MEDICAL POLICY

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Medical Policy Title	**Implantable Cardioverter Defibrillator (ICD)**
Policy Number	**7.01.06**
Current Effective Date	May 15, 2025
Next Review Date	January 2026

Our medical policies are based on the assessment of evidence based, peer-reviewed literature, and professional guidelines. Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract. (Link to Product Disclaimer)

POLICY STATEMENT(S)

I. Implantable Cardiac Defibrillator (ICD) may be considered **medically appropriate** for:

A. Prevention of sudden cardiac death in patients who have **ANY** of the following:

1. Survivor of cardiac arrest due to VT or VF after evaluation has excluded any completely reversible causes;
2. Structural heart disease (e.g., prior MI, congenital heart disease, and/or ventricular dysfunction and spontaneous, sustained VT (greater than 30 seconds) whether hemodynamically stable or non-stable;
3. Syncope of undetermined origin and clinically relevant, hemodynamically significant, sustained VT or VF induced at EP study;
4. Unexplained syncope, significant LV function (LVEF less than 50%) and structural heart disease, such as prior MI, congenital heart disease and/or ventricular dysfunction;
5. Ischemic cardiomyopathy in individuals who have **ALL** of the following:
   a. Left Ventricular (LV) systolic dysfunction due to ischemic heart disease and **ALL** of the following:
      i. LV ejection fraction less than or equal to 35% despite greater than or equal to three (3) months of optimal medical therapy;
      ii. Symptomatic heart failure (New York Heart Association (NYHA) Functional Class II or Class III);
6. LV systolic dysfunction due to ischemic heart disease in individuals with **ALL** of the following;
   a. LVEF less than or equal to 30% despite greater than or equal to three (3) months of optimal medical therapy;
   b. NYHA functional Class I;
7. LV systolic dysfunction due to ischemic heart disease and **ALL** of the following:
   a. LVEF of less than or equal to 40% despite greater than or equal to three (3) months of optimal medical therapy;

b. Non-sustained ventricular tachycardia;

c. Inducible sustained monomorphic ventricular tachycardia (VT) at electrophysiological (EP) study;

8. Nonischemic dilated cardiomyopathy, who have **ALL** of the following:

   a. LVEF less than or equal to 35% despite greater than or equal to three (3) months of optimal medical therapy; and

   b. Symptomatic heart failure (NYHA Functional Class II or Class III CHF); or

9. Sustained VT and normal or near normal ventricular function;

10. Individuals with cardiomyopathy who have **one** (1) or more risk factors for sudden cardiac death;

11. Hypertrophic cardiomyopathy (HCM), who have **one (1) or more** of the following major risk factors for sudden cardiac death:

    a. Syncope of unknown etiology;

    b. Family history of sudden death;

    c. Septal wall thickness of greater than or equal to 30 mm;

    d. Ventricular tachycardia sustained or nonsustained;

    e. LV apical aneurysm, independent of size;

    f. LV ejection fraction less than 50%;

    g. Extensive late gadolinium enhancement (LGE) greater than or equal to 15% of LV mass;

12. Cardiomyopathy due to arrhythmogenic right ventricular cardiomyopathy (ARVC), with **one or more** risk factors for sudden cardiac death:

    a. unpredicted syncope;

    b. family history of sudden death;

    c. VT sustained or non-sustained;

    d. clinical signs of RV failure;

13. In individuals with normal LV function (LVEF greater than 50%) with positive family history of sudden death;

14. Long QT syndrome in the following settings:

    a. Syncope and/or VT while receiving beta-blockers or if beta-blockers are contraindicated;

    b. Asymptomatic with other risk factors for sudden cardiac death which include the following:

i. QTc greater than 500msec;
ii. LQT 2 or 3;
iii. Family history of sudden death;

