

ECG Patch Holter

All-in-one electrodes designed according to human body feature help to find position easily with color mark for lead wires, no need to remember.

Tips: please clean skin with alcohol cotton before using to increase the life of the electrodes.

1-channel all-in-one



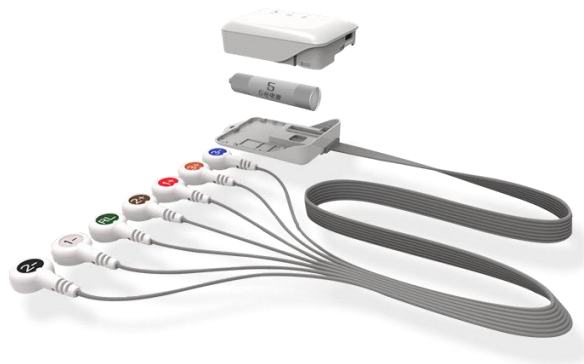
3-channel all-in-one



3-channels with 5 pins



3-channels with 7 pins

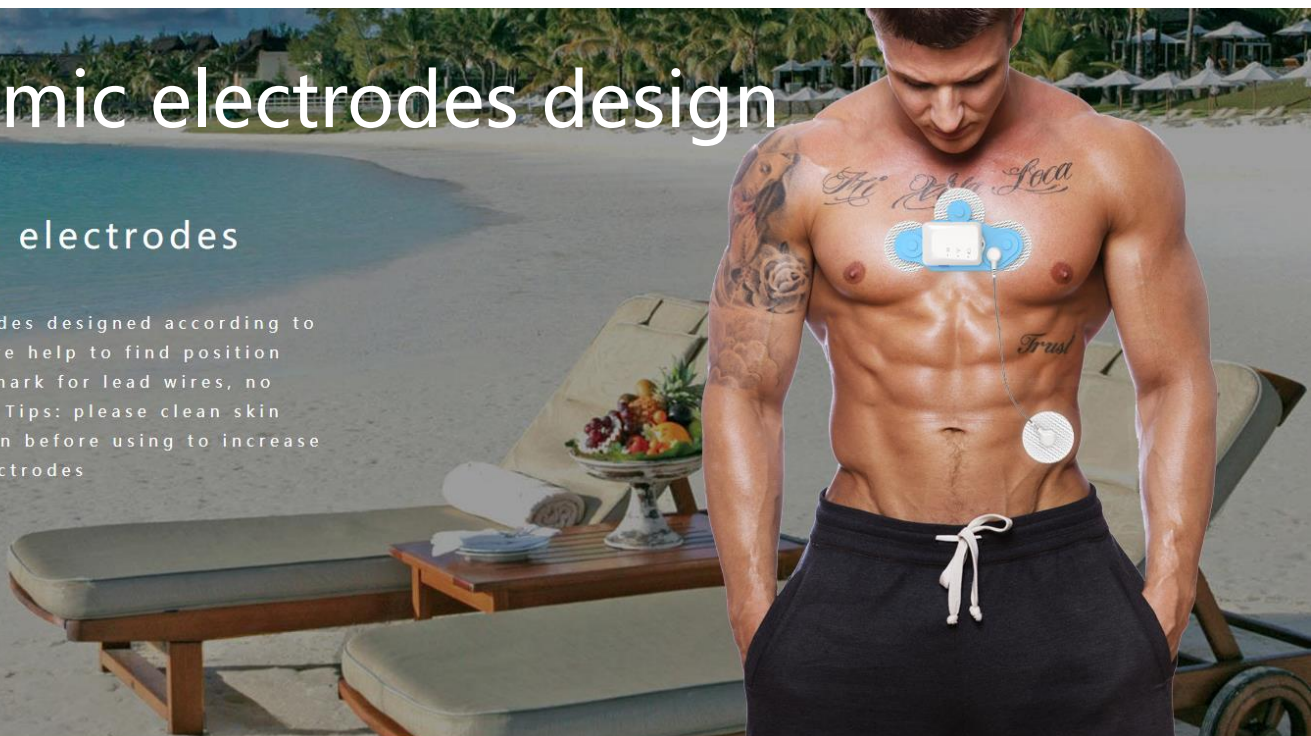


Ergonomic electrodes design

Ergonomic electrodes design

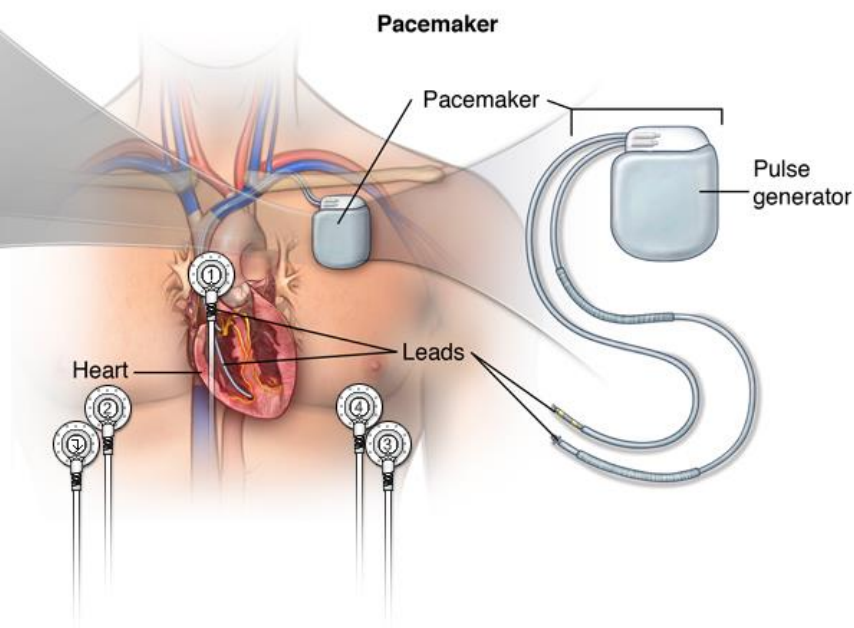
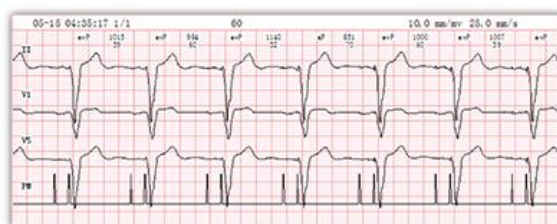
All-in-one electrodes designed according to human body feature help to find position easily with color mark for lead wires, no need to remember Tips: please clean skin with alcohol cotton before using to increase the life of the electrodes

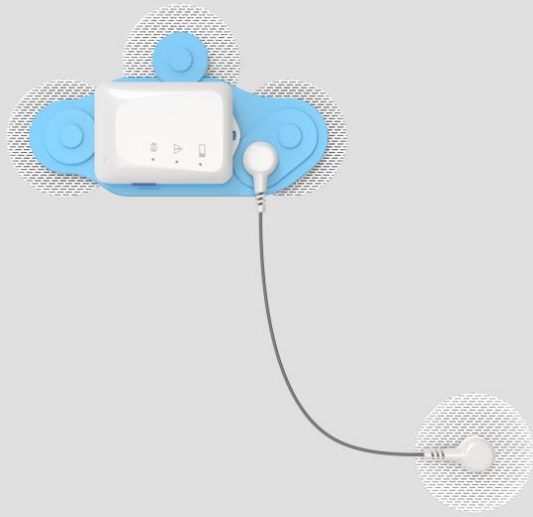
3-channel-schann



20,000HZ Independent Pacemaker Channel

With pacing pulse detection function, pacemaker sampling rate up to 20,000HZ





24-48 hours continuous ECG recording can capture any passed arrhythmia

Heart disease patients are susceptible to external conditions. If their ECG cannot be recorded at the time when heart events occur, it is difficult to find the exact problem with routine ECG examination afterward. Thus, ECG Holter plays an irreplaceable role to capture the passed arrhythmia.



