

What to do with a Small R
wave ?

A Case of Concerto II ICD

One day following an Uneventful Implantation ICD Records Small R

Device: Concerto II CRT-D D294TRK
Serial Number: PZU601715S

9995 Software Version 7.1
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Sensing Test Report

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Sensing Test

	Test Value	Permanent
Mode	DDI	DDI
AV Delay	250 ms	350 ms
Lower Rate	40 bpm	40 bpm

Last Sensing Measurement

27-Feb-2010

P-Wave Amplitude 3.6 mV

R-Wave Amplitude 1.8 mV



Sense Polarity

P-wave Bipolar
R-wave Bipolar

What are The Risks of This Situation ?

- VF undersensing
- Oversensing (mainly of Ts) due to automatic gain adjustment with inappropriate shocks
- Notably there were no stored episodes of oversensing in the device memory

What Can be done ?

- Increase sensitivity to 0.15 and test VF ?
- Prolong detection time to lower chance of inappropriate shock ?
- Surgical revision ?
- Another option ?

Sensing polarity was changed, Now it Looks much Better

Device: Concerto II CRT-D D294TRK
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3000 Software Version
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Sensing Test Report

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Sensing Test

	Test Value	Permanent
Mode	DDI	DDI
AV Delay	250 ms	350 ms
Lower Rate	40 bpm	40 bpm

Last Sensing Measurement

27-Feb-2010

P-Wave Amplitude	4.4 mV	
R-Wave Amplitude	5.9 mV	←

Sense Polarity

P-wave	Bipolar	
R-wave	Tip to Coil	←

Explanation

- In Medtronic ICDS of the last generation (Concerto II) one can choose (for the first time to my knowledge) between true bipolar and integrated bipolar sensing
- This new option sometimes enables significant changes in sensing behavior without repositioning of the lead