Cohere Medical Policy - Cardiac Implantable Devices

Clinical Guidelines for Medical Necessity Review

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Important Notices

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Guideline Information:

Specialty Area: Cardiovascular Disease
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Type: [**X**] Adult (18+ yo) | [**X**] Pediatric (0-17 yo)

Table of Contents

Medical Necessity Criteria

Service: Cardiac Implantable Devices

Recommended Clinical Approach:

Pacemaker implantation is indicated for various symptomatic cardiac conduction system abnormalities, such as sinus node dysfunction (SND), atrioventricular (AV) block, and atrial fibrillation (AF) with a slow ventricular heart rate response whether due to intrinsic conduction system disease, secondary to medications, or produced by an AV node ablation[1]. Depending on clinical status and comorbidities, the patient may require either single-site or multiple-site pacing, added defibrillator function if appropriate (e.g., heart failure with reduced ejection fraction [HFrEF]), or cardiac resynchronization therapy (CRT) without a defibrillator (CRT-P) or with a defibrillator (CDT-D). CRT is also known as biventricular (BiV) pacing.

New techniques for CRT bring about questions of optimal patient selection, indications, and follow-up for conduction system pacing (CSP) versus CRT via BiV pacing.[17] Pacing is frequently required after a surgical Maze procedure when much of the normal electrical impulses from the atria are disrupted.[1] Adequate atrial pacing may reduce the frequency of atrial tachyarrhythmic events. Many antiarrhythmics used to control atrial flutter/fibrillation can exacerbate sick sinus syndrome, which may require pacing to prevent symptomatic bradycardia.[2-3]

Implantable cardioverter-defibrillators (ICDs) may be used for the prevention of sudden cardiac death (SCD) in patients at high risk.[4] Permanent pacing is typically performed for symptomatic bradyarrhythmias. It may also be used for patients, regardless of symptoms, with an acquired second-degree Mobitz type II atrioventricular block, high-grade atrioventricular block, or third-degree atrioventricular block not attributable to reversible or physiologic causes[6]. Nocturnal bradycardia is not in itself an indication of permanent pacing.[5] Atrial fibrillation should only be the primary indication for pacemaker implantation when performed in concert with AV node ablation. Isolated pacemaker insertion should not be requested with AF or atrial flutter as the only associated diagnosis. Pacing is a treatment for symptomatic

bradycardic rhythms. Leadless pacemakers are beyond the scope of this policy.

Medical Necessity Criteria

Indications

➔ A **cardiac implantable device** is considered appropriate if **ANY** of the following are **TRUE**[1,3,5-6]:

- ◆ The device is an **implantable single or dual-chamber pacemaker,** and **ANY** of the following is **TRUE**[2-7;13,17,19]:
  - Symptomatic persistent or permanent atrial fibrillation (AF) and is a candidate for AV node ablation[2-7;13,17,19]; **OR**
  - Permanent AF with symptomatic bradycardia[2-7;13,17,19]; **OR**
  - Atrial flutter with **ANY** of the following[2-7;13,17,19]:
    - Associated sinus node dysfunction; **OR**
    - AV node dysfunction; **OR**
    - Symptomatic bradycardia, with or without antiarrhythmic treatment[2-3]; **OR**
  - Symptomatic bradycardia, sinus node dysfunction, or AV node dysfunction, with or without antiarrhythmic treatment or guideline-directed management and therapy, for which there is no alternative treatment and continued treatment is clinically necessary[5]; **OR**
  - Tachy-brady (tachycardia-bradycardia) form of sick sinus syndrome and symptoms attributable to bradycardia, permanent pacing is reasonable to increase heart rate and reduce symptoms attributable to hypoperfusion[5]; **OR**
  - Symptomatic chronotropic incompetence, permanent pacing with rate-responsive programming is reasonable to increase exertional heart rates and improve symptoms[5]; **OR**
  - Acquired second-degree Mobitz type II atrioventricular block, high-grade atrioventricular block, or third-degree atrioventricular block not attributable to reversible or physiologic causes, permanent pacing is recommended regardless of symptoms[5]; **OR**
  - Marked first-degree or second-degree Mobitz type I (Wenckebach) AV block with symptoms that are clearly attributable to the AV block, permanent pacing is reasonable[2-7;13,17,19]; **OR**

