MEDICAL POLICY

MEDICAL POLICY DETAILS	
Medical Policy Title	**Implantable Cardioverter Defibrillator**
Policy Number	**7.01.06**
Category	**Technology Assessment**
Effective Date	**10/18/01**
Revised Date	**10/18/01, 06/20/02, 04/24/03, 10/15/03, 02/19/04, 03/17/05, 12/15/05, 09/21/06, 07/19/07, 08/21/08, 07/16/09, 07/15/10, 08/18/11, 08/16/12, 08/15/13, 08/21/14, 07/16/15, 03/17/16, 1/19/17, 02/15/18, 02/21/19, 04/16/20**
Product Disclaimer	• *If a product excludes coverage for a service, it is not covered, and medical policy criteria do not apply.* • *If a commercial product (including an Essential Plan product) or a Medicaid product covers a specific service, medical policy criteria apply to the benefit.* • *If a Medicare product covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.*

POLICY STATEMENT

I. Based on our criteria and review of the peer-reviewed literature, use of an implantable cardioverter defibrillator (ICD) has been medically proven to be effective and, therefore, is considered **medically appropriate** as *secondary prevention* for patients who have had ANYof the following:
   A. A documented episode of sustained ventricular tachyarrhythmia (either ventricular tachycardia (VT) or ventricular fibrillation (VF) lasting longer than 30 seconds), or cardiac arrest, either spontaneous or induced by an electrophysiology (EP) study, not associated with myocardial infarction; or
   B. A documented episode of cardiac arrest due to VF and not due to reversible causes; or
   C. A documented cardiac sarcoid or giant cell myocarditis; or
   D. Documented Chagas disease or left ventricular (LV) non-compaction.

II. Based upon our criteria and review of the peer-reviewed literature, use of an ICD has been medically proven to be effective and, therefore, may be considered **medically appropriate** for *primary prevention* of sudden cardiac death in patients with:
   A. Ischemic cardiomyopathy who have New York Heart Association (NYHA) Functional Class II or Class III symptoms, with a history of myocardial infarction at least 40 days prior to implantation and left ventricular ejection fraction of 35% or less, and who are on optimal medical therapy, defined as three months of maximally titrated doses, as tolerated, of an ACE inhibitor, beta-blocker, and diuretic; or
   B. Ischemic cardiomyopathy who have NYHA Functional Class I symptoms, with a history of myocardial infarction at least 40 days prior to implantation and left ventricular ejection fraction of 30% or less, and who are on optimal medical therapy, defined as three months of maximally titrated doses, as tolerated, of an ACE inhibitor, beta-blocker, and diuretic; or
   C. Nonischemic dilated cardiomyopathy, who have NYHA Functional Class II or Class III and left ventricular ejection fraction of 35% or less, after reversible causes have been excluded and the response to optimal medical therapy has been adequately determined; or
   D. Hypertrophic cardiomyopathy (HCM) who have one or more of the following major risk factors for sudden cardiac death:
      1. Undiagnosed syncope; or
      2. Family history of sudden death; or
      3. Septal wall thickness of greater than or equal to 30 mm; or
      4. Abnormal blood pressure response to exercise; or

5. Nonsustained VT (less than 30 seconds); or

E. Documented familial or inherited conditions, including but not limited to, long QT syndrome, arrhythmogenic right ventricular cardiomyopathy, familial cardiomyopathy, or Brugada syndrome with a high risk of life-threatening ventricular tachyarrhythmias; or
F. Nonsustained VT due to prior myocardial infarction (MI), left ventricular ejection fraction (LVEF) less than 40%, and inducible VF or sustained VT observed and/or at electrophysiological study (EP) performed at least 96 hours after revascularization or MI; or
G. Structural heart disease (e.g., prior myocardial infarction, congenital heart disease, and/or ventricular dysfunction) with sustained VT (greater than 30 seconds); or
H. Structural heart disease (e.g., prior myocardial infarction, congenital heart disease, and/or ventricular dysfunction) with unexplained syncope and left ventricular dysfunction (left ventricular ejection fraction less than 50%); or
I. Syncope of undetermined origin and clinically relevant, hemodynamically significant, sustained VT or VF induced at EP study; or
J. Catecholamine-induced VT with syncope while on beta-blocker therapy.

