

INITIAL INTERROGATION BY:
Lynn Settergren

DOCKET DATE
Jul 16, 2024

CPT: 93280 ICD-10: Z95.0, I49.5

John Tomkinson

MURJ ID

MRN #

DOB

Clinic Site

Following Physician

1591407

60007566543

01/26/1957

Cherry Hill

Adam Zivin

Boston Scientific

IMPLANT DATE: 11/15/2021

IPG: L331 S/N: 959438

SUMMARY STATEMENT

This report includes 1 total transmission that was received on 07/16/24. Battery, lead impedance, sensing amplitude and pacing threshold data was reviewed and tested.

PROGRAMMING EVALUATION PERFORMED

IMPRESSIONS

Normal In-Office: With Events

- Normal Device Function
- Events or Alerts: AFL, PMT (false)
- Battery: OK, 11.5 years
- Sensing, impedance and thresholds reviewed and tested
- Presenting Rhythm: was AP VP 80s
- Underlying Rhythm: was no P waves at 40 ppm, intact AV conduction which lengthens with increasing rate
- Heart Rate Histograms reviewed
- Pacing and Detection Parameters were evaluated

Created By: Lynn Settergren 07/16/2024 03:55 PM

Tachycardia: AFL

- Stored EGMs are consistent with or suggestive of Atrial Flutter
- AT Burden: 4%
- Total number of events: 210
- EGMs show AFL with some flutter waves falling into blanking
- recent episode of AFL was persistent from 7/6/24 with recent self-conversion on 7/10/24
- correlates with recent GI symptoms
- rates were controlled but EGMs showed some 2:1 conduction in the 150s

Created By: Lynn Settergren 07/16/2024 03:59 PM

Pacemaker Mediated Tachycardia (PMT)

- Stored EGMs are NOT consistent with or suggestive of Pacemaker Mediated Tachycardia
- Stored EGMs reviewed and show tracking at max track rate when flutter waves fall into PVAB

Created By: Lynn Settergren 07/16/2024 04:00 PM

Rate Response Suboptimal

- Rate histograms consistent with or suggestive of suboptimal rate response programming
- Patient Symptomatic? patient reports excessive rates for minimal movement such as bending down and stretching out arms (as to put on a shirt)
- Device Reprogrammed? Y
- had pt recreate movements that cause excessive rates and sensor driven rates were observed in the 100s
- recalibrated MV to the RV lead and pt repeated movements. sensor driven rates were still 90s-100s
- changed MV ventilatory threshold from 125-115ppm and reduced MV response factor from 11-7 and added accelerometer. rates were still in the 90s with minimal upper body movement
- programmed MV to passive with accelerometer on with med/low threshold and response factor of 9. hallwalk produced peak rate of 97ppm
- contacted BSX rep to discuss case with an engineer

Created By: Lynn Settergren 07/16/2024 04:06 PM Edited By: Lynn Settergren 07/16/2024 04:08 PM

Device Reprogrammed

Device reprogrammed, changes are listed below:

- changed MV to passive after recalibrating to the RV lead
- turned on accelerometer with med/low threshold and response factor of 9

Created By: Lynn Settergren 07/16/2024 04:07 PM

PLAN

Routine remote and in-office follow up as needed

Additional Notes:
quarterly transmissions, annual office visit

LEAD	MFR	MODEL	IMPLANT DATE
Right Atrium	Boston Scientific	7841	2021-11-15
Right Ventricle	Boston Scientific	7842	2021-11-15

BATTERY: Battery has 11.5 years left. Battery Status: OK.

🔥 On Anticoagulant | ❤️ Pacer Dependent

MR Conditional

MOST RECENT IMPRESSIONS

■ Device Reprogrammed (6)	07/16/2024 ▼
■ Rate Response Suboptimal (3)	07/16/2024 ▼
■ Pacemaker Mediated Tachycardia (PMT) (2)	07/16/2024 ▼
■ Tachycardia: AFL (4)	07/16/2024 ▼

PACING INDICATION

Sick Sinus Syndrome (SSS) / Sinus Node Dysfunction

+ EF

LEAD	SENSING	IMPEDANCE	THRESHOLD
RA	PacedmV Fixed 0.5mV	630 Ω	0.7V @ 0.4ms on 07/16/2024 2V @ 0.4ms
RV	22.4mV Fixed 2.5mV	942 Ω	0.9V @ 0.4ms on 07/16/2024 2V @ 0.4ms

PARAMETER SUMMARY

MODE: DDDR	PACED CHAMBER:	LOWER RATE: 65
MODE SWITCH: 160	TRACKING RATE: 125	SENSOR RATE: 155
PACED AV: 320	SENSED AV: 300	LVRV Delay:

TYPE	STATUS	RATES	THERAPIES
VT	On	160 bpm	

RECENT THERAPY COUNTS

Shocks Delivered:	Shocks Aborted:	ATP Delivered:
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🔗 CPT: 93280 ICD-10: **Z95.0, I49.5**

John Tomkinson

Boston Scientific

IMPLANT DATE: 11/15/2021

MURJ ID MRN # DOB Clinic Site Following Physician
1591407 60007566543 01/26/1957 Cherry Hill Adam Zivin

IPG: L331 S/N: 959438



I REVIEWED THE DATA AND AGREE WITH THE
FINDINGS IN THIS REPORT. ELECTRONICALLY
COSIGNED BY:

Adam Zivin MD

ELECTRONICALLY
SIGNED ON:

Jul 22, 2024 @ 10:44 am

**LATITUDE™ Programming System****Combined Follow-up Report****Tomkinson, John**

Date of Birth 26 Jan 1957

Device ACCOLADE MRI EL L331/ 959438

Report Created 16 Jul 2024

Last Office Interrogation

16 Feb 2024

Implant Date

15 Nov 2021**My Alerts**

There are no alerts to display.

Events Since Last Reset (16 Feb 2024)

10 Jul 2024 02:26 ATR at 247 bpm, Avg V Rate in ATR: 68 bpm

10 Jul 2024 00:44 ATR at 252 bpm, Avg V Rate in ATR: 83 bpm

See last page for full list of Events Since Last Reset.

Battery OK

Approximate time to explant:

11.5 years

Magnet Rate

100 ppm

One Year Remaining

Explant

**Leads Data****Implant**

15 Nov 2021

Previous Session**Most Recent****Atrial**

Intrinsic Amplitude

4.0 mV

Paced mV

Paced mV

Pace Impedance

700 Ω 718 Ω 630 Ω

Pace Threshold

0.7 V @ 0.5 ms

0.8 V @ 0.4 ms

0.7 V @ 0.4 ms

Ventricular

Intrinsic Amplitude

14.0 mV

23.0 mV

22.4 mV @ 40 bpm

Pace Impedance

1100 Ω 922 Ω 942 Ω

Pace Threshold

0.7 V @ 0.5 ms

0.6 V @ 0.4 ms

0.9 V @ 0.4 ms

Settings**Ventricular Tachy Settings**

Ventricular Tachy EGM Storage

On

Detection Rate

160 bpm

Atrial Tachy Settings

ATR Mode Switch 160 bpm DDIR

Brady Settings

Mode

DDDR

Pacing Output

RYTHMIQ™

Off

Atrial

2.0 V @ 0.4ms

Lower Rate Limit

65 ppm

Ventricular

2.0 V @ 0.4ms

Maximum Tracking Rate

125 ppm

Sensitivity

Maximum Sensor Rate

155 ppm

Atrial

Fixed 0.5 mV

Paced AV Delay

200 - 320 ms

Ventricular

Fixed 2.5 mV

Sensed AV Delay

190 - 300 ms

Leads Configuration (Pace/Sense)

A-Refractory (PVARP)

240 - 340 ms

Atrial

Bipolar

V-Refractory (VRP)

190 - 250 ms

Ventricular

Bipolar

Rate Adaptive Pacing

Minute Ventilation

Passive

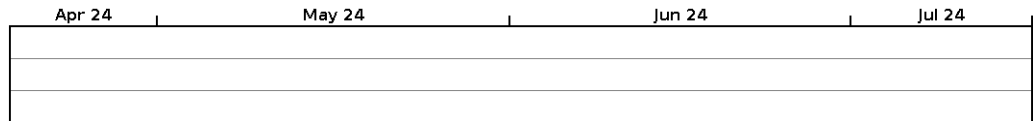
Accelerometer

On

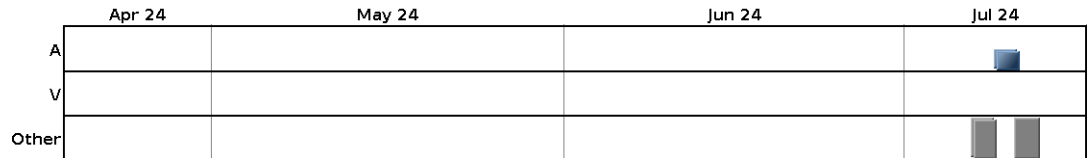
Trends

Today's Activity: Program and Interrogate

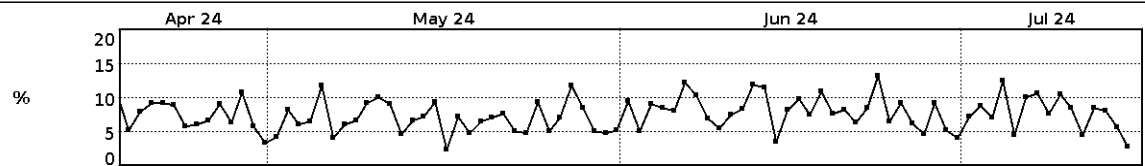
R = Counter Reset
P = Program
I = Interrogate



