Medical Policy
Catheter Ablation of Arrhythmogenic Foci

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Policy Number: 123
BCBSA Reference Number: 2.02.01

Related Policies
- Radiofrequency Catheter Ablation of the Pulmonary Vein as a Treatment for Atrial Fibrillation, #141
- Implantable Cardioverter Defibrillator (ICD), #070

Policy¹
Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO Blue℠ and Medicare PPO Blue℠ Members

Catheter ablation of arrhythmogenic foci may be considered MEDICALLY NECESSARY for the treatment of supraventricular tachyarrhythmias in any of the following conditions:
- Paroxysmal supraventricular tachycardia due to atrioventricular (AV) nodal re-entry tachycardia,
- Paroxysmal supraventricular tachycardia due to accessory pathways,
- Atrial flutter,
- Focal atrial tachycardia, and
- Wolff-Parkinson-White (WPW) syndrome in pediatric patients (0 -18 years old).
  o Who are asymptomatic, AND
  o Who are at high risk of life threatening arrhythmias as determined by the persistence of a delta wave during an exercise tolerance test in which a maximal heart rate is achieved.¹

Catheter ablation of arrhythmogenic foci may be considered MEDICALLY NECESSARY for the treatment of chronic, recurrent, ventricular tachycardias when the tachycardia:
- Is refractory to implantable cardioverter-defibrillator treatment, AND
- Is refractory to antiarrhythmic medications, AND
- Has an arrhythmogenic focus that can be identified.

Catheter ablation for ventricular tachycardia “storm” may be considered MEDICALLY NECESSARY when pharmacologic treatment has been unsuccessful in controlling the arrhythmia. (Ventricular tachycardia “storm”, also known as incessant ventricular tachycardia, is defined as at least three episodes of sustained VT in a 24-hour period.)
Patients with ventricular tachycardia who are not refractory to medications and ICD, the role of catheter ablation is uncertain are INVESTIGATIONAL.

Catheter ablation for all other ventricular arrhythmias is considered INVESTIGATIONAL.

**Prior Authorization Information**

**Commercial Members: Managed Care (HMO and POS)**
Prior authorization is NOT required.

**Commercial Members: PPO, and Indemnity**
Prior authorization is NOT required.

**Medicare Members: HMO BlueSM**
Prior authorization is NOT required.

**Medicare Members: PPO BlueSM**
Prior authorization is NOT required.

**CPT Codes / HCPCS Codes / ICD-9 Codes**
The following codes are included below for informational purposes. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member’s contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member. A draft of future ICD-10 Coding related to this document, as it might look today, is included below for your reference.

providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

**CPT Codes**

<table>
<thead>
<tr>
<th>CPT codes</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>93650</td>
<td>Intracardiac catheter ablation of atrioventricular node function, atrioventricular conduction for creation of complete heart block, with or without temporary pacemaker placement</td>
</tr>
<tr>
<td>93653</td>
<td>Comprehensive electrophysiologic evaluation including insertion and repositioning of multiple electrode catheters with induction or attempted induction of an arrhythmia with right atrial pacing and recording, right ventricular pacing and recording (when necessary) and His bundle recording (when necessary) with intracardiac catheter ablation of arrhythmogenic focus; with treatment of supraventricular tachycardia by ablation of fast or slow atrioventricular pathway, accessory atrioventricular connection, cavo-tricuspid isthmus or other single atrial focus or source of atrial re-entry</td>
</tr>
<tr>
<td>93654</td>
<td>Comprehensive electrophysiologic evaluation including insertion and repositioning of multiple electrode catheters with induction or attempted induction of an arrhythmia with right atrial pacing and recording, right ventricular pacing and recording (when necessary), and His bundle recording (when necessary) with intracardiac catheter ablation of arrhythmogenic focus; with treatment of ventricular tachycardia or focus of ventricular ectopy including intracardiac electrophysiologic 3D mapping, when performed, and left ventricular pacing and recording, when performed</td>
</tr>
<tr>
<td>93655</td>
<td>Intracardiac catheter ablation of a discrete mechanism of arrhythmia which is distinct from the primary ablated mechanism, including repeat diagnostic maneuvers, to treat a spontaneous or induced arrhythmia (List separately in addition to code for primary procedure)</td>
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ICD-9 Diagnosis Codes