III. Based upon our criteria and review of the peer-reviewed literature, use of an ICD is considered **investigational** in *primary* prevention for patients who:
A. have had an acute myocardial infarction (e.g., less than 40 days before ICD treatment); or
B. have had a cardiac revascularization procedure in the past three months (coronary artery bypass graft or percutaneous transluminal coronary angioplasty) or are candidates for a cardiac revascularization procedure; or
C. have NYHA Class IV heart failure, unless:
1. Patient is eligible to receive a combination cardiac resynchronization therapy (CRT) ICD device; or
2. Patient is awaiting heart transplantation; or
3. A left ventricular assist device (LVAD) is being used as destination therapy; or
D. have noncardiac disease that would be associated with life expectancy less than one year; or
E. have incessant VT or VF (e.g., hemodynamically stable VT or VF continuing for hours); or
F. have significant psychiatric illnesses that may be aggravated by device implantation or that may preclude systematic follow-up.

IV. Based upon our criteria and review of the peer-reviewed literature, the use of a subcutaneous ICD is considered **medically appropriate** for patients who have met the criteria for ICD implantation for primary or secondary prevention (*refer to Policy Statement I and II*) AND:
A. Have a contraindication to a transvenous ICD due to one or more of the following:
1. lack of adequate vascular access; or
2. compelling reason to preserve existing vascular; or
3. history of need for explantation of a transvenous ICD due to a complication, with ongoing need for ICD therapy; AND
B. Have no indication for antibradycardia pacing; AND
C. Do not have ventricular arrhythmias that are known or anticipated to respond to antitachycardia pacing.

V. Based upon our criteria and the lack of peer-reviewed literature, the use of a substernal electrode lead with a subcutaneous implantable cardioverter-defibrillator has not been medically proven to be effective and, therefore, is considered **investigational**.

Refer to Corporate Medical Policy #1.01.01 Electrical Stimulation-Transcutaneous Electrical Nerve (TENS), Percutaneous Electrical Nerve (PENS), H-Wave and Interferential Stimulators.

Refer to Corporate Medical Policy #1.01.42 Home Automatic External Defibrillators (AEDs) and Wearable Cardioverter Defibrillators (WCDs).

Refer to Corporate Medical Policy #7.01.58 Cardiac Resynchronization Therapy (Biventricular Pacemakers) for the Treatment of Congestive Heart Failure.

POLICY GUIDELINES

I. The Federal Employee Health Benefit Program (FEHBP/FEP) requires that procedures, devices or laboratory tests approved by the U.S. Food and Drug Administration (FDA) may not be considered investigational and, thus, these procedures, devices or laboratory tests may be assessed only on the basis of their medical necessity.

II. When an ICD is to be implanted, there should first be a consultation with an electrophysiologist.

III. Case reports have indicated that transcutaneous electrical nerve stimulators (TENS) have been known to interfere with ICDs and pacemakers.

DESCRIPTION

An ICD is an electronic device designed to monitor a patient's heart rate, recognize VF or VT, and deliver an electronic shock to terminate these life-threatening arrhythmias. Indications for ICD implantation can be broadly subdivided into:

I. Secondary prevention, e.g., for use in patients who have survived a prior sudden cardiac arrest or sustained VT; or

II. Primary prevention or as a prophylactic, e.g., for use in patients with ischemic or nonischemic dilated cardiomyopathy or documented familial or inherited conditions, who are considered at high risk for sudden cardiac death but who have not yet experienced life-threatening VT or VF.

While traditional ICDs have been used in the management of symptomatic and/or inducible VT and VF, technology has led to the development of a dual-chamber ICD that utilizes a sophisticated algorithm to detect and treat episodes of VT, VF, and, additionally, atrial fibrillation (AF). The prevention and treatment of AF focuses, first, on maintaining or restoring sinus rhythm (SR), and then on controlling rate and preventing thromboembolic events.