Care



Record



Precise Monitoring

Durable and lasting, lowest power consumption

BORSAM is devoted to protect environment by keeping improving the efficiency of the instrument circuit and making the last drop of the battery used up



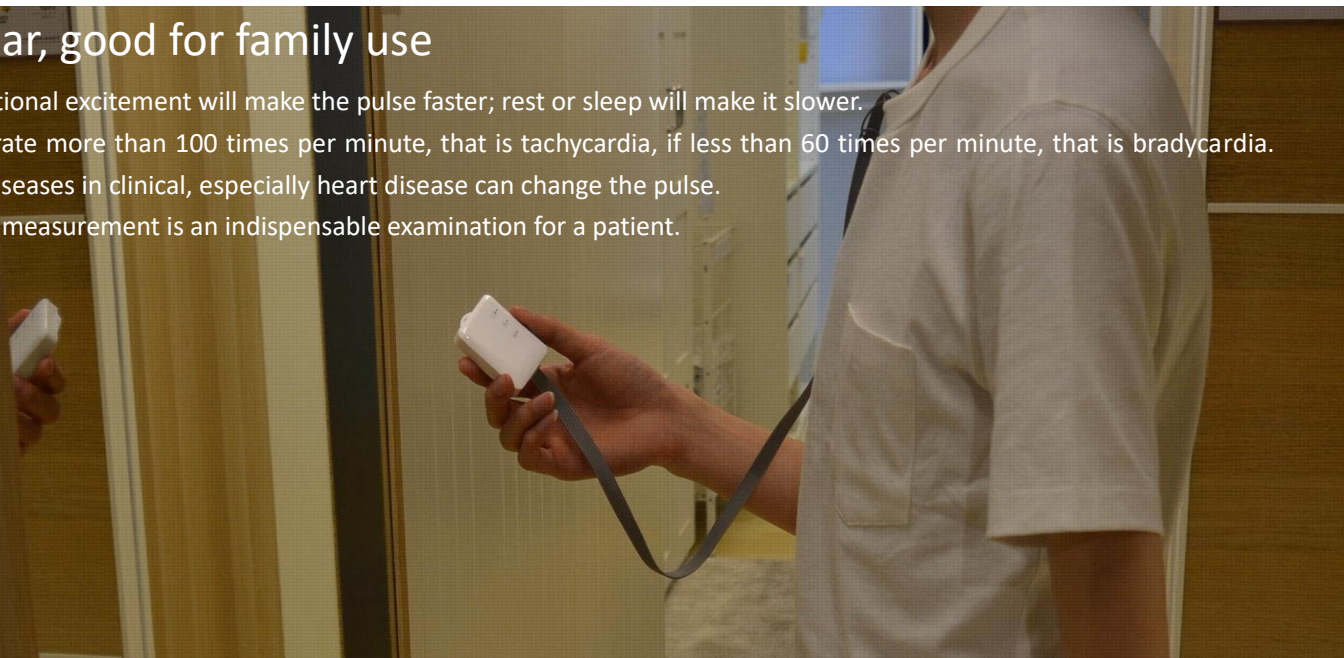
Easy to wear, good for family use

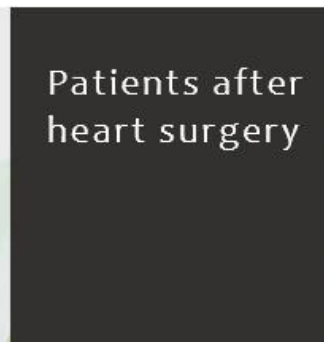
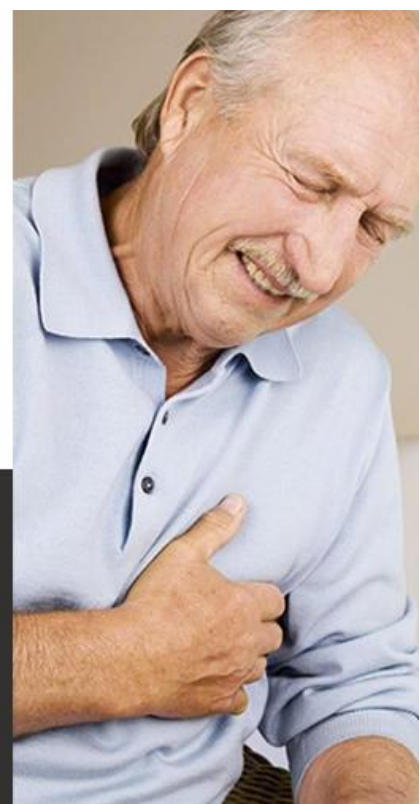
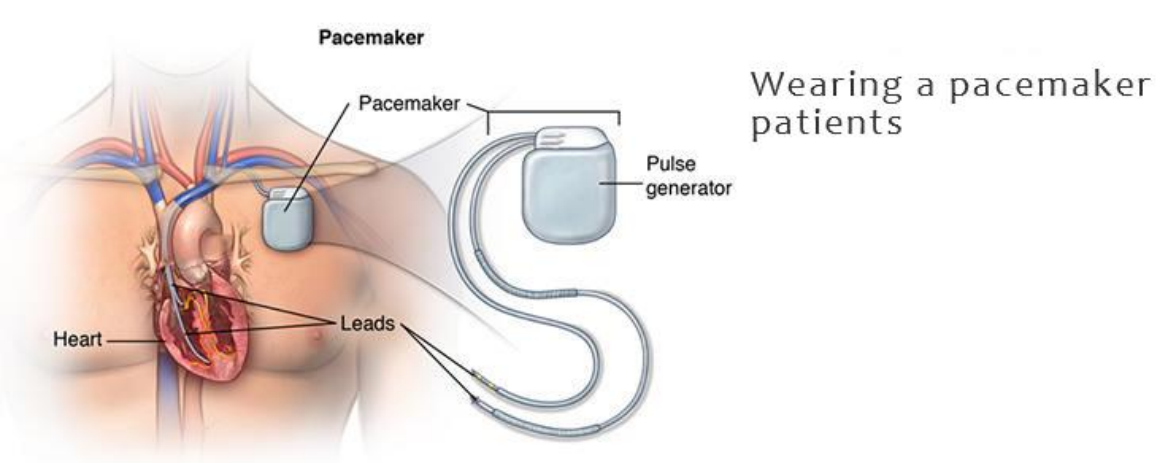
Exercise and emotional excitement will make the pulse faster; rest or sleep will make it slower.

If an adult pulse rate more than 100 times per minute, that is tachycardia, if less than 60 times per minute, that is bradycardia.