- Alternating BBB[2-7,13,17,19]; **OR**
- Syncope and BBB with an HV interval 70 ms or greater or evidence of infranodal block at EPS[2-7,13,17,19]; **OR**
- Vasovagal syncope with **ALL** of the following when all other transient causes have been excluded[7]:
    - The patient is 40 years of age or older; **AND**
    - Recurrent vasovagal syncope; **AND**
    - Prolonged pauses that are documented as greater than or equal to 3 seconds correlated with syncope; **OR**
- Replacement of a previously implanted pacemaker and **ANY** of the following is **TRUE**[2-7,13,17,19]:
    - Infection that is related to leads or device; **OR**
    - Battery life depleted; **OR**
    - Malfunction of lead or device; **OR**
    - Manufacturer recall of device; **OR**
    - Revision to a dual chamber pacemaker for patients in sinus rhythm with a single chamber ventricular pacemaker who develop pacemaker syndrome; **OR**

◆ The device is an **implantable cardioverter-defibrillator (ICD),** and **ANY** of the following is **TRUE**[2,4,7-8,18]:

- Primary prevention of sudden cardiac death (SCD) and **ANY** of the following is true[2,4,7-8]:
    - LVEF of 35% or less with **ALL** of the following[4]:
        - ◆ Ischemic heart disease[4]; **AND**
        - ◆ NYHA class I-III HF[4]; **AND**
        - ◆ **ANY** of the following:
            - 40 or more days post-MI[4]; **OR**
            - 90 or more days post-revascularization[4]; **OR**
    - Documented prior MI with non-sustained ventricular tachycardia (NSVT), LVEF less than or equal to 40%, and ventricular fibrillation (VF) or ventricular tachycardia (VT) that was induced during an electrophysiology (EP) study; **OR**
    - Heart failure with reduced ejection fraction (HFrEF) who is a candidate for cardiac transplantation or a left ventricular assist device (LVAD)[4,7]; **OR**

- Nonischemic cardiomyopathy (NICM), HF with NYHA class I–III symptoms and an LVEF of 35% or less, despite GDMT; **OR**
- Neuromuscular disorder (Duchenne, Becker, Emery-Dreifussf, Myotonic type 1, and limb-girdle types 1B, 2C, 2F, and 2I), HF with NYHA class I–III symptoms, and an LVEF of 35% or less, despite GDMT[4,7]; **OR**
- NICM due to a lamin A/C (LMNA) gene mutation who have 2 or more risk factors (NSVT, LVEF less than 45%, non-missense mutation, male sex)[4]; **OR**
- Arrhythmogenic right ventricular cardiomyopathy and an additional marker of increased risk of SCD (resuscitated SCA, sustained VT, significant ventricular dysfunction with RVEF or LVEF less than or equal to 35%)[4,7]; **OR**
- Hypertrophic cardiomyopathy (HCM) and **ANY** of the following[18]:
  - Maximum LV wall thickness greater than or equal to 30 mm[18]; **OR**
  - SCD in 1 or more first-degree (e.g., parent, sibling, child) relatives presumably caused by HCM[18]; **OR**
  - One or more episodes of unexplained syncope within the preceding 6 months[18]; **OR**
  - NSVT[18]; **OR**
  - An abnormal blood pressure response with exercise[18]; **OR**
- Cardiac sarcoidosis and **ANY** of the following[2,4,7-8]:
  - LVEF greater than 35% with inducible sustained VA on EP study; **OR**
  - Syncope; **OR**
  - Evidence of myocardial scar by cardiac MRI/PET scan; **OR**
  - An indication for permanent pacing; **OR**
- In patients with prior heart transplant and severe allograft vasculopathy with LV less than 45%[22]; **OR**
- In patients with myotonic dystrophy type 1[4,7]; **OR**

