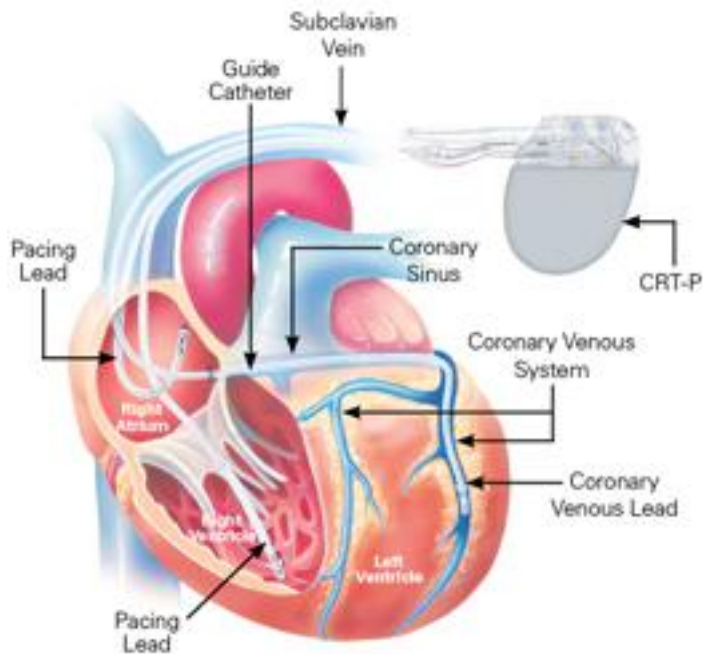


3 Cardiac Resynchronization Therapy Pacemakers (CRT-Ps)

Cardiac Resynchronization Therapy Pacemaker
(CRT-P) Coding Overview 3-1

Commonly Billed Cardiac Resynchronization
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Cardiac Resynchronization Therapy Pacemakers (CRT-P) Coding Overview



CRT-P Implant Procedure

The implant of a CRT-P system typically requires the use of a cardiac resynchronization therapy pulse generator and three electrodes, or leads. The three leads monitor and deliver electrical stimulation to the right atrium, right ventricle, and left ventricle. As in conventional pacemaker procedures, the leads are inserted through the subclavian vein and positioned in the right atrium and right ventricle. In some cases, the cephalic or internal jugular vein may be used as an alternative to the subclavian vein. In addition, a CRT-P system requires the implantation of a third lead into the coronary venous system to pace the left ventricle in order to coordinate, or resynchronize, ventricular contractions. This left ventricular lead is inserted into the subclavian vein, introduced into the coronary sinus and advanced into a coronary vein located on the exterior wall of the left ventricle.

A STEP-BY-STEP DESCRIPTION OF A TYPICAL INITIAL CRT-P SYSTEM IMPLANT PROCEDURE

1. The subclavian vein is accessed and a device pocket is formed.
2. Pacing leads are inserted into the right ventricle and right atrium, under fluoroscopy.
3. A guiding catheter is inserted into the subclavian vein.
4. The coronary sinus (CS) is cannulated with the guide catheter via the coronary sinus ostium (opening).
5. In most cases, a venogram is required to visualize the coronary venous system prior to inserting the left ventricular lead.
6. A guide wire is inserted through the guide catheter, into the coronary venous system to the desired branch vein.
7. Under fluoroscopy, the left ventricular coronary venous lead is inserted (+33225) over the guide wire and advanced into a branch of the coronary venous system.
8. Lead measurement tests, including pacing and sensing thresholds and lead impedances, are performed.
9. The guide wire is removed and replaced with a finishing wire to stabilize the lead upon removal of the guide catheter.
10. The guide catheter is removed while maintaining LV lead position.
11. The finishing wire is removed and the left ventricular coronary venous lead is secured.
12. A CRT-P pulse generator (33208) is connected to the three leads that are in place.
13. Additional testing of all lead combinations is completed.
14. The leads 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 Cardiac Resynchronization Therapy Pacemaker (CRT-P) 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