Events



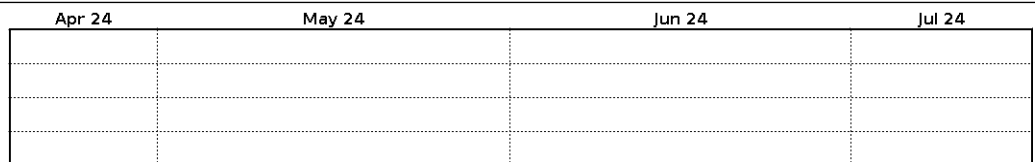
Activity Level



Heart Rate

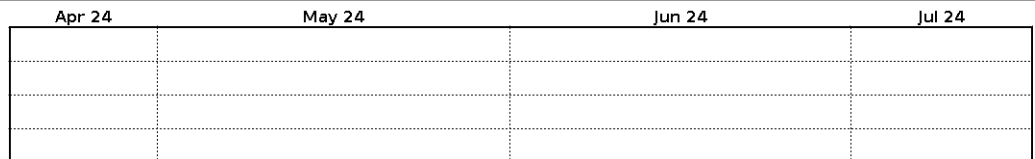
Max
Mean
Min

bpm



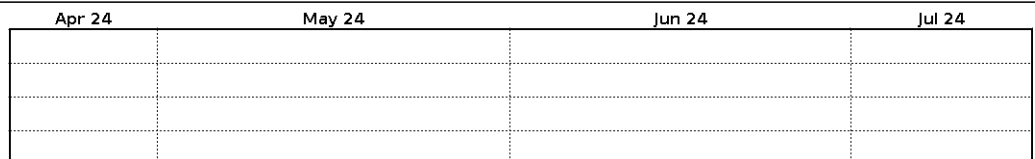
SDANN

ms

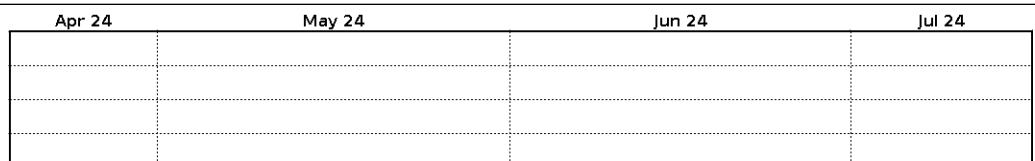


HRV Footprint

%

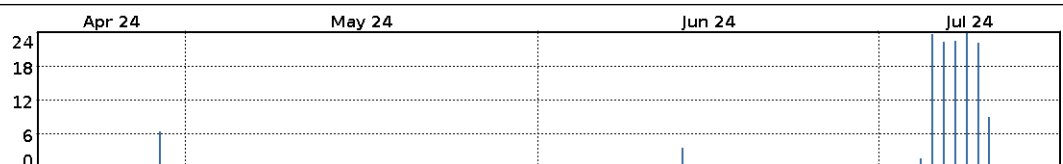


Autonomic Balance Monitor



AT/AF Burden

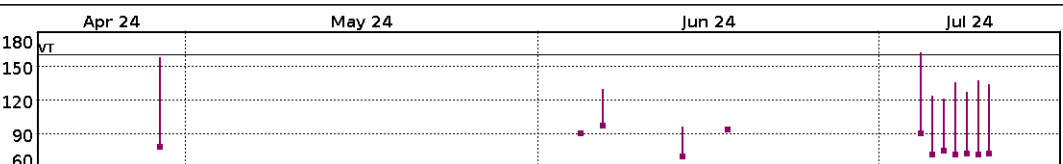
h



V Rate during AT/AF

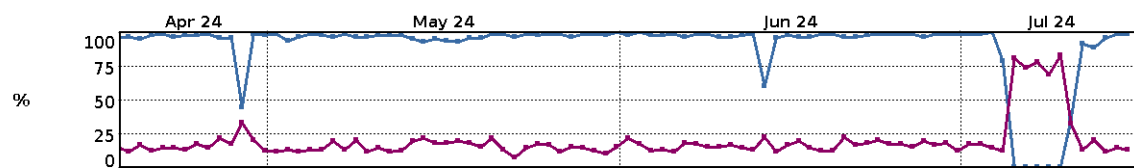
Max
Mean

bpm



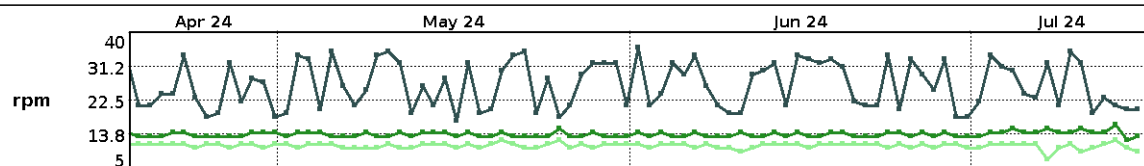
Pacing Percent

■ Atrial
 ■ V

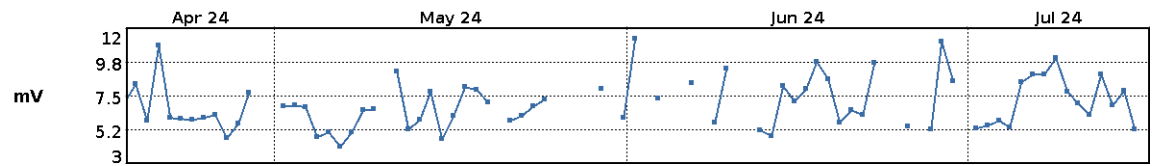


Respiratory Rate

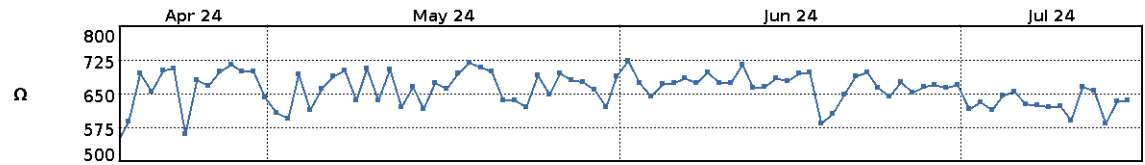
■ Max
 ■ Median
 ■ Min



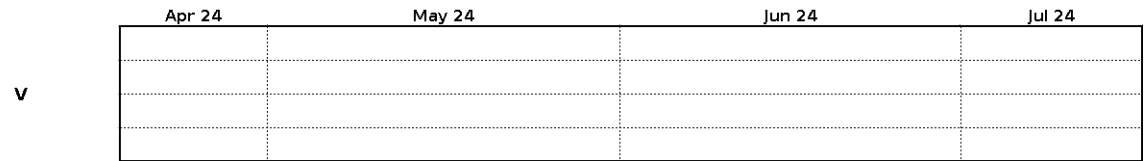
P-Wave Amplitude



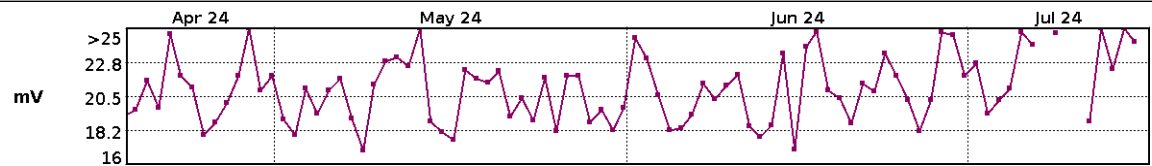
A Pace Impedance



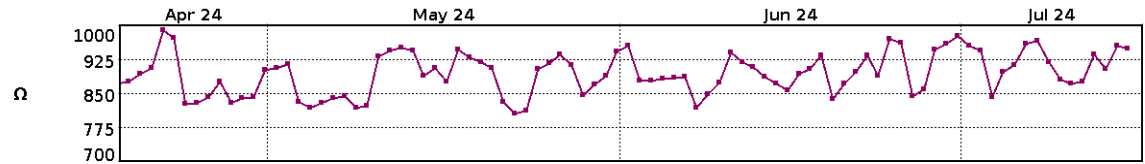
A Pace Threshold



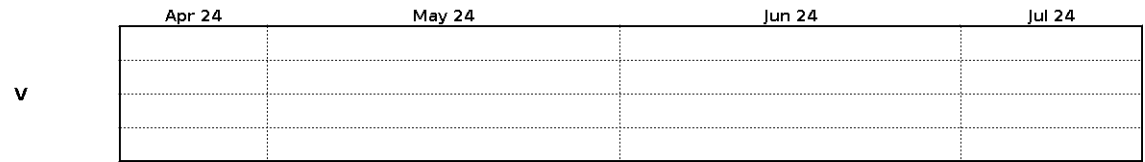
R-Wave (V) Amplitude



V Pace Impedance

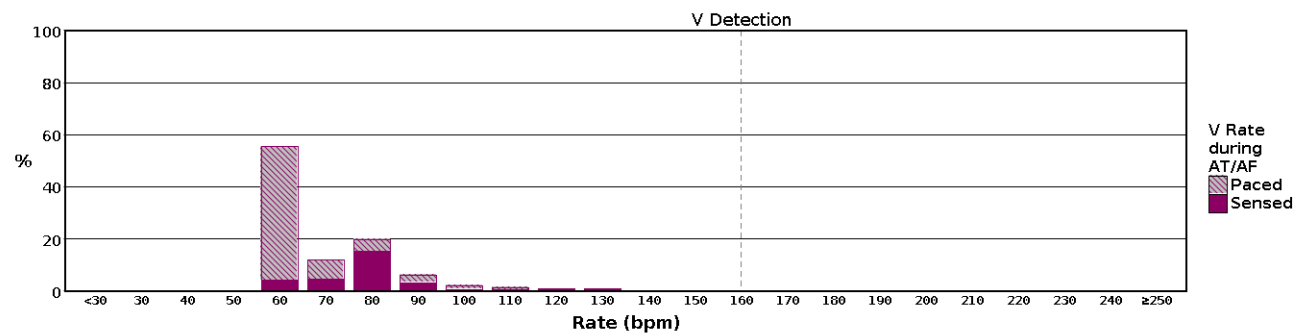
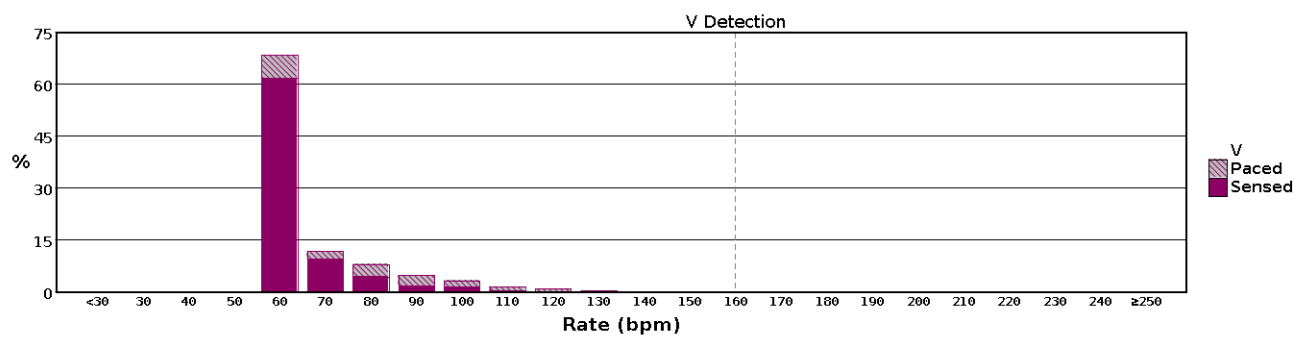
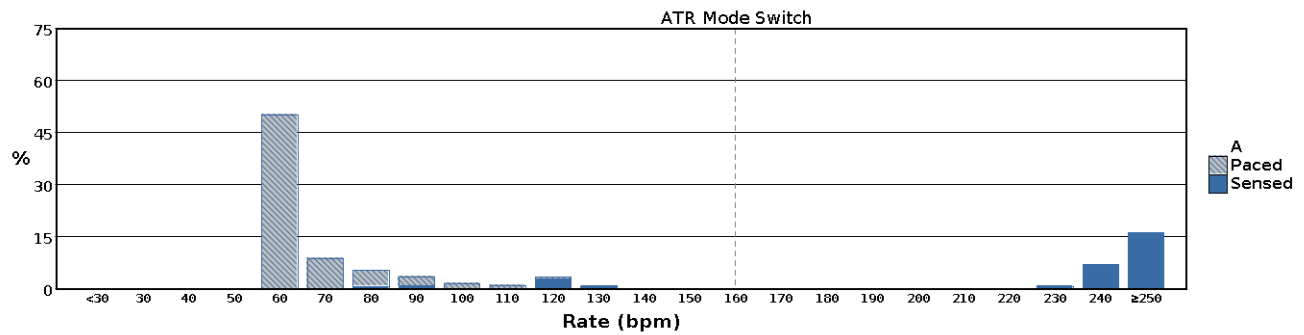


V Pace Threshold

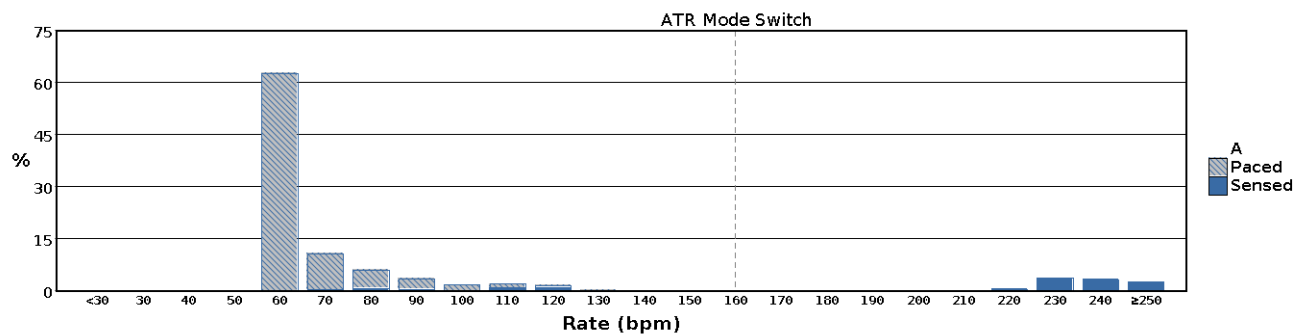


Ventricular Tachy Counters		Since Last Reset 16 Feb 2024	Device Totals
Ventricular Episode Counters			
Total Episodes		0	4
VT Episodes (V>A)		0	1
SVT Episodes (V<=A)		0	0
Nonsustained Episodes		0	3
Brady Counters		Reset Before Last 358 day(s) 23 Feb 2023 to 16 Feb 2024	Since Last Reset 150 day(s) 16 Feb 2024 to Today
Counters			
% A Paced		70	86
% V Paced		20	18
Intrinsic Promotion			
AV Search +			
% Successful		69	100
Rate Hysteresis			
% Successful		0	0
Atrial Arrhythmia			
% AT/AF		<1	4
(One Year of Data)			
Total Time in AT/AF (days)		<0.1	6.5
(One Year of Data)			
Episodes by Duration			
< 1 minute		347	93
1 min - < 1 hr		216	89
1 hr - < 24 hr		159	28
24 hr - < 48 hr		1	0
> 48 hr		0	0
Total PACs		129.4K	31.3K
Ventricular Counters			
Total PVCs		57.4K	477
Three or More PVCs		0	0
AT/AF Overview: Since Last Reset (16 Feb 2024 to Today)			
AT/AF: 4 %	AT/AF Events: 210	Total Time in AT/AF (days): 6.5	
Most Recent:	10 Jul 2024 02:26	Avg V Rate: 68 bpm	Duration: 06:35:46 hh:mm:ss
Longest:	07 Jul 2024 00:24	Avg V Rate: 69 bpm	Duration: 17:10:25 hh:mm:ss
Fastest VS Rate:	04 Jul 2024 23:44	Max V Rate: 161 bpm	Duration: 00:17:32 hh:mm:ss
AT/AF Overview: Reset Before Last (23 Feb 2023 to 16 Feb 2024)			
Longest:	16 Apr 2023 21:28	Avg V Rate: 86 bpm	Duration: 25:54:14 hh:mm:ss
Fastest VS Rate:	06 Apr 2023 22:37	Max V Rate: 167 bpm	Duration: 00:00:10 hh:mm:ss