    - In high-risk patients with symptomatic long QT syndrome in whom a beta blocker is ineffective or not tolerated[4,7]; **OR**
    - Adult congenital heart disease with severe ventricular dysfunction (LVEF less than 35%), and either additional risk factors or symptoms of HF despite GDMT or additional risk factors[4,7]; **OR**
- Secondary prevention of SCD with **ANY** of the following[2-5,7-8,18]:
    - Patients with ischemic heart disease, who either survive SCA due to VT/VF or who experience hemodynamically unstable VT or stable sustained VT not due to reversible causes; **OR**
    - Patients with ischemic heart disease and unexplained syncope who have inducible sustained monomorphic VT on EP; **OR**
    - Patients with ischemic heart disease and unexplained syncope who have an LVEF less than or equal to 35%; **OR**
    - Patients with NICM who either survive SCA due to VT/VF, or who experience hemodynamically unstable VT or stable sustained VT; **OR**
    - In patients with NICM who experience syncope presumed to be due to VA; **OR**
    - Arrhythmogenic right ventricular cardiomyopathy and syncope presumed due to VA; **OR**
    - HCM with **ANY** of the following[18]:
        - Survivor of SCA due to VT or VF; **OR**
        - Spontaneous sustained VT causing syncope or hemodynamic compromise; **OR**
    - In patients with giant cell myocarditis with VF or hemodynamically unstable VT treated according to GDMT; **OR**
    - Cardiac sarcoidosis and **ANY** of the following:
        - Sustained VT; **OR**
        - Survivors of SCA; **OR**
        - LVEF of 35% or less; **OR**
    - Patients with an LVAD and sustained VA; **OR**

- Patients resuscitated from SCA due to coronary artery spasm in whom medical therapy is ineffective or not tolerated; **OR**
- In patients resuscitated from SCA due to coronary artery spasm, an ICD in addition to medical therapy; **OR**
- Cardiac channelopathy (i.e., long QT syndrome, catecholaminergic polymorphic ventricular tachycardia, Brugada syndrome, early repolarization syndrome, and short QT syndrome) and prior SCA[4,7]; **OR**
- Hemodynamically unstable VT; **OR**
- Stable sustained VT not associated with MI; **OR**
- Unexplained syncope, and ischemic heart disease with inducible sustained monomorphic VT on EP study; **OR**
- Diagnosed condition with high risk of life-threatening VT (familial/inherited); **OR**
- In patients with catecholaminergic polymorphic ventricular tachycardia, and either recurrent sustained VT or syncope, while receiving adequate or maximally tolerated beta blocker; **OR**
- Brugada syndrome with spontaneous type 1 Brugada electrocardiographic pattern and cardiac arrest, sustained VA, or a recent history of syncope presumed due to VA; **OR**
- Early repolarization pattern on ECG, and either cardiac arrest or sustained VA; **OR**
- In patients with short QT syndrome who have a cardiac arrest or sustained VA; **OR**
- Patients resuscitated from SCA due to idiopathic polymorphic VT or VF; **OR**
- Congenital heart disease with **ANY** of the following:
  - Hemodynamically unstable VT after evaluation and appropriate treatment for residual lesions/ventricular dysfunction; **OR**
  - SCA due to VT or VF in the absence of reversible causes; **OR**

