

Electrophysiology, Pacemaker and Defibrillator Coding in 2012

Presented by:

David B. Dunn, MD, FACS
CIRCC, CPC-H, CCC

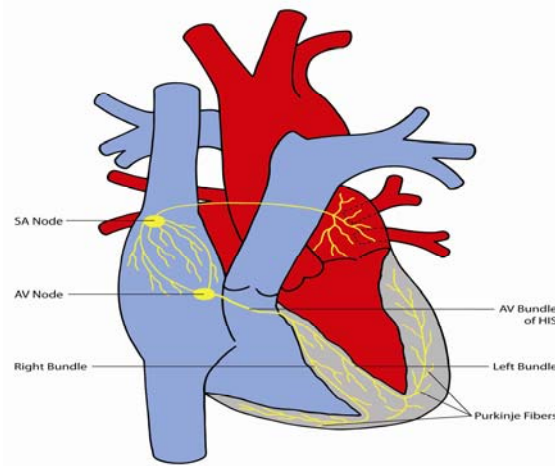


National Coding Standards

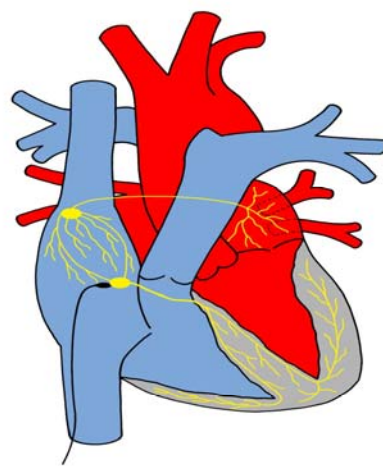
- Sources of information
 - Centers for Medicare & Medicaid (CMS)
 - Provider Policy Manual 18.0 version
 - NCDs and LCDs from Medicare Administrative Contractors (MACs)
 - American Medical Association (AMA)
 - American College of Cardiology (ACC)
 - Heart Rhythm Society (HRS)
 - Other MAC's LCDs



Electrophysiology Procedures



Conduction System



AV Node Ablation



Electrophysiology

- Pacing and recording of cardiac rhythm
- Induction (or attempted induction) of arrhythmia
- Drug testing (before or after ablation at the same session)
- Mapping of tachycardia (3D or 2D)
- Radiofrequency ablation to destroy and interrupt sites of abnormal electrical activity



Electrophysiology

- **Recording**
 - Bundle of His - 93600
 - Intra-atrial - 93602
 - Right Ventricular - 93603
 - Esophageal recording of atrial electrogram with or without ventricular electrogram - 93615
- **Pacing**
 - Intra-atrial - 93610
 - Intra-ventricular - 93612
 - Esophageal recording of atrial electrogram with or without ventricular electrogram(s); with pacing – 93616
- **Edits**
 - 93600, 93602, 93603 with 93609 zero edits
 - (o/w, 93600/02/03 cannot be paid if 93609 is also billed)



Electrophysiology

- Induction of arrhythmia by electrical pacing
 - 93618
 - Includes measures to return heart to normal pace
- Edits
 - 93618 with 93619/20/21/22, 93640, 93641 **zero edits**
 - 93620 with 93619 **zero edits**
 - 93610 with 93623 **zero edits**
 - 93624 with 93620 **zero edits**



Electrophysiology

- **Combination Studies**
 - Right atrial pacing & recording, right ventricle pacing and recording, His Bundle recording w/o induction of arrhythmia – 93619
 - Right atrial pacing & recording, right ventricle pacing and recording, His Bundle recording with induction or attempted induction of arrhythmia – 93620
 - Two of three levels comprises a “complete study”
 - Left atrial pacing and recording from coronary sinus or left atrium with induction or attempted induction of arrhythmia (add-on code) – 93621
 - Left ventricular pacing and recording with induction or attempted induction of arrhythmia (add-on code) – 93622
 - Use 93462 for transseptal puncture when performed with 93651 or 93652



Electrophysiology

- **Drug testing**

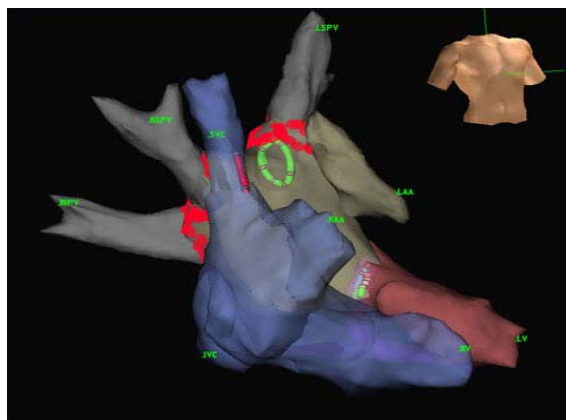
- Stimulation and pacing after IV drug infusion (add-on code) – 93623
 - (Drugs infused include Isuprel, Epinephrine, Atropine. This is performed during the acute testing and ablation. Rarely may be done with 93624, e.g., if Isuprel is given during a NIPS study as the arrhythmia is not inducible.)
- Follow-up study to test effectiveness of ongoing drug therapy or prior ablation – 93624
 - (Completely separate complete EP study with catheters, may be done as a one-wire study or with a pacemaker using NIPS. **Cannot** be used with 93620 to describe drug testing after ablation)

- **Mapping of arrhythmia**

- Single plane (add-on code) – 93609
- 3-Dimensional (add-on code) – 93613

- **Edits**

- 93609 with 93613 **zero edits**



Electrophysiology

- **Ablation of Arrhythmia**

- AV node (Complete Heart Block) – 93650
 - *Includes:*
 - Temporary pacemaker placement
 - Localized diagnostic EP study and drug infusions
 - Localized mapping of tachycardia
 - RF ablation of AV node
- Do not bill 93609, 93613, 93620, 93621 or 93623 for the limited evaluations performed of the AV node when ablation is electively planned and performed. Occasionally a failed SVT ablation may be followed by an AV node ablation. In this case, consider them as separate procedures with mapping, etc., for the SVT evaluation and ablation portions of the procedure. Consider billing both ablations but discuss with your payer. This will fall into the composite for Medicare.

