

Medical Policy



An Independent Licensee of the
Blue Cross and Blue Shield Association

Title: Cardioverter-Defibrillators

Professional

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Institutional

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DESCRIPTION

The automatic implantable cardioverter defibrillator (ICD) is a device designed to monitor a patient's heart rate, recognize ventricular fibrillation (VF) or ventricular tachycardia (VT), and deliver an electric shock to terminate these arrhythmias to reduce the risk of sudden death.

The wearable cardioverter-defibrillator (WCD) is an external device that is intended to perform the same tasks as an ICD, without requiring invasive procedures. It consists of a vest that is worn continuously underneath the patient's clothing. Part of this vest is the 'electrode belt' that contains the cardiac-monitoring electrodes, and the therapy electrodes that deliver a counter shock. The vest is connected to a monitor with a battery pack and alarm module that is worn on the patient's belt. The monitor contains the electronics that interpret the cardiac rhythm and determines when a counter shock is necessary. The alarm module alerts the patient to certain conditions by lights or voice messages.

An automated external defibrillator (AED) is a portable automatic device used to restore normal heart rhythm to patients in cardiac arrest. An AED is applied outside the body. It automatically analyzes the patient's heart rhythm and advises the rescuer whether or not a shock is needed to restore a normal heart beat.

POLICY

A. Implantable Cardioverter-Defibrillator (ICD)

The use of an implantable cardioverter-defibrillator is considered **medically necessary** for the treatment of ventricular tachyarrhythmias and for the prevention of sudden cardiac death when one of the following indications is present:

1. History of cardiac arrest due to ventricular fibrillation (VF) or ventricular tachycardia (VT) and which is not due to reversible or transient causes; or
2. Spontaneous sustained VT, in patients with structural heart disease; or
3. Spontaneous sustained VT, in patients without structural heart disease, that is not amenable to other treatments; or

4. Syncope of undetermined origin with clinically relevant, hemodynamically significant, sustained VT or VF induced at electrophysiological study when drug therapy is ineffective, not tolerated, or not preferred; or
5. Familial or inherited conditions with a high risk for life-threatening ventricular tachyarrhythmias such as long QT syndrome or hypertrophic cardiomyopathy; or
6. Previous myocardial infarction and coronary artery disease (CAD), at least 40 days post myocardial infarction and three months post coronary artery revascularization surgery with an ejection fraction equal to or less than 35% after maximal medical therapy; or
7. Ischemic dilated cardiomyopathy (IDCM) with NYHA Class II or III heart failure, documented prior myocardial infarction (MI), at least 40 days post MI, and measured left ventricular ejection fraction (LVEF) less than or equal to 35%; or
8. Non-ischemic dilated cardiomyopathy (NIDCM) of greater than 9 months duration along with, NYHA Class II or III heart failure, and measured LVEF less than or equal to 35%.

B. Wearable Cardioverter Defibrillators (WCD)

The wearable cardioverter defibrillator is considered **medically necessary** for patients at high-risk of sudden cardiac arrest, who meet the following criteria:

1. Patients must meet the medical necessity criteria for an implantable cardioverter defibrillator (ICD); AND
2. Patients must have ONE of the following documented medical contraindications to ICD implantation:
 - a. Patients awaiting a heart transplantation - on waiting list and meets medical necessity criteria for heart transplantation; or
 - b. Patients with a previously implanted ICD that requires explantation due to infection with waiting period before ICD reinsertion; or
 - c. Patients with an infectious process or other temporary condition that precludes initial implantation of an ICD.

The wearable cardioverter defibrillator is considered **investigational and not medically necessary** for all other indications, including but not limited to, the following:

- Patients with a history of an acute myocardial infarction (MI) within the last 40 days
- Patients with drug-refractory class IV congestive heart failure (CHF) who are not candidates for heart transplantation
- Patients with a history of psychiatric disorders that interfere with the necessary care and follow-up
- Patients in whom a reversible triggering factor for VT/VF can be definitely identified, such as ventricular tachyarrhythmias in evolving acute myocardial infarction or electrolyte abnormalities
- Patients with terminal illnesses

C. Automatic External Defibrillators for Home Use

The use of automatic external defibrillators by lay persons is considered **experimental and investigational** because they have not been proven to reduce mortality compared to implantable cardioverter defibrillators or cardiopulmonary resuscitation by first responders.

The coverage of external defibrillators used by lay persons is an exclusion of the member's contract.

