Types of Cardiac Devices

There are many cardiac devices designed to help control irregular heartbeats, such as pacemakers, implantable cardioverter-defibrillators (ICDs) and loop recorders. These are often surgically implanted in the chest or abdominal wall, just below the collarbone.

Pacemaker - Z95.0 Presence of cardiac pacemaker

A pacemaker is a device that helps manage arrhythmias by mimicking the action of the heart's natural pacemaker. A pulse generator is connected to the heart via flexible, insulated wires (i.e., leads) that are each placed in a chamber, or chambers, of the heart. The leads deliver electrical pulses to the heart as needed to adjust heart rate.

A single chamber pacemaker carries impulses to the heart's right ventricle, while a dual chamber pacemaker has leads placed in the right ventricle and the right atrium to coordinate contractions between the two chambers.

A biventricular pacemaker works like a conventional pacemaker, but uses a third wire to send electrical impulses to the heart's left ventricle. Pacing both the right and left ventricles synchronizes ventricular muscle contraction and helps the heart to pump blood more effectively. A biventricular pacemaker is a treatment option for patients with heart failure.

After implantation, the pacemaker is checked to see how well it's working. Information collected from the device includes battery life, condition of lead(s) and any arrhythmias experienced.

Implantable cardioverter-defibrillator (ICD) - Z95.810 Presence of automatic implantable cardiac defibrillator

ICDs are used to prevent sudden cardiac death in patients who suffer from life-threatening ventricular arrhythmias, such as ventricular tachycardia or fibrillation. When it senses dangerous rhythms the ICD delivers a shock that resets the heart's rhythm back to normal. Additionally, many devices combine a pacemaker and ICD into one unit for patients who need both functions. Assign code Z95.810 for presence of a combination ICD/pacemaker.

Heart assist device - Z95.811 Presence of heart assist device

A ventricular assist device (VAD) is an implantable mechanical pump that helps pump blood from the heart's lower chambers to the body. A VAD is used in patients with weakened hearts, such as those with heart failure. These can be placed short term for patients awaiting heart transplants, or may be a long term solution if heart transplant is not an option.

A VAD can be placed in the left ventricle (left ventricular assist device, or LVAD), the right ventricle (right ventricular assist device, or RVAD), or both ventricles (biventricular assist device, or BIVAD).

Cardiac loop recorder - Z95.818 Presence of other cardiac implants & grafts

A loop recorder is a wireless cardiac monitor that continuously records the heart's electrical activity.

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***While this document represents our best efforts to provide accurate information and useful advice, you should reference the current ICD-10-CM manual for the most up-to-date information. All medical coding must be supported with documentation.*

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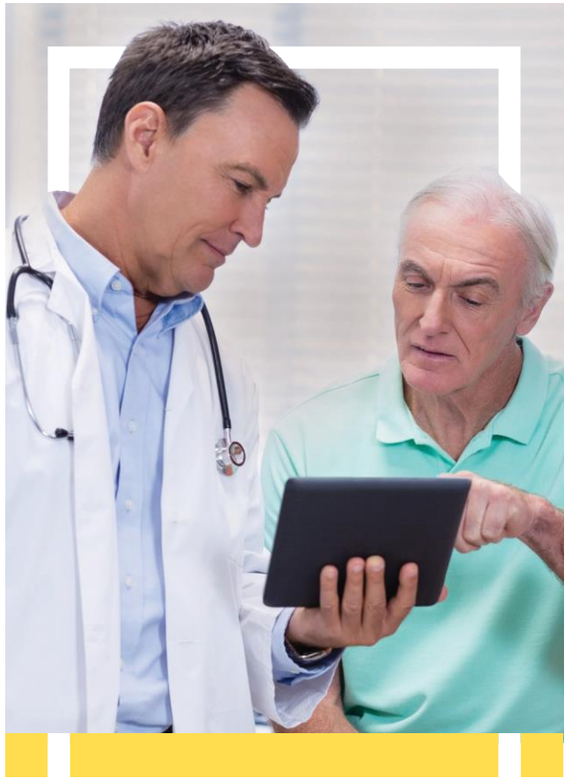

ICD-10-CM

Coding Cardiac Arrhythmias

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Cardiac Arrhythmias (I47-I49)

An arrhythmia is an abnormal heart rhythm. Arrhythmias occur when the electrical impulses that coordinate your heartbeats don't work properly, causing your heart to beat too fast, too slow or irregularly.