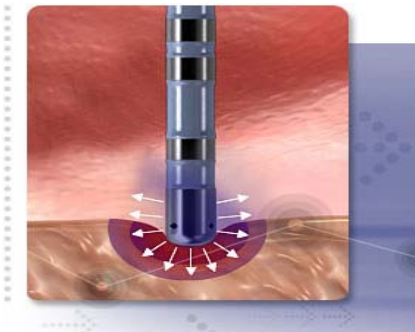


Electrophysiology

- **Ablation of Arrhythmia**

- Supra-ventricular tachycardia – 93651
 - Only bill once even if two SVTs are ablated
 - Accessory AV connection
 - Slow AV pathway
 - Pulmonary veins (Starting in 2011, use +93462 for transseptal puncture procedure. This is an add on code for 93651, 93652. Do NOT bill for pulmonary venography or catheter placements) If intracardiac echocardiography (ICE) is used here, add 93662.
- Ventricular tachycardia – 93652
 - May be right or left sided





The catheter tip delivers bursts of high-energy waves that destroy the abnormal areas.



Electrophysiology

- Non-invasive programmed stimulation (NIPS)
 - Via pacemaker for conversion of atrial flutter or ventricular tachycardia – 93724
 - Via pacemaker to assess the efficacy of chronic drug therapy (Sotalol) or prior catheter ablation for elimination of inducible ventricular tachycardia – 93624
 - Via defibrillator for defibrillator testing with induction and treatment of ventricular tachycardia (not at time of implantation) – 93642



Electrophysiology

• Rules

- Charge separately for drug testing
- Charge separately for mapping of tachycardia
- Charge separately for ablations
- Charge separately for coronary sinus catheter work done to evaluate left atrial abnormalities
- Charge separately for elective cardioversion prior to placing catheters for EP study with 92960
- Do not charge for cardioversion of arrhythmias induced during the EP study
- Do use combination codes when two of three areas of evaluation are performed (high RA, RV, Bundle of His)



Electrophysiology

• Rules - Unconditionally Packaged Procedures

- 93609, 93613, 93621, 93622, 93623, 93631, 93640, 93641, and 93662. These are now status indicator N procedures.
- Composite service payment based on one code from both Group A (93619 or 93620) and Group B (93650, 93651, or 93652)
- Payment for one code from:

Group A	Group B
93619, 93620 - \$3,729.89	93650 - \$3,729.89
	93651, 93652- \$8,529.17
- Payment for Composite when one code from each of group **A** and group **B** are present is \$11,311.28



Electrophysiology Case 1:

CLINICAL HISTORY: 78-year-old woman with history of supra-ventricular tachycardia unresponsive to medications.

PROCEDURE PERFORMED: Catheters are advanced to the high right atrium, bundle of his, right ventricle and coronary sinus for left atrial evaluation.

Right and left atrial, bundle of His and ventricular recordings and stimulation (pacing) are then performed. Supra-ventricular tachycardia is induced. Isoproterenol is infused to understand the tachycardia.

After characterization of the tachycardia, it is AV node transient tachycardia. The AV node slow pathway region is mapped. In the right anterior oblique cranial view, there is good separation of the coronary sinus in the AV node region and RF energy is applied. After the fourth RF energy application, junctional beats are noted. The tachycardia is successfully ablated with no supra-ventricular tachycardia inducible at the end on and off isoproterenol.



Electrophysiology Case 1 (continued):

RESULTS: The patient's baseline rate is 80 beats per minute. AH is 280, HV is 47, VA is 47 milliseconds. Atrial pacing results in 1:1 conduction at 330, AV blocks at 320. AV node ERP is 600, 220. VA is 370. Tachycardia is induced.

The tachycardia refractory indices are as follows: AH is 280, HV is 50, VA 47 milliseconds, cycle length 370. Baseline refractory index is greater than or equal to 150 milliseconds.

Post-ablation study. With the post-ablation study, the AV block occurs at 370. Baseline is 320. Post-ablation study on and off isoproterenol induces no tachycardia. This is aggressive atrial bursting, atrial extra stimuli. Tachycardia is noted with an A-H jump from the fastest to slow pathway.



Electrophysiology Case 1 Codes:

- 93620 – Comprehensive EP study with induction/attempted induction of arrhythmia
- 93621 – Comprehensive EP study with left atrial pacing and recording from coronary sinus or left atrium
- 93623 – Programmed stimulation and pacing after intravenous drug infusion
- 93609 – Mapping of tachycardia – 2D
- 93651 – Ablation of supraventricular tachycardia



Electrophysiology Case 2:

PROCEDURE: Diagnostic EP study, radiofrequency catheter ablation of supraventricular tachycardia.