There are many diseases in clinical, especially heart disease can change the pulse.

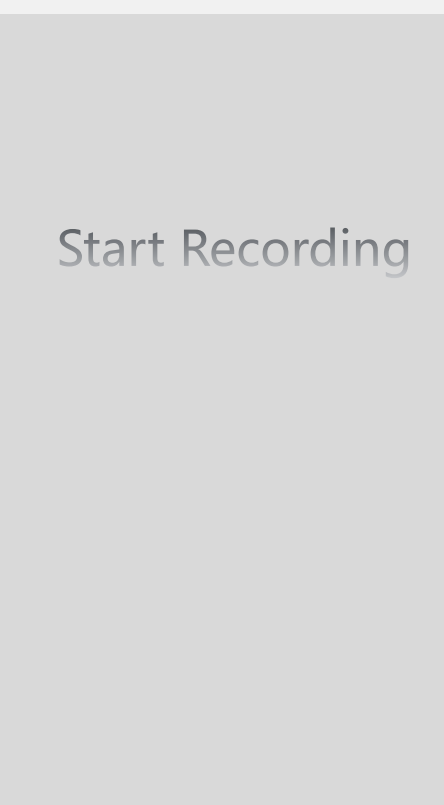
Therefore, pulse measurement is an indispensable examination for a patient.





Service Center

BORSAM build technical support team, business consultation team and professional physician experts group to give overall solution to satisfy any of your requirements.



1. Proper preparation of the patient' s skin at the typical Electrode Application position. It is suggested to wipe skin for Electrodes with alcohol cotton. Refer to pictures below:

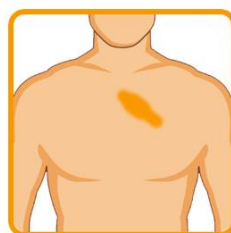


Fig. 1 Electrode position of single lead AIO

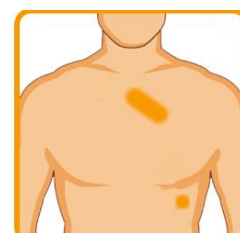


Fig. 2 Electrode positions of 3 leads all-in-one

User Guide

Fig. 3 Electrode position of 5 leads

Fig. 4 Electrode position of 7 leads

2.Remove the protective back cover from the holter patch main body, insert one AAA Alkaline battery, and the yellow LED will light on. Refer to pictures below:



Fig. 5 Remove back cover



Fig. 6 insert AAA battery

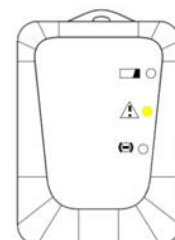


Fig. 7 yellow LED on

3.Install the Holter Patch main body to the cover with Patient cable, and the yellow LED light will flicker. Refer to pictures below:

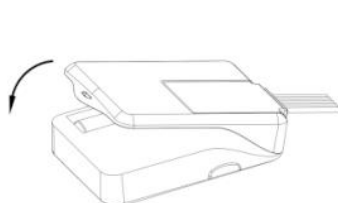


Fig. 8 cover with 5/7 leads cable

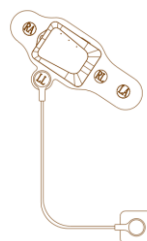


Fig. 9 cover with all-in-one 3 leads



Fig. 10 Yellow LED flicker

4.attach the patient cable to our skin. Refer to pictures below:

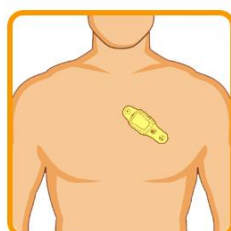


Fig. 11 Position of single lead AIO

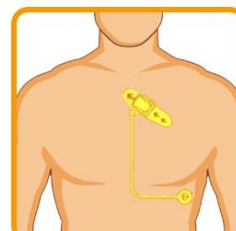
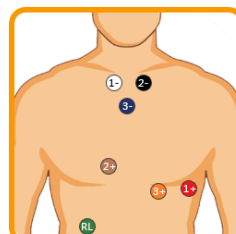
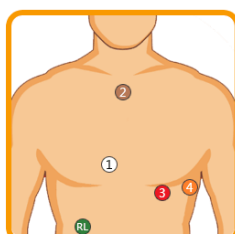


Fig. 12 Position of 3 leads AIO



5. Press the button, and the green light flash fast, which means the ECG recording starts. The light will flash slower and off after 5 minutes. User can hang the recorder on his or her neck with a lanyard. Refer to pictures below:



Fig. 15 Button

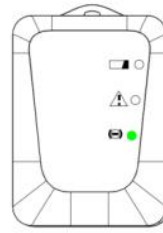


Fig. 16 the green light on



Fig. 17 hole for lanyard

ECG Events Mark

Under normal working condition, press the button and the green light flash, one ECG Event is marked. In case the light does not flash, battery may run out, and the Holter Patch stopped working. Refer to pictures below:

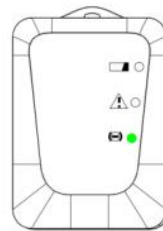


Fig. 18 green light on

End Recording

1. The yellow light and green light are on at the same time, means recording completed. Refer to the picture below:

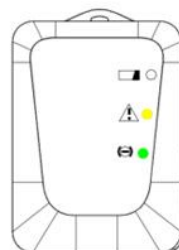


Fig. 19 the yellow and green light on at the same time

2. remove the patient cable from skin first, then take off the main body of the Holter Patch, and finally take battery out. Refer to the picture below:

Fig. 20 remove main body from cover with cable Fig. 21 remove main body from AIO electrode

3.transfer the ECG data to PC or cellphone by an USB data cable or OTG cable. Refer to the picture below:



Fig. 22 transfer ECG data

4.Attach the main body to the protective back cover, and put back to the package box. Refer to the picture below:



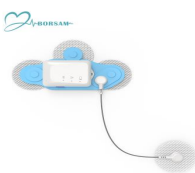
Fig. 23 attach back cover

Note: the disposable electrodes can be replaced if they could not attach to the skin very well during long time recording (over 24hours). In this case, the battery must keep running well and cannot be removed. Once the battery is accidentally detached, please export the recorded ECG data on time, otherwise, the previous recorded ECG Data will get lost after change a new battery.

