

Have a Heart: Cardiology Coding

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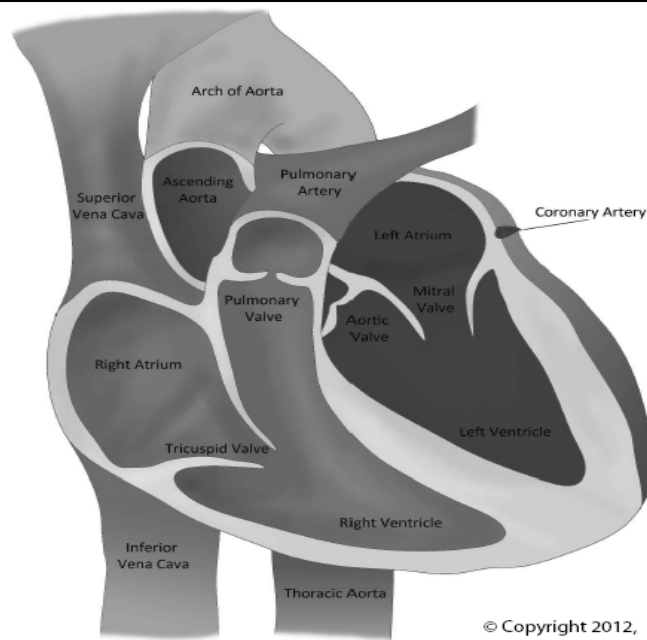
Agenda

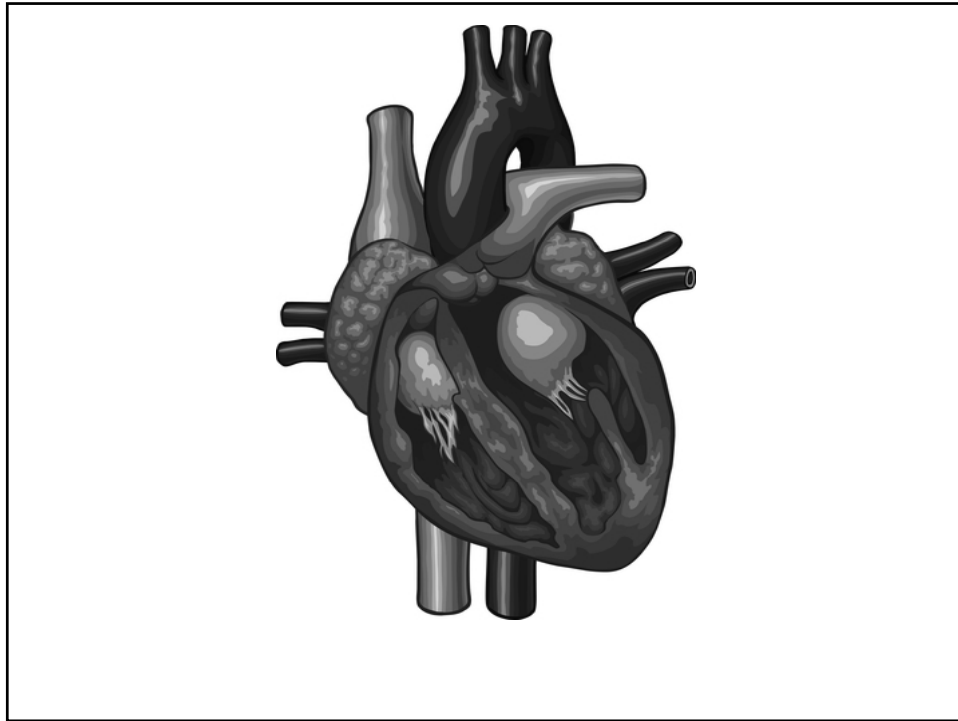
- Anatomy of the heart
- Cardiovascular diseases
- Common Cardiology ICD-9-CM codes
- CABG
- Valve procedures
- Pacemakers and defibrillators