PROTOCOL: Two 5 French sheaths, a 6 French sheath and an 8 French sheath are placed into the right femoral vein. Quadripolar catheters are directed to the high right atrial, His and RV apex positions. An octapolar catheter is placed in the coronary sinus for left atrial evaluation. Incremental pacing and extra-stimulus testing are carried out.

FINDINGS: Baseline rhythm normal saline. Basic cycle length 764. AH 65, HV 37, QRS 64, Q-T 317 msec. Atrial overdrive pacing reveals AV block cycle length of 280. Pure block occurs at the level of the AV node. With atrial extra-stimulus testing, AVERP is less than or equal to 200 at 400. It is noted at 400, prematures at 300-240. No echo beats are seen and no supraventricular tachycardia is induced. VA block cycle length is 260. VAERP is less than or equal to 200 at 400 drive.



Electrophysiology Case 2 (continued):

TACHYCARDIA INDUCTION: A wide complex tachycardia is initiated with atrial and ventricular overdrive pacing as well as spontaneously. The mechanism is felt to be ventricular tachycardia. Tachycardia is able to be terminated with overdrive pacing.

ABLATION SESSION: The coronary sinus catheter is removed and the 3-D ablation catheter is advanced to the right atrium. It is brought into the right ventricle. Three dimensional mapping is carried out in the right ventricular outflow tract. Pace mapping is used, comparing the intrinsic tachycardia to the 12 lead pace map. When 12 out of 12 leads are found to catch, radiofrequency energy is delivered. This results in loss of ectopy.



Electrophysiology Case 2 (continued):

CONCLUSIONS:

- Normal sinus node function.
- Normal AV node conduction.
- Normal His-Purkinje system conduction.
- No inducible supraventricular tachycardia.
- Spontaneous ventricular tachycardia. The mechanism is automatic versus triggered activity from the right ventricular outflow tract. It is successfully mapped and ablated.



Electrophysiology Case 2 Codes:

- 93620 – Comprehensive EP study with induction / attempted induction of arrhythmia
- 93621 – Comprehensive EP study with left atrial pacing and recording from coronary sinus or left atrium
- 93613 – Mapping of tachycardia
- 93652 – Ablation for ventricular tachycardia



Electrophysiology Case 3:

Patient with apparent ventricular tachyarrhythmia. One wire study done with right ventricular pacing. Ventricular tachycardia was induced. This was treated. Patient was then prepped and a single chamber defibrillator was placed using fluoroscopic guidance. Defibrillation threshold testing was performed after deep sedation and the device performed appropriately.



Electrophysiology Case 3 Codes:

93612 – Ventricular pacing

33249 – Single chamber defibrillator and lead placement

93641 – Defibrillator testing at the time of placement

(Note: 93618 is zero edit with 93641)



Transvenous Pacemaker Procedures



FB Modifier

- Used to denote device provided at no cost to the provider
- Used for recall of devices
- Used for rebates given for devices
- Appended to **procedure code** for device implantation Affects “device-dependent” APCs
- Payment reduced by an “offset” amount
- Offset amount is % of APC payment attributable to device payment
- Offset % varies from 43% to 89% depending on APC



FC Modifier

- Used to denote device provided with a manufacturer partial credit of 50% or more of the cost of a new device
- Used for partial credit received for replaced devices
- **Not** used for routine volume rebates given for devices
- Appended to **procedure code** for device implantation affects “device-dependent” APCs
- Payment reduced by an “offset” amount
- Offset amount is 50% of the amount of the APC payment attributable to the device payment
- Offset % varies from 21% to 45% depending on APC



Pacer/Defibrillator Definitions

- Single lead: pacing/sensing in one chamber
- Dual lead: pacing/sensing in two chambers
- Multiple lead: pacing sensing in three or more chambers
- Fluoroscopy is included in codes 33206-33249.
- Report code 76000 to assess leads when no lead/generator work performed.



Pacemaker Procedures

- Implantation code is dependent on type of device
 - Insertion of new permanent pacemaker
 - Atrial – 33206 (single generator and one lead in RA)
 - Ventricular – 33207 (single generator and one lead in RV)
 - Atrial & Ventricular – 33208 (dual generator, 2 leads in RA and RV)
 - Upgrade from single to dual chamber pacemaker including removal of old generator, testing of existing lead and placement of new generator and lead - 33214
 - Biventricular – 33225 (add-on code for LV lead inserted at same time as initial pacer insertion or replacement)



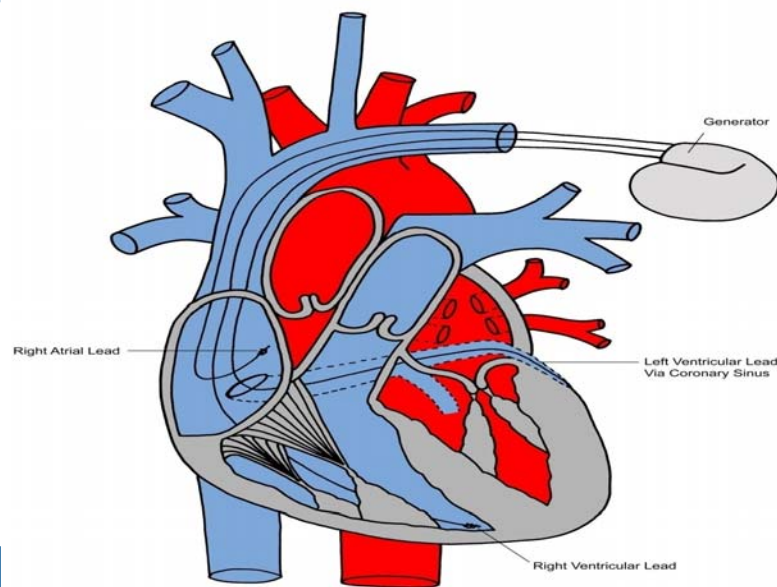


Pacemaker Procedures

- Insertion of generator ONLY to existing leads:
 - 33212 - with existing single lead
 - 33213 - with existing dual leads
 - 33221 - with existing multiple leads
- Note: Use codes 33227-33229 when existing generator is removed and a new generator is placed.