ICDs may be combined with biventricular pacing that can be used to treat symptoms of advanced heart failure in certain patients who already need an ICD. These devices combine an ICD with CRT. The defibrillator component detects and treats life-threatening heart rhythms. The CRT component coordinates the beating of the left and right ventricles of the heart, so that they work together more effectively to pump blood throughout the body.

There are two different techniques for ICD electrode insertion: epicardial insertion, requiring a thoracotomy; or transvenous insertion, requiring a cutdown for direct vein insertion.

The subcutaneous ICD (subq-ICD) was developed to avoid some of the complications arising from using a traditional ICD. The subq-ICD consists of a dedicated external programmer, a subcutaneous pulse generator enclosed in a titanium case, and a single subcutaneous electrode containing both sensing and defibrillating components. The device uses proprietary algorithms to detect ventricular arrhythmias and is capable of delivering a pulse of 80 J. The S-ICD system (Cameron Health, Inc.) received FDA approval on September 28, 2012. The device was approved as defibrillation therapy for patients with life-threatening ventricular tachyarrhythmias who have not had symptomatic bradycardia, continual ventricular tachycardia, or spontaneous, frequently recurring VT that can be terminated with anti-tachycardia pacing.

Subq-ICDs are limited by the large size, inability to provide antitachycardia pacing, limited bradycardia pacing support, and a higher shock that must be delivered, compared to transvenous ICDs. The substernal or extravascular ICD has been proposed as an alternative to the subq-ICD. The lead is placed under the sternum in the substernal space (anterior mediastinum) for pacing and defibrillation. The placement allows for a lower energy to capture and defibrillate the heart, compared to a subcutaneous lead. There are clinical trials and studies underway to determine the usefulness of this approach for lead placement.

RATIONALE

Prior to 2003, clinical evidence did not substantiate that implantation of a traditional ICD or a dual-chamber ICD improved net health outcomes in patients with non-coronary artery disease, congestive heart failure, cardiomyopathy, or acute myocardial infarction. Recent clinical trials of prophylactic defibrillator implantation have presented varied results; the emerging evidence indicates that the prophylactic implantation of defibrillators reduces mortality among patients with a left ventricular dysfunction, and that both ischemic and nonischemic patients achieved similar degrees of benefit from

ICD therapy. Published evidence evaluating ICDs in patients with recent, acute myocardial infarction does not establish the safety and efficacy of ICD therapy or demonstrate a reduction in mortality when ICD therapy is used in this population.

A 2002 Blue Cross Blue Shield Association TEC Assessment focused on two successive, randomized clinical trials, known as Multicenter Automatic Defibrillator Implantation Trial I and II (MADIT I and MADIT II), which compared the use of an automatic implantable cardioverter defibrillator (AICD) with conventional therapy among patients with coronary artery disease who have a prior history of myocardial infarction and a current history of a reduced ejection fraction. The TEC Assessment offered the following observations and conclusions: For patients who have coronary artery disease with prior myocardial infarction and reduced left ventricular ejection fraction, similar to those selected for study in MADIT I and MADIT II, the available evidence demonstrates a statistically significant improvement in overall mortality associated with automatic implantable cardioverter defibrillator (AICD) treatment, compared with conventional therapy.

In October 2004, TEC reassessed AICDs. The 2004 Assessment focused on the results of the two randomized clinical trials included in the 2002 Assessment and five additional RCTs. The 2004 TEC Assessment reached the following conclusions:

The use of ICD devices meets the TEC criteria in the prevention of sudden death from ventricular tachyarrhythmia in patients who have:

I. Symptomatic* ischemic dilated cardiomyopathy with a history of myocardial infarction at least 40 days before ICD treatment and left ventricular ejection fraction of 35% or less; or

II. Symptomatic* nonischemic dilated cardiomyopathy for more than nine months' duration and left ventricular ejection fraction of 35% or less.

*Symptomatic heart failure is defined as the presence of dyspnea on exertion, angina, palpitations, or fatigue.