Appearance



1-channel all-in-one



3-channels all-in-one

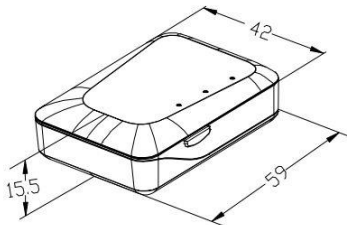
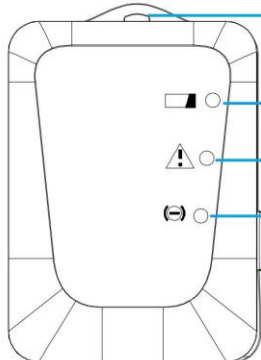


3-channels with 5 pins



3-channels with 7 pins

Specification

Size and weight	 Size: 59*42*15.5 mm Weight: 23g with battery																	
Availability	 <table><tr><th>Letter</th><th>Description</th></tr><tr><td>A</td><td>Yellow: Battery low detection</td></tr><tr><td>B</td><td>Yellow: Power-on detection/lead detection/fault indication</td></tr><tr><td>C</td><td>Green: Work instructions</td></tr><tr><td>D</td><td>Button</td></tr><tr><td>E</td><td>Lanyard hole</td></tr></table>  <table><tr><th>Letter</th><th>Description</th></tr><tr><td>F</td><td>Micro USB Port,for data transmission</td></tr></table>		Letter	Description	A	Yellow: Battery low detection	B	Yellow: Power-on detection/lead detection/fault indication	C	Green: Work instructions	D	Button	E	Lanyard hole	Letter	Description	F	Micro USB Port,for data transmission
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A	Yellow: Battery low detection																	
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Letter	Description																	
F	Micro USB Port,for data transmission																	
Battery and life	 1AAA Alkaline battery																	
Parameters	Channels	1 channel, 3 channels																
	Sampling accuracy	12 bits																
	Recording	High resolution recording, long time recording																
	Download interface	Micro USB																
	Sampling rate	128 Hz / 256 Hz																
	Frequency response	0.05 Hz to 55 Hz																
	Signal confirmation	LED indicator																
	Pacing Detection	Support																

Sample report

HOLTER REPORT

Location:

Call:

Website:

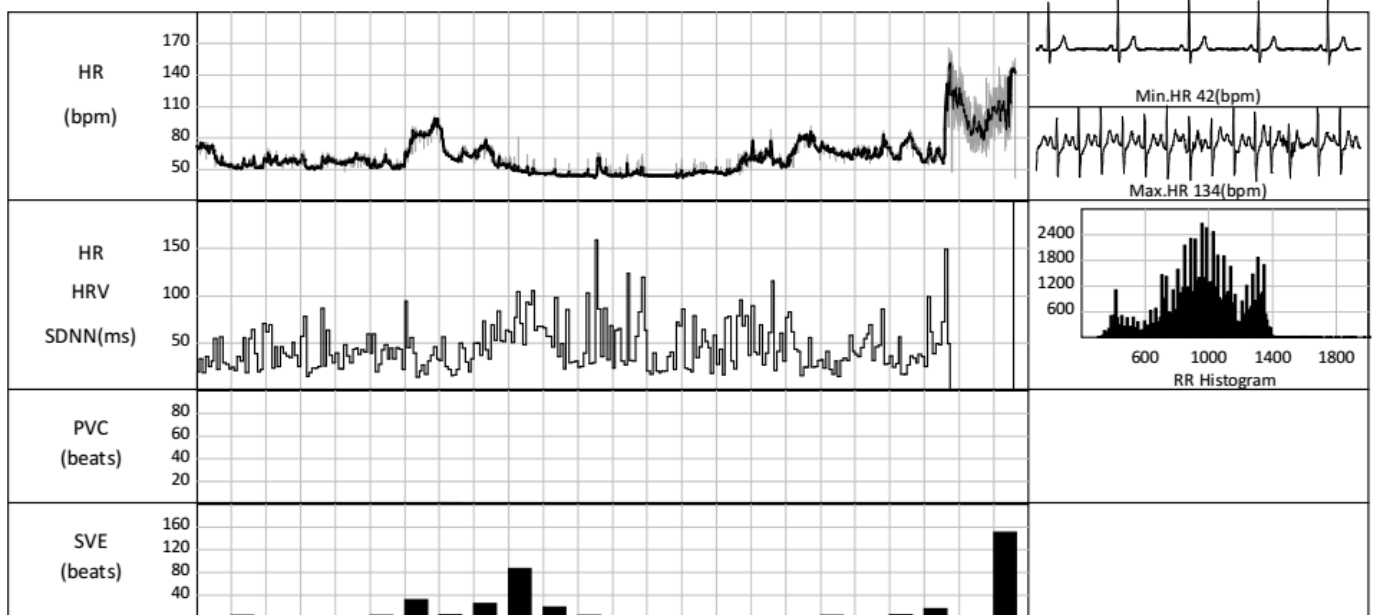
Patient					
Name:	AFIB	Age:	50	Gender :Male	ID :
Bed ID:		Area:		Phone No:	Print : 12/07/2008 22:18
Medications:				Hookup :	21/08/2007 15:54

Heart Rates			
REC.Duration: 23:38		Valid Length: 23:38	
Total Beats: 89892(#)		Average HR : 63(bpm)	
MAX R-R :4929(ms)		at 13:46	
Min HR : 42(bpm)		at 05:47	
Max HR : 134(bpm)		at 13:33	
Pause (>2000ms):		10Runs	
Tachy(>130bpm):		245 Runs,occupy Less 1%	
Brady(<45bpm):		12179Runs,occupy 14%	
HRV			
SDNN : 192(ms)		SDNN Idx: 43(ms) pNN50 : 11%	
rMSSD: 36(ms)		SDANN : 331(ms) TRI.Index: 44	
ST			
ST Stress		CH1	CH2
(mv*min)		0.0	0.0
CH3			
0.0			
Max depression			
Max elevation 0.187 mv at CH2 at 22-08 00:48			
PaceMaker			
PM Beats 0(#)		occupy 0	
aPace 0(#)		occupy 0	
vPace 0(#)		occupy 0	
avPace 0(#)		occupy 0	

Ventricular	
Total: 1(beats)	#(Per hour):0(beats)
Isolated:1(beats)	Couplets: 0(runs)
Bigeminy: 0(runs)	Trigeminy: 0(runs)
Runs: 0	RONT: 0(runs)
Longest Runs: 0(beats)	at- -
MAX HR for Runs: - -(bpm)	at- -
MIN HR for Runs: - -(bpm)	at- -
Supraventricular	
Total: 358(beats)	#(Per hour): 15(beats)
Isolated: 192(beats)	Couplets: 3(runs)
Bigeminy: 0(runs)	Trigeminy: 0(runs)
Runs: 4	
Longest Runs: 149(beats)	at15:31
MAX HR for Runs: 182(bpm)	at13:34
AFIB	
AFIB Beats:12100	
Duration: 01:54	Runs: 1
beats (over 1.5s): 26	Duration 00:00:49
beats (over 2.0s): 5	Duration 00:00:13
AFLUT	
AFLUT Beats: 0	
Duration: 0	Runs: 0

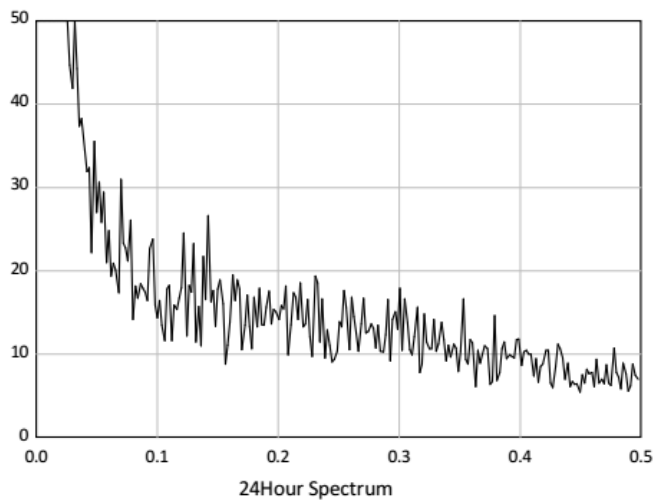
Conclusion
The average heart rate was 63 bpm.The minimum heart rate was 42 bpm at 08-22 05:47.The maximum heart rate was134 bpm at 08-22 13:33.In total 89892beats were found of which 1 beats were classified as ventricular beats and 358 beats were classified as supraventricular beats. Ventricular activity: Runs: 0 Couplet: 0 Bigeminy: 0 Trigeminy: 0 Supraventricular activity: Runs: 4 Bigeminy: 0 Trigeminy: 0 Pause larger than 2000 ms were 10 times,the longest pause was 4929 ms .
Operator: _____ Doctor: _____