3.1 Initial CRT-P system implant, with venogram of the coronary sinus

Scenario 3.1: Physician CPT® Codes¹

- ⊙ **33208** Insertion of new or replacement of permanent pacemaker with transvenous electrodes; atrial and ventricular
- + **33225** Insertion of pacing electrode, cardiac venous system, for left ventricular pacing, at time of insertion of pacing cardioverter-defibrillator or pacemaker pulse generator (including upgrade to dual chamber system and pocket revision)
(List separately in addition to code for primary procedure)

Scenario 3.1: Hospital Outpatient CPT® Codes²

- ⊙ **33208** Insertion of new or replacement of permanent pacemaker with transvenous electrodes; atrial and ventricular
- + **33225** Insertion of pacing electrode, cardiac venous system, for left ventricular pacing, at time of insertion of pacing cardioverter-defibrillator or pacemaker pulse generator (including upgrade to dual chamber system and pocket revision)
(List separately in addition to code for primary procedure)

Scenario 3.1: Hospital Inpatient ICD-9-CM Codes³

- 00.50** Implantation of cardiac resynchronization pacemaker without mention of defibrillation, total system [CRT-P]

Note: Device testing during procedure – omit code

- Biventricular pacemaker
- Biventricular pacing without internal cardiac defibrillator
- BiV pacemaker
- Implantation of cardiac resynchronization (biventricular) pulse generator pacing device, formation of pocket, transvenous leads including placement of lead into left ventricular coronary venous system, and intraoperative procedures for evaluation of lead signals
- That with CRT-P generator and one or more leads

Excludes:

- Implantation of cardiac resynchronization defibrillator, total system [CRT-D] (00.51)
- Insertion or replacement of any type pacemaker device (37.80–37.87)
- Replacement of cardiac resynchronization:
 - defibrillator, pulse generator only [CRT-D] (00.54)
 - pacemaker, pulse generator only [CRT-P] (00.53)

- 88.63** Phlebography of other intrathoracic veins using contrast material

3.2 **Replacement of CRT-P pulse generator only utilizing existing right atrial lead, right ventricular lead and left ventricular lead**

Scenario 3.2: Physician CPT® Codes¹

- ⊙ 33229 Removal of permanent pacemaker pulse generator with replacement of pacemaker pulse generator; multiple lead system

Scenario 3.2: Hospital Outpatient CPT® Codes²

- ⊙ 33229 Removal of permanent pacemaker pulse generator with replacement of pacemaker pulse generator; multiple lead system

Scenario 3.2: Hospital Inpatient ICD-9-CM Codes³

- 00.53 Implantation or replacement of cardiac resynchronization pacemaker, pulse generator only [CRT-P]

Note: Device testing during procedure – omit code

- Implantation of CRT-P device with removal of any existing CRT-P or other pacemaker device

Excludes:

- Implantation of cardiac resynchronization pacemaker, total system [CRT-P] (00.50)
- Implantation or replacement of cardiac resynchronization defibrillator, pulse generator only [CRT-D] (00.54)
- Insertion or replacement of any type pacemaker device (37.80–37.87)

3.3 **Single chamber pacemaker upgrade to CRT-P, with insertion of right atrial lead, and insertion of left ventricular lead with coronary sinus venogram**

Scenario 3.3: Physician CPT® Codes¹

- ⊙ **33214** Upgrade of implanted pacemaker system, conversion of single chamber system to dual chamber system (includes removal of previously placed pulse generator, testing of existing lead, insertion of new lead, insertion of new pulse generator)
- + **33225** Insertion of pacing electrode, cardiac venous system, for left ventricular pacing, at time of insertion of pacing cardioverter-defibrillator or pacemaker pulse generator (including upgrade to dual chamber system and pocket revision)
(List separately in addition to code for primary procedure)