Pacemaker Procedures

- Insertion of temporary pacemaker:
 - Single chamber - 33210 (use for symptomatic bradycardia and generator exchange in pacer dependent patient, bundled for use at time of AV node ablation, coronary and carotid artery interventions)
 - Dual chamber - 33211



Pacemaker Procedures

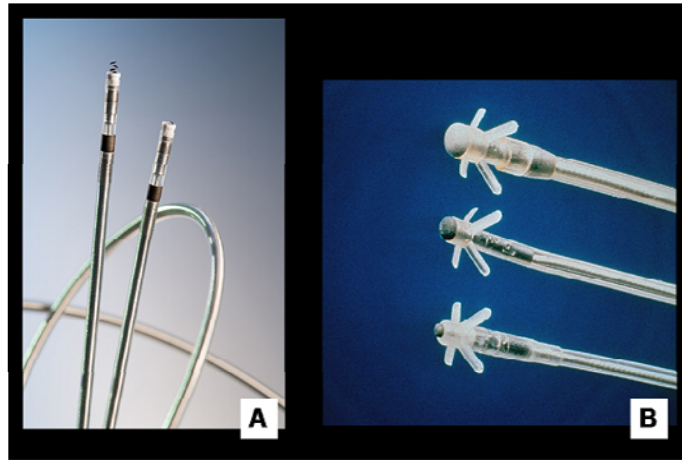
- Replacement with new pacemaker generator (do not use 33233)
 - Single lead system – 33227
 - Dual lead system – 33228
 - Multiple lead system – 33229
- Removal and discarding of the old generator without replacement
 - Generator only – 33233
- Removal and discarding of old generator, capping of lead(s) and placement of new generator and lead(s) – **use the code to describe a new pacemaker insertion based on type and number of leads placed:** 33206 (generator and atrial lead), 33207 (generator and ventricular lead) or 33208 (generator and atrial and ventricular leads) plus 33233 for generator removal
 - Also code for lead(s) removal if done. Do not code for capping of leads. **If this is an upgrade from a single to a dual chamber pacemaker use 33214 only.**



Pacemaker Procedures

- Insertion of lead(s) **only**, for pacemaker or defibrillator system
 - Electrode only
 - Insert single electrode – 33216
 - Insert two electrodes – 33217
 - Addition of left ventricular lead to existing system – 33224





Pacemaker Procedures

- Removal of lead(s) only from pacemaker
 - Electrode only
 - Single lead system – atrial or ventricular (**use for removal of single lead regardless of type of pacer, or multiple leads from a single chamber**) – 33234
 - Dual lead system – 33235
 - Do not code for capping of leads. Actual removal of leads can be quite complex and may require laser.
 - Removal of Left Ventricular Lead – bill the same codes as RV, RA lead removals

Pacemaker Procedures

- Repair electrode (fix a fracture or insulation defect, terminal pin modification, etc),
 - Single transvenous electrode – 33218
 - Two transvenous electrodes – 33220
- Repositioning of previously implanted electrode
 - Atrial or ventricular lead – 33215 (bill twice if two leads repositioned)
 - Left ventricular lead – 33226
- Open pocket and tighten set screws (not reposition or repair) – 33999
- Revision/relocation of pacemaker pocket – 33222
 - Done for generator erosion or infection (e.g., subpectoral placement)
- “Including removal, insertion and/or replacement of generator”
 - Refers to the opening of the pocket, placing the existing generator on the chest, doing your lead work, and placing the **existing** generator back into the pocket, not a completely new generator (referring to codes 33224 and 33226)



Pacemaker Procedures

- Implantable Loop Recorder Placement – 33282
 - Fluoroscopic guidance not necessary
- Implantable Loop Recorder Removal – 33284
- Insertion of subcutaneous array (after failure of standard defibrillator leads) – 33217
 - Some payers may require unlisted code for the placement of subcutaneous array, be sure to contact your payer for the appropriate way to code for this unusual procedure.



Pacemaker Case 4:

PROCEDURE: Elective DC cardioversion and implantation of dual-chamber pacemaker.

DESCRIPTION OF PROCEDURE:

She is prepped and draped in the usual manner. Local infiltration with Lidocaine, left infraclavicular incision, pocket formation and cannulation of the left subclavian vein is done with a peel-away introducer sheath. Subclavian venography is done. Dye is injected in the upper arm. The venous system is visualized. There is no obstruction noted. The leads are then placed in the right atrial wall and right ventricular apex. The patient's sensing and pacing thresholds are adequate. The leads are then secured with Ethibond sutures.



Pacemaker Case 4 (continued):

The pacemaker pocket is washed with Vancomycin antibiotic-containing solution then closed in layers using 2-0 Vicryl in the subcutaneous layer. After adequate anesthesia, the patient is cardioverted to a normal sinus rhythm. Initially with 50 joules which was unsuccessful, then 150 joules converts her to a sinus rhythm. The patient tolerates the procedure well and there are no complications.