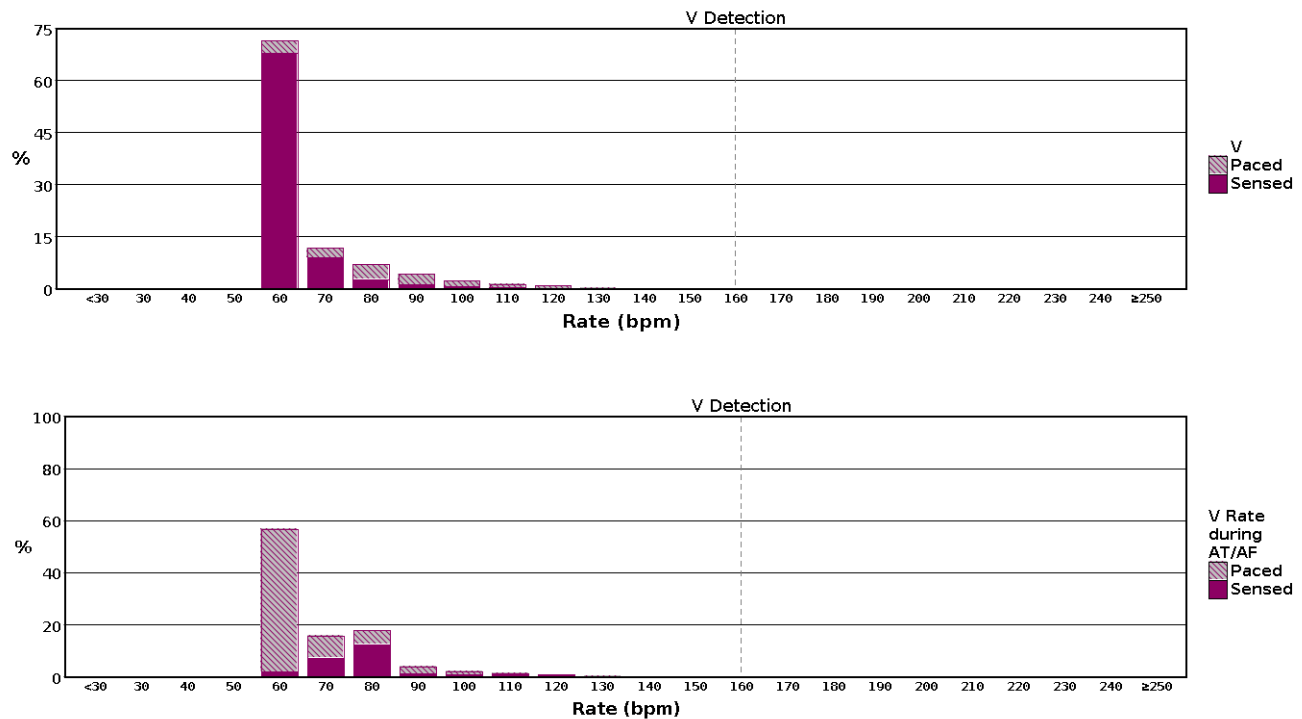
Histograms Reset Before Last (23 Feb 2023)



Histograms Since Last Reset (16 Feb 2024)



Histograms Since Last Reset (16 Feb 2024)



Heart Rate Variability

Last Measured:

HRV data unavailable because device was reprogrammed in the last 24 hours.

Reference:

HRV data unavailable because device was reprogrammed in the last 24 hours.

All Events Since Last Reset (16 Feb 2024)

11 Jul 2024 18:56	APM RT at 79 bpm
10 Jul 2024 02:26	ATR at 247 bpm, Avg V Rate in ATR: 68 bpm
10 Jul 2024 00:44	ATR at 252 bpm, Avg V Rate in ATR: 83 bpm
10 Jul 2024 00:25	ATR at 263 bpm, Avg V Rate in ATR: 86 bpm
10 Jul 2024 00:24	ATR at 213 bpm, Avg V Rate in ATR: 121 bpm
10 Jul 2024 00:20	ATR at 210 bpm, Avg V Rate in ATR: 107 bpm
10 Jul 2024 00:20	ATR at 209 bpm, Avg V Rate in ATR: 121 bpm
10 Jul 2024 00:19	ATR at 261 bpm, Avg V Rate in ATR: 116 bpm
10 Jul 2024 00:18	ATR at 261 bpm, Avg V Rate in ATR: 118 bpm
10 Jul 2024 00:15	ATR at 208 bpm, Avg V Rate in ATR: 102 bpm
10 Jul 2024 00:13	ATR at 260 bpm, Avg V Rate in ATR: 120 bpm
09 Jul 2024 23:17	PMT at 125 bpm
09 Jul 2024 23:17	PMT at 125 bpm
09 Jul 2024 23:17	PMT at 125 bpm
07 Jul 2024 22:51	PMT at 125 bpm
07 Jul 2024 22:50	PMT at 125 bpm