<table>
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<tr>
<th>ICD-9-CM diagnosis codes:</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>426.7</td>
<td>Anomalous atrioventricular excitation</td>
</tr>
<tr>
<td>427.0</td>
<td>Paroxysmal supraventricular tachycardia</td>
</tr>
<tr>
<td>427.1</td>
<td>Paroxysmal ventricular tachycardia</td>
</tr>
<tr>
<td>427.32</td>
<td>Atrial flutter</td>
</tr>
<tr>
<td>427.89</td>
<td>Other specified cardiac dysrhythmias</td>
</tr>
<tr>
<td>779.82</td>
<td>Neonatal tachycardia</td>
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ICD-10 Diagnosis Codes

<table>
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<tr>
<th>ICD-10-CM Diagnosis codes:</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>I45.6</td>
<td>Pre-excitation syndrome</td>
</tr>
<tr>
<td>I47.0</td>
<td>Re-entry ventricular arrhythmia</td>
</tr>
<tr>
<td>I47.1</td>
<td>Supraventricular tachycardia</td>
</tr>
<tr>
<td>I47.2</td>
<td>Ventricular tachycardia</td>
</tr>
<tr>
<td>I48.1</td>
<td>Persistent atrial fibrillation</td>
</tr>
<tr>
<td>I48.3</td>
<td>Typical atrial flutter</td>
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<tr>
<td>I48.4</td>
<td>Atypical atrial flutter</td>
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<tr>
<td>I48.92</td>
<td>Unspecified atrial flutter</td>
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<tr>
<td>I49.2</td>
<td>Junctional premature depolarization</td>
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<tr>
<td>I49.8</td>
<td>Other specified cardiac arrhythmias</td>
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<tr>
<td>R00.1</td>
<td>Bradycardia, unspecified</td>
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<tr>
<td>P29.11</td>
<td>Neonatal tachycardia</td>
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Description

Cardiac arrhythmias are descriptions of heart beats that are too fast, too slow, or have an interruption, or irregularity of the rhythm of the beat. Most often this is due to diseased cardiac tissue affecting the conduction system or the myocardium structure. Catheter ablation is a technique for eliminating cardiac arrhythmias by selectively destroying a portion of the myocardium, or conduction system tissue that contains the arrhythmogenic focus. Radiofrequency energy is the most commonly used source for ablation of cardiac arrhythmias, although other energy sources such as cryoablation have also been used. The technique treats supraventricular tachycardias by partially or fully ablating the atrioventricular (AV) node or accessory conduction pathways, thus ablating the arrhythmogenic focus. It controls idiopathic ventricular or re-entrant ventricular tachycardias by eliminating the focus.

Ablation is performed following pre-procedural imaging and mapping of the focus during electrophysiologic studies that recreate a three-dimensional structure of the cardiac chambers. This assists the electrophysiologist in defining the individual anatomy, locating the electroanatomic location of arrhythmogenic foci and positioning the ablation catheter for delivery of radiofrequency energy.

Catheter ablation is invasive. It can be done in conjunction with open heart surgery or on a stand-alone basis where a cardiac catheter is passed into the heart via an arm or leg vein. The risks of catheter ablation vary with the specific type of procedure performed and whether or not there are underlying structural abnormalities of the heart. A variety of complications have been documented. These may include vascular injury, cardiac tamponade, stroke, myocardial ischemia/infarction, thromboembolism, heart failure, and/or radiation exposure.