LEAD AND DEVICE DATA: Pacemaker is from Medtronic Kappa DR KDR901, serial # PKM135239HD. Leads are from Medtronic 576-45, serial #PJN293728V; in the ventricle 576-52, serial #PJN291721V. The numbers are as follows: Atrium; 0.8 volts, 0.5 milliseconds, 1.7 MA; 572ohms, 4.0 millivolt P wave. Ventricle; 1.2 volts, 0.5 millisecond, 0.7 MA, 1000 ohms, 14.5 millivolt R wave. Final pacemaker setting; DDR 80 to 130, mode switch on. Subclavian venography showed the venous system was patent. No obstruction was seen. Fluoroscopy was used throughout the entire procedure.



Pacemaker Case 4 Codes:

33208 – Insert dual chamber pacemaker

92960 – Elective external cardioversion



Pacemaker Case 5:

PROCEDURE: Dual lead system pacemaker pulse generator exchange.

PREPROCEDURE DIAGNOSIS: Complete heart block, pacemaker battery depletion.

PROTOCOL: Via a trans-femoral venous approach, a temporary pacer is placed fluoroscopically with the lead tip in the RV and activated. Then the left chest is prepped and draped in sterile fashion. 1% lidocaine is used for local anesthesia. An incision is made over the pulse generator and dissection carried out to the pseudocapsule. The pseudocapsule is incised and the pulse generator and redundant leads are removed from the pocket. The leads are disconnected from the pulse generator and sensing and pacing thresholds are performed. Impedance is 563 ohms. There is no R wave as the patient is pacemaker dependent. The temporary pacer was removed.



Pacemaker Case 5 Codes:

33210 – Temporary pacemaker placement

33228 – Removal of existing permanent pacemaker dual lead system pulse generator with replacement of new generator

Temporary pacer is separately coded, as the patient was pacemaker dependent.



Pacemaker Case 6-A:

A) Patient for dual pacer generator exchange for battery end-of-life. At exchange, the atrial lead is checked while two right ventricular leads are removed, with placement of a new ventricular lead (using fluoroscopy) and new dual pacer generator.



Pacemaker Case 6-A Codes:

- 33233 – Removal of old pacer generator
- 33234 – Removal of two leads from the single lead system ventricular chamber
- 33207 – Single generator pacer placement



Pacemaker Case 6-B:

- A) Patient for dual pacer generator exchange for battery end-of-life. At exchange, the atrial lead is checked while two ventricular leads are removed, with placement of a new ventricular lead (using fluoroscopy) and new dual pacer generator.
- B) Same patient, but this time one ventricular lead is repaired at time of dual generator exchange, no leads are removed, and fluoroscopy was not utilized.



Pacemaker Case 6-B Codes:

33228 – Removal of old pacer generator and
insertion of new dual lead system generator

33218 – One lead repaired



Pacemaker Case 6-C:

- A) Patient for dual pacer generator exchange for battery end-of-life. At exchange, the atrial lead is checked while two ventricular leads are removed, with placement of a new ventricular lead (using fluoroscopy) and new dual pacer generator.
- B) Same patient, but this time one ventricular lead is repaired at time of dual generator exchange, no leads are removed, and fluoroscopy was not utilized.
- C) Same patient, but now both leads repaired.



Pacemaker Case 6-C Codes:

33228 – Removal of old pacer generator and
insertion of new dual lead system
generator

33220 – 2 leads repaired



Pacemaker Case 6-D:

- A) Patient for dual pacer generator exchange for battery end-of-life. At exchange, the atrial lead is checked while two ventricular leads are removed, with placement of a new ventricular lead (using fluoroscopy) and new dual pacer generator.
- B) Same patient, but this time one ventricular lead is repaired at time of dual generator exchange, no leads are removed, and fluoroscopy was not utilized.
- C) Same patient, but now both leads repaired.
- D) Same patient, but the atrial and one ventricular lead are removed and one atrial lead is placed using fluoroscopy. Same generator is re-used.



Pacemaker Case 6-D Codes:

