

# ECG analysis report

Generated at 2022-08-23 16:26:06



# Cardiomatics

## Patient data

## Recording details

ID sample

Start time 2021-10-18 08:23:08

End time 2021-10-19 08:20:29

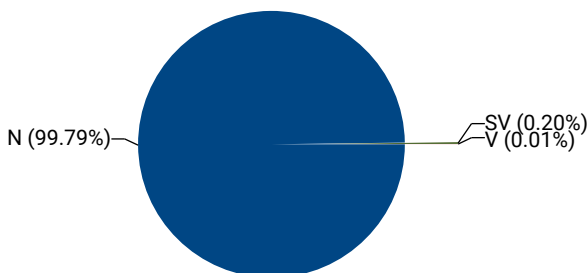
Duration 23 h 57 min 21 s

Nondiagnostic part 4.29%

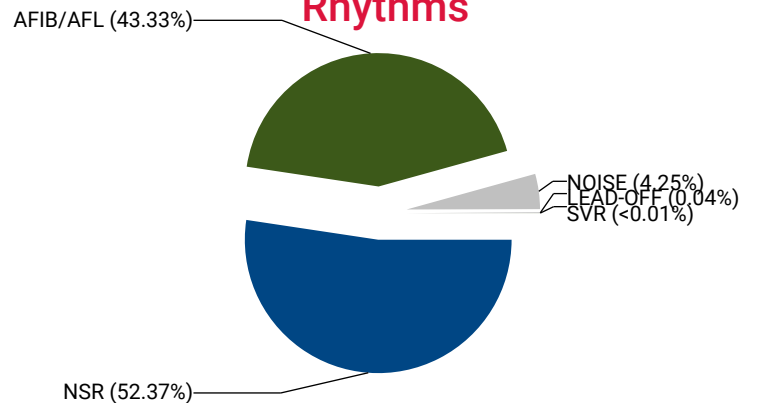
## Recording summary

Heart rate		Ventricular		Supraventricular	
Total beats	100578	Total V beats	11	Total SV beats	197
Average HR	75 bpm	Couplets	0	Couplets	4
Slowest HR	46 bpm	Bigeminies	0	Bigeminies	8
Fastest HR	150 bpm	Trigeminies	0	Trigeminies	10
Sinus tachycardias	0	Salvos	0	Salvos	1
Sinus bradycardias	462	Tachycardias	0	Tachycardias	0
Pauses	0	IVR/AIVR	0	AFIB/AFL	43.33%

## Beats



## Rhythms



## Description

The recording was 23 h 57 min 21 s in duration. 95.71% of the signal was of sufficient quality for analysis. The electrodes were not attached correctly to the patient's chest for 0.04% of the recording time.

The average heart rate was 75 bpm, the fastest heart rate was 150 bpm at 08:13 (day 2) and the slowest heart rate was 46 bpm at 11:07 (day 1).

Rhythm analysis has detected 462 episodes of sinus bradycardia. The longest sinus bradycardia was 27 min 18 s and started at 09:07 (day 1). No pause longer than 2 seconds was found in the signal.

11 ventricular beats were detected.

197 supraventricular beats were detected. Rhythm analysis has detected single episode of supraventricular salvo. Analysis has detected 10 supraventricular trigeminies, 8 supraventricular bigeminies and 4 supraventricular couplets.

Atrial fibrillation or flutter was detected in 43.33% of the recording time.

## Hourly summary table

Time		Heart rate					Ventricular		Supraventricular		Nondiagnostic part
From	To	Total beats	Average HR	Min HR	Max HR	Pauses	V beats	V couplets	SV beats	SV couplets	
08:23	09:00	1699	55 bpm	49 bpm	73 bpm	0	0	0	2	0	16.02%
09:00	10:00	2950	51 bpm	48 bpm	66 bpm	0	0	0	2	0	4.24%
10:00	11:00	3006	52 bpm	46 bpm	66 bpm	0	0	0	10	1	2.32%
11:00	12:00	2898	50 bpm	46 bpm	60 bpm	0	0	0	3	0	3.10%
12:00	13:00	2919	52 bpm	46 bpm	66 bpm	0	1	0	123	0	3.95%
13:00	14:00	3117	54 bpm	48 bpm	70 bpm	0	1	0	3	0	4.56%
14:00	15:00	3519	61 bpm	55 bpm	69 bpm	0	0	0	10	0	4.06%
15:00	16:00	3491	60 bpm	53 bpm	74 bpm	0	0	0	4	1	2.44%
16:00	17:00	3149	54 bpm	50 bpm	61 bpm	0	0	0	4	0	3.29%
17:00	18:00	2684	58 bpm	50 bpm	76 bpm	0	0	0	6	1	21.21%
18:00	19:00	3226	54 bpm	50 bpm	59 bpm	0	0	0	3	1	0.41%
19:00	20:00	3144	54 bpm	51 bpm	63 bpm	0	0	0	0	0	2.86%
20:00	21:00	2994	55 bpm	51 bpm	69 bpm	0	0	0	15	0	9.26%
21:00	22:00	3971	73 bpm	54 bpm	121 bpm	0	0	0	12	0	7.14%
22:00	23:00	5670	102 bpm	88 bpm	136 bpm	0	0	0	0	0	4.19%
23:00	00:00	5388	94 bpm	86 bpm	132 bpm	0	0	0	0	0	1.45%
2021-10-19											
00:00	01:00	5254	93 bpm	84 bpm	132 bpm	0	0	0	0	0	2.36%
01:00	02:00	4988	86 bpm	80 bpm	103 bpm	0	0	0	0	0	0.21%
02:00	03:00	5011	86 bpm	80 bpm	99 bpm	0	1	0	0	0	0.41%
03:00	04:00	4900	84 bpm	79 bpm	101 bpm	0	2	0	0	0	0.40%
04:00	05:00	4794	83 bpm	76 bpm	96 bpm	0	0	0	0	0	0.60%
05:00	06:00	5874	109 bpm	75 bpm	147 bpm	0	2	0	0	0	6.13%
06:00	07:00	6919	119 bpm	102 bpm	141 bpm	0	2	0	0	0	0.31%
07:00	08:00	6790	124 bpm	107 bpm	149 bpm	0	2	0	0	0	5.78%
08:00	08:20	2224	120 bpm	113 bpm	150 bpm	0	0	0	0	0	6.59%

## Rhythms by hour

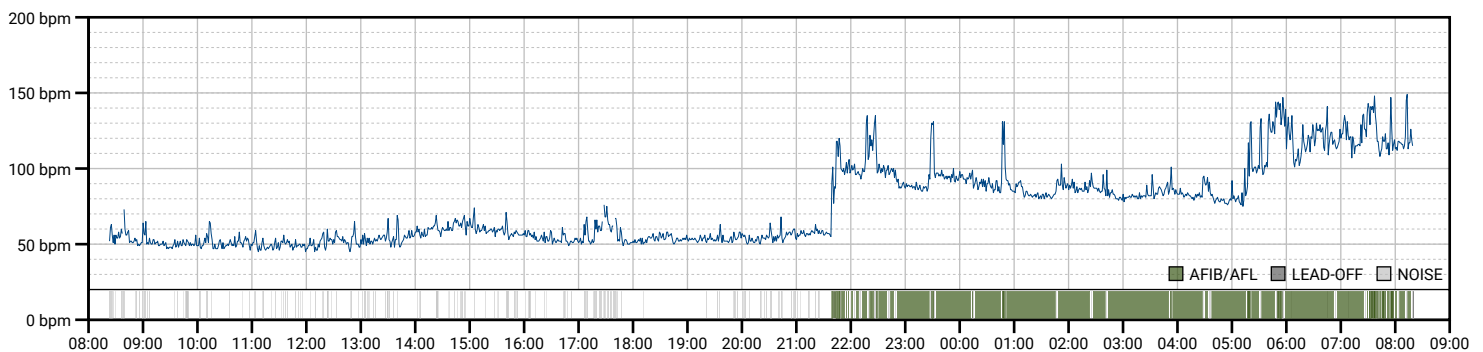
Time		Sinus		Ventricular		Supraventricular		Nondiagnostic part
From	To	Bradycardia	Tachycardia	IVR/AIVR	Tachycardia	Tachycardia	AFIB/AFL	
08:23	09:00	70.05%	0.00%	0.00%	0.00%	0.00%	0.00%	16.02%
09:00	10:00	90.36%	0.00%	0.00%	0.00%	0.00%	0.00%	4.24%
10:00	11:00	90.39%	0.00%	0.00%	0.00%	0.00%	0.00%	2.32%
11:00	12:00	93.09%	0.00%	0.00%	0.00%	0.00%	0.00%	3.10%
12:00	13:00	78.28%	0.00%	0.00%	0.00%	0.00%	0.00%	3.95%
13:00	14:00	87.18%	0.00%	0.00%	0.00%	0.00%	0.00%	4.56%
14:00	15:00	40.87%	0.00%	0.00%	0.00%	0.00%	0.00%	4.06%
15:00	16:00	59.52%	0.00%	0.00%	0.00%	0.00%	0.00%	2.44%
16:00	17:00	89.60%	0.00%	0.00%	0.00%	0.00%	0.00%	3.29%
17:00	18:00	52.21%	0.00%	0.00%	0.00%	0.00%	0.00%	21.21%
18:00	19:00	95.49%	0.00%	0.00%	0.00%	0.00%	0.00%	0.41%
19:00	20:00	92.65%	0.00%	0.00%	0.00%	0.00%	0.00%	2.86%
20:00	21:00	80.92%	0.00%	0.00%	0.00%	0.00%	0.00%	9.26%
21:00	22:00	55.45%	0.00%	0.00%	0.00%	0.00%	27.87%	7.14%
22:00	23:00	0.00%	0.00%	0.00%	0.00%	0.00%	95.81%	4.19%

Time		Sinus		Ventricular		Supraventricular		Nondiagnostic part
From	To	Bradycardia	Tachycardia	IVR/AIVR	Tachycardia	Tachycardia	AFIB/AFL	
23:00	00:00	0.00%	0.00%	0.00%	0.00%	0.00%	98.55%	1.45%
2021-10-19								
00:00	01:00	0.00%	0.00%	0.00%	0.00%	0.00%	97.64%	2.36%
01:00	02:00	0.00%	0.00%	0.00%	0.00%	0.00%	99.79%	0.21%
02:00	03:00	0.00%	0.00%	0.00%	0.00%	0.00%	99.59%	0.41%
03:00	04:00	0.00%	0.00%	0.00%	0.00%	0.00%	99.60%	0.40%
04:00	05:00	0.00%	0.00%	0.00%	0.00%	0.00%	99.40%	0.60%
05:00	06:00	0.00%	0.00%	0.00%	0.00%	0.00%	93.87%	6.13%
06:00	07:00	0.00%	0.00%	0.00%	0.00%	0.00%	99.69%	0.31%
07:00	08:00	0.00%	0.00%	0.00%	0.00%	0.00%	94.22%	5.78%
08:00	08:20	0.00%	0.00%	0.00%	0.00%	0.00%	93.41%	6.59%

## Heart rate details

Heart rate		Sinus tachycardia		Sinus bradycardia	
Average rate per min	75 bpm	Longest	-	Longest	27 min 18 s starting at 09:07:36 (day 1)
Fastest rate per min	150 bpm starting at 08:13 (day 2)	Fastest N-N	202 bpm starting at 08:13:53 (day 2)	Slowest N-N	35 bpm starting at 05:13:14 (day 2)
Slowest rate per min	46 bpm starting at 11:07 (day 1)	Total time	-	Total time	10 h 29 min 26 s