Selected Episodes Report

Tomkinson, John

Date of Birth 26 Jan 1957

Device ACCOLADE MRI EL L331/ 959438

Last Office Interrogation

16 Feb 2024

Implant Date

15 Nov 2021

Event ATR-1080: 10 Jul 2024 00:25

25mm/s

ATR Event Onset

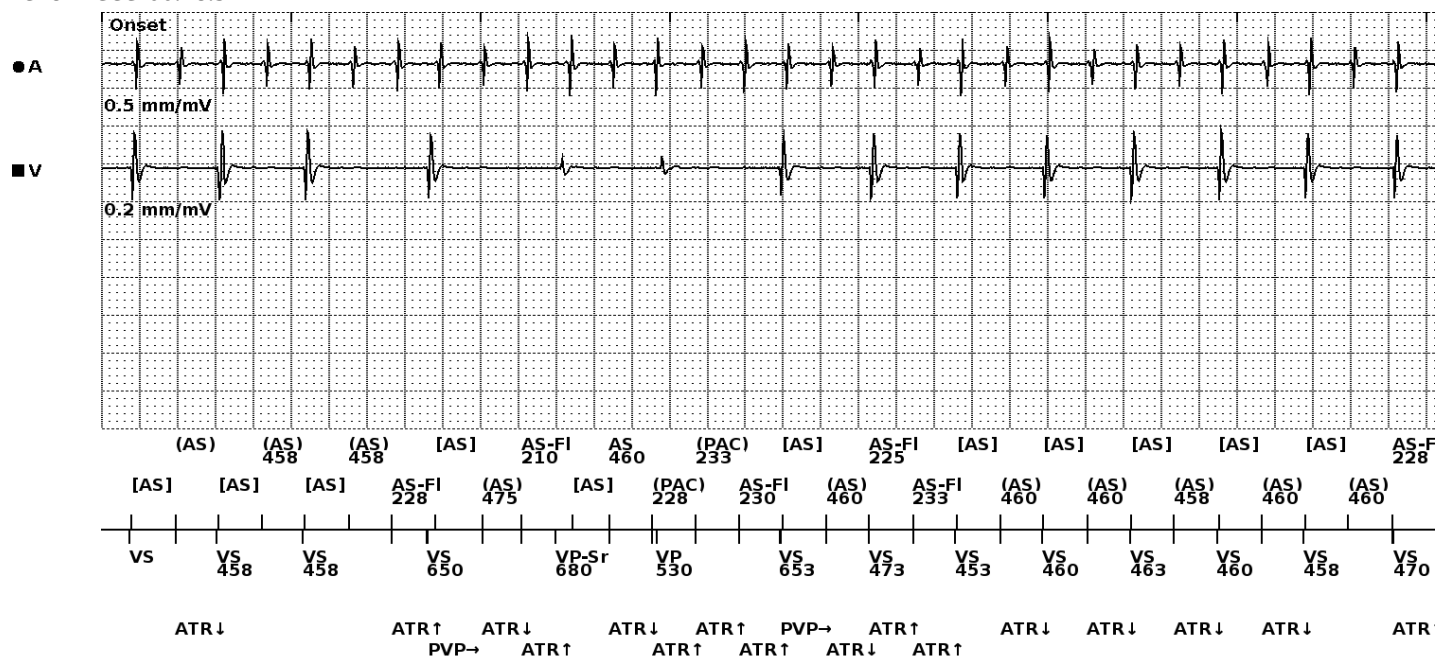
Avg A Rate: 263 bpm

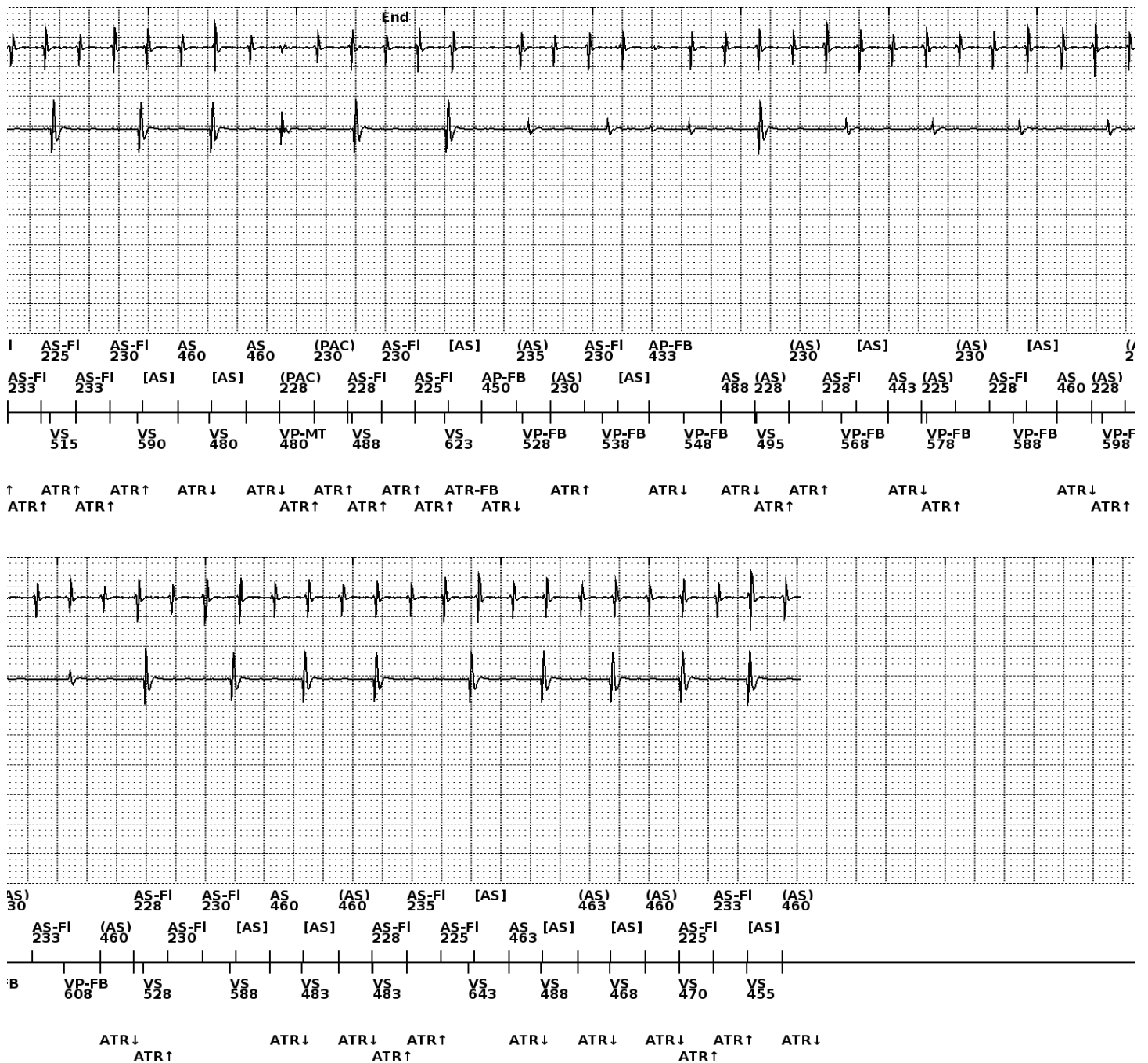
Avg V Rate: 116 bpm

In ATR

Avg V Rate: 86 bpm

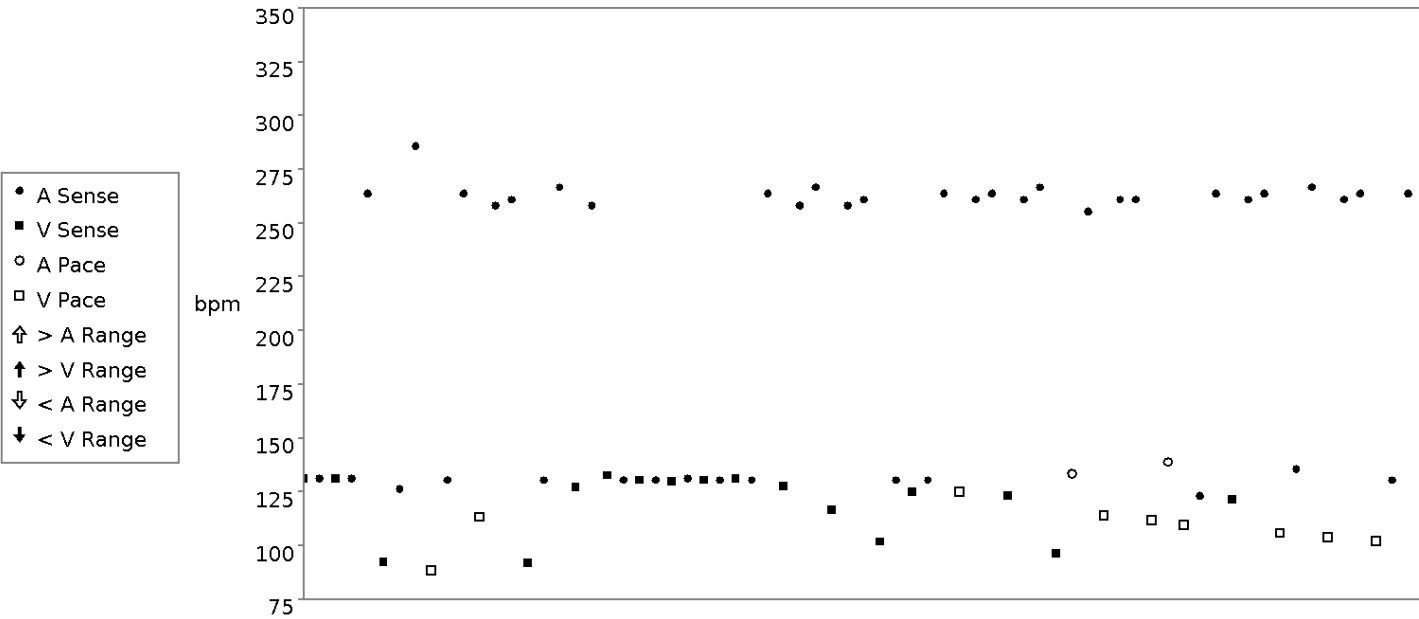
Event Ended 00:18:52

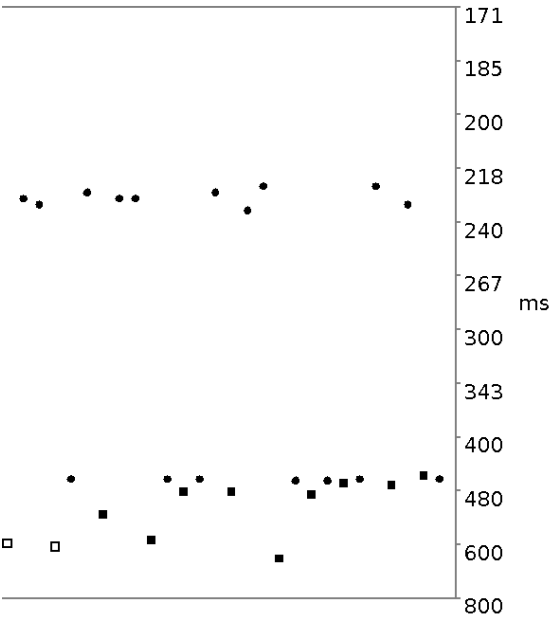






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Selected Episodes Report

Tomkinson, John

Date of Birth

26 Jan 1957

Device

ACCOLADE MRI EL L331/ 959438

Last Office Interrogation

16 Feb 2024

Implant Date

15 Nov 2021

Event ATR-1082: 10 Jul 2024 02:26

25mm/s

ATR Event Onset

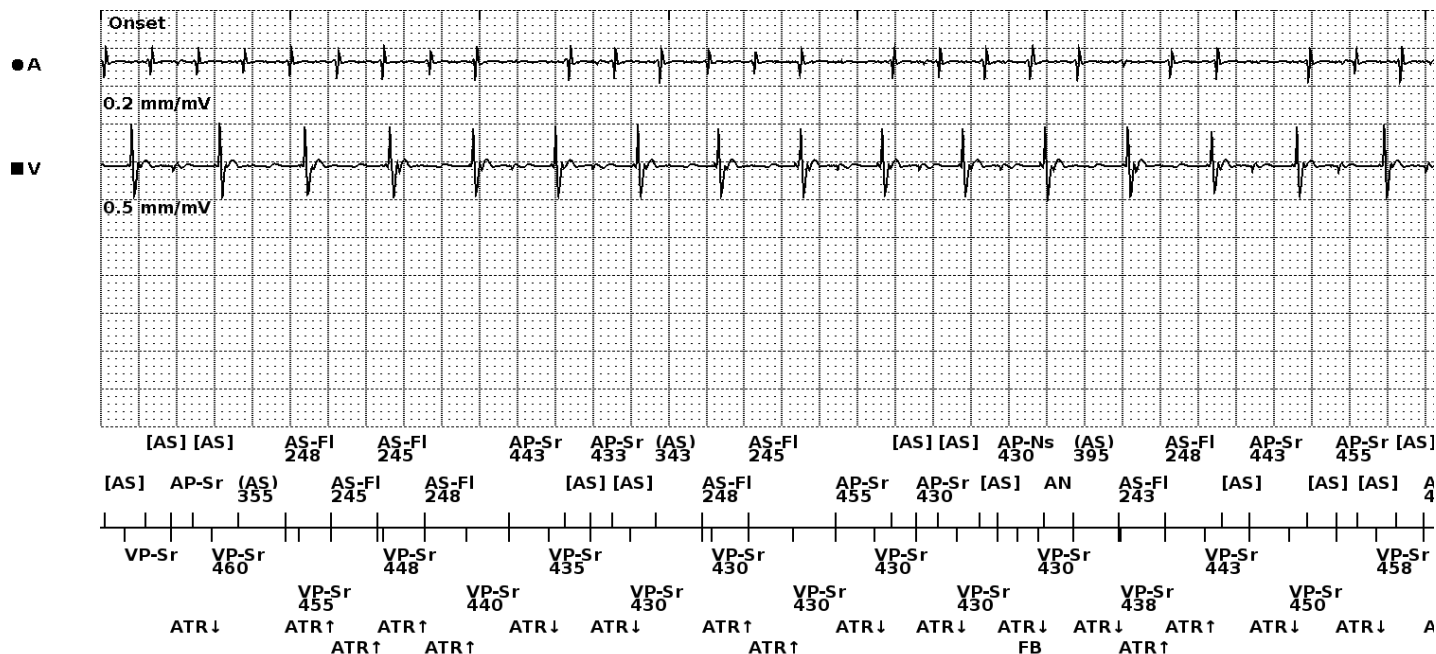
Avg A Rate: 247 bpm

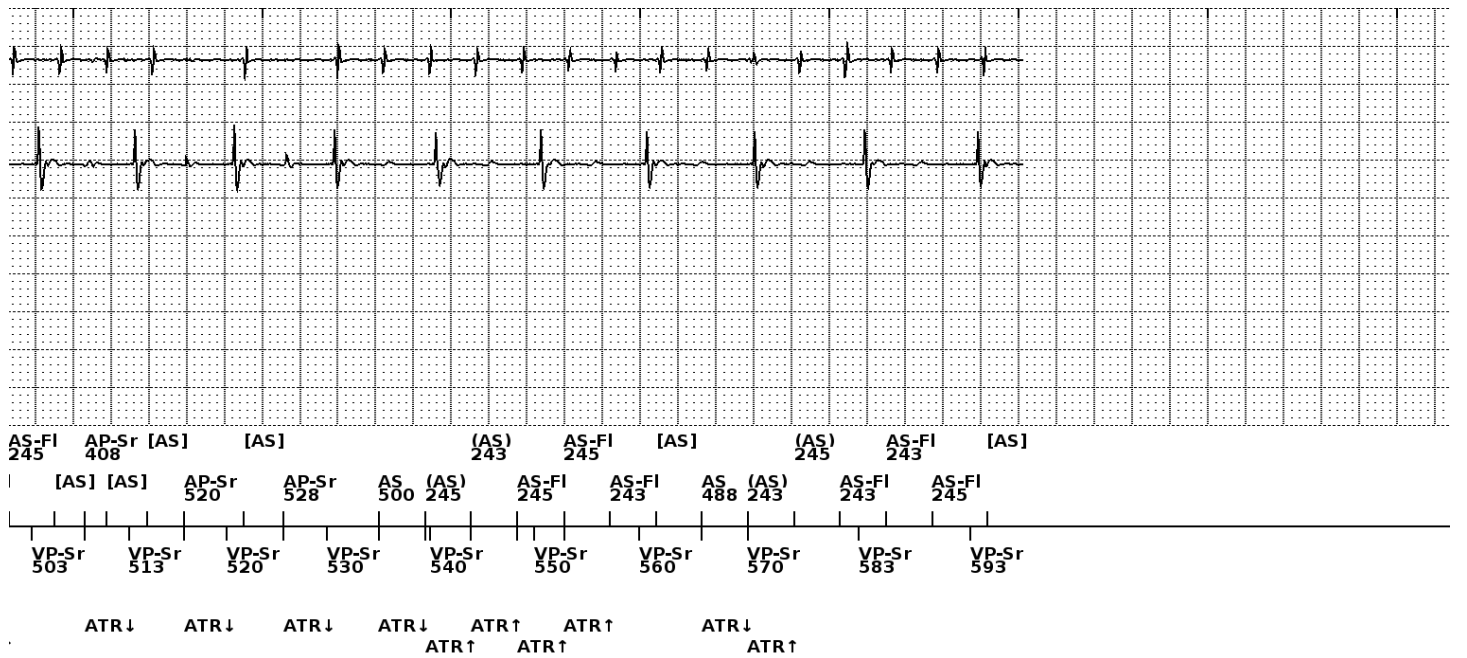
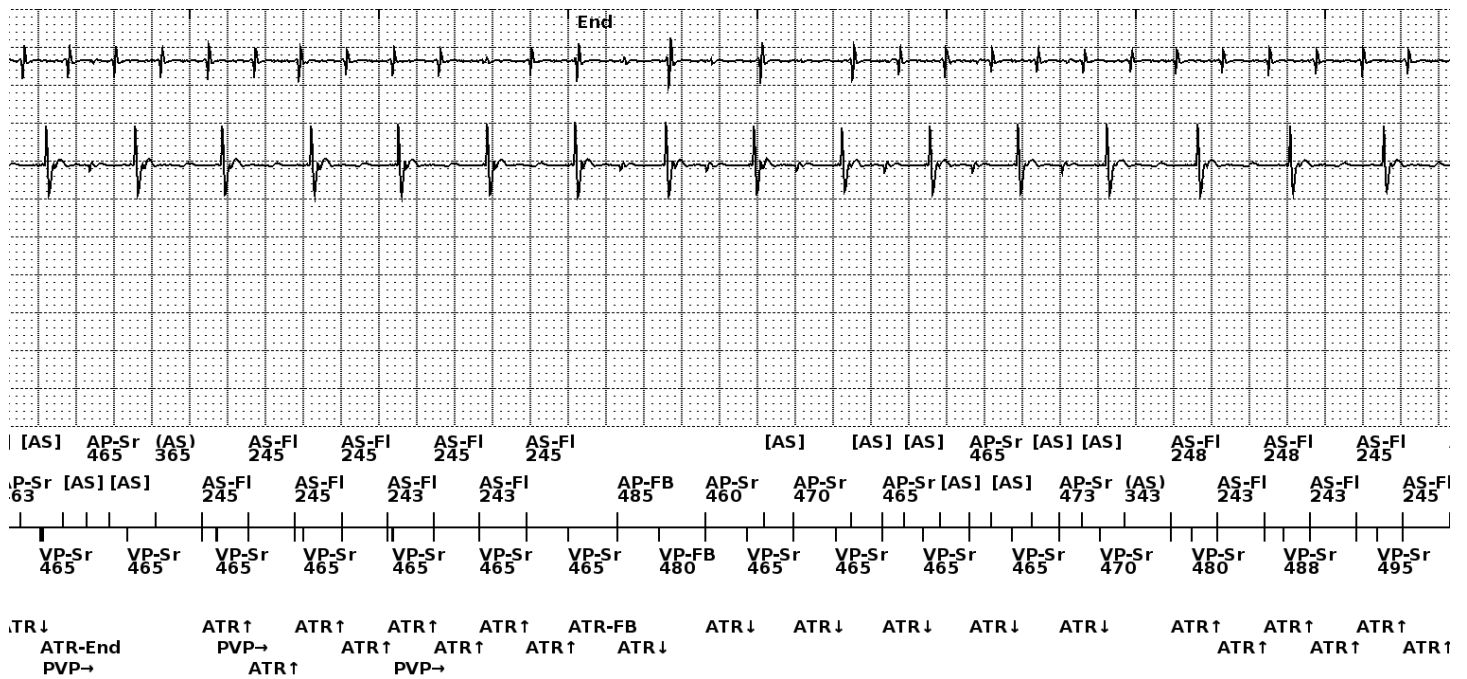
Avg V Rate: 129 bpm