24 Hours Trend



Time (HH:MM)	Beats (#)	HR(bpm)			PVC					SVE					Pause	LongRR	ESC.
		AVER.	Min.	Max.	#	%	Isolate	Couple	Runs	#	%	Isolate	Couple	Runs	(#)	#	#
15:54	3895	65	53	77	0		0	0	0	1		1	0	0	0	0	0
16:54	3305	55	51	65	0		0	0	0	4		0	0	1	0	0	0
17:54	3563	59	51	70	0		0	0	0	2		2	0	0	0	0	0
18:54	3411	57	50	68	0		0	0	0	1		1	0	0	0	0	0
19:54	3572	60	48	67	0		0	0	0	1		1	0	0	0	0	0
20:54	3330	56	50	70	0		0	0	0	4		4	0	0	0	0	0
21:54	5002	83	50	101	0		0	0	0	31		31	0	0	0	0	0
22:54	4012	67	58	98	1		1	0	0	5		5	0	0	2	2	0
23:54	3841	64	51	81	0		0	0	0	25		25	0	0	1	1	0
00:54	3025	50	44	64	0		0	0	0	86	2%	82	2	0	0	0	0
01:54	2794	47	42	61	0		0	0	0	18		18	0	0	0	0	0
02:54	2871	48	43	66	0		0	0	0	3		3	0	0	0	0	0
03:54	2818	47	42	65	0		0	0	0	0		0	0	0	0	0	0
04:54	2712	45	42	56	0		0	0	0	0		0	0	0	0	0	0
05:54	2893	48	43	60	0		0	0	0	0		0	0	0	0	0	0
06:54	3154	53	45	68	0		0	0	0	0		0	0	0	0	0	0
07:54	3723	62	51	88	0		0	0	0	1		1	0	0	0	0	0
08:54	4396	73	52	92	0		0	0	0	0		0	0	0	0	0	0
09:54	4065	68	56	78	0		0	0	0	3		3	0	0	0	0	0
10:54	4076	68	56	87	0		0	0	0	2		2	0	0	0	0	0
11:54	4202	70	56	88	0		0	0	0	5		1	0	1	0	0	0
12:54	5208	87	54	134	0		0	0	0	16		11	1	1	5	5	0
13:54	5716	95	42	134	0		0	0	0	0		0	0	0	1	1	0
14:54	4308	75	42	109	0		0	0	0	150	3%	1	0	1	1	1	0
Total	89892	63	42	134	1		1	0	0	358		192	3	4	10	10	0

HRV Power Spectrum



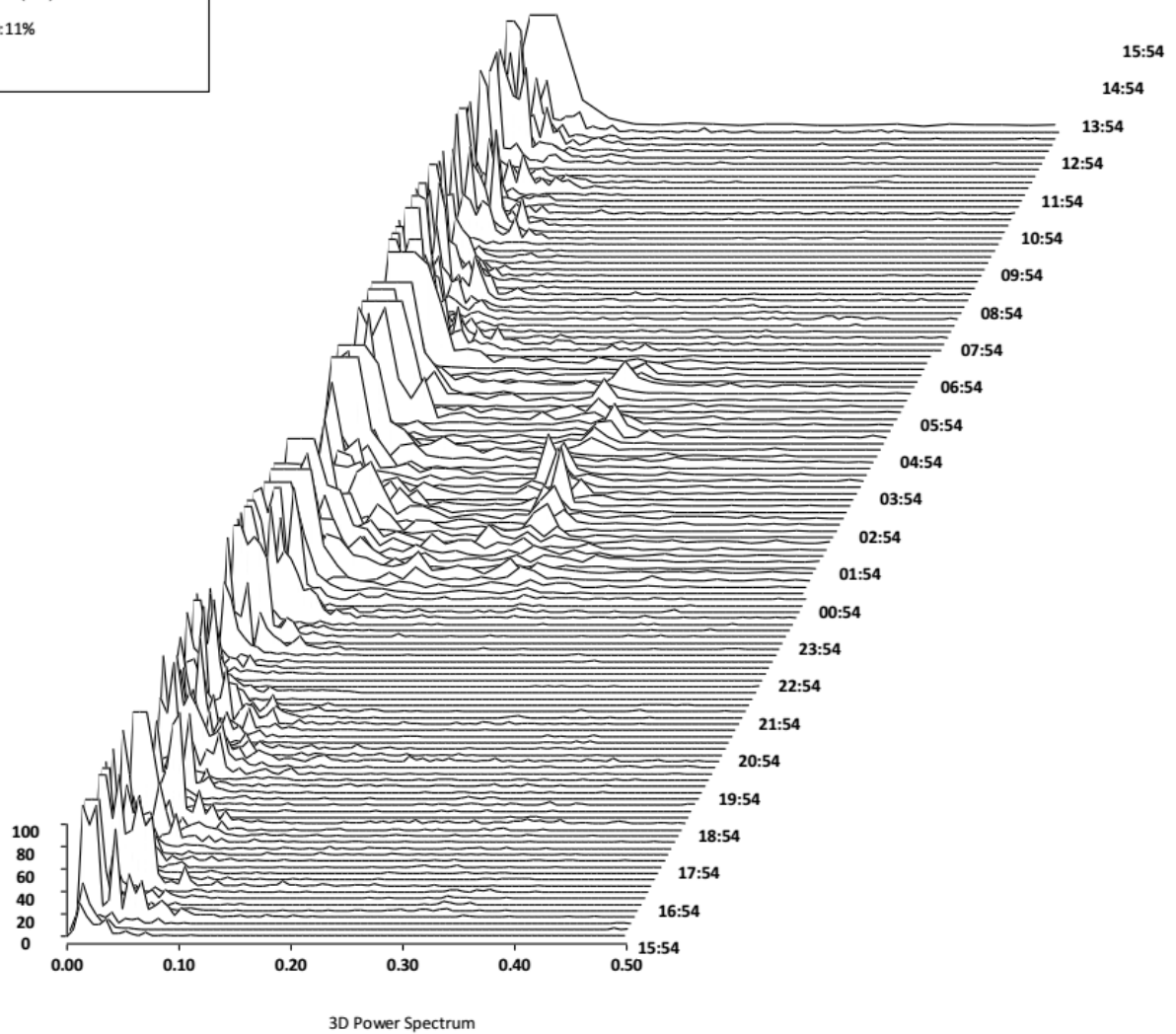
SDNN:192(ms)