15. Brugada syndrome with **one** (1) of the following:
    a. Syncope;
    b. Documented or inducible VT or VF;
16. Catecholaminergic Polymorphic Ventricular Tachycardia who have syncope and/or documented sustained VT, while on beta-blocker therapy;
17. Regardless of left ventricular ejection fraction (LVEF) measurement, for individuals with:
    a. Cardiac sarcoidosis;
    b. Giant cell myocarditis;
    c. Chagas disease;
18. Left ventricular (LV) non-compaction cardiomyopathy (left ventricular ejection fraction (LVEF) less than 50%);
19. LV non-compaction:
    a. for primary prevention of sudden cardiac death due to malignant ventricular arrythmias in individuals with **both** of the following:
        i. Non-compaction cardiomyopathy;
        ii. Impaired LV function (LVEF less than 50%);
    b. In individuals with normal LV function (LVEF greater than 50%) with positive family history of sudden death;
20. Familial cardiomyopathy individuals associated with sudden death;
21. Muscular dystrophy diagnosis, regardless of LVEF for **ANY** of the following:
    a. Emery-Dreifuss muscular dystrophy (EDMD);
    b. Limb-Girdle Type 1B muscular dystrophy (LGMD1B);
    c. Myotonic Dystrophy Type 1 with an indication for a permanent pacemaker;
    d. Lamin A/C (LMNA) mutation (for patients who do not meet the above criteria of EDMD or LGMD1B) when there is documentation of **two (2) or more** of the following risk factors for sudden cardiac death:
        i. Non-sustained ventricular tachycardia;
        ii. LVEF less than 45%;
        iii. Non-missense mutation (ins-del/truncating or mutations affecting splicing);

iv. Male sex at birth;

e. A documented episode of sustained VT.

II. Subcutaneous ICD are considered **medically appropriate** for:

A. Patients who have met the criteria for ICD implantation and who meet **ALL** of the following criteria:

1. Have a contraindication to a transvenous ICD due to **one (1) or more** of the following:

a. Lack of adequate vascular access;

b. Compelling reason to preserve existing vascular;

c. History of need for explanation of a transvenous ICD due to a complication, with ongoing need for ICD therapy;

B. Have no indication for anti-bradycardia pacing;

C. Do not have ventricular arrhythmias that are known or anticipated to respond to anti-tachycardia pacing.

III. ICDs are considered **investigational** for:

A. Primary prevention for individuals who have **ANY** of the following:

1. An acute MI (e.g., less than 40 days before ICD treatment);

2. Cardiac revascularization procedure in the past 90 days (coronary artery bypass graft or percutaneous transluminal coronary angioplasty) unless a separate indication for permanent pacemaker implantation exists;

3. NYHA Class IV heart failure, unless:

a. Patient is eligible to receive a combination cardiac resynchronization therapy (CRT) ICD device;

b. Patient is awaiting heart transplantation;

c. A left ventricular assist device (LVAD) is being used as destination therapy;

4. An expected life expectancy of less than one year, even if they meet ICD implantation criteria;

5. Incessant VT or VF: Defined as hemodynamically stable VT or VF continuing for hours;

6. Significant psychiatric illnesses that may be aggravated by device implantation or that may preclude systematic follow-up;

7. VF or VT is due to a reversible cause (i.e., severe electrolyte disturbance, drug induced torsades de pointes, acute re-perfused MI with preserved ejection fraction);

8. No structural heart disease and is a candidate for ablation.

IV. Substernal implantable cardioverter-defibrillator systems hare considered **investigational**.

RELATED POLICIE(S)

Corporate Medical Policy

1.01.42 Home Automatic External Defibrillators (AEDs) and Wearable Cardioverter Defibrillators (WCDs)

7.01.58 Permanent Pacemakers and Cardiac Resynchronization Therapy Devices

11.01.03 Experimental or Investigational Services

POLICY GUIDELINE(S)

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

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

III. Optimal medical therapy should include a beta-blocker and **ONE** of the following:

   A. ACE inhibitor;

   B. Angiotensin II receptor blocker;

   C. Angiotensin receptor-neprilysin inhibitor.

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:

- Secondary prevention, e.g., for use in patients who have survived a prior sudden cardiac arrest or sustained VT; or
- 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, 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 can deliver a pulse of 80 J. The S-ICD system (Cameron Health, Inc.) received U.S. Food and Drug Administration (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 anti-tachycardia 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.