        - Repaired tetralogy of Fallot physiology and either inducible VT/VF or spontaneous sustained VT; **OR**
        - Repaired moderate or severe complexity congenital heart disease with unexplained syncope and at least moderate ventricular dysfunction or marked hypertrophy; **OR**
- The device is a **subcutaneous implantable cardioverter-defibrillator system** and **ALL** of the following[4] are **TRUE**:
    - An indication for primary or secondary prevention of SCD; **AND**
    - **ANY** of the following is **TRUE**:
        - Transvenous defibrillation unable or failed to be placed; **OR**
        - Vascular access is limited; **OR**
        - Congenital heart disease that either limits venous access to the heart or requires intracardiac shunt[21]; **OR**
        - Prior transvenous ICD infection[21]; **OR**
        - On hemodialysis[21]; **OR**
        - Immunocompromise; **OR**
        - At high risk for bacteremia (e.g., prior bacteremia, chronic indwelling catheters); **OR**
        - Endocarditis; **OR**
- The device is for **cardiac resynchronization therapy (CRT) without a defibrillator (CRT-P) or with a defibrillator (CDT-D, when cardioverter-defibrillator function is indicated)** when **ANY** of the following is **TRUE**[5,9-14]:
    - For initial CRT when **ANY** of the following is **TRUE**:
        - LVEF less than or equal to 35% (with ischemic or non-ischemic cardiomyopathy) and **ALL** of the following[9, 10] are **TRUE**:
            - Sinus rhythm; **AND**
            - LBBB (QRS duration greater than or equal to 120 ms)[5]; **AND**
            - NYHA class II, III or ambulatory IV HF on maximally tolerated GDMT for at least 3 months[20]; **OR**

    - LVEF less than or equal to 30% (ischemic), and **ALL** of the following are **TRUE**:
        - Sinus rhythm **AND**
        - LBBB (QRS duration greater than or equal to 120 ms)[5]; **AND**
        - NYHA class I HF on maximally tolerated GDMT for at least 3 months[20]; **OR**
    - Atrial fibrillation (AF) and **ALL** of the following[19,20]:
        - **ANY** of the following:
            - AV nodal ablation (AVNA)[19,20]; **OR**
            - Pharmacological rate control will allow near 100% ventricular pacing with CRT[19,20]; **AND**
        - With an LVEF less than or equal to 35% on maximally tolerated GDMT for at least 3 months[19,20]; **OR**
    - High degree or complete heart block and EF 36% to 50% **(applies to CRT-P only)**; **OR**
    - HCM and **ALL** of the following[20]:
        - Existing or prior ICD[20]; **AND**
        - NYHA class II to ambulatory class IV HF despite GDMT for at least 3 months[20]; **AND**
        - LBBB (QRS duration greater than or equal to 120 ms)[5]; **AND**
        - **ANY** of the following[20]:
            - LVEF less than 35%; **OR**
            - LVEF less than 50% and expected high burden of ventricular pacing; **OR**
    - New pacemaker implantation with **ALL** of the following:
        - LVEF less than or equal to 35% on GDMT; **AND**
        - Anticipated requirement for significant (greater than 40%) ventricular pacing; **OR**
- For upgrade to a CRT device when **ALL** of the following are **TRUE**[9,14]:
    - The patient is being paced from the RV more than 40% of the time; **AND**
    - **ANY** of the following:
        - LVEF less than or equal to 35% on GDMT; **OR**

        - LVEF less than 50% and expected high burden of ventricular pacing; **OR**
    - For replacement of an existing CRT device when **ANY** of the following is **TRUE**[9,14]:
        - Battery life depleted; **OR**
        - Elective replacement indicator (ERI); **OR**
        - Malfunction of lead or device.

Non-Indications

- ➔ A **cardiac implantable device** is not considered appropriate if **ANY** of the following is **TRUE**:
    - Symptoms are due to a transient cause (e.g., acute myocardial infarction [MI], drug toxicity, or electrolyte imbalance) with no other indication present; **OR**
    - The device is an **implantable pacemaker,** and **ANY** of the following is **TRUE**:
        - Active systemic or local infection; **OR**
        - Permanent or persistent AF in whom a rhythm control strategy is not planned and implantation of an atrial lead should not be performed; **OR**
        - The patient has a first-degree AV block or second-degree Mobitz type I (Wenckebach) or 2:1 AV block, which is believed to be at the level of the AV node, without symptoms or symptoms that do not temporally correspond to the atrioventricular block; **OR**
        - Prevention of AF[6]; **OR**
        - Treatment of sleep apnea[15]; **OR**
        - Asymptomatic bradycardia during sleep[8]; **OR**
        - Syncope of undetermined cause[16]; **OR**
    - The device is an **implantable defibrillator,** and **ANY** of the following is **TRUE**:
        - Active systemic or local infection; **OR**
        - NYHA class IV patients with HF not responsive to medication who are not candidates for cardiac transplantation or LVAD[4,8]; **OR**
        - Physiological shock of any etiology; **OR**
        - Non-cardiac disease, such as cancer or liver failure, that is associated with the possibility of less than 1 year of meaningful survival; **OR**

