

5 Intracardiac Electrophysiology and Related Scenarios

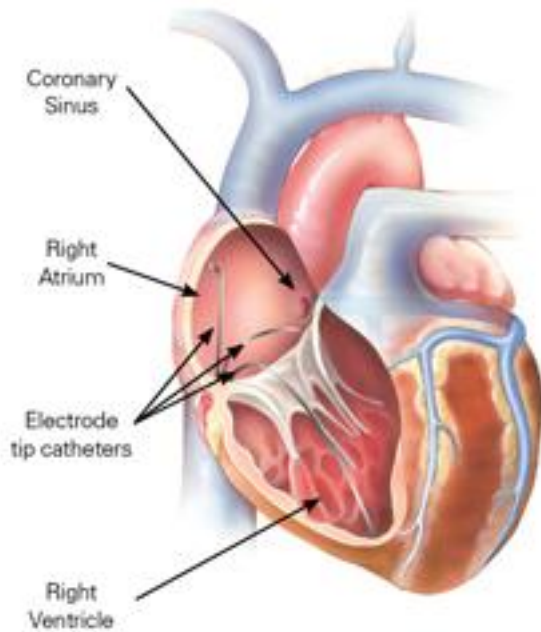
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Intracardiac Electrophysiology Study Coding Overview



Electrophysiology (EP) Studies

Electrophysiology (EP) studies are done to assess a patient's cardiac arrhythmias. These studies are invasive diagnostic medical procedures requiring the insertion of several electrode catheters. EP studies are done to determine if an arrhythmia is the cause of the patient's clinical symptoms and to assess the mechanism of the cardiac arrhythmia.

EP studies "include the insertion and repositioning of electrode catheters, recording of electrograms before and during pacing or programmed stimulation of multiple locations in the heart, analysis of recorded information, and report of the procedure. Electrophysiology studies are most often performed with two or more electrode catheters."¹

The studies are performed using ECG, blood pressure, and pulse oximetry monitoring. Signal processing and amplification equipment to display and assess the intracardiac electrical recordings are used.

Intracardiac electrophysiology studies are coded using a variety of CPT® codes in the 93600–93652 CPT® code range.

A STEP-BY-STEP DESCRIPTION OF A TYPICAL COMPREHENSIVE INTRACARDIAC ELECTROPHYSIOLOGY STUDY:

1. Introducer sheaths are inserted in the femoral vein.
2. Multiple electrode catheters are inserted into the sheaths and, under fluoroscopic guidance, are advanced into the right atrium, His bundle region, and right ventricle.
3. Once in position, the electrode catheters are attached to a monitor allowing display of the intracardiac electrograms obtained from the catheter.
4. Right atrial pacing and recording, His bundle recording, and right ventricular pacing and recording are performed. The catheters may be repositioned numerous times and pacing and recording are done at various areas within the heart.
5. If an arrhythmia is induced, it may be terminated by rapidly pacing the heart or by defibrillation or cardioversion.
6. Once all pacing and recording is completed, the catheters are withdrawn and the introducer sheaths are removed.
7. The physician documents the procedure and results of the study along with any recommendations for treatment.

Note: This document is for reference purposes only and does not replace physicians' medical documentation.

Commonly Billed Intracardiac Electrophysiology Study Scenarios

Key:

⊙ **Moderate sedation** (For these procedures, moderate [conscious] sedation is included and cannot be billed separately when provided by the same physician. See AMA's 2012 *Current Procedural Terminology* for specific guidelines.) + **Add-on code**

Physician CPT® Codes¹

Hospital Outpatient CPT® Codes²

Hospital Inpatient ICD-9-CM Codes³

5.1 Comprehensive EP Study with induction or attempted induction of arrhythmia

Scenario 5.1: Physician CPT® Codes¹

- ⊙ **93620-26⁴** 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

Scenario 5.1: Hospital Outpatient CPT® Codes²

- ⊙ **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

Scenario 5.1: Hospital Inpatient ICD-9-CM Codes³

37.26 Catheter based invasive electrophysiologic testing

- Electrophysiologic studies [EPS]
- Code also any concomitant procedure

Excludes:

- Device interrogation only without arrhythmia induction (bedside check) (89.45–89.49)
- His bundle recording (37.29)
- Non-invasive programmed electrical stimulation (NIPS) (37.20)
- That as part of intraoperative testing – omit code