## Heart rate plot



## Details of arrhythmia

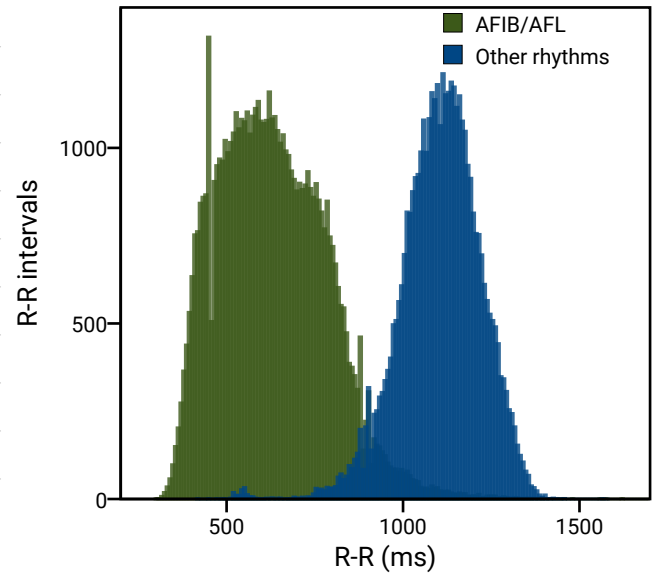
Ventricular		Supraventricular	
Total V beats	11	Total SV beats	197
Max V/min	1 starting at 12:50 (day 1)	Max SV/min	7 starting at 12:26 (day 1)
Max V/hour	2 starting at 03:00 (day 2)	Max SV/hour	123 starting at 12:00 (day 1)
Couplets	0	Couplets	4
Fastest	-	Fastest	145 bpm starting at 18:29 (day 1)
Bigeminies	0	Bigeminies	8
Longest	-	Longest	9 s starting at 21:41 (day 1)
Trigeminies	0	Trigeminies	10
Longest	-	Longest	5 s starting at 12:35 (day 1)
Tachycardias	0	Tachycardias	0
Longest	-	Longest	-
Fastest	-	Fastest	-

# Atrial fibrillation or flutter

## Details

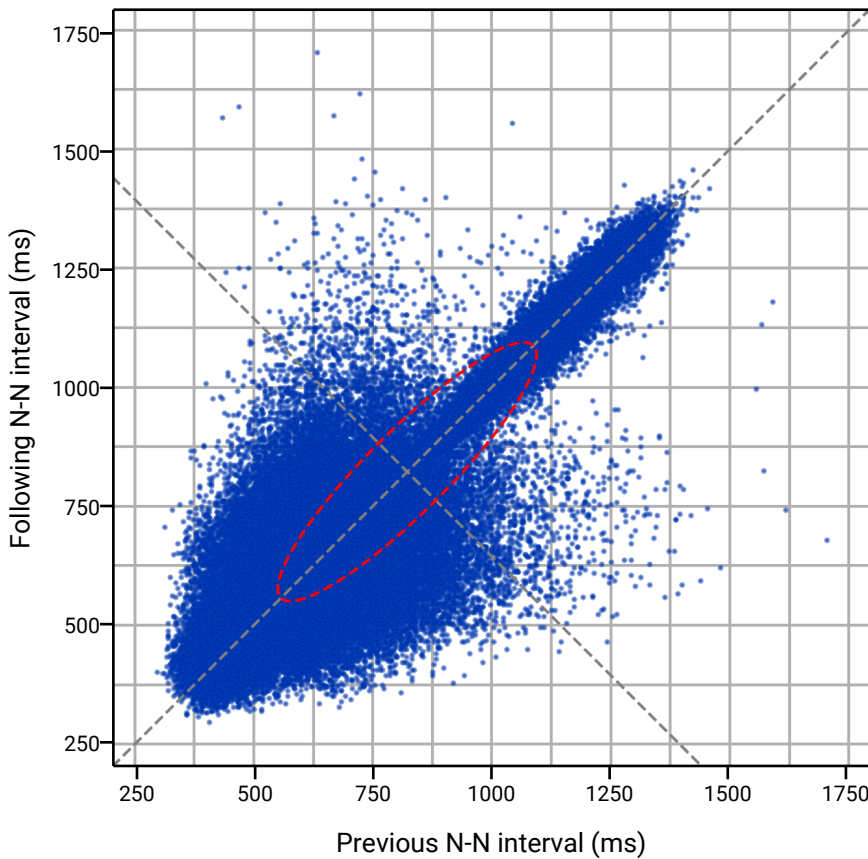
<b>Total time</b>	<b>10 h 22 min 45 s</b>
AF ratio	43.33%
AF burden	45.27%
AF burden (days)	16.82%
AF burden (nights)	100.00%
Average episode	10 min 38 s
Longest episode	1 h 09 min 45 s starting at 02:42 (day 2)
Shortest episode	34 s starting at 07:56 (day 2)
Average rate per min	99 bpm
Fastest rate per min	150 bpm starting at 08:13 (day 2)
Slowest rate per min	75 bpm starting at 05:12 (day 2)

## R-R interval histogram

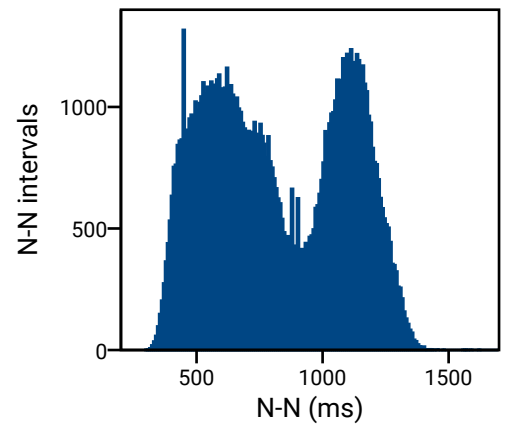


# Heart rate variability

## Poincaré plot



## N-N interval histogram

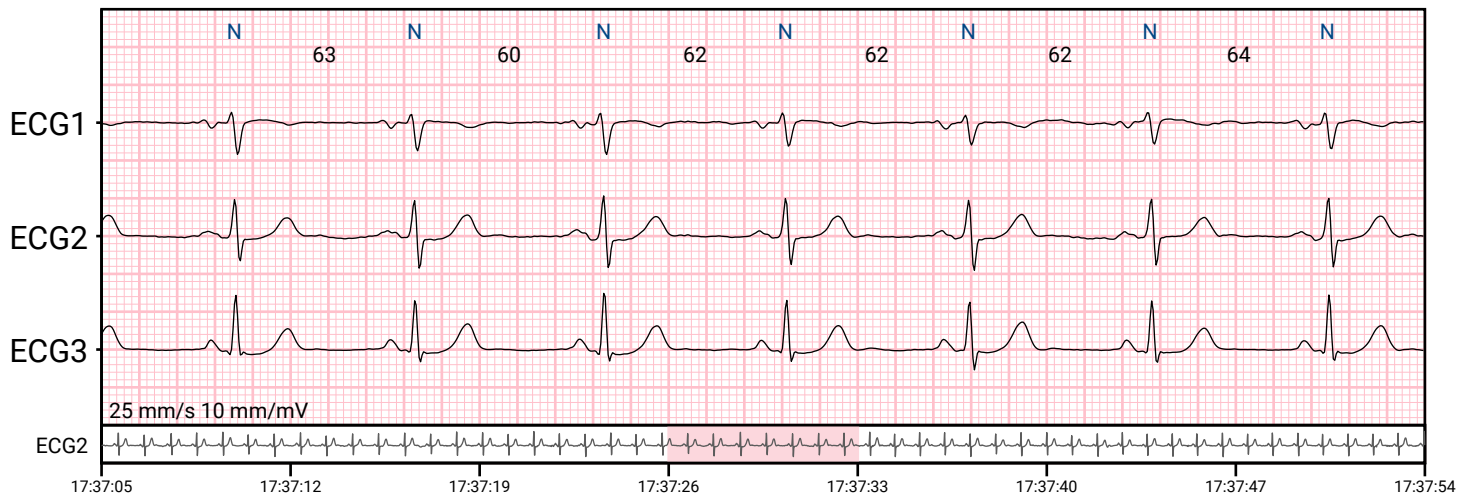


## HRV parameters

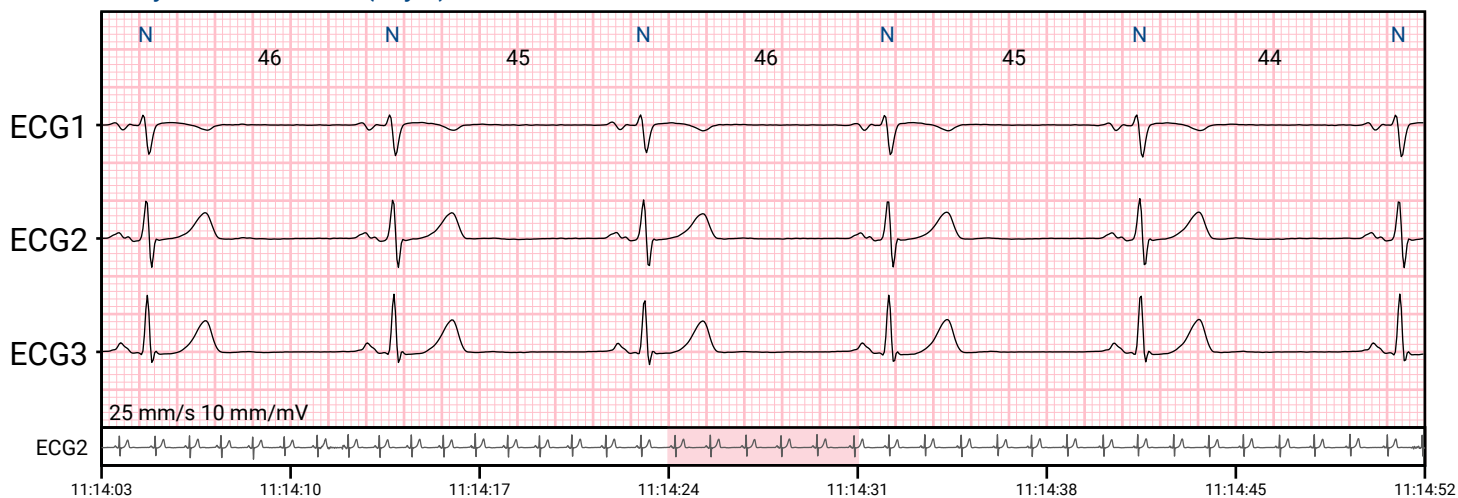
AVNN	822.55 ms
SDNN	271.85 ms
SDANN	248.35 ms
SDNN index	91.10 ms
SD1	84.94 ms
SD2	374.89 ms
rMSSD	120.15 ms
pNN20	66.59%
pNN50	44.74%
Triangular index	76.16
SD1/SD2	0.23

