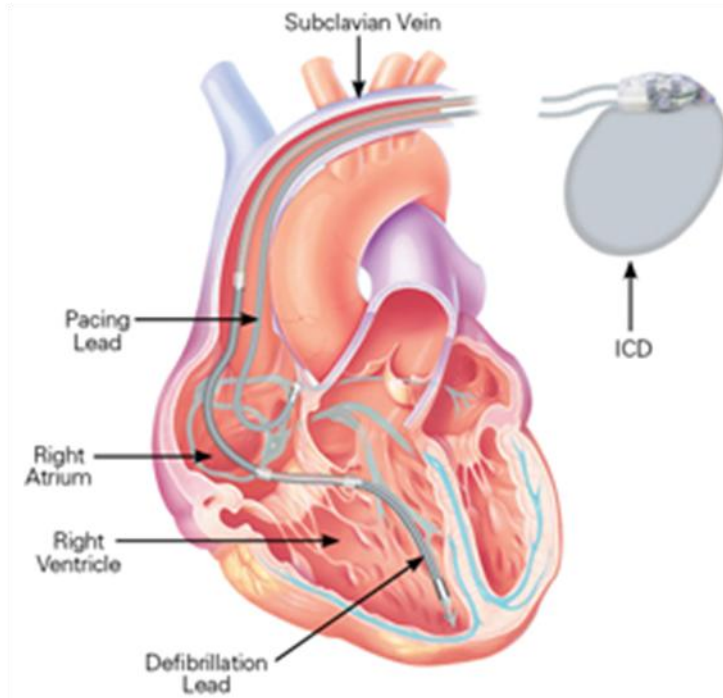


2 Implantable Cardioverter- Defibrillators (ICDs)

Implantable Cardioverter-Defibrillator (ICD)
Coding Overview 2-1

Commonly Billed Cardioverter-Defibrillator (ICD)
Scenarios 2-2

Implantable Cardioverter-Defibrillator (ICD) Coding Overview



ICD Implant Procedure

The implant of an ICD system requires the use of an ICD pulse generator and a defibrillation electrode, or lead, placed in the right ventricle for a single chamber system. If a dual chamber ICD system is required, a defibrillation lead is placed in the right ventricle and a pacing electrode or lead is placed in the right atrium. The defibrillation lead delivers electrical shock therapy if a lethal arrhythmia is detected. In addition, the lead system monitors and delivers electrical pacing stimulation if required. The leads are inserted through the subclavian vein. In some cases, the cephalic or internal jugular vein may be used as an alternative to the subclavian vein.

A STEP-BY-STEP DESCRIPTION OF A TYPICAL INITIAL ICD SYSTEM IMPLANT PROCEDURE

1. The subclavian vein is accessed and a pulse generator pocket is formed.
2. Using fluoroscopy, a defibrillation lead (33249) is inserted into the right ventricle.
3. If implanting a dual chamber system, a pacing lead is also inserted into the right atrium under fluoroscopy.
4. Lead measurement tests, including pacing and sensing thresholds and lead impedances, are performed.
5. The ICD pulse generator (included in 33249) is connected to the lead(s).
6. Testing of defibrillation thresholds (93641), including arrhythmia induction, is performed.
7. Additional testing of the lead(s) is completed.
8. The lead(s) and device are secured and the pulse generator pocket is closed.

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

Commonly Billed Implantable Cardioverter-Defibrillator (ICD) 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

2.1 Initial single or dual chamber ICD system implant, with defibrillator threshold testing at time of implant

Scenario 2.1: Physician CPT® Codes¹

- ⊙ **33249** Insertion or replacement of permanent pacing cardioverter-defibrillator system with transvenous lead(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

Scenario 2.1: Hospital Outpatient CPT® Codes²

- ⊙ **33249** Insertion or replacement of permanent pacing cardioverter-defibrillator system with transvenous lead(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

Scenario 2.1: 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)