37.29 Other diagnostic procedures on heart and pericardium

Excludes:

- Angiocardiology (88.50–88.58)
- Cardiac function tests (89.41–89.69)
- Cardiovascular radioisotopic scan and function study (92.05)
- Coronary arteriography (88.55–88.57)
- Diagnostic pericardiocentesis (37.0)
- Diagnostic ultrasound of heart (88.72)
- X-ray of heart (87.49)

5.2 **Comprehensive EP Study with induction or attempted induction of arrhythmia and dual chamber ICD implant**

Scenario 5.2: Physician CPT® Codes¹

- ⊙ **33249** Insertion or replacement of permanent pacing cardioverter-defibrillator system with transvenous leads(s), single or dual chamber
- ⊙ **93641-26/51⁴** Electrophysiologic evaluation of single or dual chamber pacing cardioverter-defibrillator leads including defibrillation threshold evaluation (induction of arrhythmia, evaluation of sensing and pacing for arrhythmia termination) at time of initial implantation or replacement; with testing of single or dual chamber pacing cardioverter-defibrillator pulse generator
- ⊙ **93620-51⁴** 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

Scenario 5.2: Hospital Outpatient CPT® Codes²

- ⊙ **33249** Insertion or replacement of permanent pacing cardioverter-defibrillator system with transvenous leads(s), single or dual chamber
- ⊙ **93641** Electrophysiologic evaluation of single or dual chamber pacing cardioverter-defibrillator leads including defibrillation threshold evaluation (induction of arrhythmia, evaluation of sensing and pacing for arrhythmia termination) at time of initial implantation or replacement; with testing of single or dual chamber pacing cardioverter-defibrillator pulse generator
- ⊙ **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

Scenario 5.2: Hospital Inpatient ICD-9-CM Codes³

- 37.94 Implantation or replacement of automatic cardioverter-defibrillator, total system [AICD]

Note: Device testing during procedure – omit code

- Implantation of defibrillator with leads (epicardial patches), formation of pocket (abdominal fascia) (subcutaneous), any transvenous leads, intraoperative procedures for evaluation of lead signals, and obtaining defibrillator threshold measurements
- Techniques: lateral thoracotomy, medial sternotomy, subxiphoid procedure

Code also extracorporeal circulation, if performed (39.61)

Code also any concomitant procedure [e.g., coronary bypass (36.10–36.19) or CCM, total system (17.51)]

Excludes:

- Implantation of cardiac resynchronization defibrillator, total system [CRT-D] (00.51)

- 37.26 Catheter based invasive electrophysiologic testing

- Electrophysiologic studies [EPS]

Code also any concomitant procedure

Excludes:

- That as part of intraoperative testing – omit code
- Device interrogation only without arrhythmia induction (bedside check)(89.45–89.49)
- His bundle recording (37.29)
- Non-invasive programmed electrical stimulation (NIPS) (37.20)

5.3 **Comprehensive EP Study with pacing and recording of multiple sites in the right atrium, right ventricle, His bundle and left atrium with induction of arrhythmia**

Scenario 5.3: Physician CPT® Codes¹

- ⊙ 93620-26⁴ 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
- ⊙ + 93621-26⁴ Comprehensive electrophysiologic evaluation including insertion and repositioning of multiple electrode catheters with induction or attempted induction of arrhythmia; with left atrial pacing and recording from coronary sinus or left atrium
(List separately in addition to code for primary procedure)

Scenario 5.3: Hospital Outpatient CPT® Codes²

- ⊙ 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
- ⊙ + 93621 Comprehensive electrophysiologic evaluation including insertion and repositioning of multiple electrode catheters with induction or attempted induction of arrhythmia; with left atrial pacing and recording from coronary sinus or left atrium
(List separately in addition to code for primary procedure)

Scenario 5.3: Hospital Inpatient ICD-9-CM Codes³**37.26** Catheter based invasive electrophysiologic testing

- Electrophysiologic studies [EPS]
- Code also any concomitant procedure

Excludes:

- Device interrogation only without arrhythmia induction (bedside check) (89.45–89.49)
- His bundle recording (37.29)
- Non-invasive programmed electrical stimulation (NIPS) (37.20)
- That as part of intraoperative testing – omit code