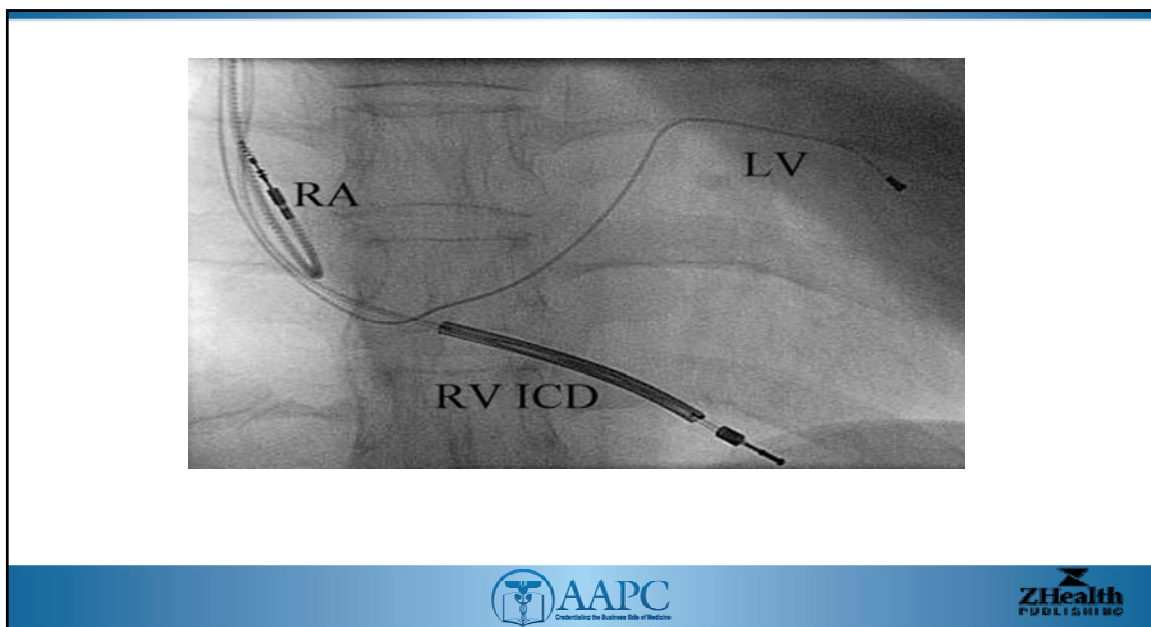
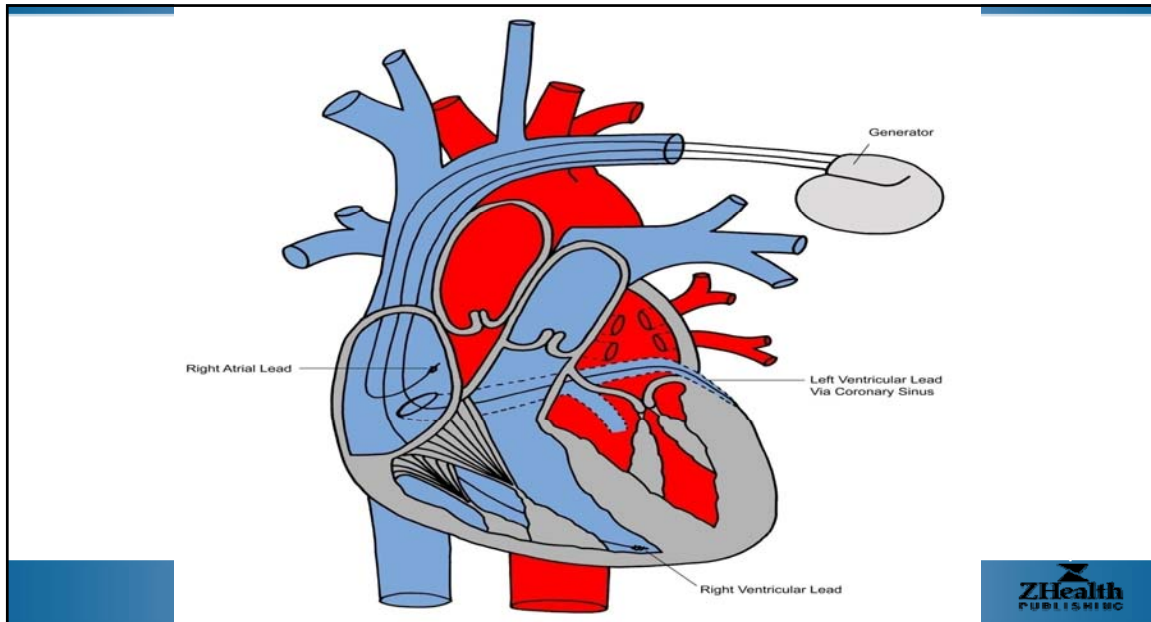
33235 – Removal of leads from dual lead system
(two chamber)

33216 – Placement of one lead (in the atrium)



Transvenous Defibrillator Procedures





Q0 Modifier

- Used on initial defibrillator placement code
- To identify patients whose data is being submitted to a registry and to document meeting the coverage requirement for devices implanted for primary prevention of sudden cardiac arrest.
- 2008 replacement for the QR modifier
- QV modifier has also been replaced by the Q1 modifier in 2008.



Q0 Modifier

- Diagnoses that Are Covered Without -Q0 Modifier
 - 427.1 - Ventricular tachycardia
 - 427.41 - Ventricular fibrillation
 - 427.42 - Ventricular flutter
 - 427.5 - Cardiac arrest
 - 427.9 - Cardiac dysrhythmia, unspecified
 - 996.04 - Mechanical complication of cardiac device, implant, and graft, due to automatic implantable cardiac defibrillator.
 - V53.32 - Fitting and adjustment of other device, automatic implantable cardiac defibrillator.



Medical Necessity

- Physicians must document reason for ICD placements. Possible exclusions include:
 - Ejection Fraction > 35%
 - Prior MI less than 40 days ago
 - CABG or Percutaneous intervention within last 3 months
 - Other causes



Defibrillator Procedures

- **Defibrillator Placements**
 - 33249 – Insertion or replacement of defibrillator system with lead(s)



Defibrillator Procedures

- Insertion of generator ONLY to existing leads:
 - 33240 - Existing single lead system
 - 33230 - Existing dual lead system
 - 33231 - Existing multiple lead system
- Note: Use codes 33262-33264 for removal of existing generator and replacement with a new generator.



Defibrillator Procedures

- Replacement
 - Removal of existing generator and replacement with new generator:
 - 33262- single lead system
 - 33263- dual lead system
 - 33264- multiple lead system
 - Note: No new leads are placed in 33262-33264.
 - Note: Do not additionally report code 33241.
 - Note: Use new defibrillator insertion code 33249 for insertion of lead and new generator.
 - Note: Use codes 33249 and 33241 for upgrade from single to dual chamber defibrillator (inserting new lead as well).