The use of ICD devices does not meet the TEC criteria in the prevention of sudden death from ventricular tachyarrhythmia in patients who have:

I. had an acute myocardial infarction (i.e., less than 40 days before ICD treatment);

II. NYHA Class IV heart failure (unless patient is eligible to receive a combination cardiac resynchronization therapy ICD device);

III. had a cardiac revascularization procedure in the past three months (CABG or PTCA) or are candidates for a cardiac revascularization procedure; or

IV. noncardiac disease that would be associated with life expectancy less than one year.

Further analysis of existing trial data using patient-level meta-analysis may further delineate which subgroups of patients are likely to benefit from ICD placement and which are unlikely to benefit and can be spared the morbidity of ICD placement.

The ACC/AHA/ESC 2006 Guidelines for Management of Patients with Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death recommend a range of ejection fractions below which an ICD might be indicated. The Class I recommendations for primary-prevention ICDs in heart failure support their use for mortality reduction in patients on optimal medical therapy who have:

I. Left ventricular (LV) dysfunction due to myocardial infarction occurring at least 40 days prior, have an LV ejection fraction less than or equal to 30% to 40%, and are NYHA Functional Class II or III; or

II. Nonischemic heart disease, have an LV ejection fraction less than or equal to 30% to 35%, and are NYHA Functional Class II or III.

The ACC/AHA/ESC 2017 Guidelines for Management of Patients with Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death make the following recommendations related to familial or inherited conditions with a high risk of life-threatening ventricular arrhythmia:

I. For patients with hypertrophic cardiomyopathy (HCM) who are receiving chronic optimal medical therapy and who have reasonable expectation of survival with a good functional status for more than one year:

- Class I - ICD therapy should be used for treatment in patients with HCM who have sustained VT and/or VF.
- Class IIa - ICD implantation can be effective for primary prophylaxis against sudden cardiac death (SCD) in patients with HCM who have one or more major risk factors (cardiac arrest due to VF); spontaneous, sustained VT; family history of premature sudden death; unexplained syncope; LV thickness equal to or greater than 30 mm; abnormal exercise BP; spontaneous nonsustained VT) for SCD.

II. For patients with arrhythmogenic right ventricular (RV) cardiomyopathy who are receiving chronic optimal medical therapy and who have reasonable expectation of survival with a good functional status for more than one year:

- Class I - ICD implantation is recommended for prevention of SCD in patients with arrhythmogenic RV cardiomyopathy with documented sustained VT or VF.
- Class IIa - ICD implantation can be effective for prevention of SCD in patients with arrhythmogenic RV cardiomyopathy with extensive disease, including those with LV involvement, one or more affected family members with SCD, or undiagnosed syncope when VT or VF has not been excluded as the cause of syncope.

III. For patients with long QT syndrome (LQTS) who are receiving beta blocker therapy and who have reasonable expectation of survival with a good functional status for more than one year:

- Class I - ICD implantation is recommended for LQTS patients with previous cardiac arrest.
- Class IIa - ICD implantation can be effective to reduce SCD in LQTS patients experiencing syncope and/or VT.
- Class IIb - ICD implantation may be considered for prophylaxis of SCD for patients in categories possibly associated with higher risk of cardiac arrest, such as LQT1 or LQT2.

IV. Patients with Brugada syndrome who are receiving chronic optimal medical therapy and who have reasonable expectation of survival with a good functional status for more than one year:

- Class I - ICD implantation is indicated for Brugada syndrome patients with previous cardiac arrest.
- Class IIa - ICD implantion is reasonable for Brugada syndrome patients with spontaneous ST-segment elevation in V1, V2, or V3 who have had syncope with or without mutations demonstrated in the SCN5A gene.
- Class IIa - ICD implantation is reasonable for Brugada syndrome patients with documented VT that has not resulted in cardiac arrest.

In August 2012, the American College of Cardiology, the American Heart Association, and the Heart Rhythm Society released updated Cardiac Device-Based Therapy Guidelines. Additional information was added to the indications for the use of pacemakers, ICDs, and CRT devices. The updated guidelines are a product of expert analysis of recent studies and incorporate data from recent clinical trials. A recurring recommendation in the revised guidelines is the use of optimal medical therapy as, essentially, a prerequisite for ICD implantation or CRT. Other recommendations include the affirmation of LV ejection fraction less than or equal to 35% as the threshold for considering a primary-prevention ICD in patients with ischemic or nonischemic heart failure in NYHA functional class II-III, an indication based on the Sudden Cardiac Death in Heart Failure Trial (SCD-HeFT) trial. Also included as a Class I recommendation is the use of ICDs in patients with LV dysfunction due to myocardial infarction occurring at least 40 days prior, who have an LV ejection fraction less than 30% and are in NYHA functional Class I. Recommendations continue to indicate that ICD implantation is reasonable for patients with HCM who have one or more major risk factors for SCD.