# Selected ECG events

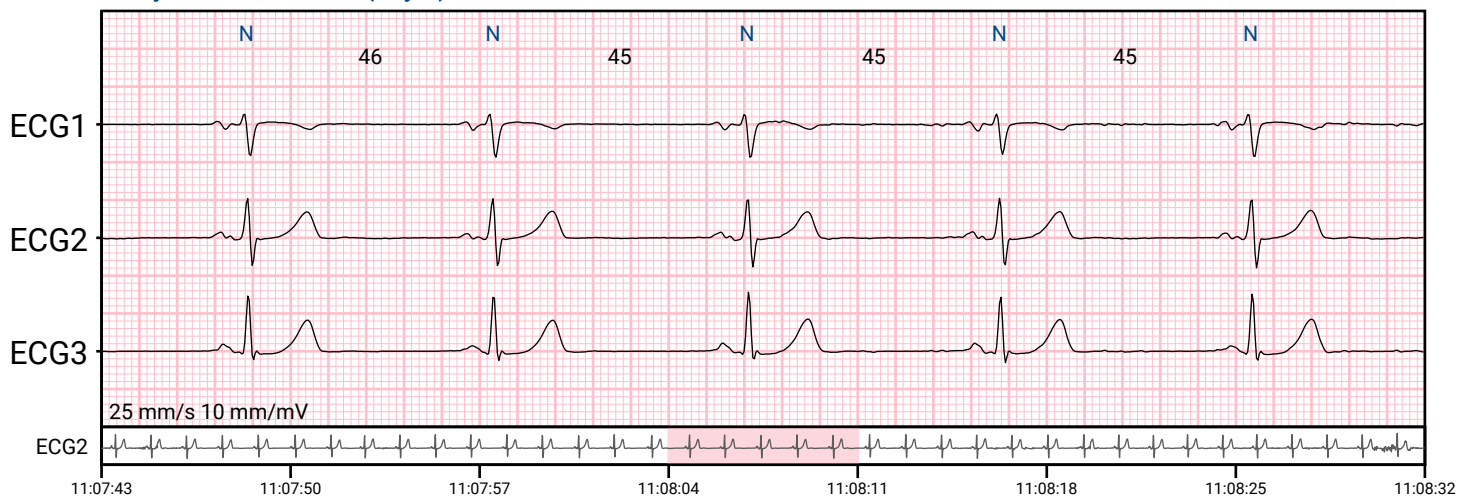
## Sinus rhythm: 17:37:26 (day 1)



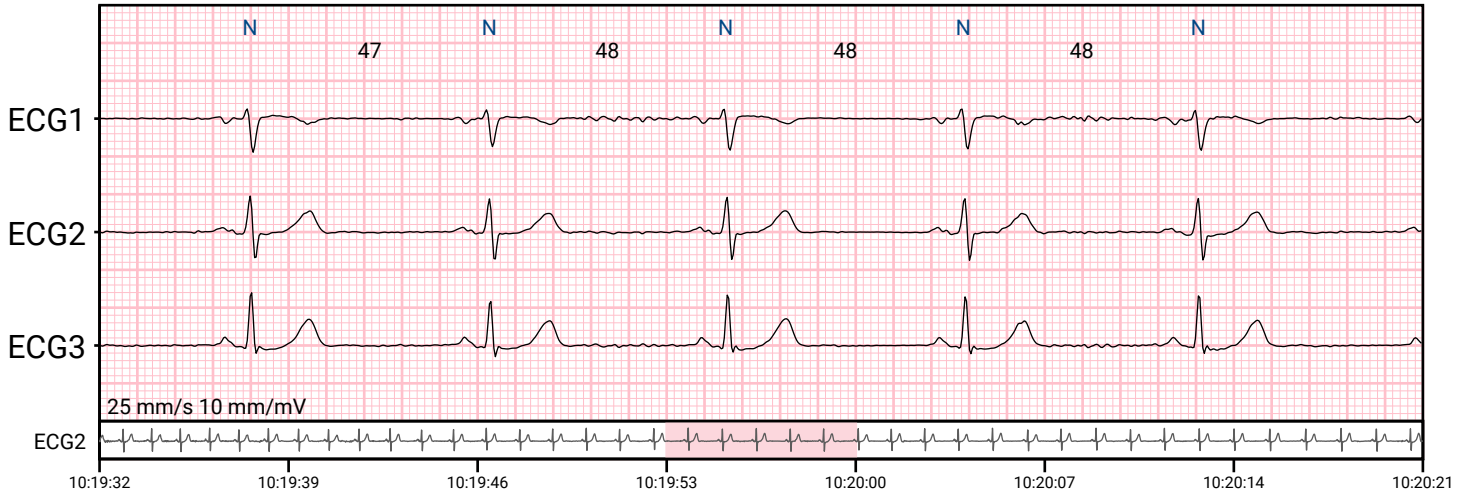
## Sinus bradycardia: 11:14:24 (day 1)



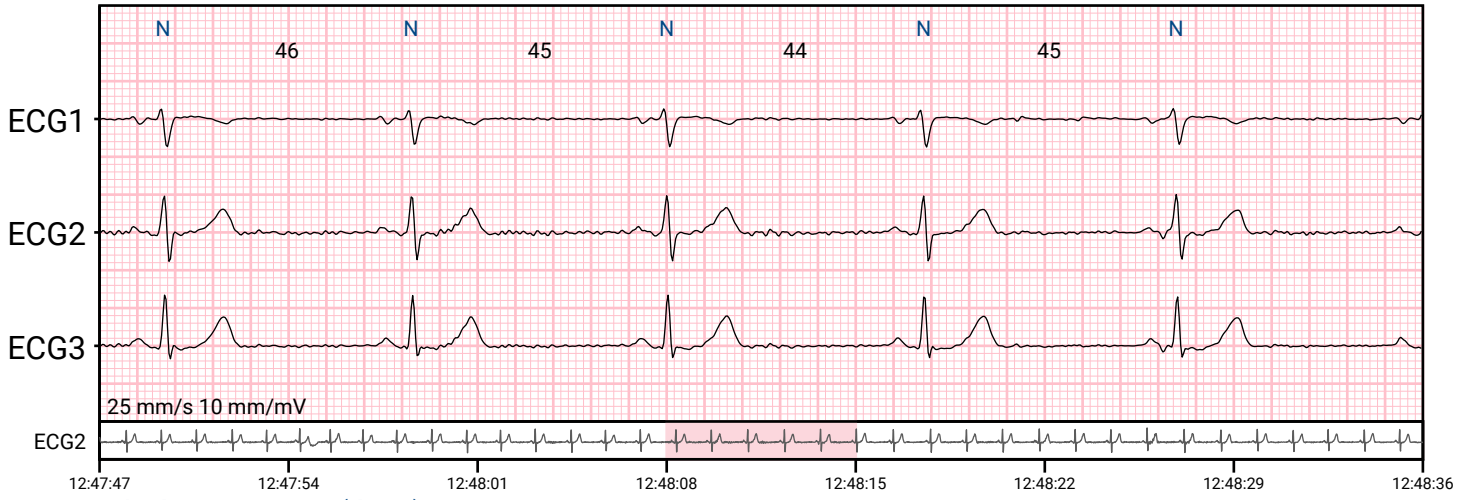
## Sinus bradycardia: 11:08:04 (day 1)



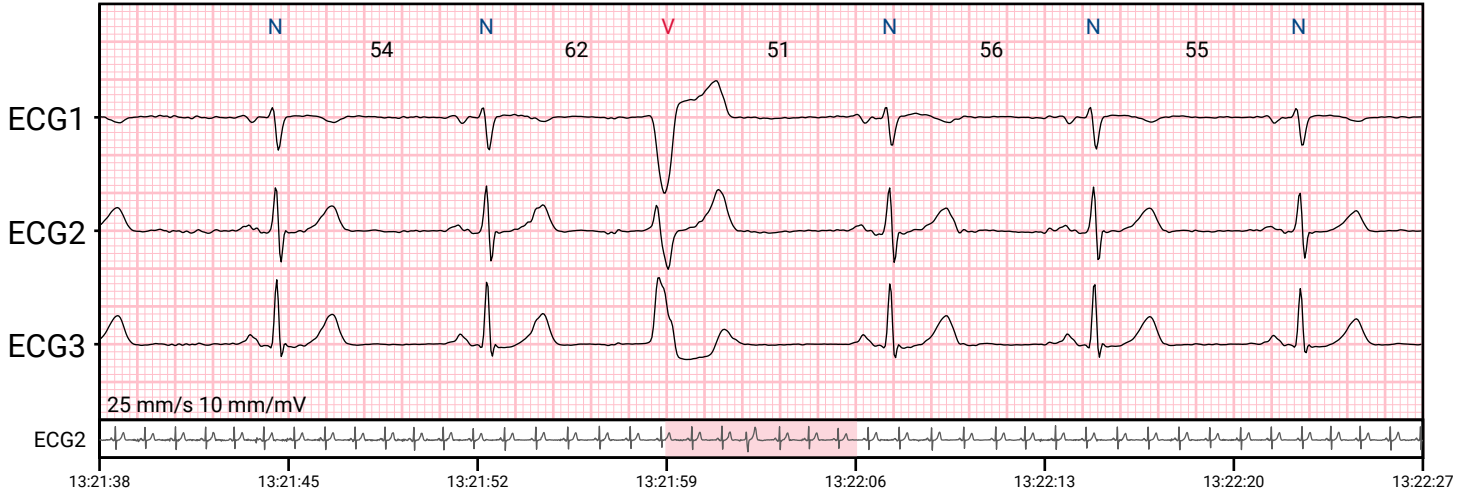
Sinus bradycardia: 10:19:53 (day 1)



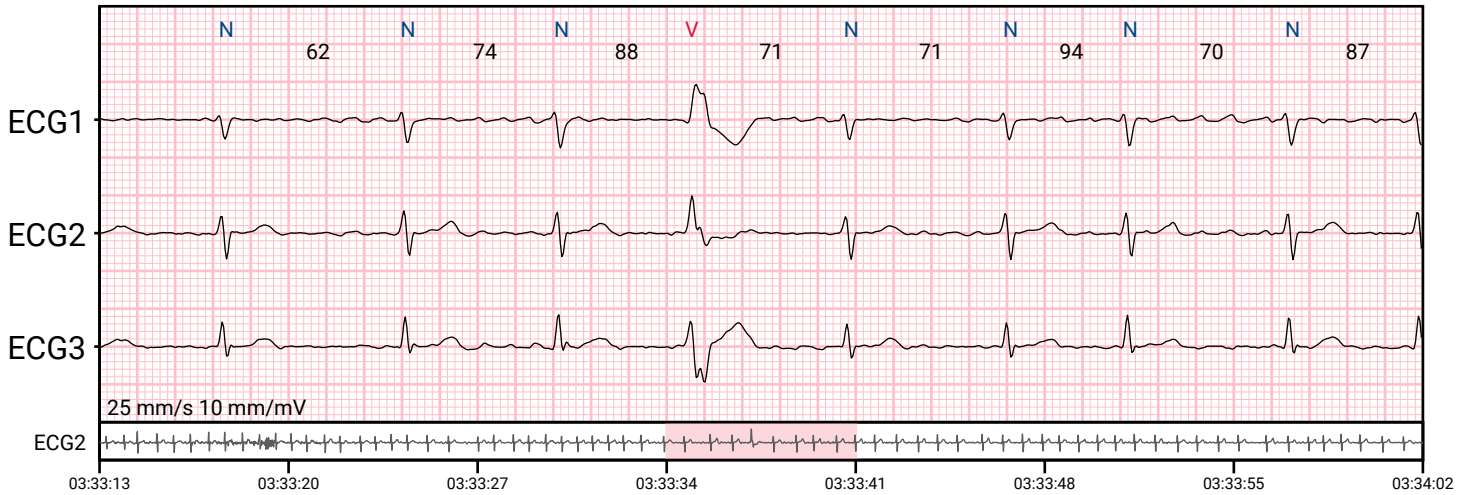
Sinus bradycardia: 12:48:08 (day 1)



