PREOPERATIVE DIAGNOSIS: History of cardiac arrest, history of sepsis; planned removal of defibrillator and leads.

POSTOPERATIVE DIAGNOSIS: History of cardiac arrest, history of sepsis, planned removal of defibrillator and leads.

PROCEDURE: Removal of Defibrillator and leads.

HISTORY: This is a 59-year-old woman who was implanted with a dual-chamber defibrillator in September 2007 following a cardiac arrest in the setting of recurrent sepsis and multiorgan failure. Since then the patient has had no significant arrhythmias noted on her defibrillator. Her hardware includes a Medtronic Fidelis lead and the patient had an inappropriate shock due to lead noise several days ago. The patient has no other cardiac history and her EKG and echocardiogram are normal, and she is considered to be at very low risk for a dangerous arrhythmia at this time. Therefore, I have recommended complete hardware extraction without reimplantation.

PROCEDURE: Informed consent was obtained. This procedure is being done with general endotracheal anesthesia. Both groins, the subxiphoid area, the right pectoral area and the right IJ area were prepped and draped. Care was taken to keep the groin area separate from the other areas for sterility purposes. Attention was initially directed to the right femoral area. A 5F introducer was placed in the right femoral vein for venous access. Next, a 4F sheath was placed in the left femoral artery for blood pressure monitoring. Cardiac fluoroscopy was used to place both of these catheters.

Attention was next directed to the right pectoral area. A 6-cm incision was made along the scar overlying the pocket. Dissection was carried down to the generator and the generator was removed from the pocket. It was identified as a Medtronic model D154AWG, serial #PUL433813H implanted September 13, 2007. The chronic ventricular lead was identified as a Medtronic model 6949, serial #LFJ275479V implanted September 13, 2007. The chronic atrial lead was identified as a Medtronic model 5076, serial #PJN1383607 implanted September 13, 2007. The generator was removed from the leads and set aside. The leads were freed of their subcutaneous adhesions up to the points of the suture sleeves. The sutures on the suture sleeves were cut and the suture sleeves were mobilized.

Cinefluoroscopy was performed of the initial lead positions at this point.

The atrial lead was approached first. A soft stylet was placed down the atrial lead. During this process, the atrial lead was freed up and was pulled out of the vasculature with firm and steady traction. Fluoroscopy revealed no retained lead fragments.

Next the RV lead was approached. Again, a soft stylet was passed down to the end of the lead. The helix was retracted with counterclockwise torques on the proximal pin. Again, with firm and steady traction, the RV lead could be completely extracted from the vasculature and from the body. Fluoroscopy revealed no retained lead fragments.

The pocket was irrigated with an Ancef solution. The incision was closed in three layers. There was a deep layer with 2-0 Vicryl, a subcutaneous layer with 3-0 Vicryl and the skin was closed with 3-0 Prolene. 10 cc of 0.25% bupivacaine were injected at the margin of the incision.

The arterial and venous femoral sheaths were then removed and hemostasis was obtained.

The procedure was tolerated well without apparent complication. The patient was extubated in the cath lab and taken to the PACU in excellent condition.

[3] Diagnosis #1—Encounter to remove defibrillator and leads.
[6] Patient has normal EKG and echo, low risk for arrhythmia.
The right femoral artery was prepped.

Catheters were introduced into right femoral vein and artery under fluoroscopic guidance.

The area over the defibrillator was excised open.

The defibrillator and atrial and ventricular lead were identified by Manufactured and Model #.

The defibrillator pulse generator was unhooked from the leads and taken out.

The atrial lead was pulled out "of the vasculature." This was accomplished through the catheter that was inserted into the right femoral artery.

The ventricular lead was pulled out through the vascular system.

The skin pocket was irrigated and closed.

The arterial and venous sheaths were removed from the femoral vein and femoral artery.

What are the CPT® and ICD-10-CM codes reported?

**CPT® Codes:** 33244, 33241-51

**ICD-10-CM Codes:** Z45.02, Z86.74, Z86.19

**Rationales:**

**CPT®:** Look in the CPT® Index for Implantable Defibrillator directs you to See Cardiac Assist Devices, Implantable Defibrillators. Look for Cardiac Assist Devices/Implantable Defibrillators/Removal/Electrodes. Report 33244 for removal of single or dual defibrillator electrode(s); by transvenous removal, for removal of the atrial and ventricular lead transvenously. The leads were removed through the catheters in the veins as documented in the report.

Next look in the CPT® Index for Cardiac Assist Devices/Implantable Defibrillators/Removal/Pulse Generator. Report 33241 for removal of implantable defibrillator pulse generator only. Codes 33262–33264 are for removal with replacement. Modifier 51 is needed to show additional procedures performed during the same session.

Fluoroscopy was performed. However, the CPT manual gives guidelines in the section preceding the pacemaker, defibrillator implantation codes that radiological supervision and interpretation related to the pacemaker or defibrillator placement is included in the procedures. Therefore, no codes should be reported for fluoroscopy.

**ICD-10-CM:** Look in the ICD-10-CM Alphabetic Index for Admission, adjustment, device, implanted, cardiac, defibrillator. This indexes to Z45.02 for the encounter for adjustment and management of defibrillator. Go to Tabular to confirm the diagnosis code. Verify in the Tabular List. Notice that the description for Z45.02 includes management so removal of the device would fall under management of the device.

Notice that the patient had a shock due to lead noise. However, there was no mention that this was a complication of the device, so this is not coded

Look in the ICD-10-CM Alphabetic Index for History, personal, cardiac arrest, successfully resuscitated Z86.74. Go to tabular to confirm code. Read Excludes2 notes. None of these apply, so assign code Z86.74 *Personal History of sudden cardiac arrest.*

In the ICD-10-CM Alphabetic Index look for History/personal/infection NEC Z86.19, for her personal history of infectious disease. Verify all codes in the Tabular List. She had sepsis, without mention of this being a current condition. Therefore, code the sepsis as history of and not as a current diagnosis.