In ATR

Avg V Rate: 68 bpm

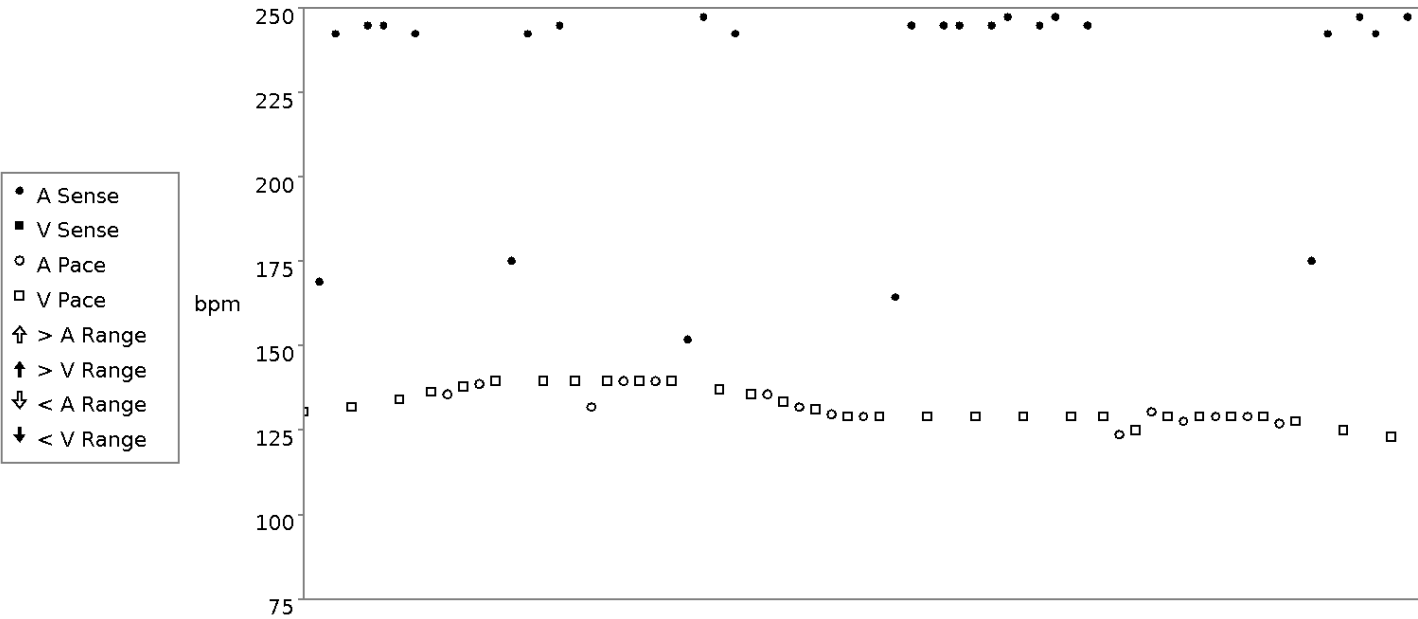
Event Ended 06:35:46

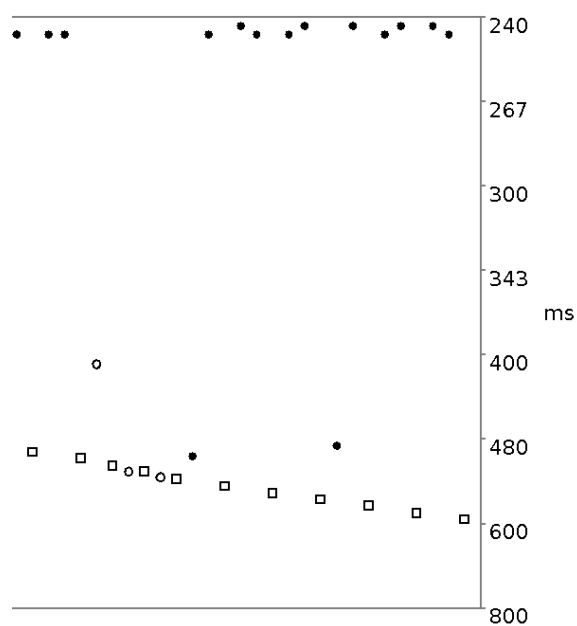






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**LATITUDE™ Programming System****Selected Episodes Report****Tomkinson, John**