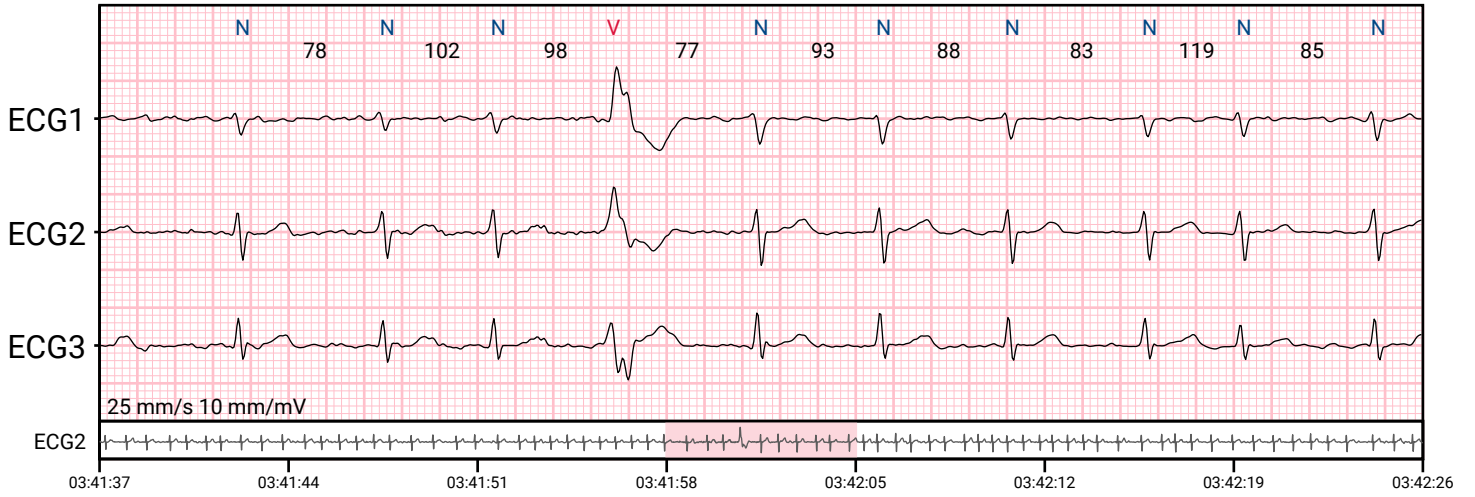
Ventricular beat: 13:21:59 (day 1)



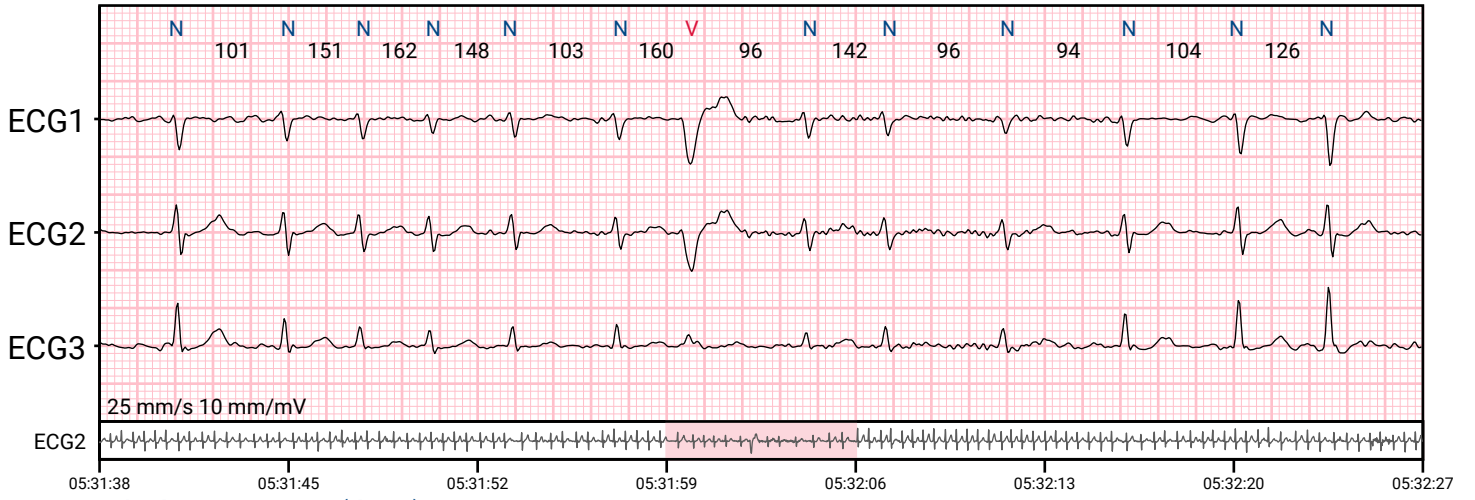
Ventricular beat: 03:33:34 (day 2)



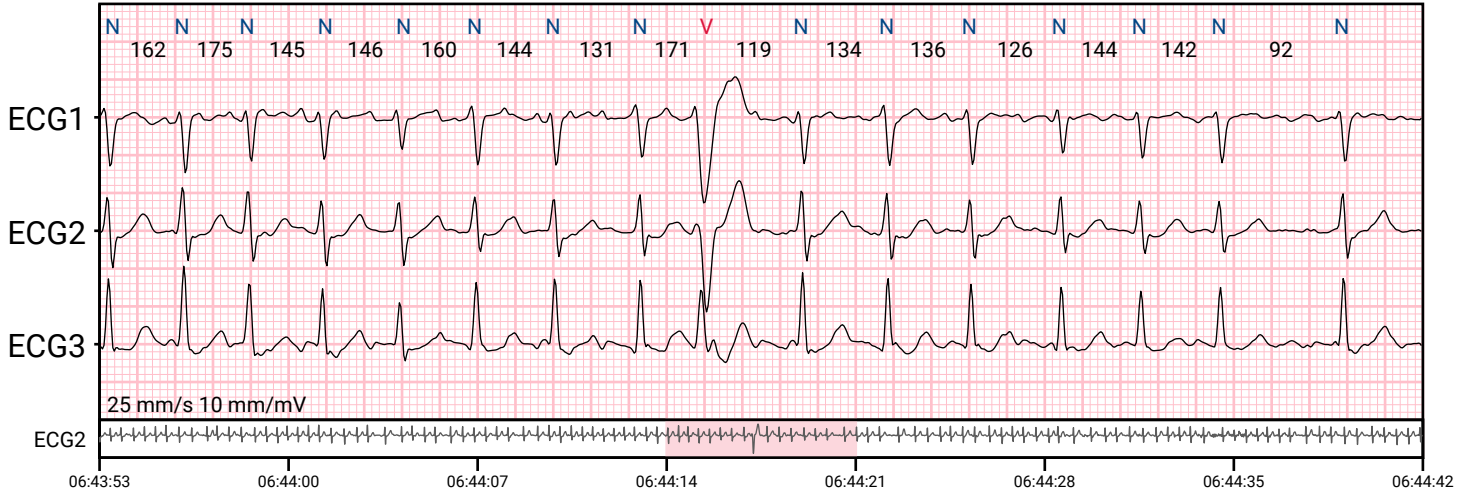
Ventricular beat: 03:41:58 (day 2)



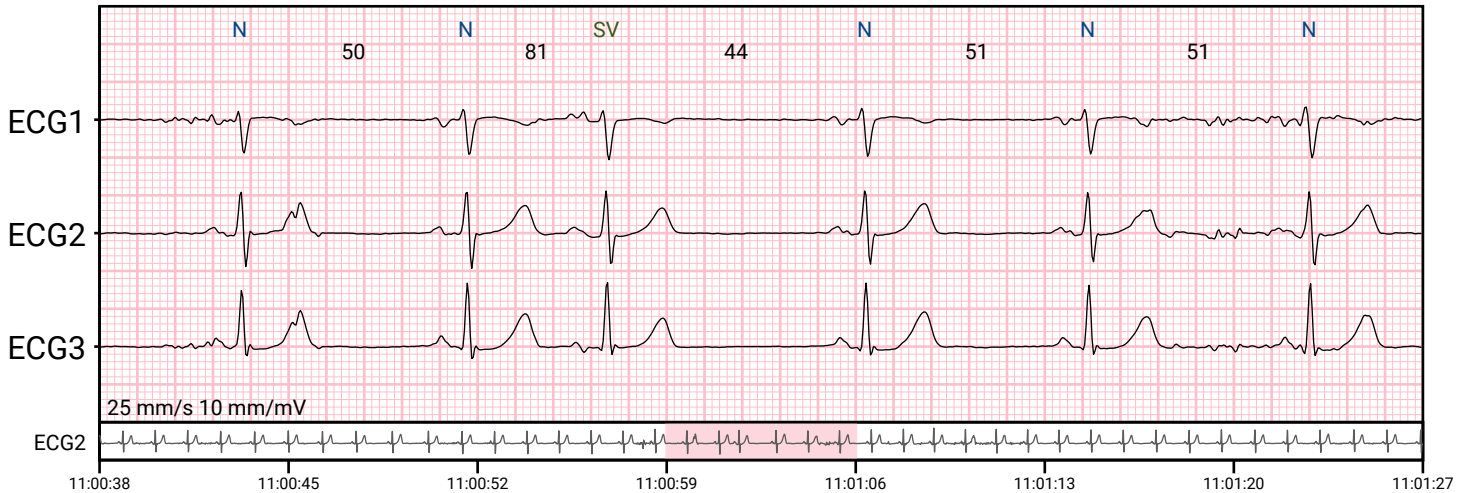
Ventricular beat: 05:31:59 (day 2)



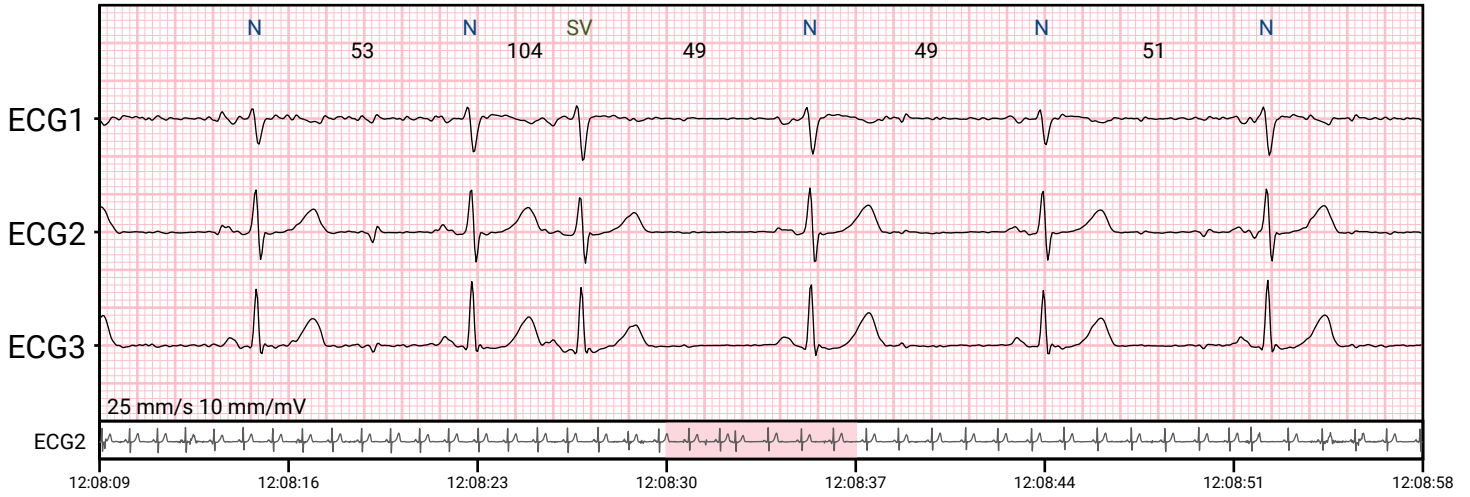
Ventricular beat: 06:44:14 (day 2)



