Programming an ICD or CRT-D When Atrial Information is Not Used

SUMMARY

Boston Scientific dual-chamber ICDs and multi-chamber CRT-Ds will respond to atrial sensing regardless of whether an atrial lead is implanted. Therefore, if an atrial lead is not going to be implanted or information from an attached atrial lead is not going to be used, certain device parameters should be re-programmed.

Products Referenced
All Boston Scientific ICDs and CRT-Ds

Products referenced herein may not be approved in all geographies. For comprehensive information on device operation and indications for use, reference the appropriate product labeling.

CRT-D: Cardiac Resynchronization Therapy Defibrillator
ICD: Implantable Cardioverter Defibrillator

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Atrial therapy can be a valuable component of the overall therapy plan for ICD or CRT-D patients. Atrial information may be used to inhibit ventricular therapy in the presence of atrial fibrillation or atrial flutter, or it may be used to bypass ventricular therapy inhibitors if the ventricular rate is faster than the atrial rate.

While atrial therapy is often beneficial and atrial rate information is useful, there may be clinical situations in which atrial lead information is not useful. Examples include patients in chronic atrial fibrillation, absence of an atrial lead, or atrial lead dislodgement.

If atrial lead information is not required or an atrial lead was not implanted (the atrial port is plugged), reconfiguration of certain device parameters and features may be appropriate, as listed in Table 1. Tables 2 and 3 provide information on navigating to the programmer screen where these configuration changes can be made.
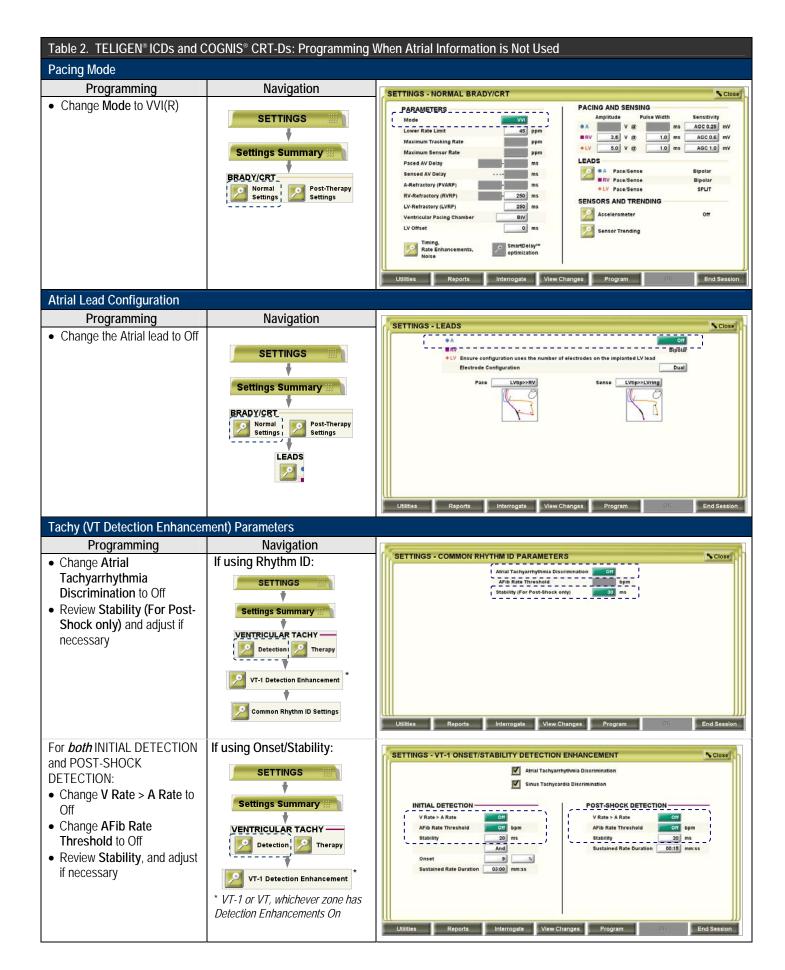
Table 1. Summary of Programming Changes and Results When Atrial Information is Not Used		
Parameter	**Programming**	**Programming Result**
Pacing Mode	• Program **Mode** to VVI(R)[a]	• Atrial pacing will not occur • Atrial information will not be used to drive brady pacing
Atrial lead configuration[b]	• Program the Atrial lead to Off	• Atrial sensing will not occur • AS markers will not appear • The accrual of atrial counters will be minimized
Detection Enhancements	**For Stability/Onset:** • Program **V Rate > A Rate** and **AFib Rate Threshold** to Off • Review **Stability** and adjust if necessary[a] **For Rhythm ID** COGNIS® CRT-D / TELIGEN® ICD • Program **Atrial Tachyarrhythmia Discrimination** to Off. • Review **Stability (For Post-shock only)** and adjust if necessary[a] VITALITY® ICD / VITALITY 2 ICD • Program **Rhythm ID Detection Enhancement Mode** to VR	• Therapy decisions will not be based on atrial-based measurements
Episode/EGM Storage[c]	• Program Episode Data Storage for **Brady (ATR and PMT)** to 0% • Program **Atrial Electrogram Storage** to Off	• Enables additional storage space in the Arrhythmia Logbook for tachy episodes
Atrial Daily Measurements	• Program the atrial **Intrinsic Amplitude** and atrial **Pace Impedance** to Off	• Atrial diagnostic information will not be collected

