



## **RATIONALE FOR INCLUSION IN PA PROGRAM**

### **Background**

Corlanor is approved for use in a limited population of cardiac patients who have long-lasting (chronic) heart failure caused by the lower-left part of their heart not contracting well. The drug is indicated for patients who have symptoms of heart failure that are stable, a normal heartbeat with a resting heart rate of at least 70 beats per minute and are also taking beta blockers at the highest dose they can tolerate or who have a contraindication to beta-blocker use (1).

### **Regulatory Status**

FDA-approved indication: Corlanor is a hyperpolarization-activated cyclic nucleotide-gated channel blocker indicated to reduce the risk of hospitalization for worsening heart failure in patients with stable, symptomatic chronic heart failure with left ventricular ejection fraction  $\leq 35\%$ , who are in sinus rhythm with resting heart rate  $\geq 70$  beats per minute and either are on maximally tolerated doses of beta-blockers or have a contraindication to beta-blocker use (1).

### Off Label Uses:

Recent studies have described a dramatic improvement in heart rate and postural orthostatic tachycardia syndrome (POTS)-related symptoms with Corlanor. Corlanor is a selective sinus node blocker, reducing firing rate without affecting blood pressure (2-3).

Corlanor must be titrated and adjustments are based upon resting heart rate and tolerability (1). Corlanor is contraindicated in patients with acute decompensated heart failure, blood pressure less than 90/50 mmHg, sick sinus syndrome or 3<sup>rd</sup> degree AV block unless a functioning demand pacemaker is present, resting heart rate less than 60 beats per minutes prior to treatment, severe hepatic impairment, pacemaker dependent or concomitant use of strong cytochrome P450 3A4 inhibitors (1).

Corlanor may cause fetal toxicity when administered to a pregnant woman based on findings in animal studies. Advise females with child-bearing potential to use effective contraception when taking Corlanor (1).

Corlanor increases the risk of atrial fibrillation. Regularly monitor cardiac rhythm. Discontinue Corlanor if atrial fibrillation develops. Bradycardia, sinus arrest and heart block have occurred with



Corlanor. Risk factors for bradycardia include sinus node dysfunction, conduction defects (e.g., 1<sup>st</sup> or 2<sup>nd</sup> degree atrioventricular block, bundle branch block), ventricular dyssynchrony and use of other negative chronotropes (e.g., digoxin, diltiazem, verapamil, amiodarone). Concurrent use of verapamil or diltiazem will increase Corlanor exposure, may themselves contribute to heart rate lowering and should be avoided. Assess patient after two weeks and adjust dose to achieve a resting heart rate between 50 and 60 beats per minute. Corlanor is not recommended for use in patients with demand pacemakers set to rates of  $\geq 60$  beats per minutes (1).

The safety and efficacy of Corlanor has not been established in patients younger than 18 years of age (1).

### **Summary**

Corlanor is a hyperpolarization-activated cyclic nucleotide-gated (HCN) channel blocker, which affects heart rate. It is indicated to reduce the risk of hospitalization for worsening heart failure in patients with stable, symptomatic chronic heart failure with left ventricular ejection fraction  $\leq 35\%$ , who are in sinus rhythm with resting heart rate  $\geq 70$  beats per minute and either are on maximally tolerated doses of beta-blockers or have a contraindication to beta-blocker use. Recent studies have described a dramatic improvement in heart rate and postural orthostatic tachycardia syndrome (POTS) related symptoms with Corlanor. Corlanor is a selective sinus node blocker, reducing firing rate without affecting blood pressure. Corlanor may cause fetal toxicity when administered to a pregnant woman based on findings in animal studies. Advise females of child-bearing potential to use effective contraception when taking Corlanor. Corlanor increases the risk of atrial fibrillation and bradycardia (1-3).

Prior approval is required to ensure the safe, clinically appropriate and cost effective use of Corlanor while maintaining optimal therapeutic outcomes.

### **References**

1. Corlanor [package insert]. Thousand Oaks, CA: Amgen Inc; January 2017..
2. McDonald C, Frith J, and Newton J. Single centre experience of ivabradine in postural orthostatic tachycardia syndrome. *Europace*. 2011;13:427–430.



**BlueCross  
BlueShield**

Federal Employee Program.

**CORLANOR**  
(ivabradine)

3. Nwazue VC et al. Postural tachycardia syndrome and inappropriate sinus tachycardia: role of autonomic modulation and sinus node automaticity. *Journal American Heart Assoc.*2014;3(2):e000700.