Defibrillator Procedures

- Left ventricular lead insertion at the time of defibrillator insertion or replacement – 33225
 - Do not use code 75860 for coronary sinus venography.
 - Do not code for venoplasty of the coronary sinus.
- EP testing of the defibrillator (separately billable)
 - Leads only (at time of implant, rarely done, performed when surgeon places leads via thoracotomy and cardiologist tests leads) – 93640
 - Leads and generator (at time of implant, commonly performed) – 93641 (do not use 93642 for this procedure)
 - Defibrillator (existing system, leads and generator, performed at a later date) – 93642



Defibrillator Procedures

- Insertion of lead(s) only, for pacemaker or defibrillator system
 - Insert single electrode – 33216
 - Insert two electrodes – 33217
 - Addition of left ventricular lead to existing system – 33224
 - Insertion of epicardial electrode(s); **open** incision – 33202 or **endoscopic** approach – 33203
- Removal of lead(s) only, defibrillator only
 - By **thoracotomy** – 33243
 - By **transvenous** extraction – 33244
 - Do not code for capping of leads. Actual removal of leads can be quite complex and may require laser and 22 modifier for physician billing.



Defibrillator Procedures

- Repair electrode (fix a fracture or insulation defect, terminal pin modification, etc.)
 - Repair single electrode – 33218
 - Repair two electrodes – 33220 for 2 leads
- Repositioning of previously implanted electrode
 - Atrial or ventricular lead – 33215 (Bill twice if RA and RV repositioned)
 - Left ventricular lead – 33226
- Revision/relocation defibrillator pocket – 33223
 - Done for generator erosion or infection



Hemodynamic Monitor

0293T - Insertion of left atrial hemodynamic monitor; complete system

+0294T - Insertion of left atrial pressure sensor lead at time of insertion of defibrillator pulse generator

- Note: Do not report 93462 or 93662 with these codes.



Defibrillator Case 7:

CLINICAL HISTORY: This is an 86-year-old gentleman with a history of **ventricular tachycardia**, syncope and severe ischemic cardiomyopathy. Because of this, ICD implantation is indicated. The patient has a pre-existing pacemaker that will be extracted as well as the lead.

PROCEDURE: The left subclavian region is prepped and draped in the usual fashion. The pocket is opened. The **old pacemaker and the single ventricular screw-in pacing lead are removed** without any difficulty. **Contrast** is injected to visualize the venous system. A **defibrillating lead is then placed** at the right ventricular apex. Pacing and sensing thresholds are adequate. A **new ICD generator is inserted** and the lead is attached to the device. The **ICD is tested**. VF is induced twice, at 10 and 20 joules.



Defibrillator Case 7 Codes:

- 33249 – Insertion or replacement of defibrillator system with transvenous lead(s)
- 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
- 33233 – Removal of old pacer generator
- 33234 – Removal of one or two leads from a single ventricular chamber



Defibrillator Case 8:

PROCEDURE: Implantation of dual-chamber biventricular ICD. Coronary sinus venography. Coronary sinus venoplasty.

CLINICAL HISTORY: Symptomatic ventricular tachycardia.

DESCRIPTION OF PROCEDURE: Local anesthesia with lidocaine is followed by a left infraclavicular incision and pocket formation. Cannulation of the left subclavian vein is done with placement of three peel-away sheaths.

Subclavian venography is performed. The cephalic vein, subclavian vein, axillary vein, innominate vein, RA, and RV are visualized. There is tortuosity of the veins. As such, long sheaths are used to place two leads, one each into the RA and RV locations.



Defibrillator Case 8 (continued):

The coronary sinus is then successfully cannulated with a catheter. Coronary sinus venography documents a small coronary sinus so 4 mm balloon venoplasty is performed to stretch the sinus to accept the sheath. The sheath is then advanced into the coronary sinus. The pacing lead is passed through the sheath into the lateral cardiac vein. Pacing and sensing thresholds are adequate. All leads are hooked up. System testing is undertaken.

After adequate anesthesia, VF is induced twice. Defibrillation threshold is greater than 10 joules, less than 15 joules. The pocket is then closed in layers using 2-0 Vicryl. The subcutaneous tissue and skin are closed with staples.



Defibrillator Case 8 (continued):

LEAD AND DEVICE DATA: The device is from Medtronic, InSync ICD 7272, serial number PJP233574S. The leads are from Medtronic, CapSure Fix Novus 5706, 45 cm lead, serial number PJN307975V. The next lead is the 4993, 88 cm, left ventricular lead, BAA025284V. The Sprint Quattro was the shocking coil, 6947, 65 cm lead, serial number TDG0139738V.

Fluoroscopy is used throughout the procedure.