Date of Birth 26 Jan 1957

Device ACCOLADE MRI EL L331/ 959438

Report Created 16 Jul 2024

Last Office Interrogation

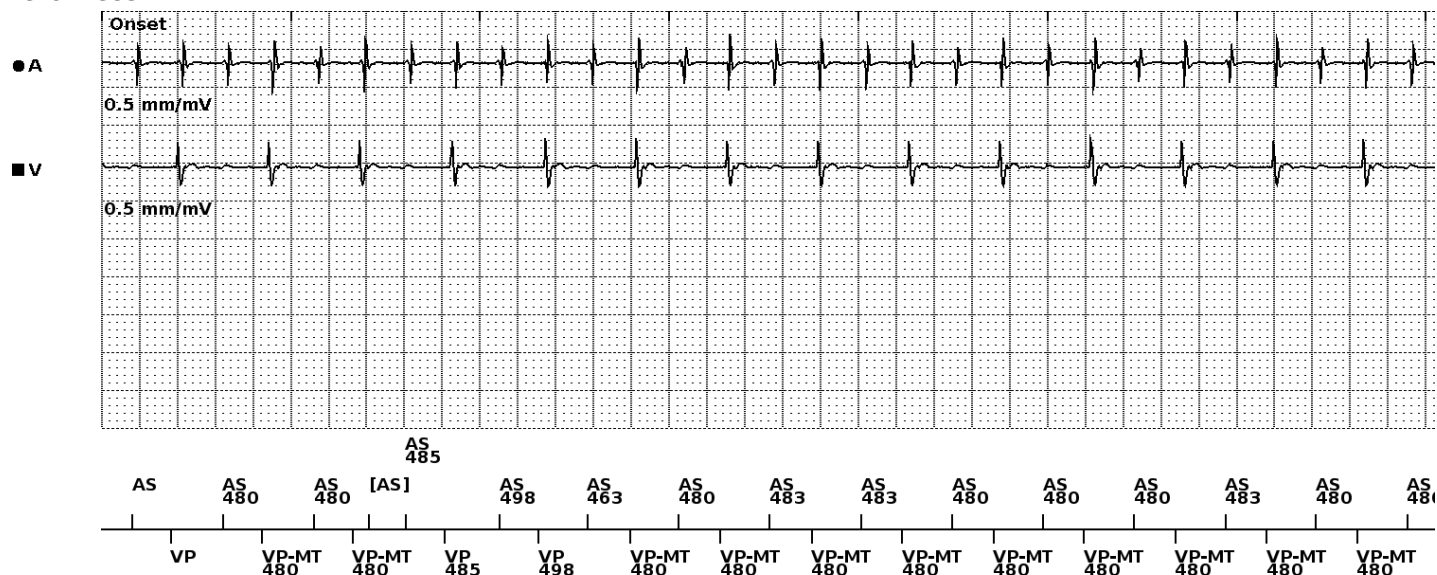
16 Feb 2024

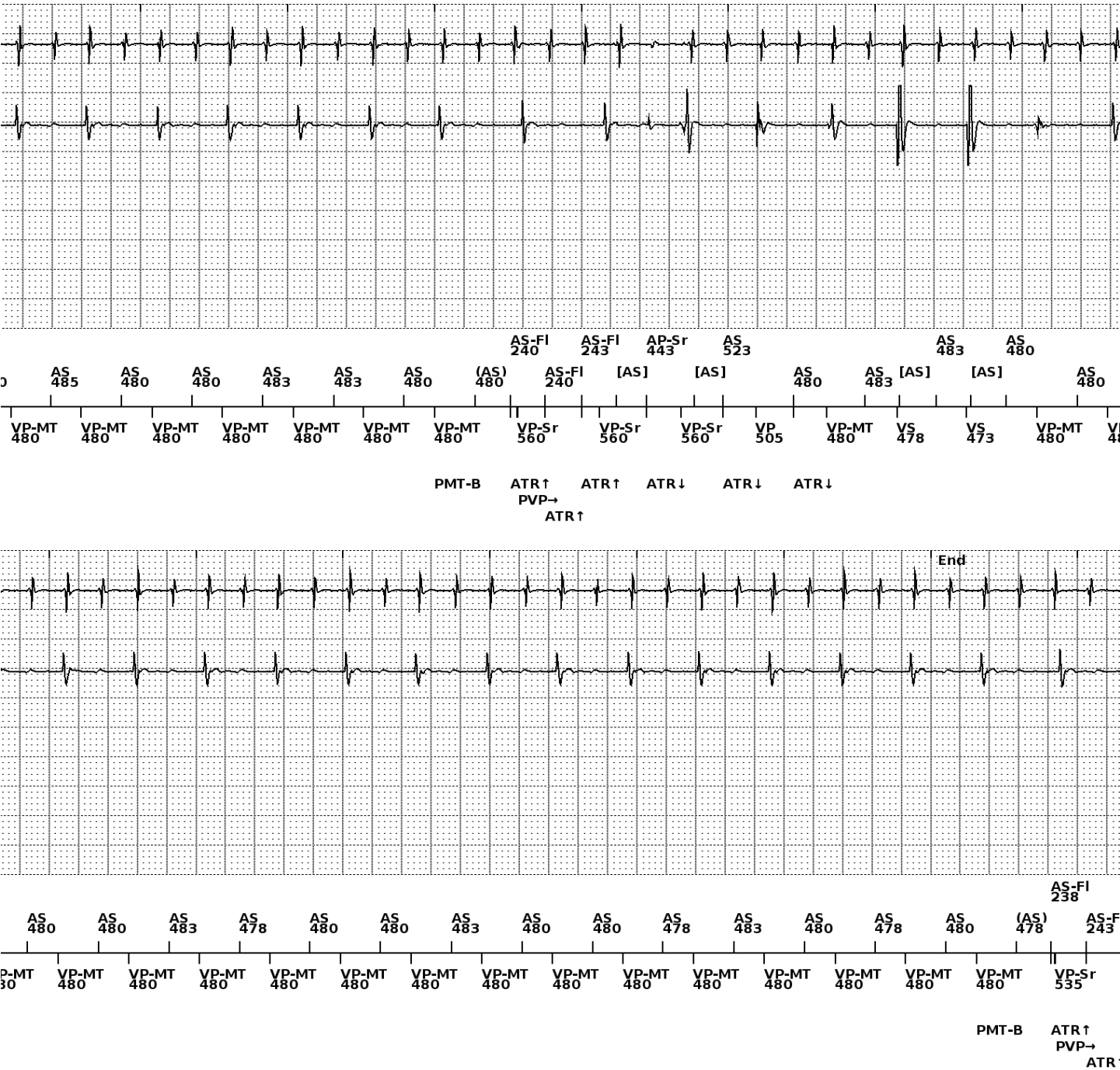
Implant Date

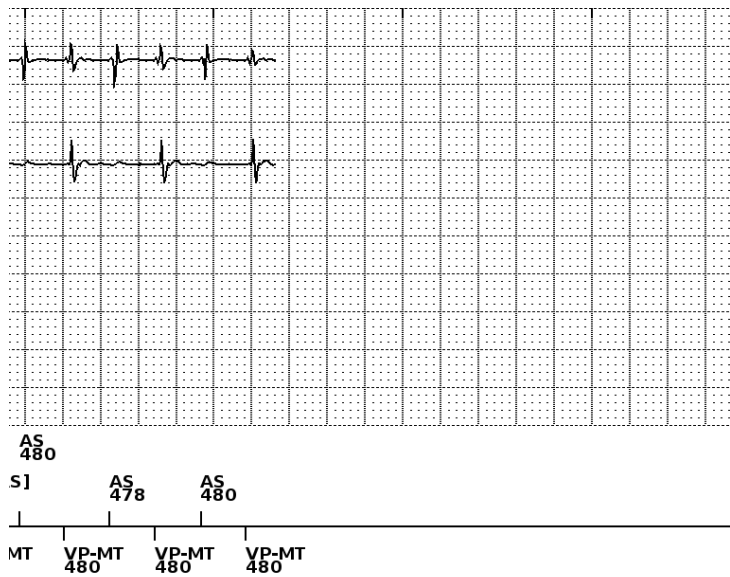
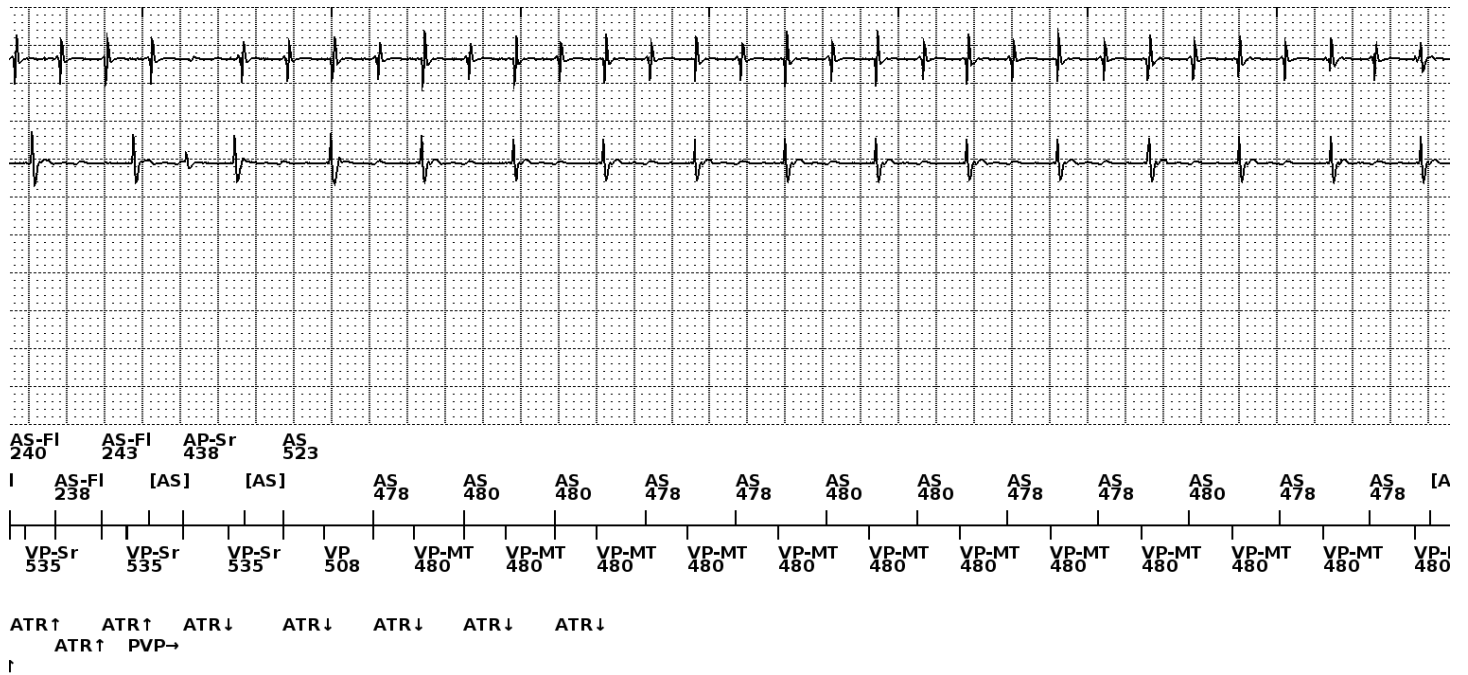
15 Nov 2021**Event PMT-48: 09 Jul 2024 23:17****25mm/s****PMT Event Onset**