AHA/ACC 2020 Established Clinical Risk Factors for HCM Sudden Death Risk Stratification:

Family history of sudden death from HCM	Sudden death judged definitively or likely attributable to HCM in ≥1 first-degree or close relatives who are ≤50 y of age. Close relatives would generally be second-degree relatives; however, multiple SCDs in tertiary relatives should also be considered relevant.
Massive Left Ventricular Hypertrophy (LVH)	Wall thickness ≥30 mm in any segment within the chamber by echocardiography or CMR imaging; consideration for this morphologic marker is also given to borderline values of ≥28 mm in individual patients at the discretion of the treating cardiologist. For pediatric patients with HCM, an absolute or z-score threshold for wall thickness has not been established; however, a maximal wall that corresponds to a z-score ≥20 (and >10 in conjunction with other risk factors) appears reasonable.
Unexplained syncope	≥1 Unexplained episodes involving acute transient loss of consciousness, judged by history unlikely to be of neurocardiogenic (vasovagal) etiology, nor attributable to LV out flow tract obstruction (LVOTO), and especially when occurring within 6 months of evaluation (events beyond 5 y in the past do not appear to have relevance).
HCM with LV systolic dysfunction	Systolic dysfunction with EF <50% by echocardiography or CMR imaging.
LV apical aneurysm	Apical aneurysm defined as a discrete thin-walled dyskinetic or akinetic

	segment of the most distal portion of the LV chamber; independent of size.
Extensive LGE on CMR imaging	Diffuse and extensive LGE, representing fibrosis, either quantified or estimated by visual inspection, comprising ≥15% of LV mass (extent of LGE conferring risk has not been established in children).
Non-sustained VT (NSVT) on ambulatory monitor	It would seem most appropriate to place greater weight on NSVT as a risk marker when runs are frequent (≥3), longer (≥10 beats), and faster (≥200 bpm) occurring usually over 24 to 48 h of monitoring. For pediatric patients, a VT rate that exceeds the baseline sinus rate by >20% is considered significant.

SUPPORTIVE LITERATURE

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 MI. 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 an LV 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 MI 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 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.

The PRAETORIAN trial (A Prospective, Randomized Comparison of Subcutaneous and Transvenous Implantable Cardioverter Defibrillator Therapy) showed noninferiority of subcutaneous implantable cardioverter defibrillator (S-ICD) compared with transvenous implantable cardioverter defibrillator (TV-ICD) regarding inappropriate shocks and complications. In contrast to TV-ICD, S-ICD cannot provide antitachycardia pacing for monomorphic ventricular tachycardia. This prespecified secondary analysis evaluates the appropriate therapy an whether antitachycardia pacing reduces the number of appropriate shocks. The PRAETORIAN trial was an international, investigator-initiated randomized trial that included patients with an indication for implantable cardioverter defibrillator (ICD) therapy. Patients with previous ventricular tachycardia <170 bpm or refractory recurrent monomorphic ventricular tachycardia were excluded. In 39 centers, 849 patients were randomized to receive an S-ICD (n=426) or TV-ICD (n=423) and were followed for a median of 49.1 months. ICD programming was mandated by protocol. Appropriate ICD therapy was defined as therapy for ventricular arrhythmias. Arrhythmias were classified as discrete episodes and storm episodes (≥3 episodes

within 24 hours). n this trial, no difference was observed in shock efficacy of S-ICD compared with TV-ICD. Although patients in the S-ICD group were more likely to receive an ICD shock, the total number of appropriate shocks was not different between the 2 groups (Knops, 2022).