We've come a loooooooooong way



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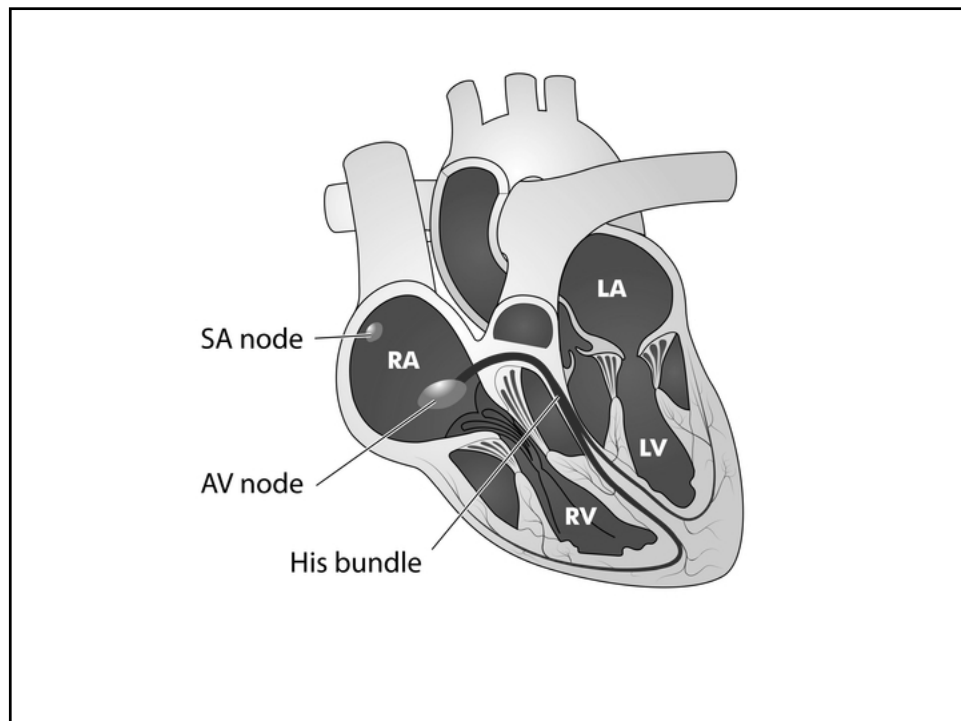
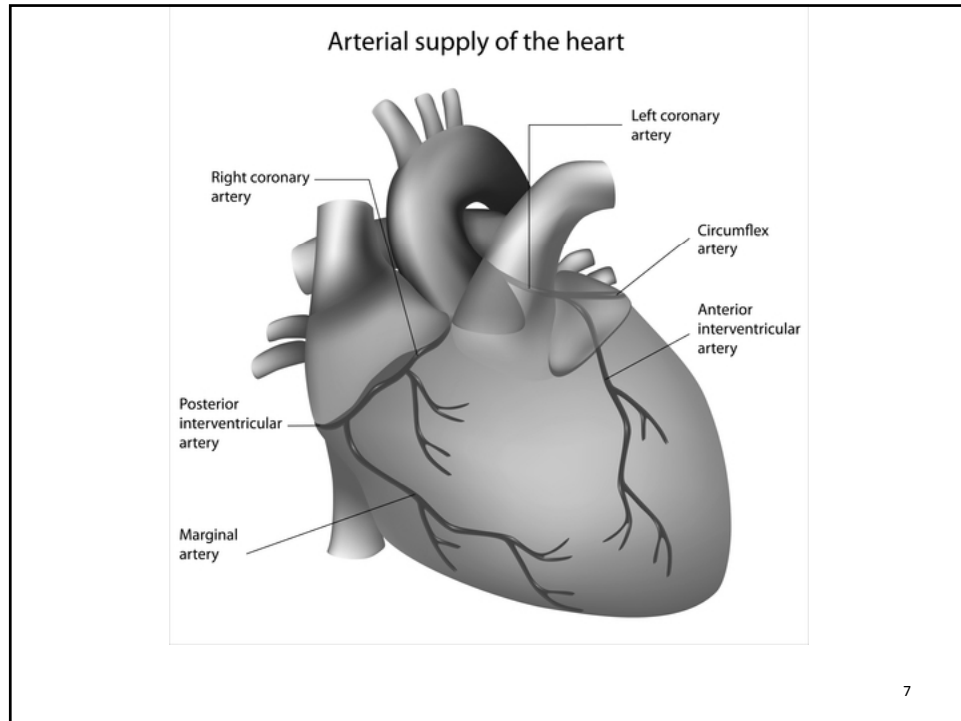