2.2 **Replacement of single chamber ICD pulse generator with defibrillator threshold testing at time of implant**

Scenario 2.2: Physician CPT® Codes¹

- ⊙ 33262 Removal of pacing cardioverter-defibrillator pulse generator with replacement of pacing cardioverter-defibrillator pulse generator; single lead system
- ⊙ 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

Scenario 2.2: Hospital Outpatient CPT® Codes²

- ⊙ 33262 Removal of pacing cardioverter-defibrillator pulse generator with replacement of pacing cardioverter-defibrillator pulse generator; single lead system
- ⊙ 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

Scenario 2.2: Hospital Inpatient ICD-9-CM Codes³

- 37.98 Replacement of automatic cardioverter-defibrillator pulse generator only
Note: Device testing during procedure – omit code
Excludes:
 - Replacement of cardiac resynchronization defibrillator, pulse generator device only [CRT-D] (00.54)

2.3 **Single chamber ICD upgrade to dual chamber ICD with retention of right ventricular ICD lead and insertion of new right atrial pacing lead, and defibrillator threshold testing at the time of implant**

Scenario 2.3: Physician CPT® Codes¹

- ⊙ 33249 Insertion or replacement of permanent pacing cardioverter-defibrillator system with transvenous lead(s), single or dual chamber
- ⊙ 33241-51⁴ Removal of pacing cardioverter-defibrillator pulse generator only
- ⊙ 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

Scenario 2.3: Hospital Outpatient CPT® Codes²

- ⊙ 33249 Insertion or replacement of permanent pacing cardioverter-defibrillator system with transvenous lead(s), single or dual chamber
- ⊙ 33241 Removal of pacing cardioverter-defibrillator pulse generator only
- ⊙ 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

Scenario 2.3: 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)

2.4 Dual chamber pacemaker upgrade to dual chamber ICD, with capping of pacemaker leads and insertion of new right atrial and right ventricular ICD leads, with defibrillator threshold testing at the time of implant

Scenario 2.4: Physician CPT® Codes¹

- ⊙ 33249 Insertion or replacement of permanent pacing cardioverter-defibrillator system with transvenous lead(s), single or dual chamber
- ⊙ 33233–51⁴ Removal of permanent pacemaker pulse generator only
- ⊙ 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

Scenario 2.4: Hospital Outpatient CPT® Codes²

- ⊙ 33249 Insertion or replacement of permanent pacing cardioverter-defibrillator system with transvenous lead(s), single or dual chamber
- ⊙ 33233 Removal of permanent pacemaker pulse generator only
- ⊙ 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

Scenario 2.4: 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)

2.5 Replacement of single chamber cardioverter-defibrillator lead, extraction of existing lead(s), with threshold testing of ICD system

Scenario 2.5: Physician CPT® Codes¹

- ⊙ 33216 Insertion of a single transvenous electrode, permanent pacemaker or cardioverter-defibrillator
- ⊙ 33244-51³ Removal of single or dual chamber pacing cardioverter-defibrillator electrode(s); by transvenous extraction
- ⊙ 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

Scenario 2.5: Hospital Outpatient CPT® Codes²

- ⊙ 33216 Insertion of a single transvenous electrode, permanent pacemaker or cardioverter-defibrillator
- ⊙ 33244 Removal of single or dual chamber pacing cardioverter-defibrillator electrode(s); by transvenous extraction
- ⊙ 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

Scenario 2.5: Hospital Inpatient ICD-9-CM Codes³

- 37.97 Replacement of automatic cardioverter-defibrillator lead(s) only

Excludes:

- Replacement of epicardial lead [electrode] into epicardium (37.74)
- Replacement of transvenous lead [electrode] into left ventricular coronary venous system (00.52)

2.6 Insertion of atrial lead, insertion of right ventricular lead, extraction of existing leads with defibrillator threshold testing of ICD system