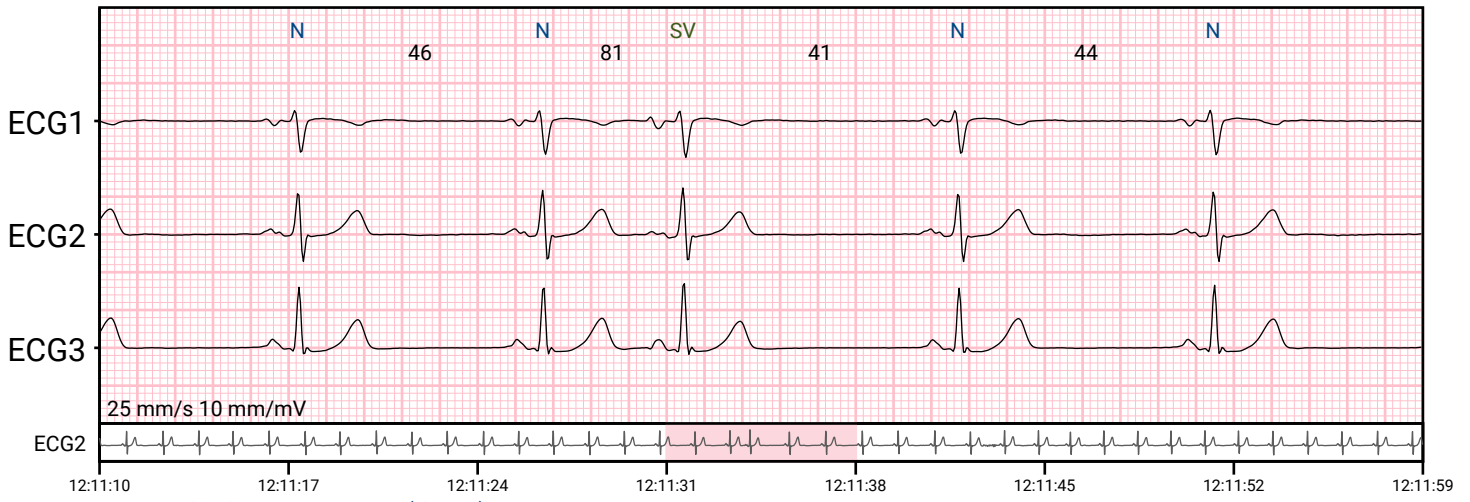
Supraventricular beat: 11:00:59 (day 1)



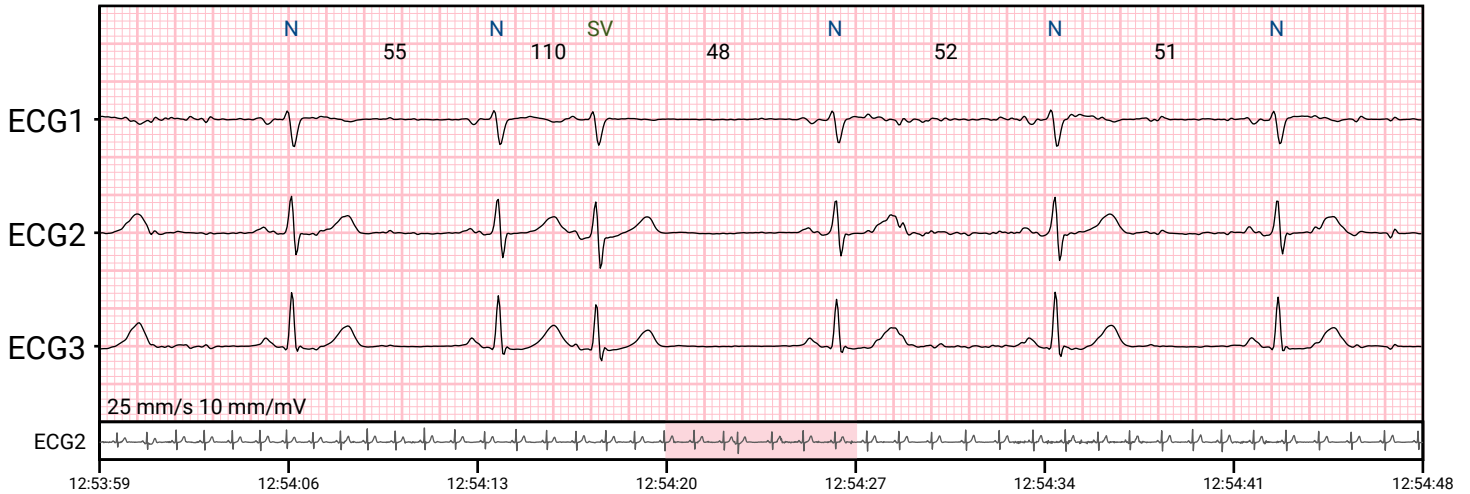
Supraventricular beat: 12:08:30 (day 1)



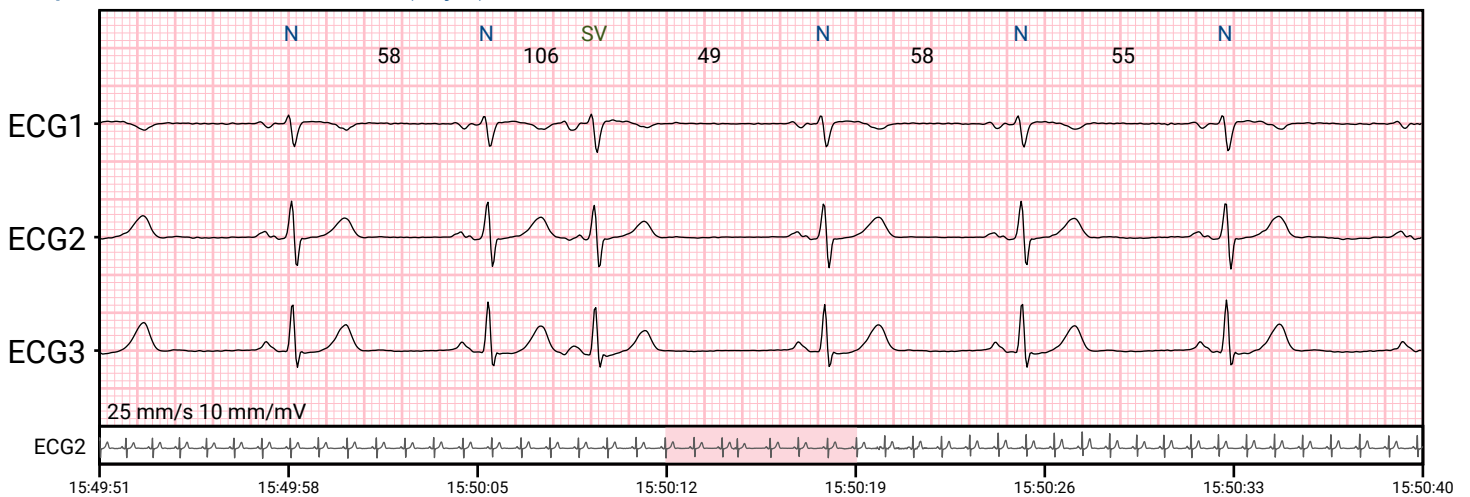
Supraventricular beat: 12:11:31 (day 1)



Supraventricular beat: 12:54:20 (day 1)

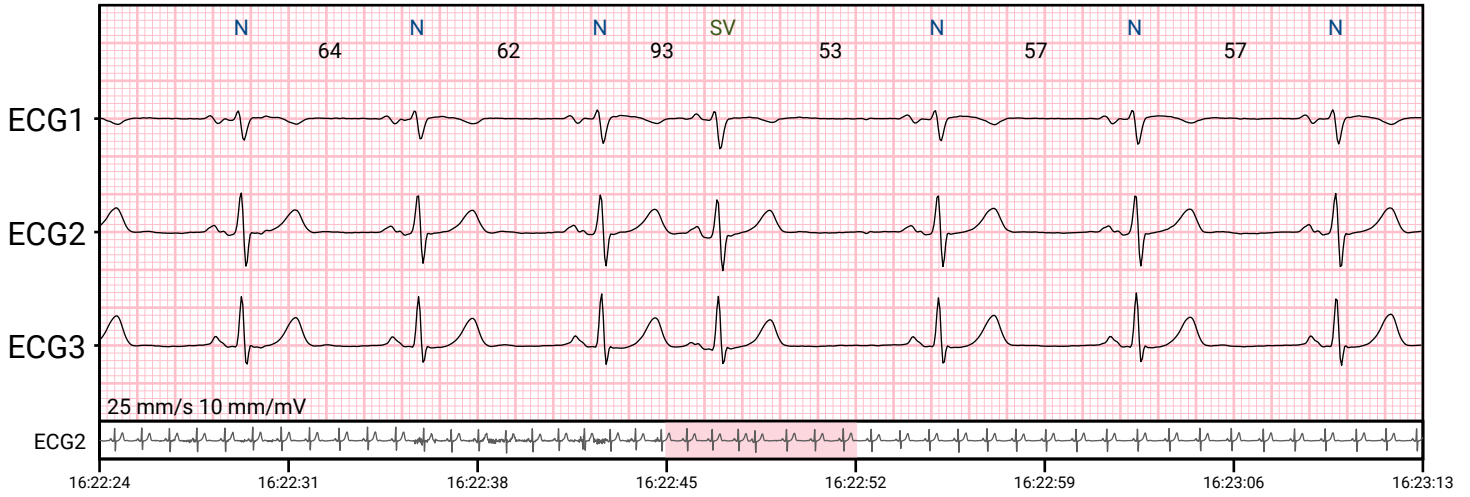


Supraventricular beat: 15:50:12 (day 1)