Chambers and valves

Oxygenation Process

1. Deoxygenated blood enters into right atrium through superior or inferior vena cava
2. Tricuspid valve opens and blood drops into right ventricle
3. Pulmonary valve opens, and deoxygenated blood moves through it into pulmonary artery
4. Pulmonary artery sends the blood to the lungs where oxygenation occurs at the capillary beds
5. Oxygenated blood enters back into left atrium through pulmonary vein
6. Mitral valve opens and blood drops into left ventricle
7. Aortic valve opens and ventricular muscle pumps blood up and out into the body through the aorta



Coronary Heart Disease

- Coronary heart disease (CHD) is a narrowing of the small blood vessels that supply blood and oxygen to the heart. CHD is also called coronary artery disease (CAD).
- Coronary artery disease is the leading cause of death in the United States for men and women.

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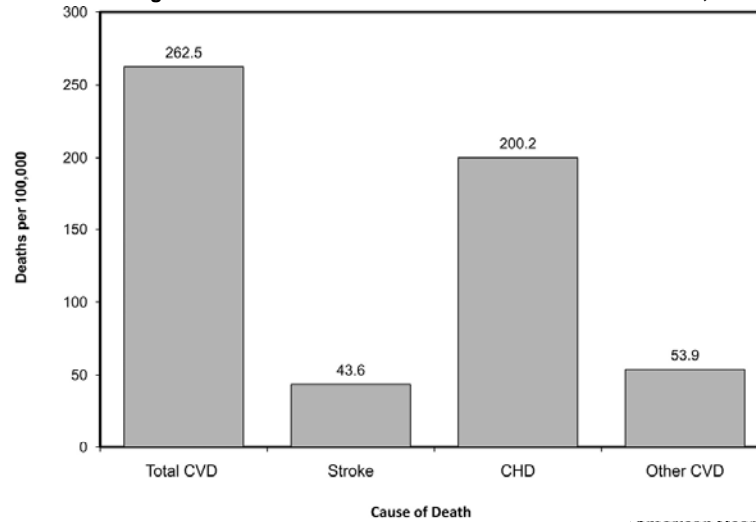
Coronary Heart Disease

Symptoms

- Chest pain or discomfort (angina) (most common)
- Chest heaviness/ Squeezing
- Pain usually occurs with activity or emotion, and goes away with rest / nitroglycerin.
- Shortness of breath
- Fatigue with exertion

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Baseline US age-standardized death rates from cardiovascular diseases, 2006.