37.29 Other diagnostic procedures on heart and pericardiumExcludes:

- Angiocardiology (88.50–88.58)
- Cardiac function tests (89.41–89.69)
- Cardiovascular radioisotopic scan and function study (92.05)
- Coronary arteriography (88.55–88.57)
- Diagnostic pericardiocentesis (37.0)
- Diagnostic ultrasound of heart (88.72)
- X-ray of heart (87.49)

5.4 Partial (limited) EP Study – pacing and recording in the RA and His bundle**Scenario 5.4: Physician CPT® Codes¹**

- 93600-26⁴ Bundle of His recording
- 93602-26⁴ Intra-atrial recording
- 93610-26⁴ Intra-atrial pacing

Scenario 5.4: Hospital Outpatient CPT® Codes²

- 93600 Bundle of His recording
- 93602 Intra-atrial recording
- 93610 Intra-atrial pacing

Scenario 5.4: Hospital Inpatient ICD-9-CM Codes³**37.26** Catheter based invasive electrophysiologic testing

- Electrophysiologic studies [EPS]
- Code also any concomitant procedure

Excludes:

- Device interrogation only without arrhythmia induction (bedside check) (89.45–89.49)
- His bundle recording (37.29)
- Non-invasive programmed electrical stimulation (NIPS) (37.20)
- That as part of intraoperative testing – omit code

37.29 Other diagnostic procedures on heart and pericardiumExcludes:

- Angiocardiology (88.50–88.58)
- Cardiac function tests (89.41–89.69)
- Cardiovascular radioisotopic scan and function study (92.05)
- Coronary arteriography (88.55–88.57)
- Diagnostic pericardiocentesis (37.0)
- Diagnostic ultrasound of heart (88.72)
- X-ray of heart (87.49)

5.5 Follow-up EP Study with attempted induction of arrhythmia to assess the efficacy of medication for suppression of arrhythmia**Scenario 5.5: Physician CPT® Codes¹**

- ⊙ **93624-26⁴** Electrophysiologic follow-up study with pacing and recording to test effectiveness of therapy, including induction or attempted induction of arrhythmia

Scenario 5.5: Hospital Outpatient CPT® Codes²

- ⊙ **93624** Electrophysiologic follow-up study with pacing and recording to test effectiveness of therapy, including induction or attempted induction of arrhythmia

Scenario 5.5: Hospital Inpatient ICD-9-CM Codes³**37.26** Catheter based invasive electrophysiologic testing

- Electrophysiologic studies [EPS]
- Code also any concomitant procedure

Excludes:

- Device interrogation only without arrhythmia induction (bedside check) (89.45–89.49)
- His bundle recording (37.29)
- Non-invasive programmed electrical stimulation (NIPS) (37.20)
- That as part of intraoperative testing – omit code

Note: Some of the codes presented above may be used to code for a variety of procedures (diagnostic and therapeutic) employed in the field of electrophysiology, including atrial fibrillation, atrial flutter, AV Node, SVT and VT ablations. Please note that no Boston Scientific products are approved for sale in the US for atrial fibrillation ablations.

- ¹ American Medical Association: *2012 Current Procedural Terminology (CPT), Professional Edition*, Chicago, IL. Current Procedural Terminology (CPT) is copyright 2011 by the American Medical Association (AMA). All Rights Reserved. No fee schedules, basic units, relative values, or related listings are included in CPT. The AMA assumes no liability for the data contained herein. Applicable FARS/DFARS restrictions apply to government use. CPT is a registered trademark of the American Medical Association.
- ² As of January 1, 2005, the Centers for Medicare and Medicaid Services (CMS) require hospitals to report all device category codes (C-codes) on Medicare outpatient claims when medical devices are used in conjunction with procedure(s) billed. If C-codes are not identified on submitted Medicare outpatient claims, the claim(s) will be returned to the hospital for correction. Find C-codes for CRM devices at <http://www.bostonscientific.com/crm/reimbursement>. Also find C-codes for CRM devices and related accessories (e.g., introducers, catheters, sheaths) at http://www.cms.hhs.gov/HospitalOutpatientPPS/Downloads/DeviceCats_OPSPUpdate.pdf.
- ³ American Medical Association: *2012 ICD-9-CM for Hospitals, Volumes 1, 2 and 3, Professional Edition*, Chicago, IL.
Modifiers 26 (professional component) and 51 (multiple procedures) are for physician billing only. See the AMA's *2012 Current Procedural Terminology* for complete descriptions. Always verify appropriate usage with payers.