Tri.Index:44

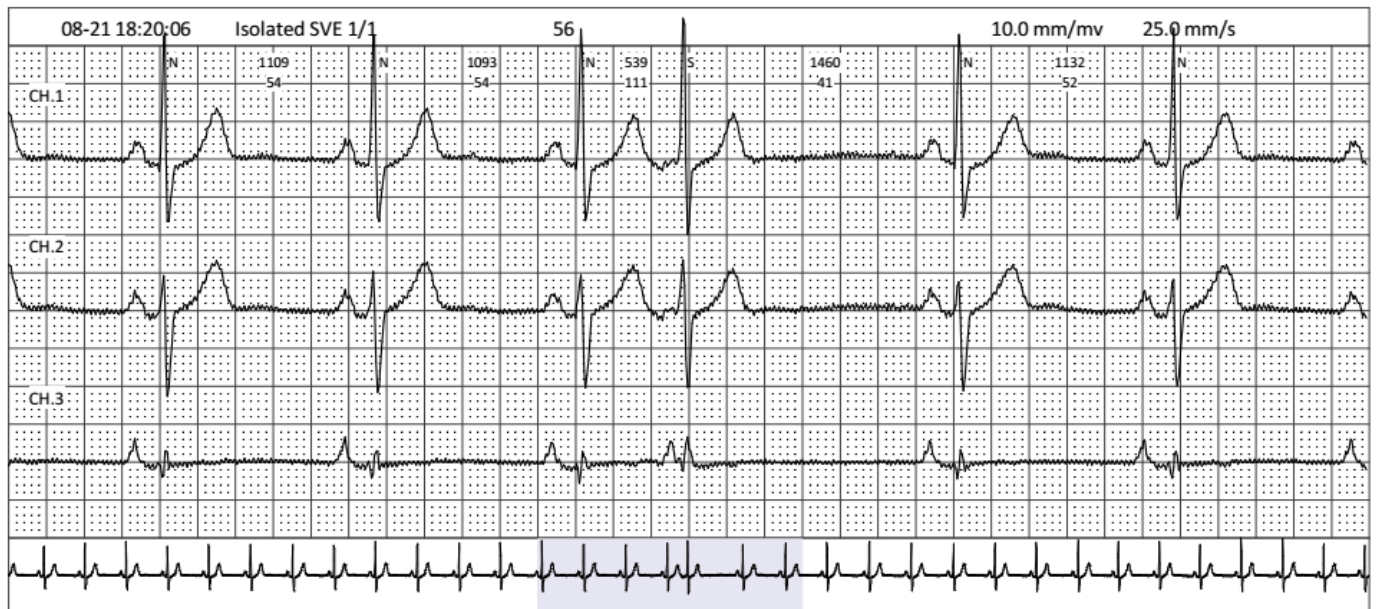
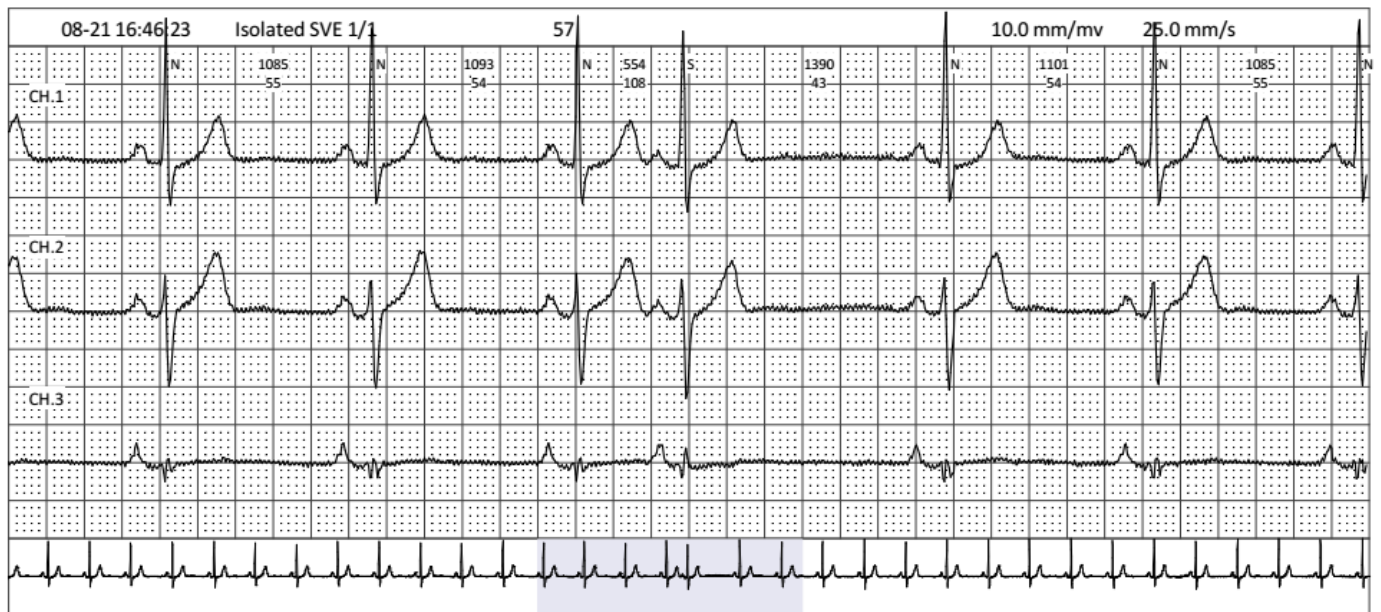
SDNN-i:43(ms)

rMSSD:36(ms)