Scenario 3.3: Hospital Outpatient CPT® Codes²

- ⊙ **33214** Upgrade of implanted pacemaker system, conversion of single chamber system to dual chamber system (includes removal of previously placed pulse generator, testing of existing lead, insertion of new lead, insertion of new pulse generator)
- + **33225** Insertion of pacing electrode, cardiac venous system, for left ventricular pacing, at time of insertion of pacing cardioverter-defibrillator or pacemaker pulse generator (including upgrade to dual chamber system and pocket revision)
(List separately in addition to code for primary procedure)

Scenario 3.3: Hospital Inpatient ICD-9-CM Codes³

00.50 Implantation of cardiac resynchronization pacemaker without mention of defibrillation, total system [CRT-P]

Note: Device testing during procedure – omit code

- Biventricular pacemaker
- Biventricular pacing without internal cardiac defibrillator
- BiV pacemaker
- Implantation of cardiac resynchronization (biventricular) pulse generator pacing device, formation of pocket, transvenous leads including placement of lead into left ventricular coronary venous system, and intraoperative procedures for evaluation of lead signals
- That with CRT-P generator and one or more leads

Excludes:

- Implantation of cardiac resynchronization defibrillator, total system [CRT-D] (00.51)
- Insertion or replacement of any type pacemaker device (37.80–37.87)
- Replacement of cardiac resynchronization:
 - defibrillator, pulse generator only [CRT-D] (00.54)
 - pacemaker, pulse generator only [CRT-P] (00.53)

88.63 Phlebography of other intrathoracic veins using contrast material

3.4 LV lead extraction**Scenario 3.4: Physician CPT® Codes¹**

33234 Removal of transvenous pacemaker electrode(s); single lead system, atrial or ventricular

Scenario 3.4: Hospital Outpatient CPT® Codes²

33234 Removal of transvenous pacemaker electrode(s); single lead system, atrial or ventricular

Scenario 3.4: Hospital Outpatient CPT® Codes²

37.77 Removal of lead(s) [electrode] without replacement

Removal:

- Epicardial lead (transthoracic approach)
- Transvenous lead(s)

Excludes:

- Removal of temporary transvenous pacemaker system – omit code
- That with replacement of:
 - atrial and/or ventricular lead(s) [electrode] (37.76)
 - epicardial lead [electrode] (37.74)

88.63 Phlebography of other intrathoracic veins using contrast material

3.5 CRT-P follow-up (in person)

Scenario 3.5: Physician CPT® Codes¹

93281 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; multiple lead pacemaker system

or

93288 Interrogation device evaluation (in person) with physician analysis, review and report, includes connection, recording and disconnection per patient encounter; single, dual, or multiple lead pacemaker system

Scenario 3.5: Hospital Outpatient CPT® Codes²

93281 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; multiple lead pacemaker system

or

93288 Interrogation device evaluation (in person) with physician analysis, review and report, includes connection, recording and disconnection per patient encounter; single, dual, or multiple lead pacemaker system

Scenario 3.5: Hospital Inpatient ICD-9-CM Codes³

89.45 Artificial pacemaker rate check

- Artificial pacemaker function check NOS
- Bedside device check of pacemaker or cardiac resynchronization pacemaker [CRT-P]
- Interrogation only without arrhythmia induction

Excludes:

- Catheter based invasive electrophysiologic testing (37.26)
- Non-invasive programmed electrical stimulation [NIPS] (arrhythmia induction) (37.20)

3.6 CRT-P follow-up (remote)

Scenario 3.6: Physician CPT® Codes¹

93294 Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead pacemaker 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 3.6: Hospital Outpatient CPT® Codes²

93294 Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead pacemaker 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 3.6: Hospital Inpatient ICD-9-CM Codes³

N/A

3.7 CRT-P follow-up (remote) with analysis of Implantable Cardiovascular Monitor (ICM) data**Scenario 3.7: Physician CPT® Codes¹**

93294 Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead pacemaker 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 3.7: Hospital Outpatient CPT® Codes²

93294 Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead pacemaker system with interim physician analysis, review(s) and reports(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 3.7: Hospital Inpatient ICD-9-CM Codes³

N/A

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- 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.

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