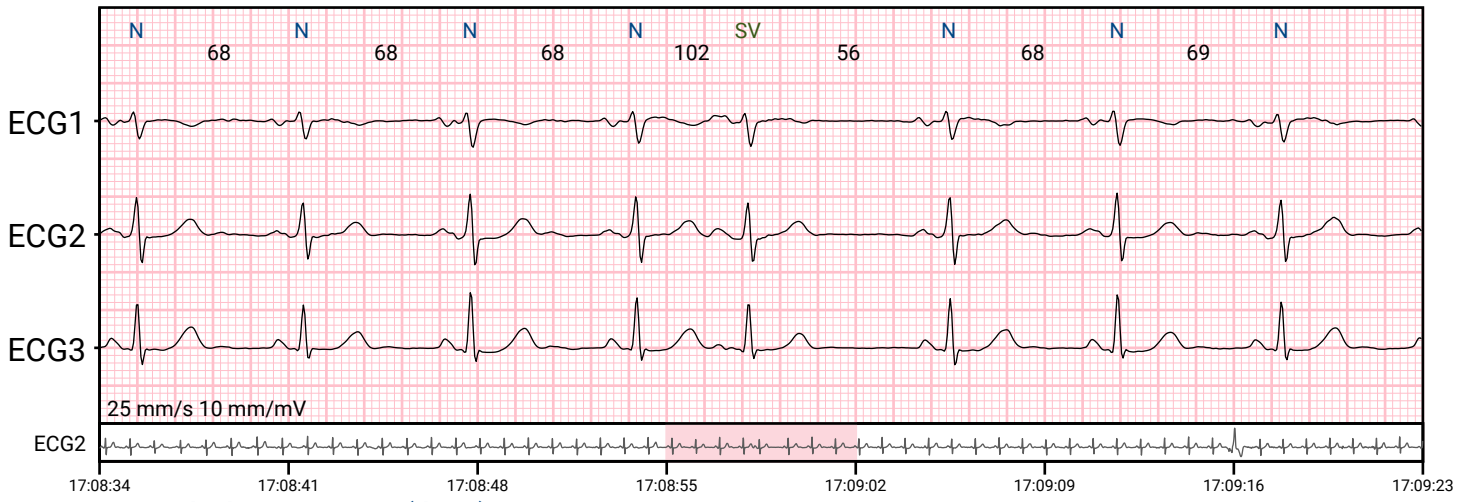




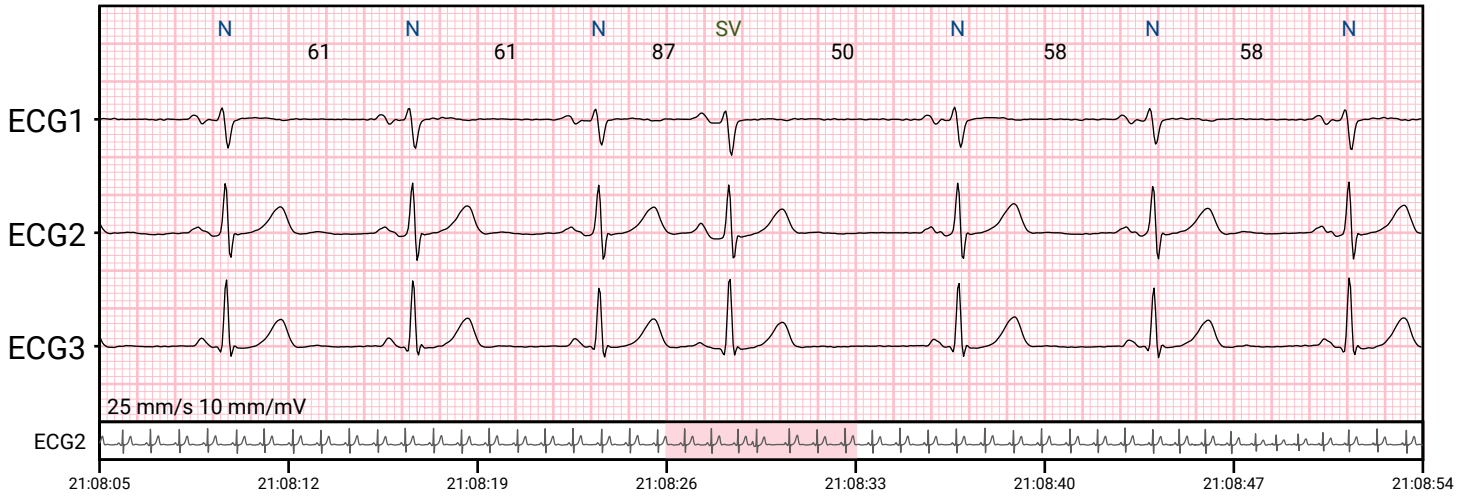
Supraventricular beat: 16:22:45 (day 1)



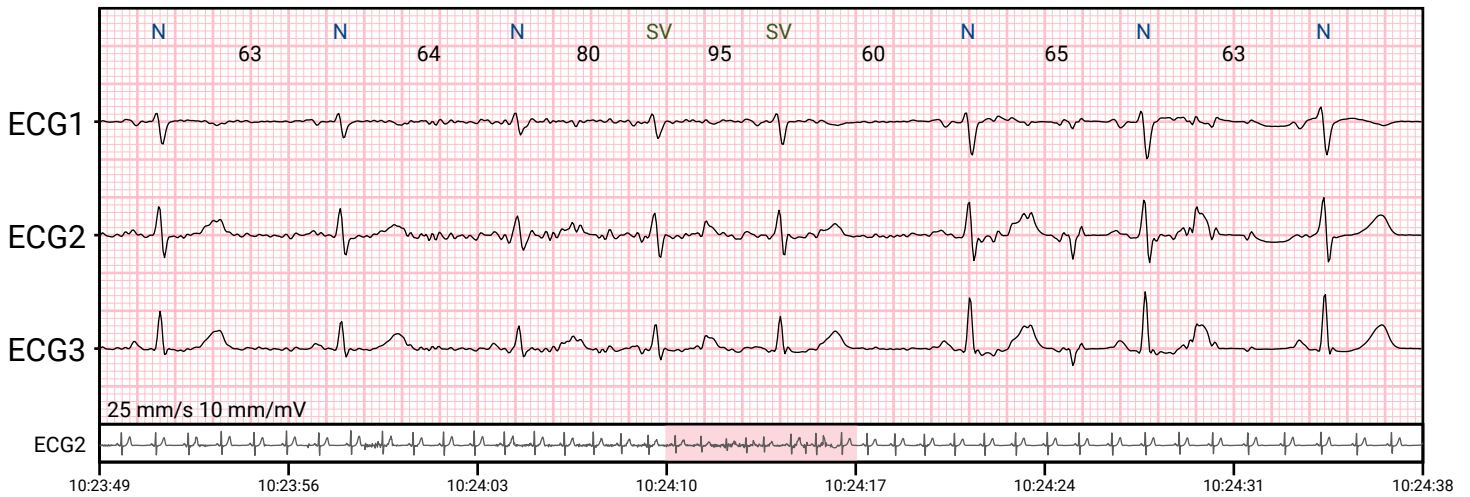
Supraventricular beat: 17:08:55 (day 1)



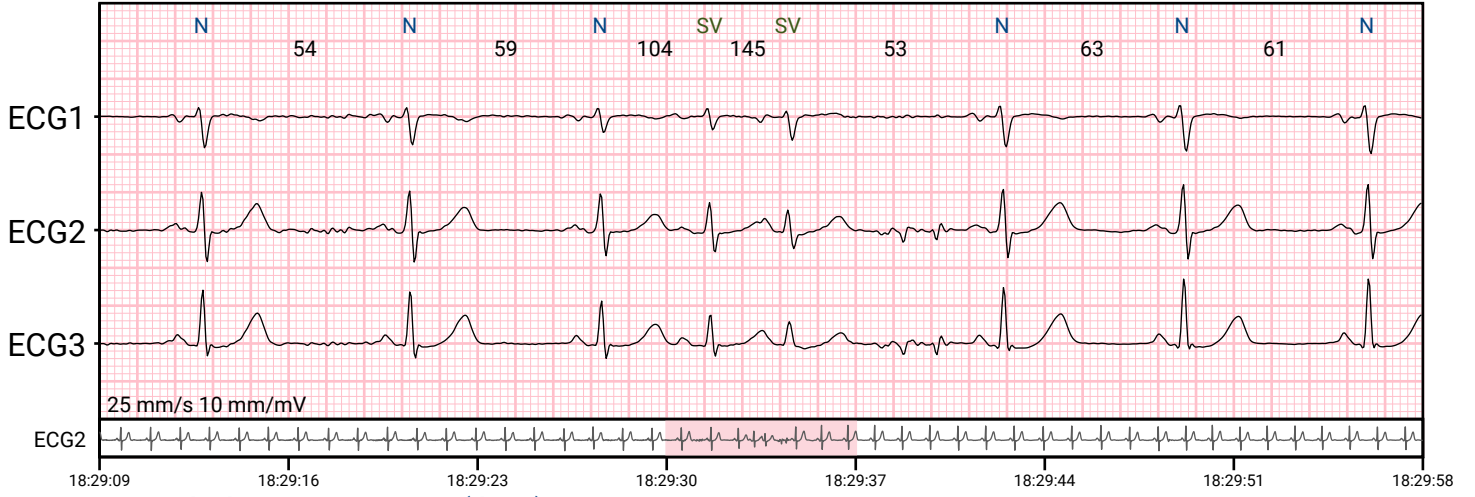
Supraventricular beat: 21:08:26 (day 1)



Supraventricular couplet: 10:24:10 (day 1)



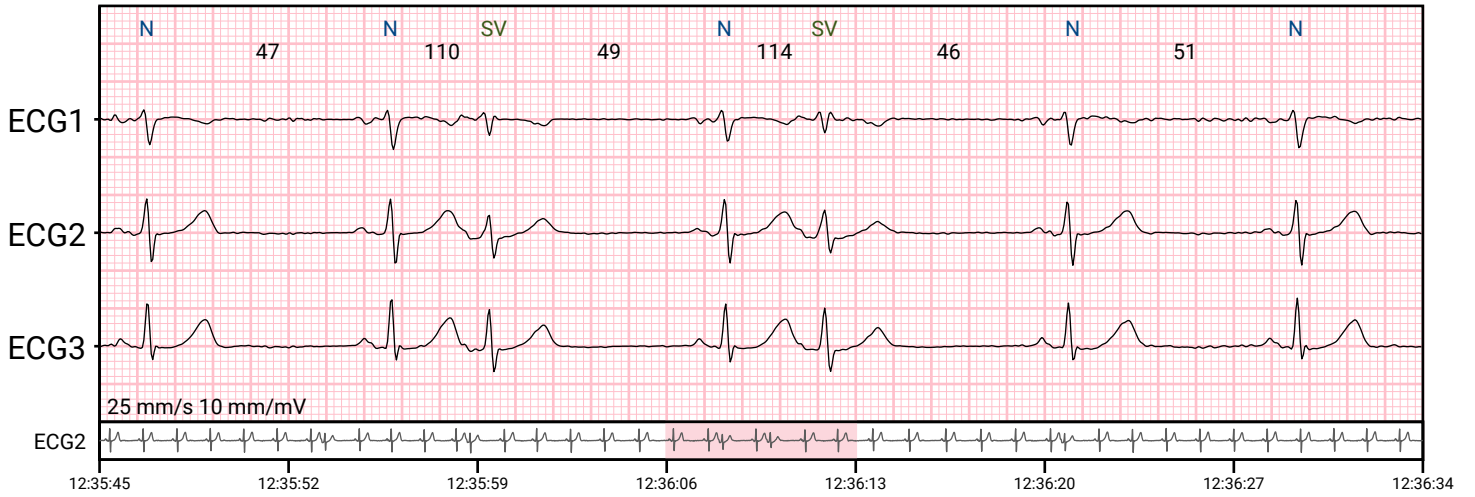
Supraventricular couplet: 18:29:30 (day 1)



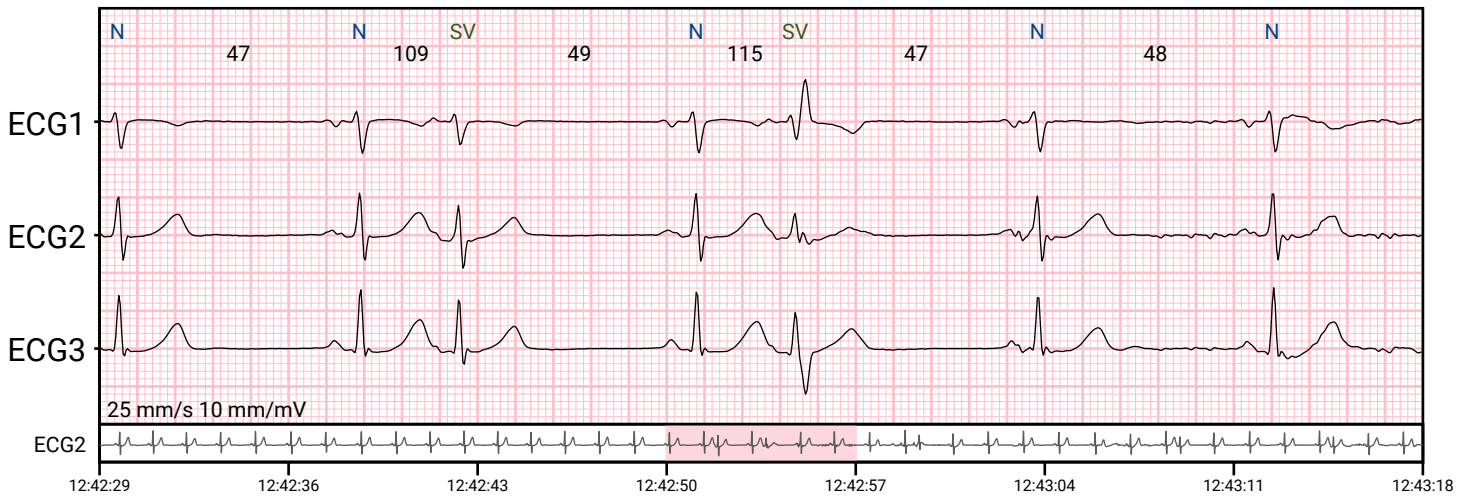
Supraventricular bigeminy: 12:22:44 (day 1)