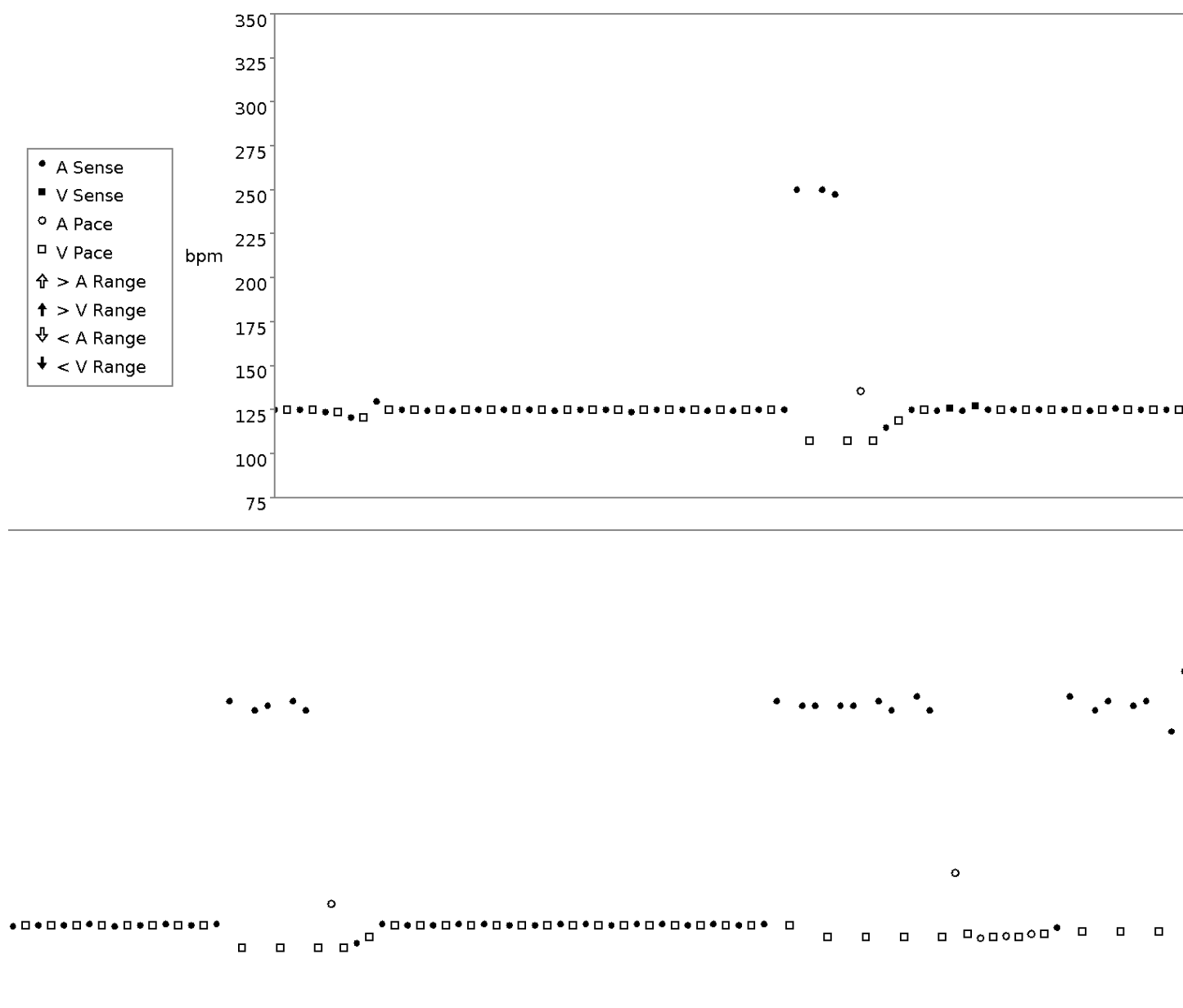
Avg A Rate: 125 bpm

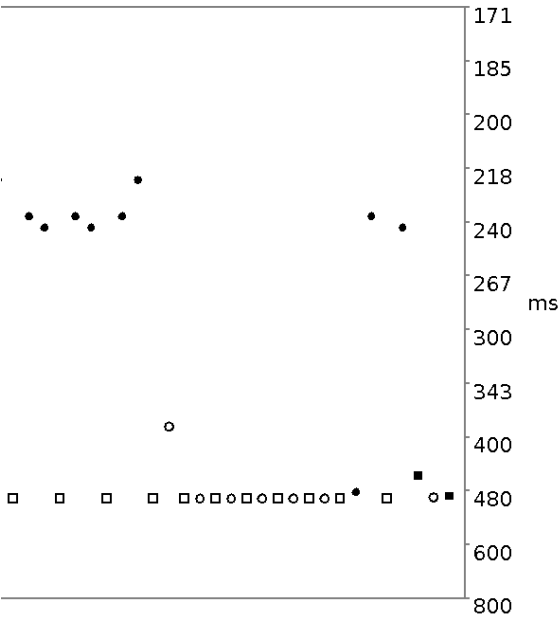
Avg V Rate: 125 bpm

Event Ended -----









**LATITUDE™ Programming System****Selected Episodes Report****Tomkinson, John**

Date of Birth 26 Jan 1957

Device ACCOLADE MRI EL L331/ 959438

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Last Office Interrogation

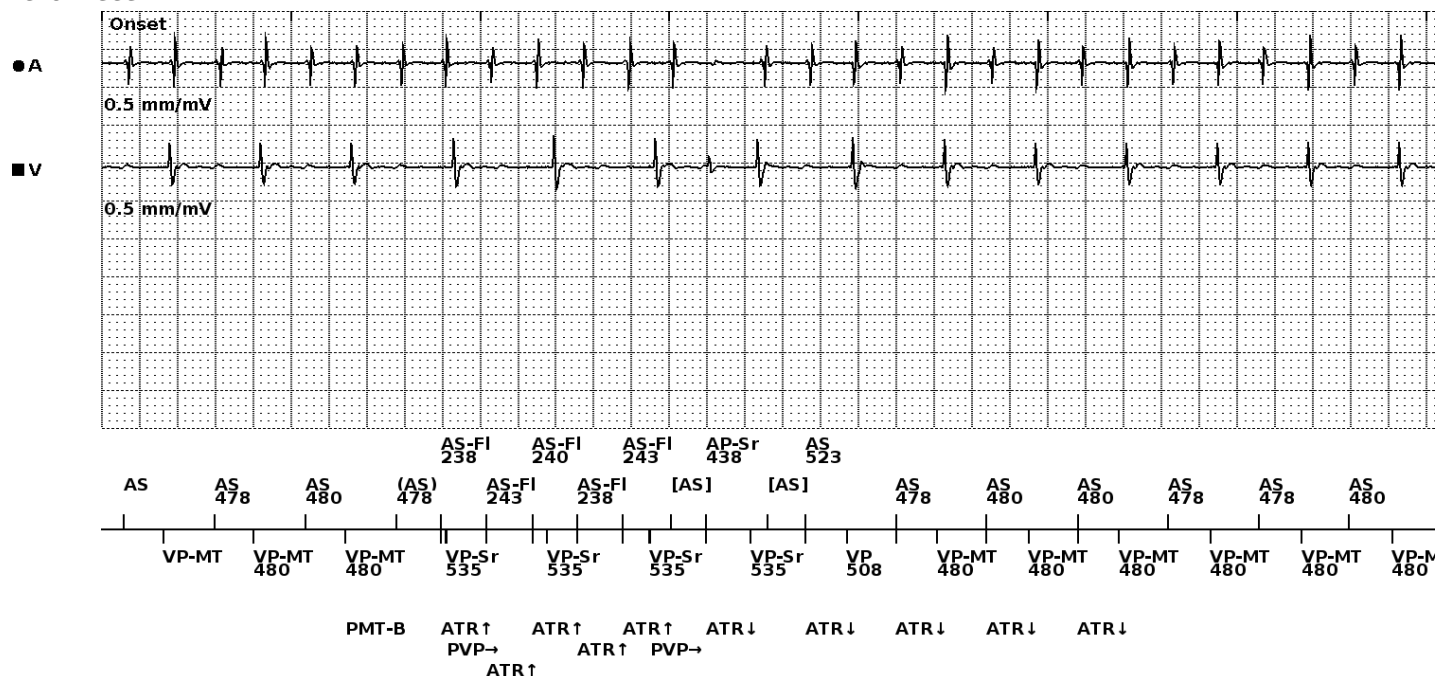
16 Feb 2024

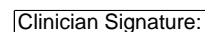
Implant Date

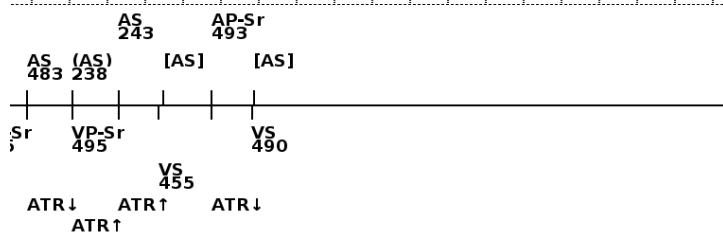
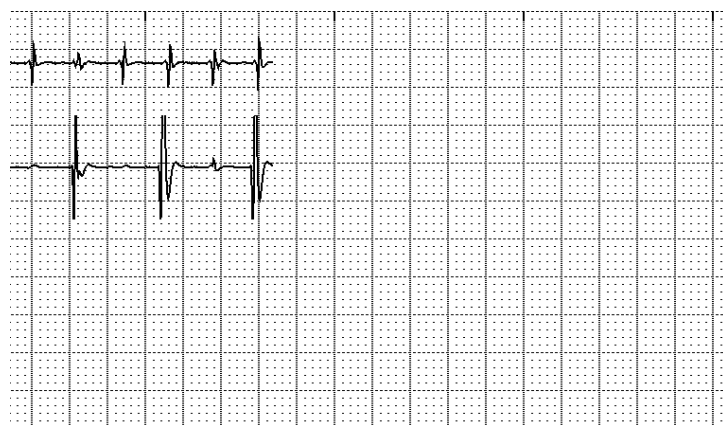
15 Nov 2021**Event PMT-49: 09 Jul 2024 23:17****25mm/s****PMT Event Onset**

Avg A Rate: 144 bpm

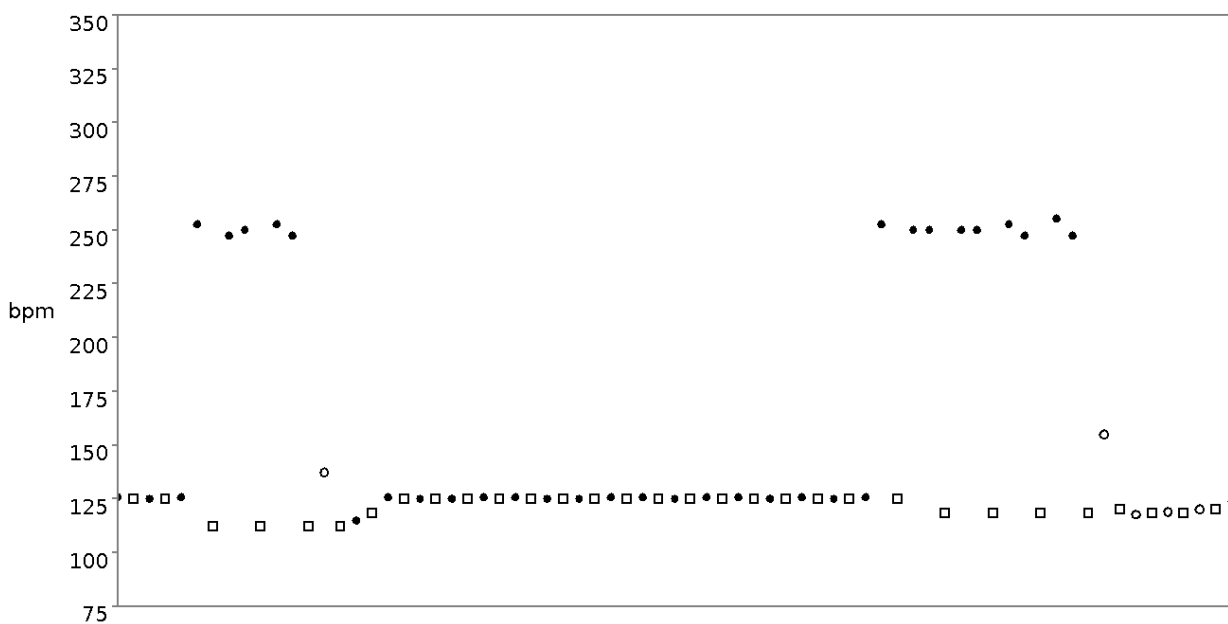
Avg V Rate: 125 bpm

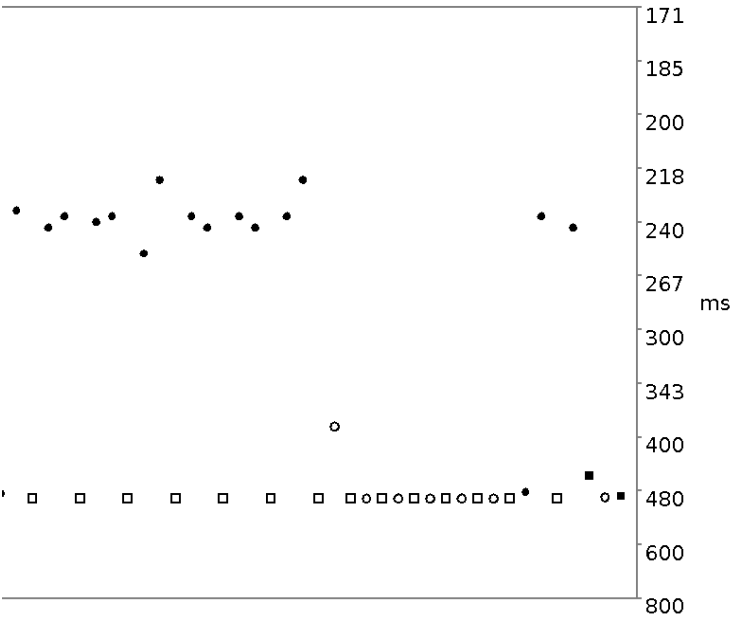
Event Ended -----





- A Sense
- V Sense
- A Pace
- V Pace
- ↑ > A Range
- ↑ > V Range
- ↓ < A Range
- ↓ < V Range







Real-time Log Report

Tomkinson, John

Date of Birth 26 Jan 1957

Device ACCOLADE MRI EL L331/ 959438

Last Office Interrogation

16 Feb 2024

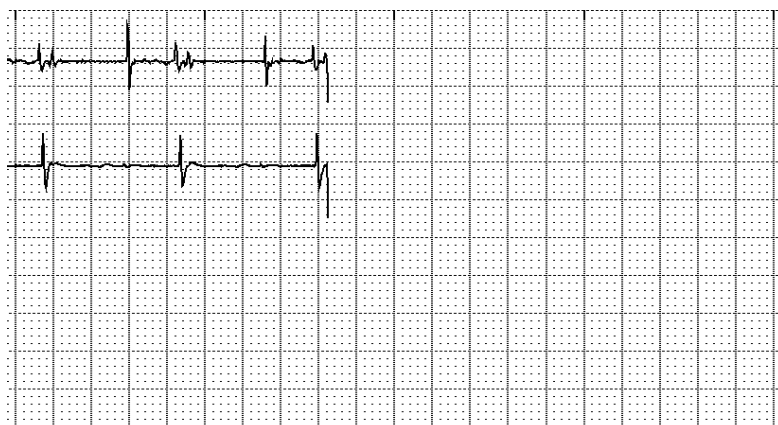
Implant Date

15 Nov 2021

Snapshot-2

16 Jul 2024 14:31:04

25mm/s





Real-time Log Report

Tomkinson, John

Date of Birth 26 Jan 1957

Device ACCOLADE MRI EL L331/ 959438

Last Office Interrogation

16 Feb 2024

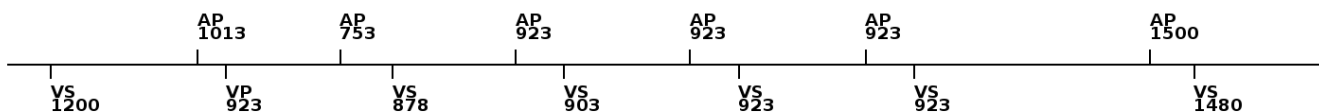
Implant Date

15 Nov 2021

Snapshot-4

16 Jul 2024 14:35:51

25mm/s





Real-time Log Report

Tomkinson, John

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Device ACCOLADE MRI EL L331/ 959438

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16 Feb 2024

Implant Date

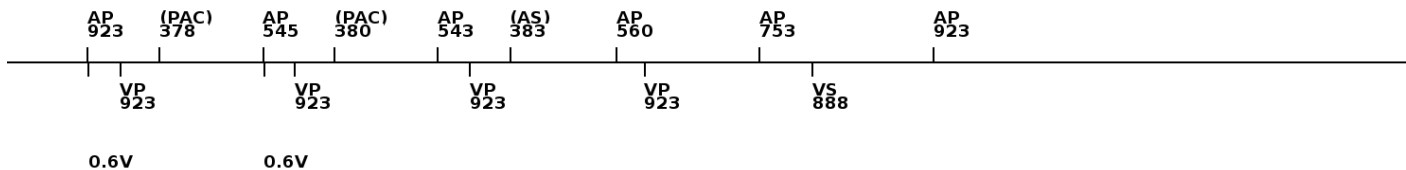
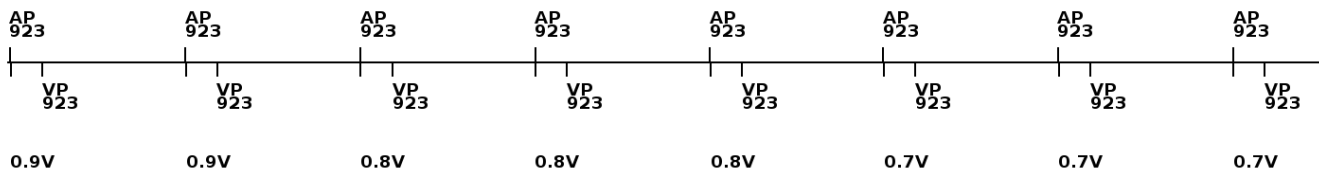
15 Nov 2021

RA Threshold-6

16 Jul 2024 14:49:54

25mm/s

0.7 V @ 0.4 ms



Real-time Log Report

Tomkinson, John

Date of Birth	26 Jan 1957
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Date of Birth: 28 Jan 1997
Device: ACCOLADE MRI EL L331/ 959438