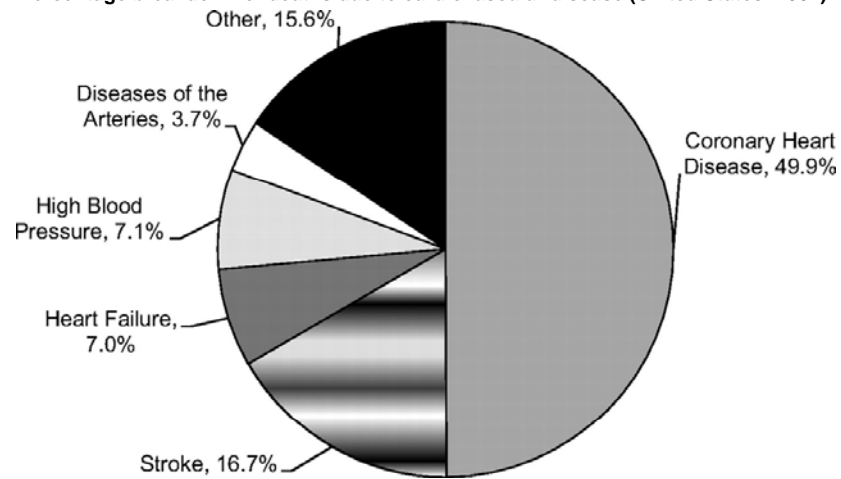


Roger V L et al. *Circulation* 2011;123:e18-e209

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Percentage breakdown of deaths due to cardiovascular disease (United States: 2007).



Roger V L et al. *Circulation* 2011;123:e18-e209

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CAD ICD-9-CM

- 414.00 Coronary atherosclerosis of unspecified type of vessel, native or graft
- 414.01 of native coronary artery
- 414.02 of autologous vein bypass graft
- 414.03 of nonautologous biological bypass graft
- 414.04 of artery bypass graft
- 414.05 of unspecified type of bypass graft
- 414.06 of native coronary artery of transplanted heart
- 414.07 of bypass graft of transplanted heart

Angina ICD-9-CM

- 411.1 Intermediate coronary syndrome
- 413.0 Angina decubitus
- 413.1 Prinzmetal angina
- 413.9 Other and unspecified angina pectoris

Myocardial Infarction ICD-9-CM

- Code consideration:
 - Acute/Chronic/Old
 - Specific site
 - STEMI or NSTEMI
 - Episode of care

Heart Failure ICD-9-CM

- 428.0 Congestive heart failure, unspecified
- 428.1 Left heart failure
- 428.20 -428.23 Systolic heart failure
- 428.30 – 428.33 Diastolic heart failure
- 428.40 – 428.43 Combined systolic and diastolic heart failure
- 428.9 Heart failure, unspecified

Valve Disorders

- Considerations for codes
 - Valve(s) affected
 - Type of disorder
 - Rheumatic

Valve Disorders

Rheumatic	Not specified as rheumatic
<ul style="list-style-type: none"> • 394.1 Rheumatic mitral stenosis • 395.1 Rheumatic aortic insufficiency • 397.1 Rheumatic diseases of pulmonary valve • 397.0 Disease of tricuspid valve 	<ul style="list-style-type: none"> • 424.0 Mitral valve disorders • 424.1 Aortic valve disorders • 424.2 Tricuspid valve disorders • 424.3 Pulmonary valve disorders

Valve Disorder

Disease of mitral and aortic (whether specified as rheumatic or not)

396.0 Mitral valve stenosis and aortic valve stenosis

396.1 Mitral valve stenosis and aortic valve insufficiency

396.2 Mitral valve insufficiency and aortic valve stenosis

396.3 Mitral valve insufficiency and aortic valve insufficiency

Conduction Disorder

- Considerations for codes
 - Complete
 - Type
 - Right
 - Left
 - Right and Left
 - Other

Conduction Disorders

- 426.0 Atrioventricular block, complete
- 426.11 First degree atrioventricular block
- 426.12 Mobitz (type) II atrioventricular block
- 426.2 Left bundle branch block
- 426.4 Right bundle branch block
- 426.51 Right bundle branch block and left posterior fascicular block

CABG

CORONARY

ARTERY

BYPASS

GRAFT



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CABG – Coding (33510 – 33536)

From a coding perspective, the important issues for the coder to know are the following:

- How many grafts were performed?
- How many were arterial?
- How many were venous?
- What was used to perform the graft(s)? Radial artery, saphenous vein, etc.
- Did the patient have a previous CABG procedure performed?

CABG

The number and type of graft holds a direct correlation to the CPT code(s) that will be used.