A subcutaneous ICD (S-ICD) has been developed as an alternative to venous pacing for patients with obstructed venous access and in whom continued venous access is difficult to maintain. The S-ICD is indicated for the treatment of life-threatening ventricular arrhythmias and contraindicated for patients with symptomatic bradycardia, incessant VT, and documented spontaneous, frequently recurring VT that is reliably terminated with anti-tachycardia pacing. The subcutaneous defibrillator may also be more appropriate in younger, more active children with limited venous access and congenital anomalies. A small amount of literature, which includes nonrandomized studies and case series, has been published on the S-ICD, with results so far indicating that the S-ICD may approximate the performance of a transvenous ICD (TV-ICD). The evidence for S-ICD placement in individuals who have indications for a TV-ICD, but without

indications for antibradycardia pacing and without arrhythmias responsive to antitachycardia pacing. Relevant outcomes are overall survival, morbid events, quality of life, and treatment-related morbidity and mortality. Nonrandomized, controlled studies report success rates in terminating laboratory-induced VFs that are similar to TV-ICD. However, there is scant evidence on comparative clinical outcomes of both types of ICD over longer periods. Case series report high rates of detection and successful conversion of VT, and inappropriate shock rates in the range reported for TV-ICD. This evidence is not sufficient to determine whether there are small differences in efficacy between the two types of devices, which may be clinically important due to the nature to the disorder being treated. Also, the adverse event rate is uncertain, with variable rates reported. At least one RCT is currently underway to compare the S-ICD with the TV-ICD. The evidence is insufficient to determine the effects of the technology on health outcomes.

Medtronic PLC is currently testing an extravascular implantable cardioverter defibrillator (EV ICD) system, which consists of an ICD system with a substernal implantable defibrillator electrode to deliver defibrillation and anti-tachycardia pacing therapy. The Medtronic research teams have completed multiple early research, including the Acute Sensing and Defibrillation (ASD), Substernal Pacing Acute Clinical Evaluation (SPACE), and ASD2 studies. There are currently two U.S. clinical trials in progress to investigate and demonstrate the safety and efficacy of the new EV ICD system in humans. The EV ICD system has not received FDA approval.

CODES

- *Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.*
- *CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.*
- *Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.*

CPT Codes

Code	Description
33215	Repositioning of previously implanted transvenous pacemaker or implantable defibrillator (right atrial or right ventricular) electrode
33216	Insertion of a single transvenous electrode, permanent pacemaker or implantable defibrillator
33217	Insertion of 2 transvenous electrodes, permanent pacemaker or implantable defibrillator
33218	Repair of single transvenous electrode, permanent pacemaker or implantable defibrillator
33220	Repair of two transvenous electrodes for permanent pacemaker or implantable defibrillator
33222	Relocation of skin pocket for pacemaker
33223	Relocation of skin pocket for implantable defibrillator
33224	Insertion of pacing electrode, cardiac venous system, for left ventricular pacing, with attachment to previously placed pacemaker or implantable defibrillator pulse generator (including revision of pocket, removal, insertion and/or replacement of existing generator)
33225	Insertion of pacing electrode, cardiac venous system, for left ventricular pacing, at time of insertion of implantable defibrillator or pacemaker pulse generator (eg, for upgrade to dual chamber system) (List separately in addition to code for primary procedure)