- The device is a **subcutaneous implantable cardioverter-defibrillator system,** and **ANY** of the following is true:
  - In patients with an indication for bradycardia pacing or CRT; **OR**
  - Antitachycardia pacing for VT termination is required; **OR**
- The device is for **cardiac resynchronization therapy (CRT)** and **ANY** of the following is **TRUE**[9-10,14]:
  - QRS less than 120 ms; **OR**
  - EF greater than 50%; **OR**
  - Non-ambulatory NYHA IV HF symptoms; **OR**
  - With LVAD in place; **OR**
  - Active systemic or local infection.

Level of Care Criteria

Outpatient or Inpatient.

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
33206	Insertion of permanent atrial pacemaker with transvenous electrode
33207	Insertion of permanent ventricular pacemaker with transvenous electrode
33208	Insertion of permanent atrial and ventricular pacemaker with transvenous electrode
33210	Insertion or replacement of temporary transvenous single chamber cardiac electrode or pacemaker catheter (separate procedure)
33211	Insertion or replacement of temporary transvenous dual chamber pacing electrodes (separate procedure)
33212	Insertion of pacemaker pulse generator with connection to existing single lead
33213	Insertion of pacemaker pulse generator with connection to existing dual leads
33214	Conversion of single chamber implanted pacemaker

	system to dual chamber system
33216	Insertion of transvenous electrode of permanent pacemaker
33217	Insertion of 2 transvenous electrodes of permanent cardioverter-defibrillator
33221	Insertion of pacemaker pulse generator with existing multiple leads
33224	Transvenous insertion of pacing electrode for left ventricular pacing, with connection to existing pacemaker
33225	Insertion of pacing electrode, cardiac venous system, for left ventricular pacing, at time of insertion of implantable defibrillator or pacemaker pulse generator (e.g., for 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 existing generator)
33227	Removal and replacement of permanent pacemaker pulse generator in single lead system
33228	Removal and replacement of permanent pacemaker pulse generator in dual lead system
33229	Removal and replacement of permanent pacemaker pulse generator in multiple lead system
33230	Insertion of implantable defibrillator pulse generator only; with existing dual leads
33231	Insertion of implantable defibrillator pulse generator only; with existing multiple leads
33233	Removal of permanent pacemaker pulse generator
33234	Removal of transvenous pacemaker electrode(s); single lead system, atrial or ventricular
33235	Removal of transvenous pacemaker electrode(s); dual lead system
33240	Insertion of implantable defibrillator pulse generator only;

	with existing single lead
33241	Removal of implantable defibrillator pulse generator only
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
33274	Transcatheter insertion or replacement of permanent leadless pacemaker, right ventricular, including imaging guidance (eg, fluoroscopy, venous ultrasound, ventriculography, femoral venography) and device evaluation (eg, interrogation or programming), when performed

33275	Transcatheter removal of permanent leadless pacemaker, right ventricular, including imaging guidance (eg, fluoroscopy, venous ultrasound, ventriculography, femoral venography), when performed
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 (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)
C1721	Cardioverter-defibrillator, dual chamber (implantable)
C1722	Cardioverter-defibrillator, single chamber (implantable)
C1777	Lead, cardioverter-defibrillator, endocardial single coil (implantable)
C1779	Lead, pacemaker, transvenous VDD single pass
C1785	Pacemaker, dual chamber, rate-responsive (implantable)