If a patient has only venous grafting performed the following code range is applicable:

33510 – 33516 Venous Grafting **ONLY** for
Coronary Artery Bypass

If a patient has only arterial grafting performed the following code range is applicable:

33533 – 33536 Arterial Grafting for Coronary
Artery Bypass

CABG

If a patient has both arterial and venous grafting performed then two codes must be reported from the following code ranges:

33517 – 33523 Venous Grafting for Combination
Coronary Artery Bypass

Note: These are add-on codes

AND

33533 – 33536 Arterial Grafting for Coronary
Artery Bypass

CABG

EXAMPLES

Patient has a **3 venous only** CABG

33512

Patient has a **2 arterial only** CABG

33534

Patient has a **3 venous, 2 arterial** CABG

33534, 33519

CABG

Procurement of the Conduit

- When it is bundled
- When it is not bundled
- 35600 - UEA
- 35500 - UEV
- 35572 – Fem-pop
- 33508 – Endo harvest

CABG

“Re-do”

If a patient has had a prior CABG, the coder must be aware of an additional code. The procedure would be coded as if it was being performed for the first time, but then add-on code 33530, *Reoperation, coronary artery by pass procedure or valve procedure, more than one month after the original operation*, would be reported also.

Valve Disease/Disorder

- **Congenital valve disease**
- **Bicuspid aortic valve disease**
- **Acquired valve disease**
- **Mitral valve prolapse (MVP)**

Valve Repair/Replacement

A prosthetic (artificial) heart valve is a replacement for a diseased or dysfunctional heart valve. There are two types of artificial valves:

- **Mechanical heart valve**
A mechanical heart valve is made of man-made materials. The advantage of mechanical valves is that they can usually last a lifetime. They do not wear out the way natural or biological valves do.

Valve Repair/Replacement

- **Biological heart valve**
Biological heart valves are made from tissue taken from animals or human cadavers. They are treated with preservatives and sterilized for human implantation.

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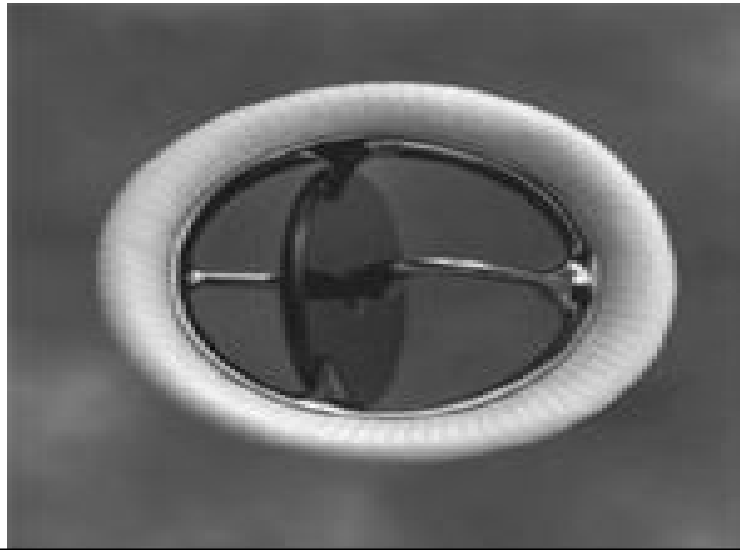
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Starr-Edwards Silastic ball valve mitral Model 6120



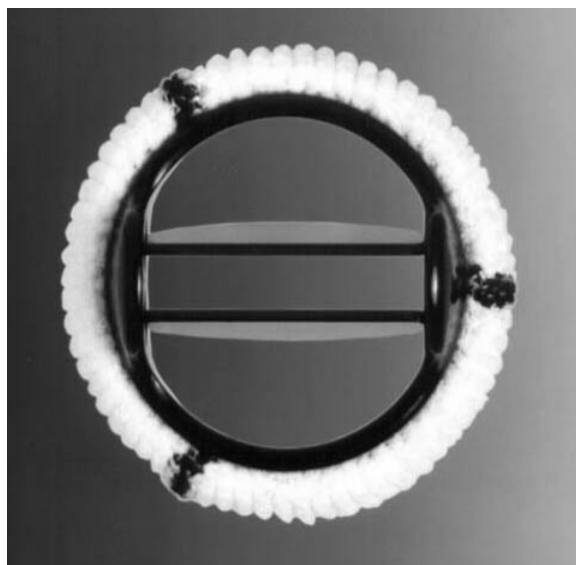
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Medtronic Hall mitral valve



