arrhythmogenic focus, including intracardiac electrophysiologic 3-dimensional mapping, right ventricular pacing and recording, left atrial pacing and recording from coronary sinus or left atrium, and His bundle recording, when performed; with treatment of supraventricular tachycardia by ablation of fast or slow atrioventricular pathway, accessory atrioventricular connection, cavo-tricuspid isthmus or other single atrial focus or source of atrial re-entry
93654	Comprehensive electrophysiologic evaluation with insertion and repositioning of multiple electrode catheters, induction or attempted induction of an arrhythmia with right atrial pacing and recording and catheter ablation of arrhythmogenic focus, including intracardiac electrophysiologic 3-dimensional mapping, right ventricular pacing and recording, left

	atrial pacing and recording from coronary sinus or left atrium, and His bundle recording, when performed; with treatment of ventricular tachycardia or focus of ventricular ectopy including left ventricular pacing and recording, when performed
93655	Intracardiac catheter ablation of a discrete mechanism of arrhythmia which is distinct from the primary ablated mechanism, including repeat diagnostic maneuvers, to treat a spontaneous or induced arrhythmia (List separately in addition to code for primary procedure)
93662	Intracardiac echocardiography during therapeutic/diagnostic intervention, including imaging supervision and interpretation (List separately in addition to code for primary procedure)

Medical Evidence

Oliveira et al. (2023) performed a retrospective study to identify predictors associated with the lack of referral for catheter ablation (CA) as the initial treatment option in supraventricular tachycardia (SVT) patients. Various clinical and demographic factors were treated as independent variables, while non-referral for CA as the primary treatment was considered the dependent variable in a stepwise logistic regression analysis. Out of 350 patients, 20 clinical-demographic variables were examined, with 10 initially included in the logistic regression analysis: age, gender, presence of pre-excitation on ECG, palpitations, dyspnea, chest discomfort, number of antiarrhythmic drugs prior to ablation, number of concomitant symptoms, duration of symptoms, and emergency room visits due to SVT. Following multivariable adjusted analysis, age, chest discomfort during SVT, and the number of antiarrhythmic drugs administered before ablation emerged as independent predictors positively associated with the lack of referral for CA as the first-line treatment for SVT. Overall, the study suggests that certain independent predictors contribute to the underutilization of catheter ablation as the initial treatment option for SVT.[11]

Waldmann et al. (2023) conducted a prospective multicenter study to systematically evaluate electrophysiological studies (EPS) using programmed ventricular stimulation in tetralogy of Fallot (TOF) patients undergoing assessment for pulmonary valve replacement (PVR) between January 2020 and December 2021. A uniform stimulation protocol was implemented across all participating centers. A cohort included 120 patients (mean age of 39.2±14.5 years; 53.3% males). SVT was induced in 27 (22.5%) patients. The critical isthmus most frequently implicated (90.0%) was identified between the ventricular septal defect patch and the pulmonary annulus. Factors independently associated with inducible ventricular tachycardia included a history of atrial arrhythmia and pulmonary annulus diameter greater than 26 mm. EPS findings prompted significant management alterations in 23 (19.2%) cases, including CA in 18 (15.0%), surgical cryoablation during PVR in 3 (2.5%), and defibrillator implantation in 9 (7.5%) cases. During a follow-up period of 13 (6.1-20.1) months, no patients experienced sustained ventricular arrhythmias. The authors conclude that the

systematic performance of programmed ventricular stimulation in TOF patients undergoing evaluation for PVR reveals a notable rate of inducible ventricular tachycardia and holds the potential to influence treatment strategies. Further research is warranted to ascertain whether adopting a standardized treatment approach based on EPS outcomes will translate into improved clinical outcomes.[12]

Adhaduk et al. (2022) conducted a meta-analysis and systematic review of 52 articles and 8 studies to evaluate the role of electrophysiology studies in risk stratification of patients with cardiac sarcoidosis (CS). The studies included 298 patients; most studies did not include patients with coronary artery disease (CAD). Use of immunosuppression ranged from 35.8–88%; the mean left ventricle ejection fraction (LVEF) was 34–66.3%. Limitations of the analysis included heterogeneity due to differing diagnostic criteria for CS, including patients with VT. Also, some studies did not include patients with systolic heart failure. The authors concluded that the high sensitivity and specificity of EPS make it a valuable risk stratification tool for patients with CS.[13]

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Policy Revision History/Information

Original Date: April 12, 2024		
Review History		
Version 2	07/10/2025	Annual review. Rearranged bullets for improved usability and organization. Added sub-indications for supra-ventricular tachycardia (SVT): • Ebstein anomaly (with or without pre-excitation or SVT) and no prior surgical intervention on the tricuspid valve; **OR** • Symptomatic or sustained SVT Added sub-indications for Wolff-Parkinson-White (WPW) pattern with syncope related to ventricular pre-excitation (patient's employment would be impacted, or the patient is asymptomatic and EPS is needed to determine inducibility of atrioventricular reentrant tachycardia [AVRT] or rapidity of antegrade conduction is a risk factor for sudden cardiac arrest). Under the "syncope" indication, added "30 days" to the indications for evaluation and unexplained syncope. Also added "asymptomatic sinus node dysfunction is suspected" under the indication for unexplained syncope.

		Clarified the indications for “congenital heart disease” for improved usability and organization. Removed the following indications: ● Following an episode of pre-excited atrial fibrillation; **OR** ● Implantable cardioverter defibrillator (ICD) indications are not met due to **ANY** of the following: ○ Adult congenital heart disease; **OR** ○ Ischemic cardiomyopathy; **OR** ● Nonischemic cardiomyopathy; **OR** ● Manifest ventricular pre-excitation, which would interfere with certain types of employment (e.g., pilots, military service). Added non-indication for “any clinical scenario or documented arrhythmia that is a class I or class II indication for pacemaker or ICD implantation.” Added CPT 93613. Literature review - Medical Evidence section updated (Adhaduk et al., 2022).