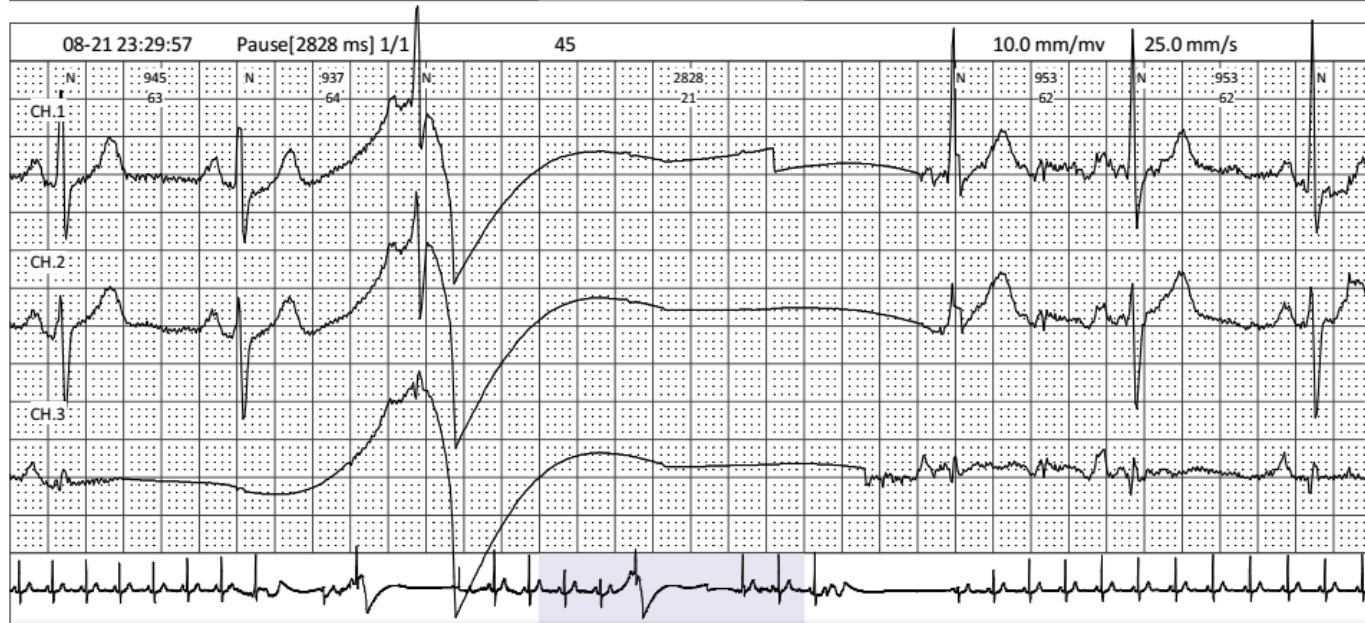
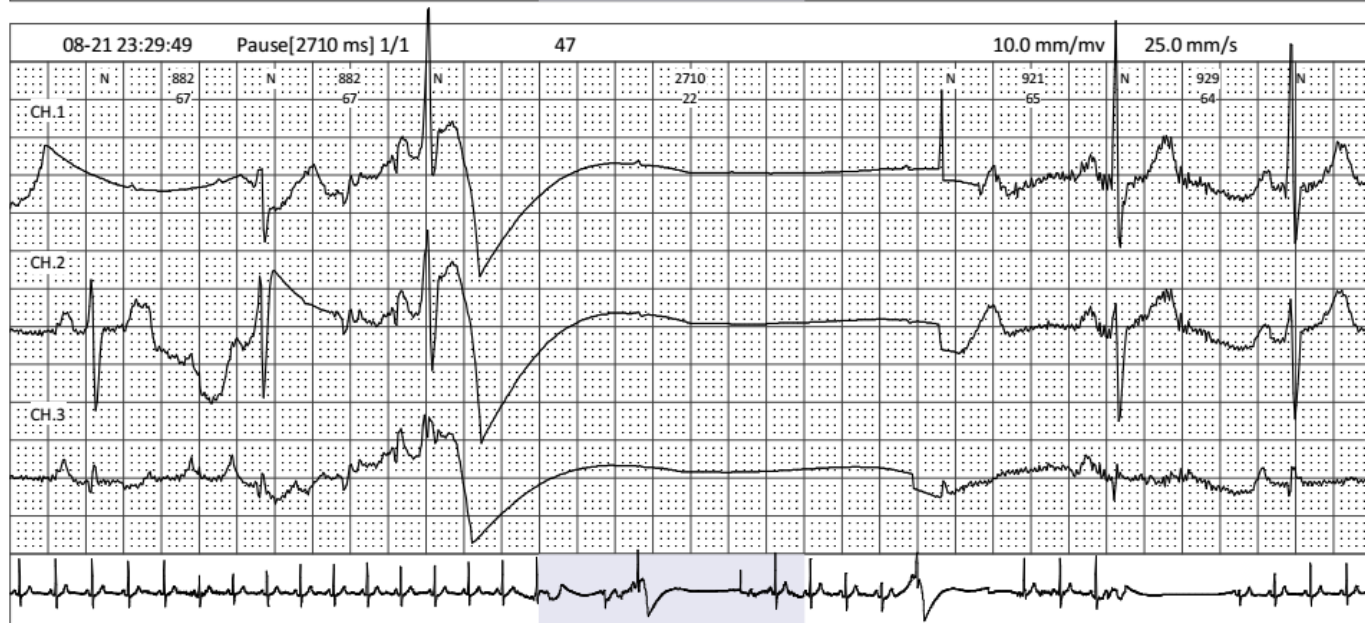
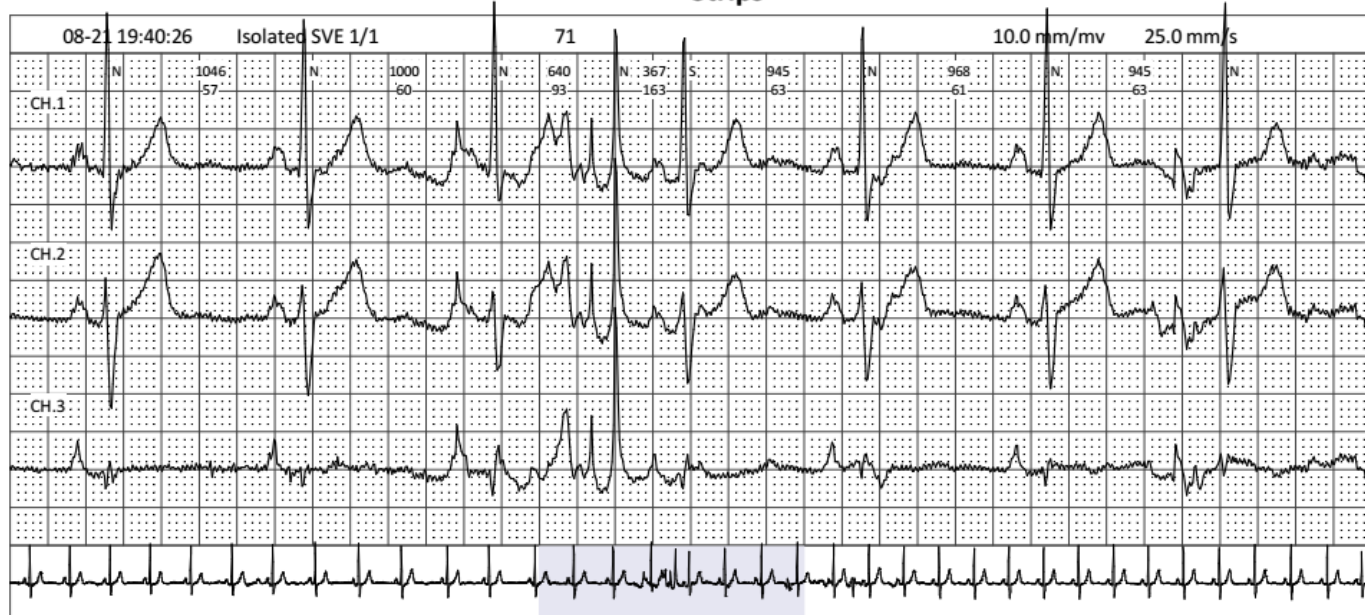
pNN50:11%