The extravascular implantable cardioverter defibrillator (EV ICD) Pivotal study is a proactive, multicenter, single arm, non-randomized, pre-market clinical study that assessed the safety and effectiveness of the Medtronic EV ICD system for patients at risk of sudden cardiac death. It enrolled 356 patients at 46 sites in 17 countries in North America, Europe, the Middle East, Asia, Australia and New Zealand. (Friedman, 2022) A Prospective, single group, nonrandomized, premarket global clinical study involving patients with a class I or IIa indication for an ICD, all of whom received an extravascular ICD system. A total of 356 patients were enrolled, 316 of whom had an implantation attempt. Among the 302 patients in whom ventricular arrhythmia could be induced and who completed the defibrillation testing protocol, the percentage of patients with successful defibrillation was 98.7%; 299 of 316 patients (94.6%) were discharged with a working ICD system. At 6 months, 25 major complications were observed, in 23 of 316 patients (7.3%). The success rate of antitachycardia pacing, as assessed with generalized estimating equations, was 50.8% (95% CI, 23.3 to 77.8). A total of 29 patients received 118 inappropriate shocks for 81 arrhythmic episodes. Eight systems were explanted without extravascular ICD replacement over the 10.6-month mean follow-up period. They found that extravascular ICDs were implanted safely and were able to detect and terminate induced ventricular arrhythmias at the time of implantation.

A systematic review and meta-analysis were conducted by Green in 2012, to assess the predictive value of late gadolinium enhancement (LGE) cardiac magnetic resonance (CMR) for future cardiac events and death in hypertrophic cardiomyopathy (HCM). Four studies were evaluated that included 1,063 patients over an average follow-up of 3.1 years. The pooled prevalence of LGE was 60%. The pooled odds ratios (OR) demonstrate that LGE by CMR correlated with cardiac death (pooled OR: 2.92, 95% confidence interval [CI]: 1.01 to 8.42; p=0.047), heart failure death (pooled OR: 5.68, 95% CI: 1.04 to 31.07; p=0.045), and all-cause mortality (pooled OR: 4.46, 95% CI: 1.53 to 13.01; p=0.006), and showed a trend toward significance for predicting sudden death/aborted sudden death (pooled OR: 2.39, 95% CI: 0.87 to 6.58; p=0.091). Late gadolinium enhancement by CMR has prognostic value in predicting adverse cardiovascular events among HCM patients. There are significant relationships between LGE and cardiovascular mortality, heart failure death, and all-cause mortality in HCM. Additionally, LGE and SCD/aborted SCD displayed a trend toward significance.

PROFESSIONAL GUIDELINE(S)

Professional Society Guidelines referenced for this policy:

Professional Society	Title of Guideline	Year
ACC/AHA/ACCP/HRS	Guidelines for the Diagnosis and Management of Atrial Fibrillation	2023

American Heart Association (AHA)/American College of Cardiology (ACC)/Heart Failure Society of America (HFSA)	Guideline for the Management of Heart Failure	2022
European Society of Cardiology (ESC)	Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death	2022
ESC	Guidelines for the diagnosis and treatment of acute and chronic heart failure	2021
AHA/ACC	Guideline for the Diagnosis and Treatment of Patients with Hypertrophic Cardiomyopathy	2020
AHA/ACC/HRS	Guideline for management of patients with ventricular arrhythmias and the prevention of sudden cardiac death	2017
ACC Foundation (ACCF)/AHA/HRS	Focused Update of the 2008 Guidelines for Device-Based Therapy of Cardiac Rhythm Abnormalities	2012

In the 2020 AHA/ACC Guideline for the diagnosis and treatment of Patients with Hypertrophic Cardiomyopathy (HCM) they recommend the following for patients that are at high risk for sudden cardiac death:

- For patients with HCM, and previous documented cardiac arrest or sustained VT, ICD placement is recommended.
- For adults with HCM with one or more major risk factor for SCD, it is reasonable to offer ICD placement. These major risk factors include:
    - Sudden death judged definitively or likely attributable to HCM in one ore more first degree or close relatives who are 50 years of age or younger;
    - Massive LVH greater than or equal to 30mm in any LV segment;
    - Greater or equal to one episode(s) of syncope suspected by clinical history to be arrhythmic;
    - LV atypical aneurysm, independent of size;
    - LV systolic dysfunction (Ejection Fraction(EF) less than 50%).
- Recommendations for selection of ICD device type:
    - Either a single chamber transvenous ICD or subcutaneous depending on shared decision making, taking into consideration lifestyle, need for pacing etc.
    - Ingle coil ICD leads are recommended in preference to dual coil leads.