Scenario 2.6: Physician CPT® Codes¹

- ⊙ 33217 Insertion of 2 transvenous electrodes, permanent pacemaker or cardioverter-defibrillator
- ⊙ 33244-51⁴ Removal of single or dual chamber pacing cardioverter-defibrillator electrode(s); by transvenous extraction
- ⊙ 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

Scenario 2.6: Hospital Outpatient CPT® Codes²

- ⊙ 33217 Insertion of 2 transvenous electrodes, permanent pacemaker or cardioverter-defibrillator
- ⊙ 33244 Removal of single or dual chamber pacing cardioverter-defibrillator electrode(s); by transvenous extraction
- ⊙ 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

Scenario 2.6: Hospital Inpatient ICD-9-CM Codes³

- 37.97 Replacement of automatic cardioverter-defibrillator lead(s) only

Excludes:

- Replacement of epicardial lead [electrode] into epicardium (37.74)
- Replacement of transvenous lead [electrode] into left ventricular coronary venous system (00.52)

2.7 Insertion of Sub-Q Array with defibrillator threshold of leads

Scenario 2.7: Physician CPT® Codes¹

- 33999 Unrelated procedure, cardiac surgery

or

- ⊙ 33216 Insertion of a single transvenous electrode, permanent pacemaker or cardioverter-defibrillator
The HRS Coding Guide indicates many carriers/payers will accept existing codes for Sub-Q Array; however some carriers/payers may request use of the unlisted code. HRS recommends confirming payers requirements prior to claim submission.⁵
- ⊙ 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

Scenario 2.7: Hospital Outpatient CPT® Codes²

33999 Unrelated procedure, cardiac surgery

or

- ⊙ 33216 Insertion of a single transvenous electrode, permanent pacemaker or cardioverter-defibrillator

The HRS Coding Guide indicates many carriers/payers will accept existing codes for Sub-Q Array; however some carriers/payers may request use of the unlisted code. HRS recommends confirming payers requirements prior to claim submission.⁵

- ⊙ 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

Scenario 2.7: Hospital Inpatient ICD-9-CM Codes³

37.70 Initial insertion of lead [electrode], not otherwise specified

Excludes:

- Insertion of temporary transvenous pacemaker system (37.78)
- Replacement of atrial and/or ventricular lead(s) (37.76)

2.8 Single chamber ICD follow-up (in person)**Scenario 2.8: Physician CPT® Codes¹**

93289 Interrogation device evaluation (in person) with physician analysis, review and report, includes connection, recording and disconnection per patient encounter; single, dual, or multiple lead implantable cardioverter-defibrillator system, including analysis of heart rhythm derived data elements

or

93282 Programming device evaluation (in person) with iterative adjustment of the implantable device to test the function of the device and select optimal permanent programmed values with physician analysis, review and report: single lead implantable cardioverter-defibrillator system

Scenario 2.8: Hospital Outpatient CPT® Codes²

93289 Interrogation device evaluation (in person) with physician analysis, review and report, includes connection, recording and disconnection per patient encounter; single, dual, or multiple lead implantable cardioverter-defibrillator system, including analysis of heart rhythm derived data elements

or

93282 Programming device evaluation (in person) with iterative adjustment of the implantable device to test the function of the device and select optimal permanent programmed values with physician analysis, review and report: single lead implantable cardioverter-defibrillator system

Scenario 2.8: Hospital Inpatient ICD-9-CM Codes³

- 89.49 Automatic implantable cardioverter-defibrillator (AICD) check
- Bedside check of an AICD or cardiac resynchronization defibrillator [CRT-D]
 - Checking pacing thresholds of device
 - Interrogation only without arrhythmia induction
- Excludes:
- Catheter based invasive electrophysiologic testing (37.26)
 - Non-invasive programmed electrical stimulation [NIPS] (arrhythmia induction) (37.20)