Examples of cardiac catheter ablation systems to treat arrhythmogenic foci are the Synergy Cardiac Ablation Device by AtriCure the Phased RF Ablation System from Medtronic and Numeris® Coagulation.
System with VisiTrax® from Contact. All cardiac catheter ablation devices for treating arrhythmogenic foci are considered investigational regardless of the commercial name, the manufacturer or FDA approval status except when used for the medically necessary indications that are consistent with the policy statement.

**Summary**

Catheter ablation is an established and widely used technique in the treatment of supraventricular arrhythmias. While large-scale RCTs of efficacy are lacking for PSVT, numerous clinical series report very high success rates at well over 90%. Serious complications, mainly consisting of AV block requiring pacemaker insertion, occur in approximately 1% of patients. High success rates are also reported for atrial flutter and focal atrial tachycardia, although the evidence is less robust than for PSVT. Therefore, these procedures offer a very favorable risk-benefit ratio for supraventricular arrhythmias and can be considered medically necessary.

For ventricular arrhythmias, the use of catheter ablation is less well-established. Two small RCTs in patients with an ICD demonstrated a reduction in the number of ICD discharges for ventricular arrhythmias following catheter ablation, and a systematic review of controlled trials reports a 31% reduction in VT recurrence associated with ablation. Clinical series demonstrate that acute success can be achieved in a high percentage of patients, in the range of 80-90%. Late recurrences do occur, but the majority of patients treated with ablation remain free of ventricular tachycardia at 1-2 years’ follow-up. This evidence establishes that ablation for ventricular tachycardia reduces the future occurrence of ventricular arrhythmias. As a result, it is reasonable to recommend ablation as a treatment for patients with ventricular arrhythmias that are not controlled by ICD implantation and medications. As a result, catheter ablation may be considered medically necessary for these patients.

The evidence is limited on treatment of VT “storm”. A few small case series of patients with VT storm report high acute success and favorable long-term response rates for catheter ablation. Based on this data, together with the results of clinical vetting, the lack of alternative treatments, and the infeasibility of performing clinical trials, catheter ablation may be considered medically necessary for patients with VT storm who fail to respond to pharmacologic treatment.

**Policy History**

<table>
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<td>10/2013</td>
<td>Updated to add CPT codes 93653, 93654 and 93655. Removed deleted codes 93651 and 93652.</td>
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<tr>
<td>5/2013</td>
<td>New references from BCBSA National medical policy.</td>
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<tr>
<td>1/2013</td>
<td>Updated to add new code 93655.</td>
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<tr>
<td>7/2011</td>
<td>BCBSA National medical policy review Changes to policy statements.</td>
</tr>
<tr>
<td>10/2009</td>
<td>BCBSA National medical policy review Changes to policy statements.</td>
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Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

- Medical Policy Terms of Use
- Managed Care Guidelines
- Indemnity/PPO Guidelines
- Clinical Exception Process
- Medical Technology Assessment Guidelines

References


24. Aliot EM, Stevenson WG, Almendral-Garrote JM et al. EHRA/HRS Expert Consensus on Catheter Ablation of Ventricular Arrhythmias: developed in a partnership with the European Heart Rhythm Association (EHRA), a Registered Branch of the European Society of Cardiology (ESC), and the Heart Rhythm Society (HRS); in collaboration with the American College of Cardiology (ACC) and the American Heart Association (AHA). Europace 2009; 11(6):771-817.
27. Pediatric, Congenital Electrophysiology S, Heart Rhythm S et al. PACES/HRS expert consensus statement on the management of the asymptomatic young patient with a Wolff-Parkinson-White (WPW, ventricular preexcitation) electrocardiographic pattern: developed in partnership between the Pediatric and Congenital Electrophysiology Society (PACES) and the Heart Rhythm Society (HRS). Endorsed by the governing bodies of PACES, HRS, the American College of Cardiology Foundation (ACCF), the American Heart Association (AHA), the American Academy of Pediatrics (AAP), and the Canadian Heart Rhythm Society (CHRS). Heart Rhythm 2012; 9(6):1006-24.

Endnote
1. Based on local expert opinion.