Code	Description
33226	Repositioning of previously implanted cardiac venous system (left ventricular) electrode (including removal, insertion and/or replacement of existing generator)
33240	Insertion of implantable defibrillator pulse generator only; with existing single lead
33241	Removal of implantable defibrillator pulse generator only
33243	Removal of single or dual chamber implantable defibrillator electrode(s); by thoracotomy
33244	Removal of single or dual chamber implantable defibrillator electrode(s); by transvenous extraction
33249	Insertion or replacement of permanent implantable defibrillator system, with transvenous lead(s), single or dual chamber
33270	Insertion or replacement of permanent subcutaneous implantable defibrillator system, with subcutaneous electrode, including defibrillation threshold evaluation, induction of arrhythmia, evaluation of sensing for arrhythmia termination, and programming or reprogramming of sensing or therapeutic parameters, when performed
33271	Insertion of subcutaneous implantable defibrillator electrode
33272	Removal of subcutaneous implantable defibrillator electrode
33273	Repositioning of previously implanted subcutaneous implantable defibrillator electrode
93260	Programming device evaluation (in person) with iterative adjustment of the implantable device to test the function of the device and select optimal permanent programmed values with analysis, review and report by a physician or other qualified health care professional; implantable subcutaneous lead defibrillator system
93261	Interrogation device evaluation (in person) with analysis, review and report by a physician or other qualified health care professional, includes connection, recording and disconnection per patient encounter; implantable subcutaneous lead defibrillator system
93282	Programming device evaluation (in person) with iterative adjustment of the implantable device to test the function of the device and select optimal permanent programmed values with analysis, review and report by a physician or other qualified health care professional; single lead transvenous implantable defibrillator system
93283	Programming device evaluation (in person) with iterative adjustment of the implantable device to test the function of the device and select optimal permanent programmed values with analysis, review and report by a physician or other qualified health care professional; dual lead implantable cardioverter-defibrillator system
93289	Interrogation device evaluation (in person) with analysis, review and report by a physician or other qualified health care professional, includes connection, recording and disconnection per patient encounter; single, dual, or multiple lead transvenous implantable defibrillator system, including analysis of heart rhythm derived data elements

Code	Description
93295	Interrogation device evaluation(s) (remote), up to 90 days; single, dual, or multiple lead implantable defibrillator system with interim analysis, review(s) and report(s) by a physician or other qualified health care professional
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 transvenous pacing cardioverter-defibrillator leads (includes defibrillation threshold evaluation, induction of arrhythmia, evaluation of sensing and pacing for arrhythmia termination, and programming or reprogramming of sensing or therapeutic parameters)
93644	Electrophysiologic evaluation of subcutaneous implantable defibrillator (includes defibrillation threshold evaluation, induction of arrhythmia, evaluation of sensing for arrhythmia termination, and programming or reprogramming of sensing or therapeutic parameters)
0571T **(E/I)**	Insertion or replacement of implantable cardioverter-defibrillator system with substernal electrode(s), including all imaging guidance and electrophysiological evaluation (includes defibrillation threshold evaluation, induction of arrhythmia, evaluation of sensing for arrhythmia termination, and programming or reprogramming of sensing or therapeutic parameters), when performed (Effective 1/1/2020) (Use 0571T in conjunction with 0573T, 0580T for removal and replacement of an implantable defibrillator pulse generator and substernal electrode)
0572T **(E/I)**	Insertion of substernal implantable defibrillator electrode (Effective 1/1/2020)
0573T **(E/I)**	Removal of substernal implantable defibrillator electrode (Effective 1/1/2020)
0574T **(E/I)**	Repositioning of previously implanted substernal implantable defibrillator-pacing electrode (Effective 1/1/2020)
0575T **(E/I)**	Programming device evaluation (in person) of implantable cardioverter-defibrillator system with substernal electrode, with iterative adjustment of the implantable device to test the function of the device and select optimal permanent programmed values with analysis, review and report by a physician or other qualified health care professional (Effective 1/1/2020)
0576T **(E/I)**	Interrogation device evaluation (in person) of implantable cardioverter-defibrillator system with substernal electrode, with analysis, review and report by a physician or other qualified health care professional, includes connection, recording and disconnection per patient encounter (Effective 1/1/2020)