2.9 Dual chamber ICD follow-up (in person)**Scenario 2.9: Physician CPT® Codes¹**

- 93289 Interrogation device evaluation (in person) with physician analysis, review and report, includes connection, recording and disconnection per patient encounter; single, dual, or multiple lead implantable cardioverter-defibrillator system, including analysis of heart rhythm derived data elements

or

- 93283 Programming device evaluation (in person) with iterative adjustment of the implantable device to test the function of the device and select optimal permanent programmed values with physician analysis, review and report: dual lead implantable cardioverter-defibrillator system

Scenario 2.9: Hospital Outpatient CPT® Codes²

- 93289 Interrogation device evaluation (in person) with physician analysis, review and report, includes connection, recording and disconnection per patient encounter; single, dual, or multiple lead implantable cardioverter-defibrillator system, including analysis of heart rhythm derived data elements

or

- 93283 Programming device evaluation (in person) with iterative adjustment of the implantable device to test the function of the device and select optimal permanent programmed values with physician analysis, review and report: dual lead implantable cardioverter-defibrillator system

Scenario 2.9: Hospital Inpatient ICD-9-CM Codes³

- 89.49 Automatic implantable cardioverter-defibrillator (AICD) check
- Bedside check of an AICD or cardiac resynchronization defibrillator [CRT-D]
 - Checking pacing thresholds of device
 - Interrogation only without arrhythmia induction
- Excludes:
- Catheter based invasive electrophysiologic testing (37.26)
 - Non-invasive programmed electrical stimulation [NIPS] (arrhythmia induction) (37.20)

2.10 *Single, dual or multi chamber ICD follow-up (remote)*

Scenario 2.10: Physician CPT® Codes¹

93295 Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead implantable cardioverter-defibrillator system with interim physician analysis, review(s) and report(s)

and

93296 Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead pacemaker system or implantable cardioverter-defibrillator system, remote data acquisition(s), receipt of transmissions and technician review, technical support and distribution of results

Scenario 2.10: Hospital Outpatient CPT® Codes²

93295 Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead implantable cardioverter-defibrillator system with interim physician analysis, review(s) and report(s)

and

93296 Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead pacemaker system or implantable cardioverter-defibrillator system, remote data acquisition(s), receipt of transmissions and technician review, technical support and distribution of results

Scenario 2.10: Hospital Inpatient ICD-9-CM Codes³

N/A

2.11 *Single, dual or multi chamber ICD follow-up (remote) with analysis of Implantable Cardiovascular Monitor (ICM)*

Scenario 2.11: Physician CPT® Codes¹

93295 Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead implantable cardioverter-defibrillator system with interim physician analysis, review(s) and report(s)

and

93296 Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead pacemaker system or implantable cardioverter-defibrillator system, remote data acquisition(s), receipt of transmissions and technician review, technical support and distribution of results

and

93297 Interrogation device evaluation(s) (remote) up to 30 days; implantable cardiovascular monitor system, including analysis of 1 or more recorded physiologic cardiovascular data elements from all internal and external sensors, physician analysis, review(s) and report(s)

Scenario 2.11: Hospital Outpatient CPT® Codes²

93295 Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead implantable cardioverter-defibrillator system with interim physician analysis, review(s) and report(s)

and

93296 Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead pacemaker system or implantable cardioverter-defibrillator system, remote data acquisition(s), receipt of transmissions and technician review, technical support and distribution of results

and

93297 Interrogation device evaluation(s) (remote) up to 30 days; implantable cardiovascular monitor system, including analysis of 1 or more recorded physiologic cardiovascular data elements from all internal and external sensors, physician analysis, review(s) and report(s)

Scenario 2.11: Hospital Inpatient ICD-9-CM Codes³

N/A

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 https://www.cms.gov/HospitalOutpatientPPS/Downloads/DeviceCats_OPPSUpdate.pdf

³ American Medical Association: *2012 ICD-9-CM for Hospitals, Volumes 1, 2 and 3, Professional Edition*, Chicago, IL.

⁴ 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.

⁵ Heart Rhythm Society 2010 Coding Guide for Heart Rhythm Procedures and Services, Washington, DC