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St. Jude Medical mechanical heart valve



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Valve Repair/Replacement

The four key types of biological valve replacements are:

- Pig valves which are actual transplants from the heart of a pig.
- Cow valves which are made from the pericardial tissue of a cow's heart.
- Homografts which are human donor valves.
- Autografts which are the patient's own valve used in the Ross Procedure.

Carpentier-Edwards Mitral Valve



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Valve Repair/Replacement

CPT codes will depend on the following:

- Which valve?
- Repair or replace?
- Replaced with prosthetic? Type?
- Was patient on cardiopulmonary bypass?

Valve Repair/Replacement

Aortic Valve Procedures **33400-33417**

Mitral Valve Procedures **33420-33430**

Tricuspid Valve Procedures **33460-33468**

Pulmonary Valve Procedures **33470-33478**

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Example - 33405

PROCEDURES: Aortic valve replacement using a mechanical valve

INCISION: Median sternotomy

INDICATIONS: The patient presented with severe congestive heart failure associated with the patient's severe diabetes. The patient was found to have moderately stenotic aortic valve. It was decided to perform a valve replacement.

FINDINGS: The left ventricle is certainly hypertrophied. The aortic valve leaflet is calcified and a severe restrictive leaflet motion. It is a tricuspid type of valve.

PROCEDURE: The patient was brought to the operating room and placed in supine position. A median sternotomy incision was carried out. The patient weighs nearly three hundred pounds.

The patient went on cardiopulmonary bypass and the aortic cross-clamp was applied. Cardioplegia was delivered through the coronary sinuses in a retrograde manner. The patient was cooled to 32 degrees. Iced slush was applied to the heart. The aortic valve was then exposed through the aortic root by transverse incision. The valve leaflets were removed and the mechanical valve was secured into position by circumferential pledgeted sutures. At this point, aortotomy was closed.

Pacemakers/Defibrillators



2012 CPT® New/Revised Codes

NEW GUIDELINES PACEMAKER OR PACING CARDIOVERTER- DEFIBRILLATOR

- Use of term implantable cardio-verter defibrillator (ICD)
- Change in codes included in electrode work
- New “battery” guidelines

2012 CPT® New/Revised Codes

NEW GUIDELINES PACEMAKER OR PACING **CARDIOVERTER- DEFIBRILLATOR**

- Pacer / ICD evaluation codes
- Radiologic S&I
- Definitions

2012 CPT® New/Revised Codes

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2012 CPT New/Revised Codes

▲ **33050** ~~Excision~~ Resection of pericardial cyst or tumor

○ ▲ **33206** Insertion of new or replacement of permanent pacemaker with transvenous electrode(s); atrial

○ ▲ **33207** ventricular

○ ▲ **33208** atrial and ventricular

EXAMPLE

A patient presents for removal and replacement of a transvenous dual chamber cardiac pacemaker.

33208, 33235, 33233

2012 CPT New/Revised Codes

- ⊙ **▲33212** Insertion ~~or replacement of~~
pacemaker pulse generator only;
~~single chamber, atrial or ventricular with~~
existing single lead
- ⊙ **▲33213** with existing dual chamber leads
- ⊙ **#• 33221** with existing multiple leads

2012 CPT® New/Revised Codes

- ⊙ **▲33218** Repair of single transvenous
electrode ~~for a single chamber,~~
permanent pacemaker or ~~single chamber~~
pacing cardioverter-defibrillator;
- ⊙ **▲33220** Repair of 2 transvenous electrodes
for a ~~dual chamber~~ permanent
pacemaker or ~~dual chamber~~ pacing
cardioverter-defibrillator;