Code	Description
0577T **(E/I)**	Electrophysiological evaluation of implantable cardioverter-defibrillator system with substernal electrode (includes defibrillation threshold evaluation, induction of arrhythmia, evaluation of sensing for arrhythmia termination, and programming or reprogramming of sensing or therapeutic parameters) (Effective 1/1/2020)
0578T **(E/I)**	Interrogation device evaluation(s) (remote), up to 90 days, substernal lead implantable cardioverter-defibrillator system with interim analysis, review(s) and report(s) by a physician or other qualified health care professional (Effective 1/1/2020) (Report 0578T only once per 90 days)
0579T **(E/I)**	Interrogation device evaluation(s) (remote), up to 90 days, substernal lead implantable cardioverter-defibrillator system, remote data acquisition(s), receipt of transmissions and technician review, technical support and distribution of results (Effective 1/1/2020) (Report 0579T only once per 90 days)
0580T **(E/I)**	Removal of substernal implantable defibrillator pulse generator only (Use 0580T in conjunction with 0571T, 0573T for removal and replacement of an implantable cardioverter-defibrillator and substernal electrode[s] (Effective 1/1/2020)
0614T **(E/I)**	Removal and replacement of substernal implantable defibrillator pulse generator (Effective 7/1/2020)

HCPCS Codes

Code	Description
C1721	Cardioverter-defibrillator, dual chamber (implantable)
C1722	Cardioverter-defibrillator, single chamber (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)

ICD10 Codes

Code	Description
I25.10-I25.119	Atherosclerotic heart disease of native coronary artery (code range)
I25.3-I25.42	Aneurysm of heart (code range)
I25.5-I25.6	Myocardial ischemia (code range)
I25.700-I25.739	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris (code range)
I25.750-I25.769	Atherosclerosis of bypass graft of coronary artery of transplanted heart (code range)
I25.790-I25.799	Atherosclerosis of other coronary artery bypass graft(s) (code range)

Code	Description
I25.810	Atherosclerosis of other coronary vessels without angina pectoris
I25.811	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris
I25.812	Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris
I25.82	Chronic total occlusion of coronary artery
I25.83-I25.84	Coronary atherosclerosis due to lipid rich plaque or calcified coronary lesion (code range)
I25.89	Other forms of chronic ischemic heart disease
I25.9	Chronic ischemic heart disease, unspecified
I42.0-I42.9	Cardiomyopathy (code range)
I46.2-I46.9	Cardiac arrest (code range)
I47.0	Re-entry ventricular arrhythmia
I47.2	Ventricular tachycardia
I48.0-I48.91	Atrial fibrillation and flutter (code range)
I49.01-I49.02	Ventricular fibrillation or ventricular flutter (code range)
I49.9	Cardiac arrhythmia, unspecified
I50.1	Left ventricular failure, unspecified
I50.20-I50.23	Systolic (congestive) heart failure (code range)
I50.30-I50.33	Diastolic (congestive) heart failure (code range)
I50.40-I50.43	Combined systolic (congestive) and diastolic (congestive) heart failure (code range)
I50.9	Heart failure, unspecified

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*Key Article

KEY WORDS

AICD, Automatic implantable cardioverter defibrillator, Cardiac resynchronization, ICD.

CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

There is currently a National Coverage Determination (NCD) for Implantable Automatic Defibrillators. Please refer to the following NCD website for Medicare Members: https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=110&ncdver=4&bc=AAAAgAAAAAAA&

There is currently a National Coverage Determination (NCD) for Cardiac Pacemakers: Single-Chamber and Dual-Chamber Permanent Cardiac Pacemakers. Please refer to the following NCD website for Medicare Members: https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=357&ncdver=2&bc=AgAAgAAAAAAAAA%3d%3d&

There is currently a Local Coverage Determination (LCD) for Category III CPT® Codes. Please refer to the following LCD website for Medicare Members: https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?LCDId=33392&ver=98&CntrctrSelected=298*1&Cntrctr=298&s=41&DocType=1&bc=AAgAAAQBAAAA&

There is currently a Local Coverage Article (LCA) for Category III CPT® Codes. Please refer to the following LCA website for Medicare Members: https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?LCDId=33392&ver=98&articleId=56195&CntrctrSelected=298*1&Cntrctr=298&s=41&DocType=1&bc=AAgAAAQAQAAA&