Last Office Interrogation

16 Feb 2024

Implant Date

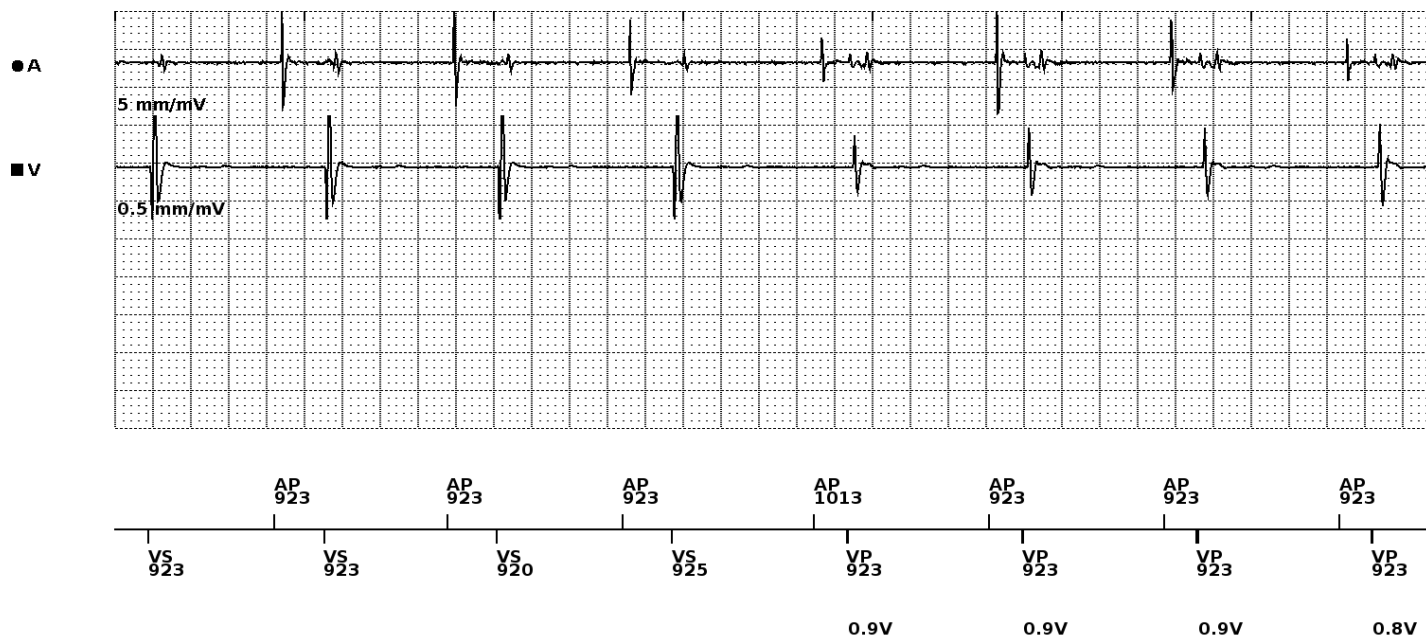
15 Nov 2021

RV Threshold-7

16 Jul 2024 14:50:30

25mm/s

0.9 V @ 0.4 ms





Real-time Log Report

Tomkinson, John

Date of Birth 26 Jan 1957

Device ACCOLADE MRI EL L331/ 959438

Last Office Interrogation

16 Feb 2024

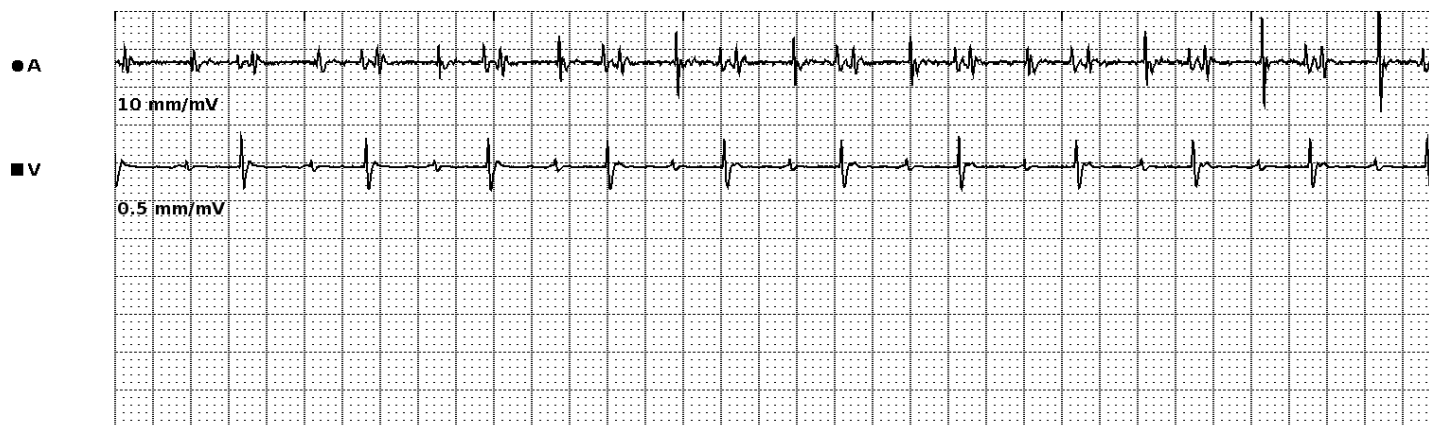
Implant Date

15 Nov 2021

Snapshot-8

16 Jul 2024 14:57:19

25mm/s



AP-Sr 673 AP-Sr 658 AP-Sr 645 AP-Sr 638 AP-Sr 618 AP-Sr 620 AP-Sr 618 AP-Sr 618 AP-Sr 618 AP-Sr 618 AP-Sr 618 AP-Sr 618

VP-Sr 673 VP-Sr 658 VP-Sr 645 VP-Sr 630 VP-Sr 618 VP-Sr 618 VP-Sr 618 VP-Sr 618 VP-Sr 618 VP-Sr 618 VP-Sr 618 VP-Sr 618



AP-Sr 618 AP-Sr 618 AP-Sr 633 AP-Sr 640 AP-Sr 643 AP-Sr 645 AP-Sr 645 AP-Sr 645 AP-Sr 645

P-Sr 18 VP-Sr 618 VP-Sr 618 VP-Sr 630 VP-Sr 645 VP-Sr 645 VP-Sr 645 VP-Sr 645 VP-Sr 645 VP-Sr 645



Real-time Log Report

Tomkinson, John

Date of Birth 26 Jan 1957

Device ACCOLADE MRI EL L331/ 959438

Last Office Interrogation

16 Feb 2024

Implant Date

15 Nov 2021

Snapshot-9

16 Jul 2024 15:18:40

25mm/s



**LATITUDE™ Programming System****Sensor Trending and Replay Report****Tomkinson, John**

Date of Birth 26 Jan 1957

Device ACCOLADE MRI EL L331/ 959438

Report Created 16 Jul 2024

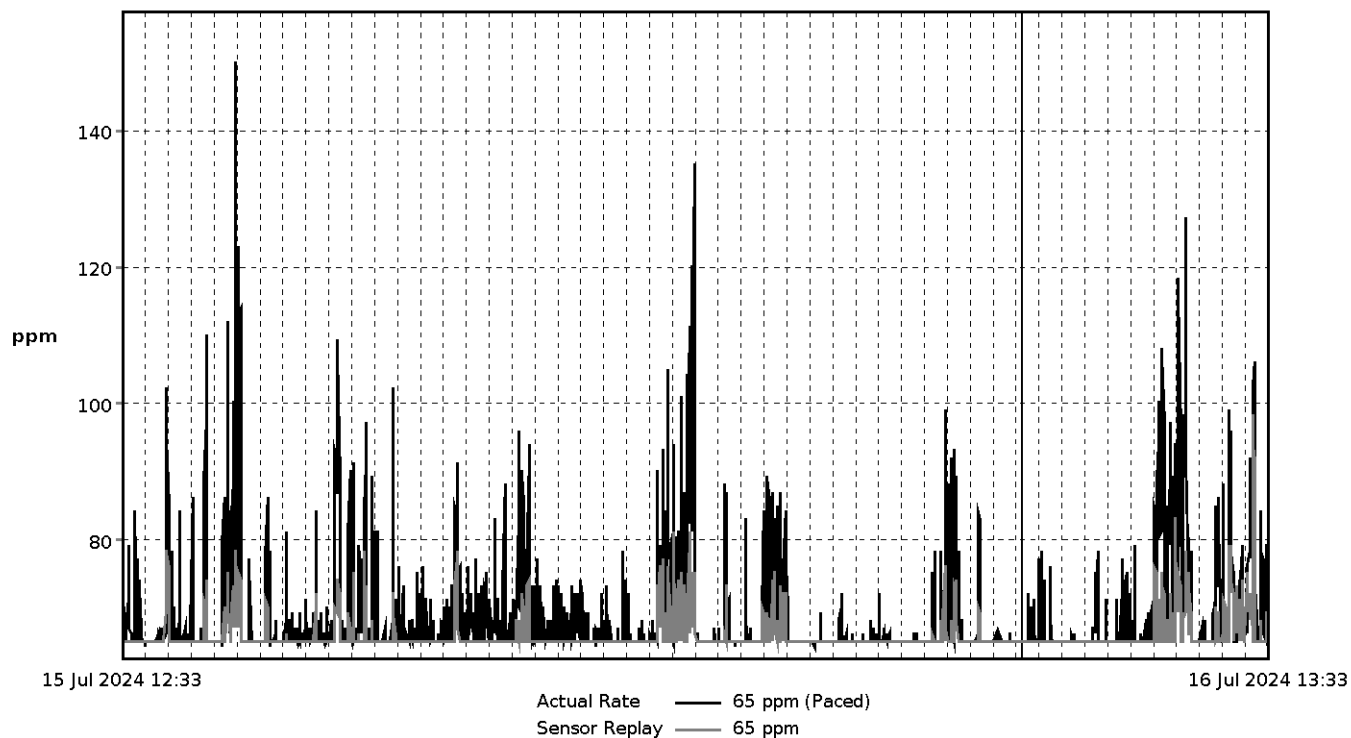
Last Office Interrogation

16 Feb 2024

Implant Date

15 Nov 2021**Sensor Trending and Replay Settings**

	Present	Replay
Lower Rate Limit	65	65 ppm
Max Sensor Rate	155	155 ppm
Minute Ventilation	Passive	Passive
Response Factor	---	---
Fitness Level	---	---
Ventilatory Threshold	---	---
Ventilatory Threshold Response	---	---
Accelerometer	On	On
Response Factor	9	9
Activity Threshold	Medium Low	Medium Low
Reaction Time	30	30 s
Recovery Time	4	4 min

Sensor Trending - 30 Second Average

**LATITUDE™ Programming System****Report Created 16 Jul 2024****Device Settings Report****Tomkinson, John**

Date of Birth 26 Jan 1957

Device ACCOLADE MRI EL L331/ 959438

Last Office Interrogation

16 Feb 2024

Implant Date

15 Nov 2021**Programming**

Last Programmed 16 Jul 2024

Ventricular Tachy

Ventricular Tachy EGM Storage On

Detection Rate 160 bpm (375 ms)

Atrial Tachy**Therapy****ATR Mode Switch Details**

ATR Mode Switch On
Trigger Rate 160 bpm
Duration 0 cycles
Entry Count 8 cycles
Exit Count 8 cycles
Fallback
Mode DDIR
Time 00:30 mm:ss
ATR Fallback LRL 65 ppm
Ventricular Rate Regulation Off

Atrial Tachy Response

Atrial Flutter Response On
Trigger Rate 160 bpm
PMT Termination On

Brady			
Settings			
Mode	DDDR	Output	
RYTHMIQ™	Off	●A	2.0 V @ 0.4ms
Lower Rate Limit	65 ppm	■V	2.0 V @ 0.4ms
Maximum Tracking Rate	125 ppm	Sensitivity	
Maximum Sensor Rate	155 ppm	●A	Fixed 0.5 mV
Paced AV Delay	200 - 320 ms	■V	Fixed 2.5 mV
Sensed AV Delay	190 - 300 ms	Leads	
A-Refractory (PVARP)	240 - 340 ms	●A	
V-Refractory (VRP)	190 - 250 ms	Pace	Bipolar
PVARP after PVC	400 ms	Sense	Bipolar
AV Search +	Off	Safety Switch	On
Blanking		■V	
A-Blank after V-Pace	125 ms	Pace	Bipolar
A-Blank after V-Sense	45 ms	Sense	Bipolar
V-Blank after A-Pace	65 ms	Safety Switch	On
Magnet Response	Pace Async	Rate Adaptive Pacing	
Noise Response	DOO	Minute Ventilation	Passive
Rate Enhancements		Accelerometer	On
Rate Smoothing		Response Factor	9
Up	Off %	Activity Threshold	Medium Low
Down	Off %	Reaction Time	30 s
Sudden Brady Response	Off	Recovery Time	4 min
Minute Ventilation Sensor Settings			
		Minute Ventilation Sensor	Passive
		Excitation Current	320 µA
		Vector Selection	V Only
		Signal Artifact Monitor	On
Minute Ventilation Sensor Status			
		Status	Calibrated
		Current Vector	V

Setup

Telemetry						
Enable use of ZIP™ telemetry		On				
Trending Setup						
Recording Method		30 Second Average				
Duration		25 hours				
Data Storage		Continuous				
Leads Status Setup						
		Daily Intrinsic	Daily	Impedance Limits		Pace Threshold
		Amplitude	Impedance	Low	High	
●A	Pace/Sense	On	On	200	2000 Ω	Off
■V	Pace/Sense	On	On	200	2000 Ω	Off

**LATITUDE™ Programming System****Report Created 16 Jul 2024****Settings Changes Report****Tomkinson, John**

Date of Birth 26 Jan 1957

Device ACCOLADE MRI EL L331/ 959438

Last Office Interrogation

16 Feb 2024

Implant Date

15 Nov 2021

Status	Parameter	Old Value	New Value
Programmed	Accelerometer	Passive	On
Programmed	Accelerometer Activity Threshold	---	Medium Low
Programmed	Accelerometer Reaction Time	---	30 s
Programmed	Accelerometer Recovery Time	---	4 min
Programmed	Accelerometer Response Factor	---	9
Programmed	Minute Ventilation Sensor	On	Passive
Programmed	MV Sensor Vector Selection	Auto Select	V Only
Programmed	Patient's Fitness Level	Endurance Sports	Active