Defibrillator Case 8 Codes:

- 33249 – Insertion or replacement of defibrillator system with transvenous lead(s)
- 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) (List separately in addition to code for primary procedure)
- 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



Device Evaluation Codes

- Cardiovascular device evaluation and reprogramming
 - Rhythm device (pacemaker) evaluation
 - ICD evaluation
 - Event monitor/loop recorder evaluation



Device Evaluation Codes

- Rhythm device (pacemaker) evaluation coding based on:
 - Type of device
 - Antitachycardia – old code retained (93724)
 - Single lead
 - Dual lead
 - Multiple lead
 - Type of evaluation
 - Programming device evaluation
 - Interrogation device evaluation
 - Remote evaluation



Pacemaker Evaluation and Reprogramming

- Types of Analysis
 - Device interrogation in person
 - Retrieve information
 - Battery
 - Programmed parameters
 - Lead(s)
 - Capture and sensing function and heart rhythm
 - Programming device evaluation with iterative adjustment
 - All of the above, with Reprogramming, if performed
 - Remote interrogation per 90 day time period



Pacemaker Evaluation and Reprogramming

- Programming device evaluation (in person) with iterative adjustment(s)
 - Single lead pacemaker – 93279
 - Dual lead pacemaker – 93280
 - Multiple lead pacemaker – 93281
- Interrogation (in person)
 - Single, dual, or multiple lead pacemaker – 93288



Pacemaker Evaluation and Reprogramming

- Remote Evaluation
 - Transtelephonic rhythm strip evaluation – 93293
 - Single, dual or multiple lead systems
 - Recording with and without magnet (evaluation of battery status with the magnet)
 - Includes physician analysis, review, and report
 - For up to 90 days (bill once for every 90 days of evaluation)
 - Remote interrogation – 93294
 - Single, dual or multiple lead systems
 - Includes interim **physician analysis**, review, and report
 - For up to 90 days (bill once for every 90 days of evaluation)



Pacemaker Evaluation and Reprogramming

- Remote Evaluation
 - Remote interrogation – 93296 (ICD or Pacemaker)
 - Single, dual or multiple lead systems
 - Receipt of transmission and technician review
 - **Technical** support
 - Distribution of results
 - For up to 90 days (bill once for every 90 days of evaluation)



ICD Evaluation and Reprogramming

- ICD evaluation coding based on:
 - Type of device
 - Single lead ICD
 - Dual lead ICD
 - Multiple lead ICD
 - Type of evaluation
 - Programming device evaluation
 - Interrogation device evaluation
 - Remote evaluation



ICD Evaluation and Reprogramming

Types of Analysis

- Programming device evaluation
 - Repetitive adjustment of the device to test function
 - Selection of optimal permanent programmed values
 - Physician analysis, review and report
 - Reprogramming included, if performed
- Device interrogation **in person**
 - Connection
 - Recording
 - Disconnection
 - Analysis of heart rhythm derived data elements



ICD Evaluation and Reprogramming

Types of Analysis

- Device interrogation **remote**
 - Connection
 - Recording
 - Disconnection
 - Analysis of heart rhythm derived data elements



ICD Evaluation and Reprogramming

- Programming device evaluation (in person) with iterative adjustment(s)
 - Single lead ICD – 93282
 - Dual lead ICD – 93283
 - Multiple lead ICD – 93284
- Interrogation in person
 - Single, dual, or multiple lead ICD – 93289
 - Wearable defibrillator system ICD – 93292



ICD Evaluation and Reprogramming

- Remote Interrogation
 - 93295
 - Single, dual or multiple lead systems
 - Includes interim **physician analysis**, review, and report
 - For up to 90 days (bill once for every 90 days of evaluation)
 - 93296 (ICD or Pacemaker)
 - Single, dual or multiple lead systems
 - Receipt of transmission and technician review
 - **Technical** support
 - Distribution of results
 - For up to 90 days (bill once for every 90 days of evaluation)



Event Monitor Evaluation and Reprogramming

- Event monitor renamed “Implantable Cardiovascular Monitor System” (ICM)
 - In person interrogation – 93290
 - Connection, recording, and disconnection
 - Analysis of one or more recorded physiologic CV data elements from all internal and external sensors
 - Physician analysis, review, and report



Event Monitor Evaluation and Reprogramming

- Event monitor renamed “Implantable Cardiovascular Monitor System” (ICM)
 - Remote interrogation – 93297
 - Analysis of one or more recorded physiologic CV data elements from all internal and external sensors
 - **Physician analysis**, review and report
 - Bill per 30 day monitoring period (once every 30 days)
 - Remote interrogation – 93299 (ICM or Loop Recorder)
 - Receipt of transmission and technician review
 - **Technical** support
 - Distribution of results
 - For up to 30 days (bill once for every 30 days of evaluation)



Loop Recorder Evaluation and Reprogramming

- Programming device evaluation – 93285
 - Repetitive adjustment of the device to test function
 - Selection of optimal permanent programmed values
 - Physician analysis, review and report
 - Reprogramming included, if performed
- In person interrogation – 93291
 - Connection, recording and disconnection
 - Analysis of heart rhythm derived data
 - Physician analysis, review, and report



Loop Recorder Evaluation and Reprogramming

- Remote interrogation – 93298
 - Connection, recording, and disconnection
 - Analysis of one recorded heart rhythm data
 - **Physician analysis**, review, and report
 - Bill per 30 day monitoring period (once every 30 days)
- Remote interrogation – 93299 (ICM or loop recorder)
 - Receipt of transmission and technician review
 - **Technical** support
 - Distribution of results
 - For up to 30 days (bill once for every 30 days of evaluation)



Peri-Procedural

- Device evaluation and reprogramming of device parameters before or after a surgery, procedure, or test
 - Pacemaker – 93286
 - ICD – 93287
 - **Report two times** when both pre- and post-procedure reprogramming is performed by the same physician
 - Physician analysis, review, and report
 - Single, dual, or multiple lead system reported with one code



David B. Dunn, MD, FACS
CIRCC, CPC-H, CCC

www.zhealthpublishing.com

ZHealth Publishing Copyright © 2012

AMA Copyright © 2011