CODING

The following codes for treatment and procedures applicable to this policy are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

CPT/HCPCS

00534	Anesthesia for transvenous insertion or replacement of pacing cardioverter-defibrillator
33202	Insertion of epicardial electrode(s); open incision (e.g., thoracotomy, median sternotomy, subxiphoid approach)
33203	Insertion of epicardial electrode(s); endoscopic approach (e.g., thoracoscopy, pericardioscopy)
33216	Insertion of a transvenous electrode; single chamber (one electrode) permanent pacemaker or single chamber pacing cardioverter-defibrillator [when specified as ICD]
33217	Insertion of a transvenous electrode; dual chamber (two electrodes) permanent pacemaker or dual chamber pacing cardioverter-defibrillator [when specified as ICD]
33223	Revision of skin pocket for single or dual chamber pacing cardioverter-defibrillator
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 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) (List separately in addition to code for primary procedure)
33226	Repositioning of previously implanted cardiac venous system (left ventricular) electrode (including removal, insertion and/or replacement of generator)
33240	Insertion of single or dual chamber pacing cardioverter-defibrillator pulse generator
33241	Subcutaneous removal of single or dual chamber pacing cardioverter-defibrillator pulse generator
33243	Removal of single or dual chamber pacing cardioverter-defibrillator electrode(s); by thoracotomy
33244	Removal of single or dual chamber pacing cardioverter-defibrillator electrode(s); by transvenous extraction

- 33249 Insertion or repositioning of electrode lead(s) for single or dual chamber pacing cardioverter-defibrillator and insertion of pulse generator
- 93640 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;
- 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
- 93642 Electrophysiologic evaluation of single or dual chamber pacing cardioverter-defibrillator (includes defibrillation threshold evaluation, induction of arrhythmia, evaluation of sensing and pacing for arrhythmia termination, and programming or reprogramming of sensing or therapeutic parameters)
- 93741 Electronic analysis of pacing cardioverter-defibrillator (includes interrogation, evaluation of pulse generator status, evaluation of programmable parameters at rest and during activity where applicable, using electrocardiographic recording and interpretation of recordings at rest and during exercise, analysis of event markers and device response); single chamber or wearable cardioverter-defibrillator system, without reprogramming
- 93742 Electronic analysis of pacing cardioverter-defibrillator (includes interrogation, evaluation of pulse generator status, evaluation of programmable parameters at rest and during activity where applicable, using electrocardiographic recording and interpretation of recordings at rest and during exercise, analysis of event markers and device response); single chamber or wearable cardioverter-defibrillator system, with reprogramming
- 93743 Electronic analysis of pacing cardioverter-defibrillator (includes interrogation, evaluation of pulse generator status, evaluation of programmable parameters at rest and during activity where applicable, using electrocardiographic recording and interpretation of recordings at rest and during exercise, analysis of event markers and device response); dual chamber, without reprogramming
- 93744 Electronic analysis of pacing cardioverter-defibrillator (includes interrogation, evaluation of pulse generator status, evaluation of programmable parameters at rest and during activity where applicable, using electrocardiographic recording and interpretation of recordings at rest and during exercise, analysis of event markers and device response); dual chamber, with reprogramming
- 93745 Initial set-up and programming by a physician of wearable cardioverter-defibrillator, includes initial programming of system, establishing baseline electronic ECG, transmission of data to data repository, patient instruction in wearing system and patient reporting of problems or events
- C1721 Cardioverter-defibrillator, dual chamber (implantable)
- C1722 Cardioverter-defibrillator, single chamber (implantable)
- C1777 Lead, cardioverter-defibrillator, endocardial single coil (implantable)
- C1882 Cardioverter-defibrillator, other than single or dual chamber (implantable)
- C1895 Lead, cardioverter-defibrillator, endocardial dual coil (implantable)
- C1896 Lead, cardioverter-defibrillator, other than endocardial single or dual coil (implantable)

C1899	Lead, pacemaker/cardioverter-defibrillator combination (implantable)
E0617	External defibrillator with integrated electrocardiogram analysis
K0606	Automatic external defibrillator, with integrated electrocardiogram analysis, garment type
K0607	Replacement battery for automated external defibrillator, garment type only, each
K0608	Replacement garment for use with automated external defibrillator, each
K0609	Replacement electrodes for use with automated external defibrillator, garment type only, each

DIAGNOSIS

425.1	Hypertrophic cardiomyopathy codes
425.4	Other primary cardiomyopathies
427.1	Paroxysmal ventricular tachycardia
427.41	Ventricular fibrillation
427.42	Ventricular flutter
427.9	Cardiac dysrhythmia, unspecified (ventricular arrhythmia code)

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