Causes:

Many things can cause an arrhythmia, including:

- Scarring of heart tissue from a prior heart attack
- Changes to the heart's structure, such as from cardiomyopathy
- CAD, HTN, Diabetes, hyper- or hypothyroidism
- Smoking

Symptoms may include:

- Palpitations
- Fainting or near fainting
- A fluttering or racing heartbeat
- Light-headedness or dizziness
- Chest pain
- Shortness of breath

Treatments may include:

- Antiarrhythmics
- Beta blockers (reduce heart's workload and decrease heart rate)
- Calcium channel blockers (reduce heart rate)
- Radiofrequency ablation
- Pacemaker

I47 Paroxysmal Tachycardia

Tachycardia is a fast heart rate; in adults a rate greater than 100 beats per minute is considered tachycardia. Paroxysmal tachycardia is characterized by periods of rapid heartbeats that start and stop abruptly.

There are 2 types of paroxysmal tachycardia:

- **Supraventricular Tachycardia** occurs when the rapid heart rate originates in the heart's upper chambers (the atria)
- **Ventricular Tachycardia** involves a rapid heart rate originating in the lower chambers of the heart (the ventricles)

Codes include:

- I47.0 Re-entry ventricular arrhythmia
- I47.1 Supraventricular tachycardia
- I47.2 Ventricular tachycardia
- I47.9 Paroxysmal tachycardia, unspecified

I48 Atrial Fibrillation and Flutter

Atrial fibrillation and flutter are arrhythmias involving the atria. They may come and go, or be sustained. If either atrial fibrillation or atrial flutter persist for more than a couple of days they can increase a patient's risk of stroke.

Atrial fibrillation is a rapid, irregular heart rate caused by chaotic electrical impulses in the atria. These cause rapid, uncoordinated, weak contractions of the atria and blood is not moved from the atria into the ventricles effectively.

Atrial flutter is characterized by a rapid, but regular heartbeat that causes the atria to beat too fast, producing atrial muscle contractions that are faster than and out of sync with the ventricles.

Codes include:

- I48.0 Paroxysmal atrial fibrillation
- I48.1 Persistent atrial fibrillation
- I48.2 Chronic atrial fibrillation
- I48.3 Typical atrial flutter
- I48.4 Atypical atrial flutter
- I48.91 Unspecified atrial fibrillation
- I48.92 Unspecified atrial flutter

I49.5 Sick Sinus Syndrome (SSS)

Also known as 'Sinoatrial node dysfunction' or 'Tachycardia-Bradycardia syndrome,' SSS is the name given to a group of arrhythmias in which the sinus node, the heart's natural pacemaker, doesn't send impulses properly. As a result the heart might beat too fast, too slow, or it might speed up and slow down intermittently.

Treatment options depend largely upon the severity of a patient's symptoms. Many with SSS initially experience few, if any, symptoms. At this stage treatment usually consists of regular checkups and monitoring. Once a patient's symptoms become more problematic, further treatment is pursued.

Treatment with artificial pacemakers:

Many with sick sinus syndrome eventually need a permanent artificial pacemaker to monitor and regulate the heart's rhythm and send electrical signals to stimulate the heart when it's beating too slowly.

Additional treatment w/ pacemakers:

Patients who have a rapid heart rate as part of their SSS may need additional treatments after pacemaker placement to control fast rhythms.

Additional treatment can include:

- Medications
- Radiofrequency ablation
- AV node ablation

Coding tips:

SSS controlled by pacemaker –
For patients with SSS that is controlled by their pacemaker, coding guidelines advise "no code assignment is required" for the SSS. Instead, a code may be assigned for pacemaker presence, or for attention to the pacemaker (Z45.010, Z45.018).

SSS not controlled by pacemaker alone –
SSS may be coded after pacemaker placement if additional treatment is required to control the condition. This may occur when:

- Medicines to control periods of fast heart rate are combined with a pacemaker, which guards against periods of slow heart rate
- Pacemaker requires repair or replacement

Documentation Tips

When documenting cardiac arrhythmias, include the following:

- ✓ Location – atrial, ventricular, supraventricular, etc.
- ✓ Rhythm name – flutter, fibrillation, etc.
- ✓ Acuity – paroxysmal, chronic, etc.
- ✓ Cause – hyperkalemia, HTN, etc.