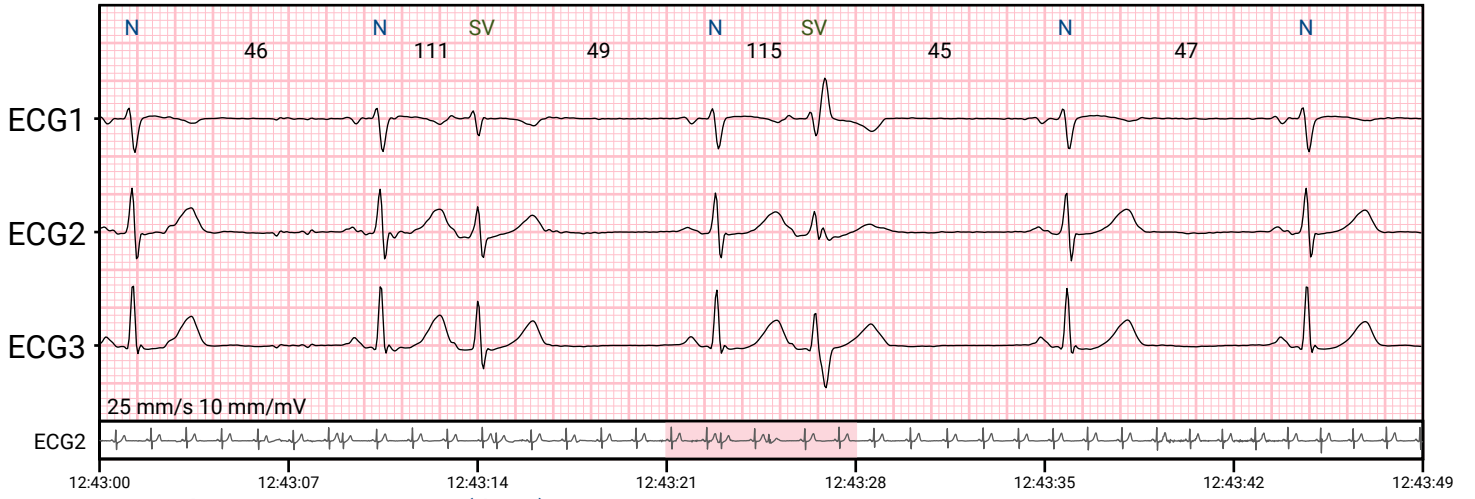
Supraventricular bigeminy: 12:36:06 (day 1)



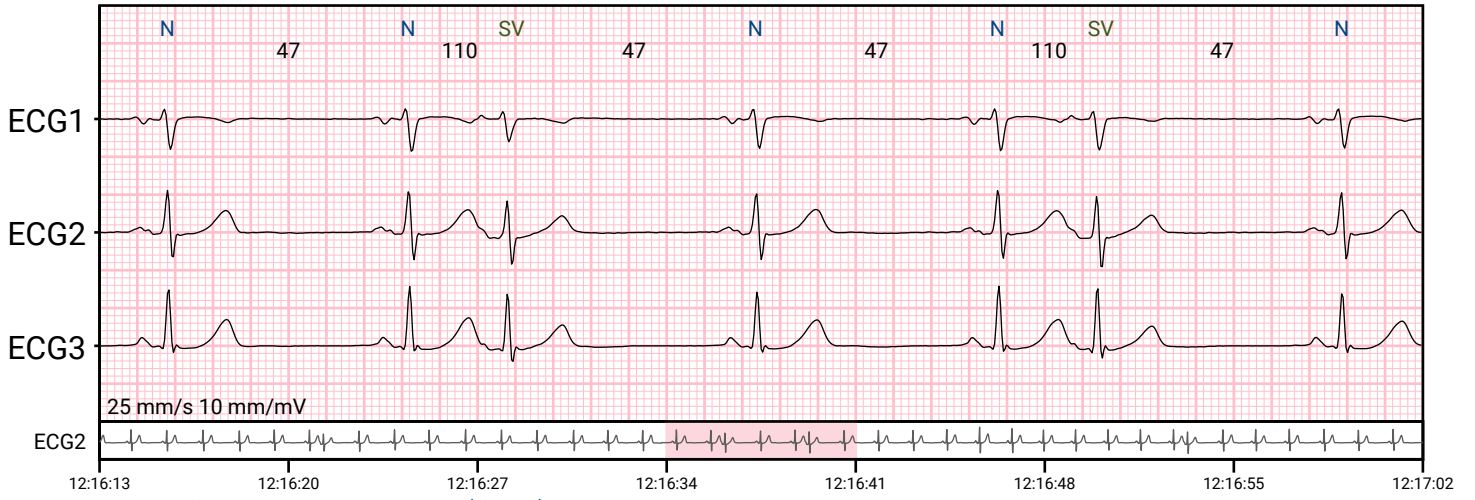
Supraventricular bigeminy: 12:42:50 (day 1)



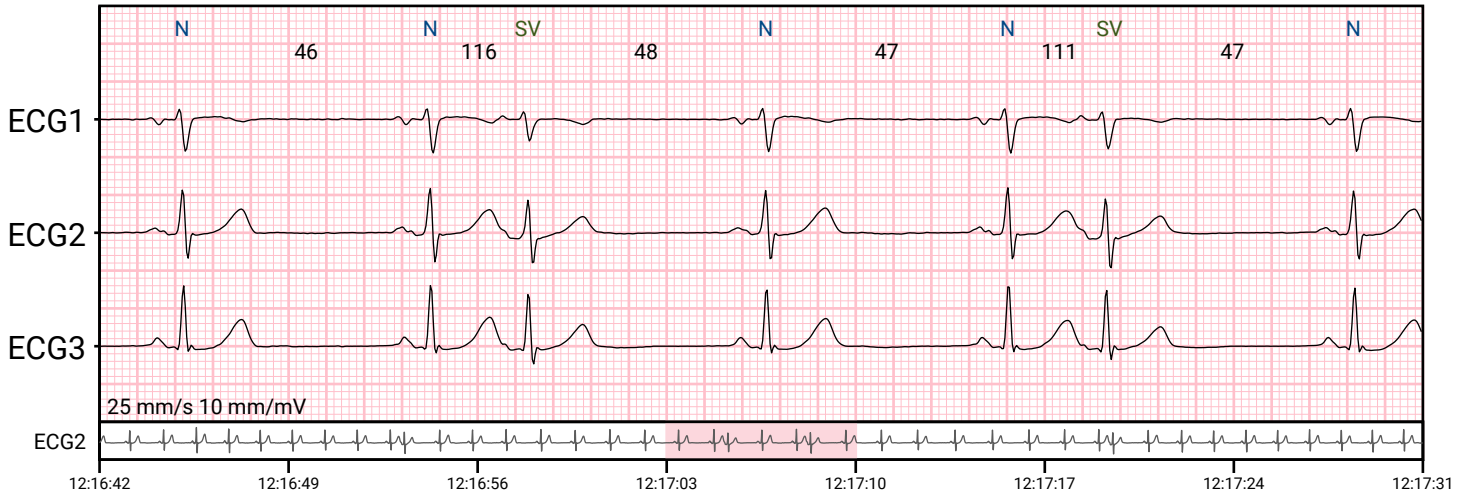
Supraventricular bigeminy: 12:43:21 (day 1)



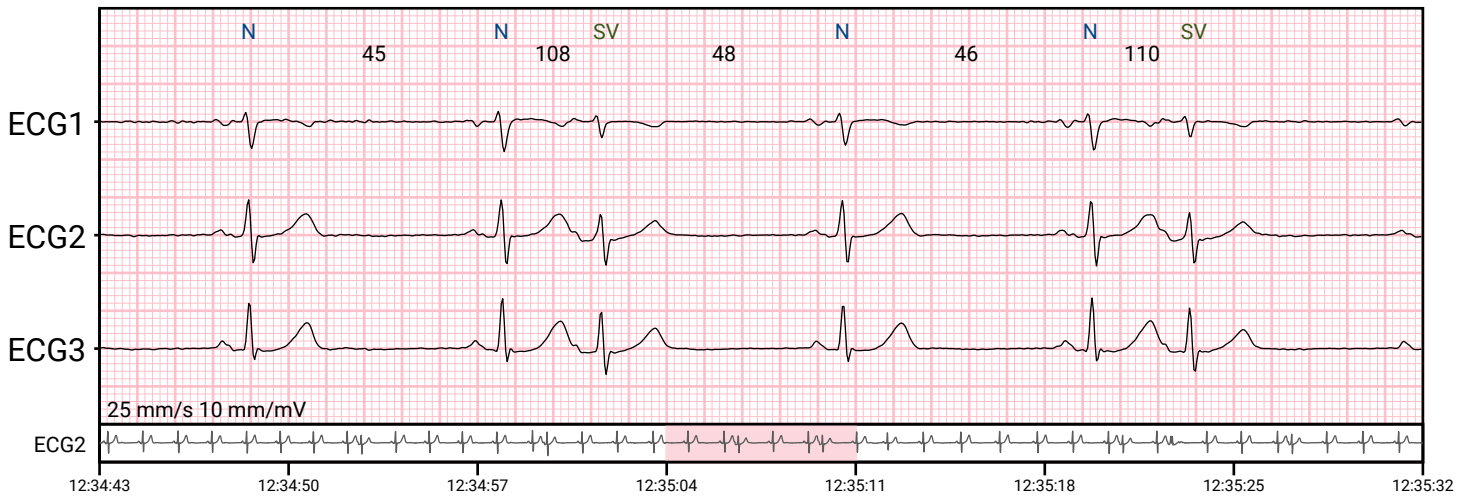
Supraventricular trigeminy: 12:16:34 (day 1)



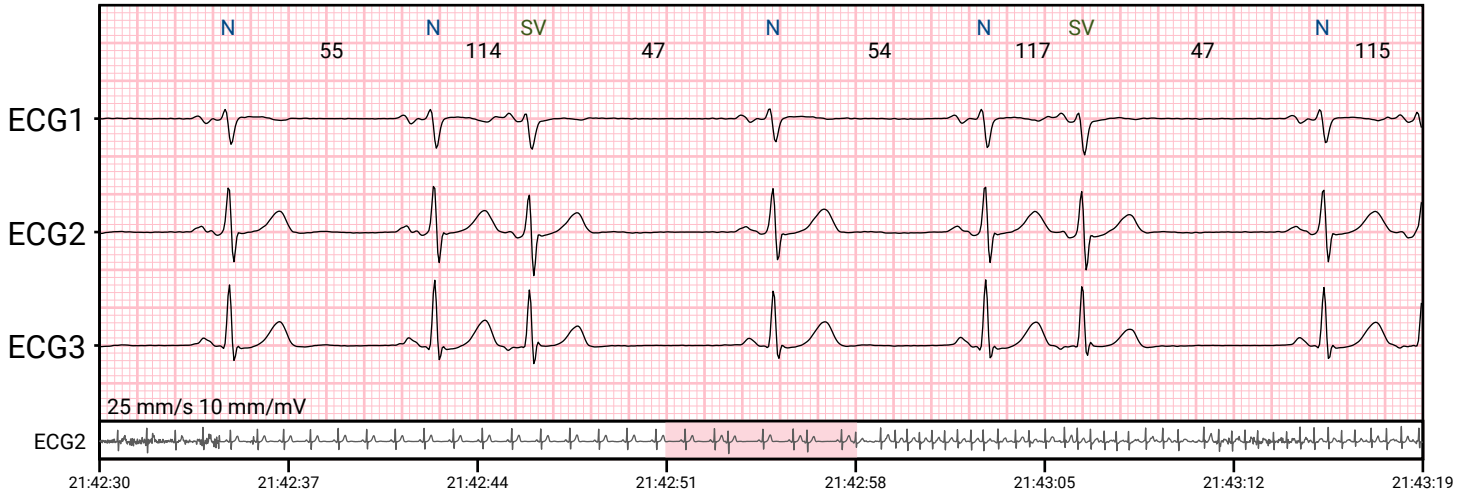
Supraventricular trigeminy: 12:17:03 (day 1)