2012 CPT® New/Revised Codes

▲**33224** Insertion of pacing electrode, cardiac venous system, for left ventricular pacing, with attachment to previously placed pacemaker or pacing cardioverter-defibrillator pulse generator (including revision of pocket, removal, insertion, and/or replacement of existing generator)

2012 CPT® New/Revised Codes

+▲**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)

2012 CPT® New/Revised Codes

- ▲ **33226** Repositioning of previously implanted cardiac venous system (left ventricular) electrode (including removal, insertion and/or replacement of existing generator);

2012 CPT® New/Revised Codes

- ▲ **33240** Insertion of ~~single or dual chamber~~ pacing cardioverter-defibrillator pulse generator only; with existing single lead
- #• **33230** with existing dual leads
- #• **33231** with existing multiple leads

2012 CPT® New/Revised Codes

- ▲ **33241** ~~Subcutaneous removal~~ Removal of single or dual chamber pacing cardioverter - defibrillator pulse generator only
- #• **33262** Removal of pacing cardioverter-defibrillator with replacement of pacing cardioverter-defibrillator pulse generator; single lead system
- #• **33263** dual lead system
- #• **33264** multiple lead system

EXAMPLE

A patient presents for a new battery in his single lead pacing cardioverter-defibrillator.

33262

(Do not report 33262-33264 in conjunction with 33241)

2012 CPT® New/Revised Codes

0▲**33249** Insertion or ~~repositioning~~
replacement of electrode permanent
pacing cardioverter-defibrillator system with
transvenous lead(s) for, single or dual
~~chamber pacing cardioverter-defibrillator and~~
~~insertion of pulse generator~~

Pacemakers/Defibrillators

CPT codes will depend on the following:

- What was the approach? Transvenous/epicardial
- Type of device? Permanent or temporary
pacemaker/defibrillator/single or dual
chamber/biventricular
- Type of procedure(s) performed?
Repair/replacement/revision/removal/reposition/re
moval with replacement/insertion

2012 CPT® New/Revised Codes

- ▲ **33233** Removal of permanent pacemaker pulse generator only
- #• **33227** Removal of permanent pacemaker pulse generator with replacement of pacemaker pulse generator; single lead system
- #• **33228** dual lead system
- #• **33229** multiple lead system

Testing

- 93279-93299 Programming device evaluation
- 93640, 93641 Defibrillator threshold testing (DFT)

93279-93299

- May not be reported in conjunction with pulse generator and lead insertion or revision codes
 - 33206 – 33249
- Pacers
- ICDs
- ILRs

93279 - 93299

- Components that must be evaluated:
 - Pacemaker: programmed parameters, lead(s), battery, capture and sensing function, and heart rhythm
 - ICD: programmed parameters, lead(s), battery, capture and sensing function, presence or absence of therapy for ventricular tachyarrhythmias and underlying heart rhythm

93279 - 93299

- Components that must be evaluated:
 - ILR: programmed parameters and the heart rhythm during recorded episodes from both patient

93279 -93299

- Interrogation device evaluation(s)
 - Remote
 - Some codes for up to 30 days (not reported if less than 10 days)
 - Some codes for up to 90 days (not reported if less than 30 days)

93640,93641

- 93640 - Electrophysiologic evaluation of single or dual chamber pacing cardioverter-defibrillator leads including defibrillation threshold evaluation at time of initial implantation or replacement
- 93641 – with testing of single or dual chamber pacing cardioverter-defibrillator pulse generator

Radiologic

- Radiologic supervision and interpretation related to the pacemaker or pacing cardioverter-defibrillator procedure is bundled
- Fluoroscopic guidance for diagnostic lead evaluation without lead insertion, replacement, or revision procedures, use 76000.

Resources

- ICD-10-CM Anatomy and Pathophysiology
- American Heart Association
- 2012 CPT Professional Edition
- 2012 ICD-9-CM
- Dreamstime
- DDR Media
- RH Bulbul

QUESTIONS?

THANK YOU!

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CONFERENCE**