- Dual chamber ICDs are reasonable for patients with a need for atrioventricular sequential pacing for bradycardia/conduction abnormalities, or as an attempt to relieve symptoms of obstructive HCM (most commonly in patients greater than 65 years of age).
- In adult patients with obstructive HCM receiving an ICD who have NYHA class II to ambulatory class IV HF, LBBB, and LVEF less than 50%, cardiac resynchronization therapy for symptom is reasonable.

- Recommendation for CMR imaging:
  - For patient s with HCM who are not otherwise identified as high risk for SCD, or in whom a decision to proceed with ICD remains uncertain after clinical assessment. CMR imaging is beneficial to assess for maximum LV wall thickness, EF, LV apical aneurysm, and extent of myocardial fibrosis with LGE.

REGULATORY STATUS

Medtronic PLC received FDA approval for their 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.

CODE(S)

- Codes may not be covered under all circumstances.
- Code list may not be all inclusive (AMA and CMS code updates may occur more frequently than policy updates).
- (E/I)=Experimental/Investigational
- (NMN)=Not medically necessary/appropriate

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
33223	Relocation of skin pocket for implantable defibrillator

Code	Description
33230	Insertion of implantable defibrillator pulse generator only; with existing dual leads
33231	Insertion of implantable defibrillator pulse generator only; with existing multiple leads
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
33262	Removal of implantable defibrillator pulse generator with replacement of implantable defibrillator pulse generator; single lead system
33263	Removal of implantable defibrillator pulse generator with replacement of implantable defibrillator pulse generator; dual lead system
33264	Removal of implantable defibrillator pulse generator with replacement of implantable defibrillator pulse generator; multiple lead system
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

Code	Description
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	dual lead transvenous implantable defibrillator system
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
0572T (E/I)	Insertion of substernal implantable defibrillator electrode
0573T (E/I)	Removal of substernal implantable defibrillator electrode
0574T (E/I)	Repositioning of previously implanted substernal implantable defibrillator-pacing electrode

Code	Description
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
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
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)
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 (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 (Report 0579T only once per 90 days)
0580T (E/I)	Removal of substernal implantable defibrillator pulse generator only
0614T	Removal and replacement of substernal implantable defibrillator pulse generator

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)

Code	Description
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)
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

Code	Description
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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SEARCH TERMS

Not Applicable

CENTERS FOR MEDICARE AND MEDICAID SERVICES (CMS)

Implantable Cardioverter Defibrillators (ICDs) (NCD 20.4) [accessed 2024 Dec 10]

PRODUCT DISCLAIMER

- Services are contract dependent; if a product does not cover a service, medical policy criteria do not apply.
- If a commercial product (including an Essential Plan or Child Health Plus product) covers a specific service, medical policy criteria apply to the benefit.
- If a Medicaid product covers a specific service, and there are no New York State Medicaid guidelines (eMedNY) criteria, medical policy criteria apply to the benefit.
- If a Medicare product (including Medicare HMO-Dual Special Needs Program (DSNP) 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.
- If a Medicare HMO-Dual Special Needs Program (DSNP) product DOES NOT cover a specific service, please refer to the Medicaid Product coverage line.

POLICY HISTORY/REVISION	
Committee Approval Dates	
05/17/01, 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, 01/19/17, 02/15/18, 02/21/19, 04/16/20, 02/18/21, 08/19/21, 08/18/22, 08/17/23, 04/18/24, 01/23/25	
Date	**Summary of Changes**
01/23/25	• Off-cycle policy update. Policy criteria added for permanent pacemakers.
01/01/25	• Summary of changes tracking implemented.
09/16/99	• Original effective date