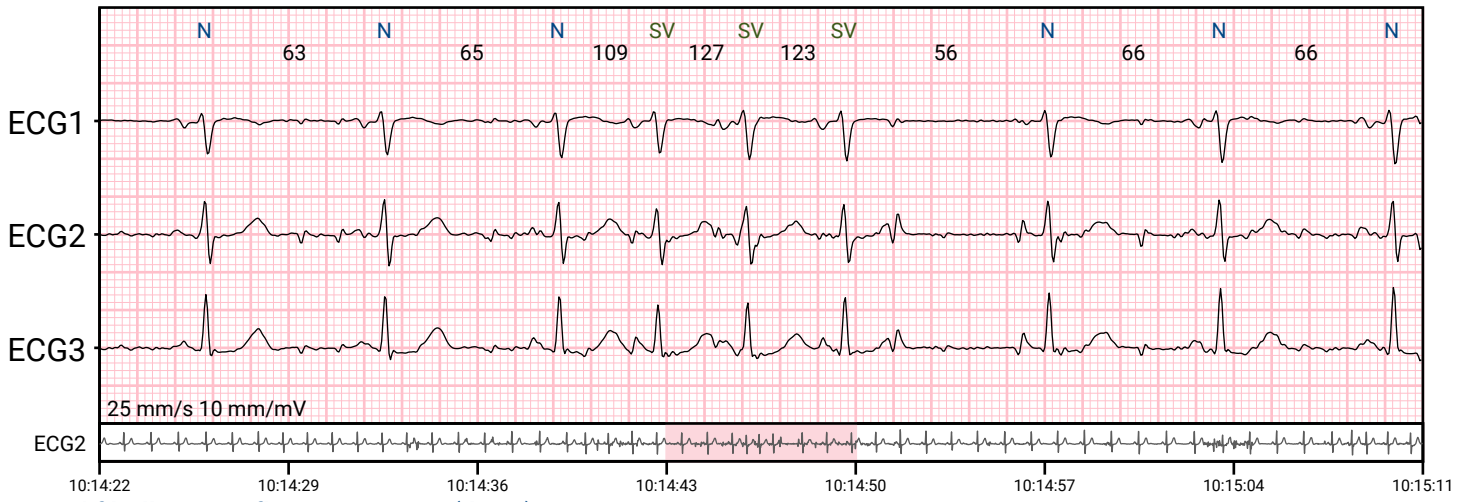
Supraventricular trigeminy: 12:35:04 (day 1)



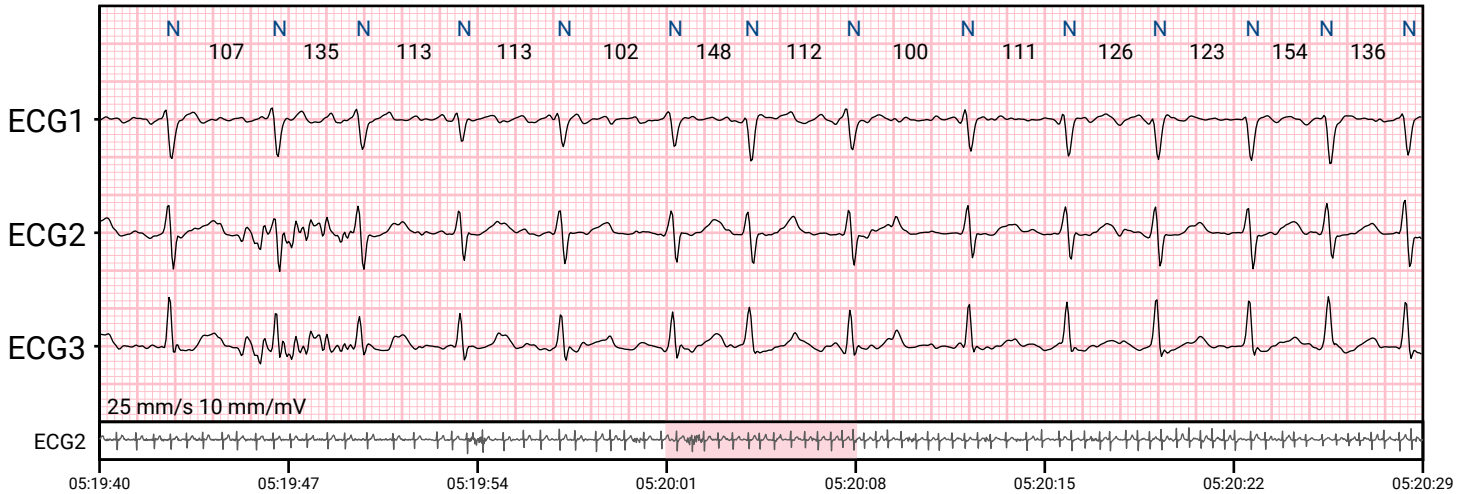
**Supraventricular trigeminy: 21:42:51 (day 1)**



**Supraventricular salvo: 10:14:43 (day 1)**



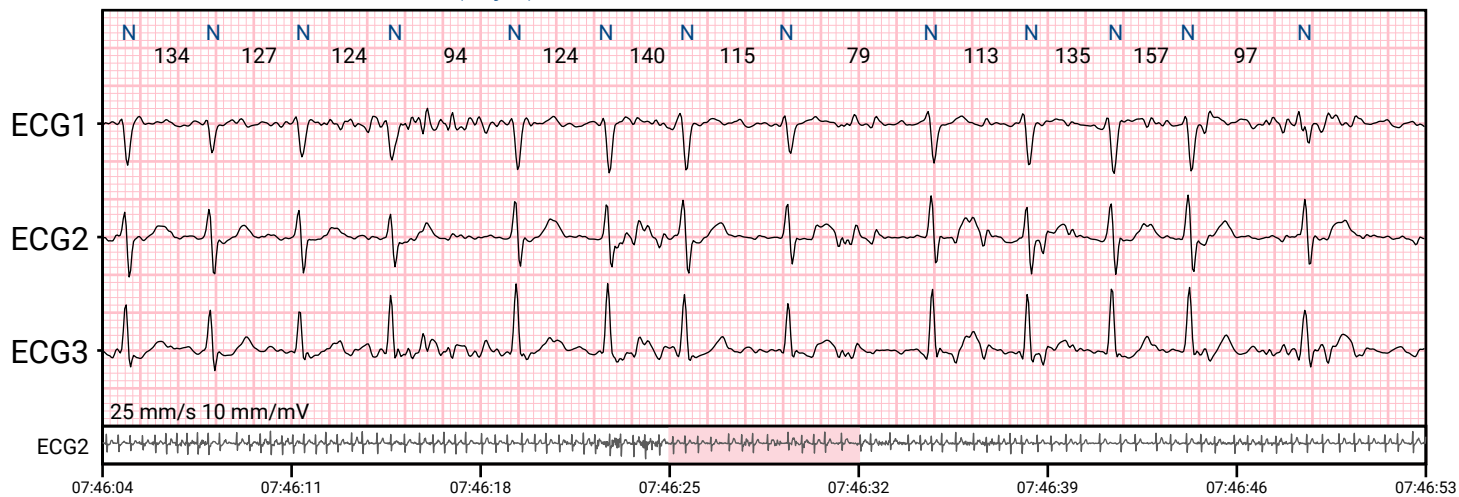
**Atrial fibrillation or flutter: 05:20:01 (day 2)**



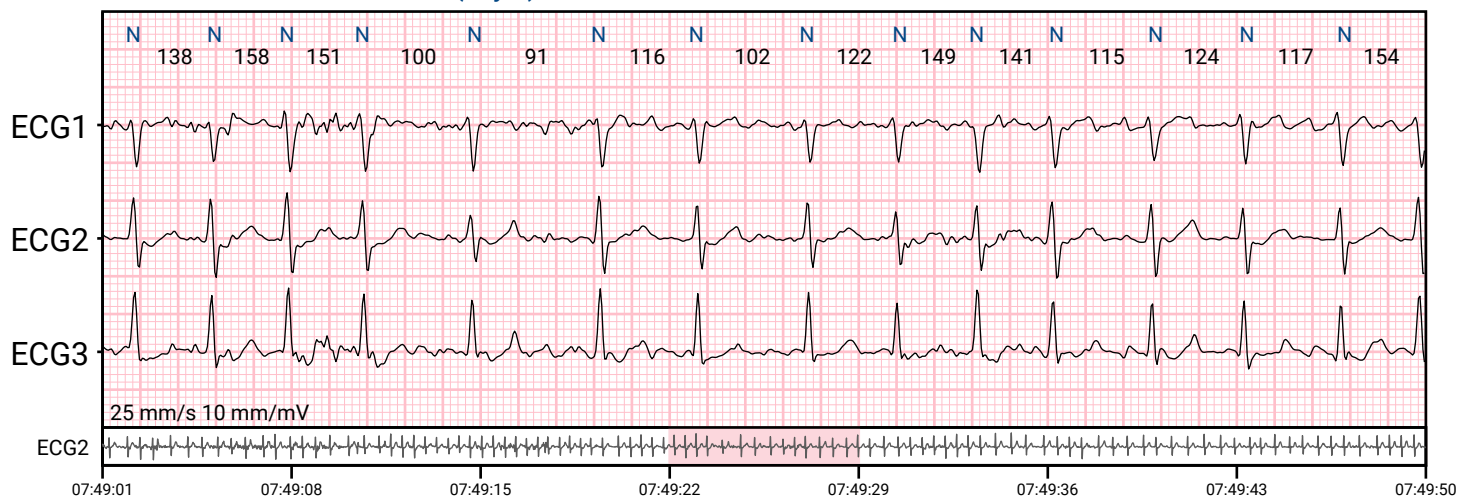
**Atrial fibrillation or flutter: 07:39:54 (day 2)**



### Atrial fibrillation or flutter: 07:46:25 (day 2)



### Atrial fibrillation or flutter: 07:49:22 (day 2)



#### Algorithm settings

Minimal pause duration	2000 ms
All heart rate values	averaged per minute
Sinus tachycardia	consecutive normal beats at a rate of > 100 bpm lasting longer than 10 s
Sinus bradycardia	consecutive normal beats at a rate of < 60 bpm lasting longer than 10 s
Ventricular salvo	3-7 consecutive complexes of ventricular beats at a rate of > 100 bpm
Ventricular tachycardia	more than 7 consecutive complexes originating from ventricles at a rate of > 100 bpm
Idioventricular rhythm	3 or more consecutive complexes originating from ventricles at a rate of < 50 bpm
Accelerated idioventricular rhythm	3 or more consecutive complexes originating from ventricles at a rate of < 100 bpm
Supraventricular salvo	3-7 consecutive complexes of supraventricular beats at a rate of > 100 bpm
Supraventricular tachycardia	more than 7 consecutive complexes of supraventricular beats at a rate of > 100 bpm
AFIB/AFL	atrial fibrillation or atrial flutter lasting longer than 30s
LEAD-OFF	at least one electrode was not properly attached to the patient's chest
AF burden	the percentage of time an individual is in AFIB/AFL during a diagnostic period
AF burden (days)	AF burden calculated for days: 06:00 - 22:00
AF burden (nights)	AF burden calculated for nights: 22:00 - 06:00