C1786	Pacemaker, single chamber, rate-responsive (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)
C1898	Lead, pacemaker, other than transvenous VDD single pass
C1899	Lead, pacemaker/cardioverter-defibrillator combination (implantable)
C1900	Lead, left ventricular coronary venous system
C2619	Pacemaker, dual chamber, non-rate-responsive (implantable)
C2620	Pacemaker, single chamber, non-rate-responsive (implantable)
C2621	Pacemaker, other than single or dual chamber (implantable)
0571T	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	Insertion of substernal implantable defibrillator electrode
0573T	Removal of substernal implantable defibrillator electrode
0574T	Repositioning of previously implanted substernal implantable defibrillator-pacing electrode
0577T	Electrophysiologic 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)
0580T	Removal of substernal implantable defibrillator pulse generator only
0614T	Removal and replacement of substernal implantable defibrillator pulse generator

Medical Evidence

The American College of Cardiology (ACC), in association with the American Heart Association (AHA), the American College of Clinical Pharmacy (ACCP), and the Heart Rhythm Society (HRS), has published several guidelines for the management of various cardiac rhythm disorders. The most recent were published in 2024 and 2023, covering hypertrophic cardiomyopathy (HCM) and atrial fibrillation (AF), respectively. Per the ACC's recommendation, HCM may be appropriately treated with implantable cardioverter-defibrillators (ICDs) such as an implantable cardiac defibrillator to reduce the risk of sudden cardiac death (SCD). Patients with an existing ICD may be eligible to receive cardiac resynchronization therapy based on symptoms of worsening heart failure (HF) (left bundle branch block [LBBB], left ventricle ejection fraction [LVEF] under 50%, New York Heart Association [NYHA] class II to ambulatory class IV symptoms). The 2024 guidelines direct the optimal treatment of patients with HF with reduced ejection fraction (HFrEF) - the ACC verifies that guideline-directed medical therapy (GDMT) is generally attempted for a period of at least 3 months before ventricular function is reassessed for potential augmentation by device therapy.[18-20]

Kusumoto et al. (2018) published recommendations for the treatment of bradycardia in a multi-society guideline. They strongly recommended permanent pacing regardless of symptoms in patients with acquired second-degree Mobitz type II atrioventricular block, high-grade atrioventricular block, or third-degree atrioventricular block not attributable to reversible or physiologic causes. Strong recommendations were made for other patients with AV block, including those with neuromuscular disease and symptomatic bradycardia.[5]

Calkins et al. (2017) published an expert consensus statement with the HRS, the European Heart Rhythm Association (EHRA), and the European Cardiac Arrhythmia Society (ECAS) to update guidelines based on advances in AF ablation since the previous publication. It was recommended that the amount of time an individual spends in AF (24-hour AF burden) is essential to address when ablation is being considered. This is due largely to the increase in the use of implantable loop recorders, pacemakers, and ICDs.[1]

Al-Khatib et al. (2017) published guidelines on behalf of the AHA, ACC, and the HRS regarding the management of patients with ventricular arrhythmias (VAs) and the prevention of SCD. Various types of defibrillators were discussed, and their effectiveness in terminating life-threatening VAs. Survivors of cardiac arrest, patients with ventricular tachycardia (VT) and structural heart disease, and those with significant left ventricle (LV) dysfunction may benefit greatly from defibrillator implantation.[4]

January et al. (2014) published an evidence-based, systematic review and subsequent guidelines for the AHA, ACC, and HRS on the *Management of Patients with Atrial Fibrillation*. A number of recommendations were made or revised for optimum management of AF. Pacemakers are recommended in AF patients for the treatment of symptomatic bradycardia, which is often related to sick sinus syndrome. The authors stated that antiarrhythmic therapy may exacerbate sick sinus syndrome, requiring pacemaker implantation. Permanent pacing was not recommended by the group for the prevention of AF in patients without other indications for pacemaker placement. Implanted defibrillators are not recommended for AF rhythm control.[6]

References

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Clinical Guideline Revision History/Information

Original Date: January 17, 2024		
Review History		
Version 2	3/15/2024	
Version 3	4/26/2024	
Version 4	12/19/2024	Annual policy review and restructure: • Updated recommended clinical approach to the current format. • Overall reformatting to align with current editorial standards. • Removal of redundant indications • Condensed indications where applicable for clarity. • Updated medical evidence section. • Updated references.