[a]Nominal Stability setting is 10-20 ms for dual-chamber and 30 ms for single-chamber ICDs and CRT-Ds.
[b]Applies only to COGNIS CRT-Ds and TELIGEN ICDs. An atrial EP test should not be performed if the atrial lead is programmed to Off.
[c]Applies to all ICD and CRT-D devices except COGNIS CRT-Ds and TELIGEN ICDs.

NOTE:
- *During follow-up visits, the user may de-select the atrial realtime electrogram trace.*
- *If an atrial lead is implanted and the physician subsequently elects to utilize atrial information, the disabled/adjusted parameters should be programmed back to the appropriate settings.*

Table 2. TELIGEN® ICDs and COGNIS® CRT-Ds: Programming When Atrial Information is Not Used

Pacing Mode

Programming	Navigation	
• Change **Mode** to VVI(R)	SETTINGS → Settings Summary → BRADY/CRT: Normal Settings / Post-Therapy Settings	SETTINGS - NORMAL BRADY/CRT

Atrial Lead Configuration

Programming	Navigation	
• Change the Atrial lead to Off	SETTINGS → Settings Summary → BRADY/CRT: Normal Settings / Post-Therapy Settings → LEADS	SETTINGS - LEADS

Tachy (VT Detection Enhancement) Parameters

Programming	Navigation	
• Change **Atrial Tachyarrhythmia Discrimination** to Off • Review **Stability (For Post-Shock only)** and adjust if necessary	**If using Rhythm ID:** SETTINGS → Settings Summary → VENTRICULAR TACHY: Detection / Therapy → VT-1 Detection Enhancement * → Common Rhythm ID Settings	SETTINGS - COMMON RHYTHM ID PARAMETERS
For *both* INITIAL DETECTION and POST-SHOCK DETECTION: • Change **V Rate > A Rate** to Off • Change **AFib Rate Threshold** to Off • Review **Stability**, and adjust if necessary	**If using Onset/Stability:** SETTINGS → Settings Summary → VENTRICULAR TACHY: Detection / Therapy → VT-1 Detection Enhancement * * VT-1 or VT, whichever zone has Detection Enhancements On	SETTINGS - VT-1 ONSET/STABILITY DETECTION ENHANCEMENT

Table 2. TELIGEN® ICDs and COGNIS® CRT-Ds: Programming When Atrial Information is Not Used *(continued)*

Atrial Daily Measurement Setup

Programming	Navigation	
For the Atrial lead: • Change **Intrinsic Amplitude** to Off • Change **Pace Impedance** to Off	SUMMARY ↓ Leads ↓ Setup	

Final Device Programming

When the desired changes have been made, select [Program] on the screen or press the **Program** key on the programmer.

NOTE: If an atrial lead is implanted and the physician subsequently elects to utilize atrial information, the disabled/adjusted parameters should be programmed back to the appropriate settings.

Table 3. All Other ICDs and CRT-Ds: Programming When Atrial Information is Not Used

Pacing Mode (Normal and Post-Shock)

Programming	Navigation
Normal: • Change **Mode** to VVI(R)	
Post-shock: • Change **Mode** to VVI(R)	

Tachy (VT Detection Enhancement) Parameters

Programming	Navigation
For *both* Initial and Redetection: • Change **V Rate >A Rate** to Off • Change **A Fib Rate Threshold** to Off Review **Stability** and adjust if necessary	If using **Detection Enhancements:** * *VT-1 or VT, whichever zone has Detection Enhancements on*
• Change **Rhythm ID Detection Enhancement Mode** to VR	If using **Rhythm ID** (VITALITY® / VITALITY 2):

Table 3. All Other ICDs and CRT-Ds: Programming When Atrial Information is Not Used *(Continued)*

Arrhythmia Logbook Setup

Programming	Navigation	
Episode Data Storage: • Change **Brady (ATR and PMT)** to 0% Electrogram Storage Source: • Change **Atrial** to Off		

Daily Measurement Setup

Programming	Navigation	
• Change **Atrial Intrinsic Amplitude** to Off • Change **Atrial Pace Impedance** to Off		

Final Device Programming

When the desired changes have been made, press the **Program** key on the programmer.

NOTE: *If an atrial lead is implanted and the physician subsequently elects to utilize atrial information, the disabled/adjusted parameters should be programmed back to the appropriate settings.*