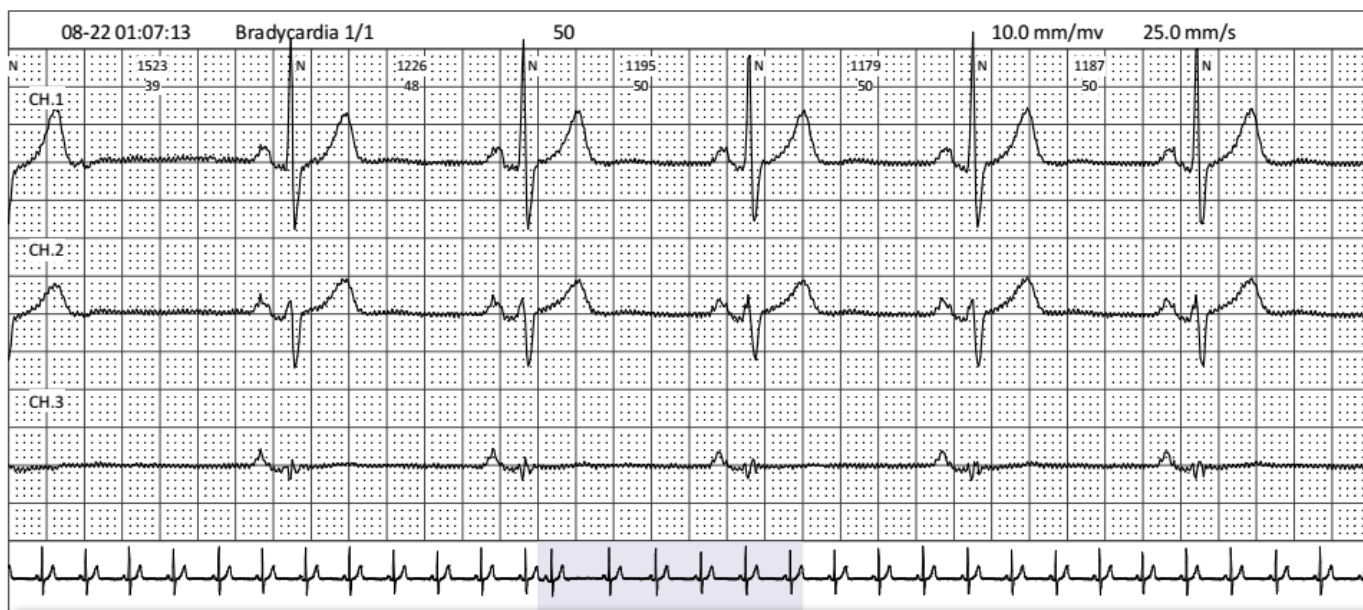
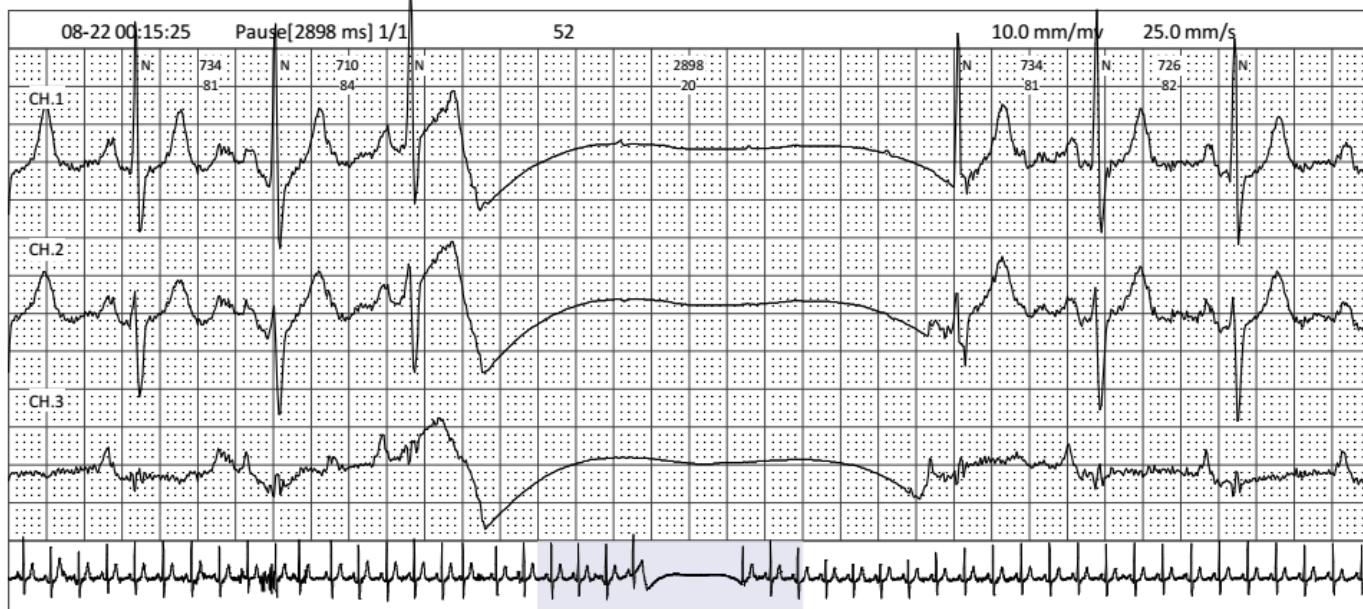
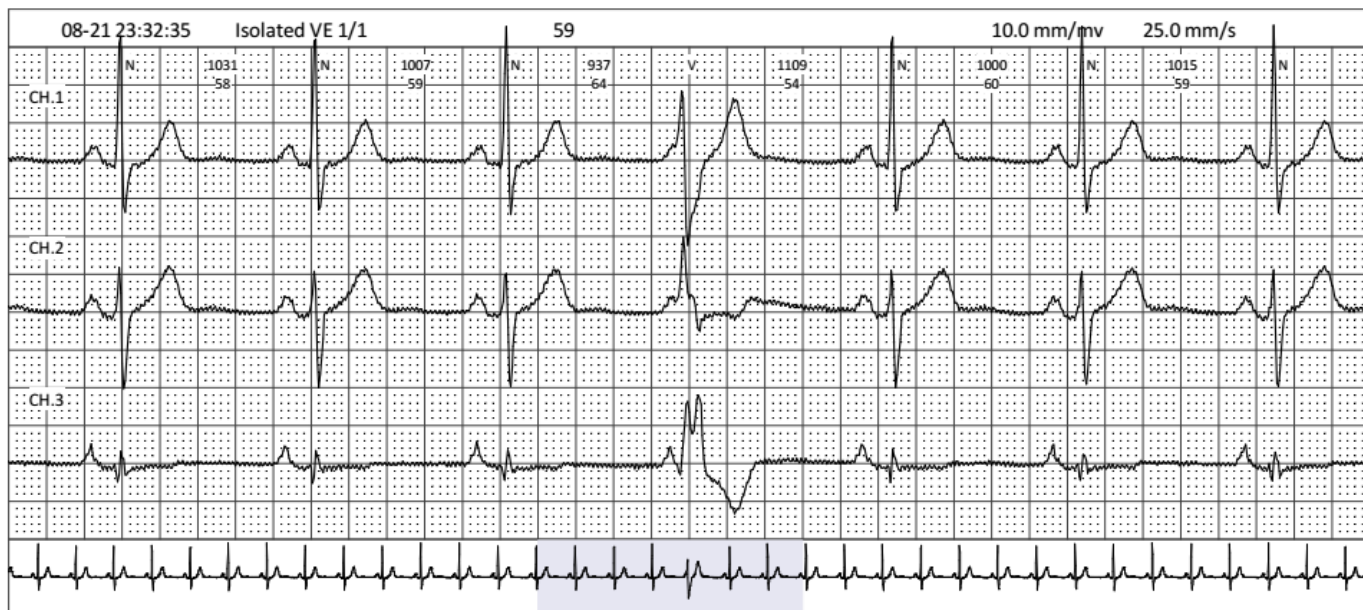
Strips



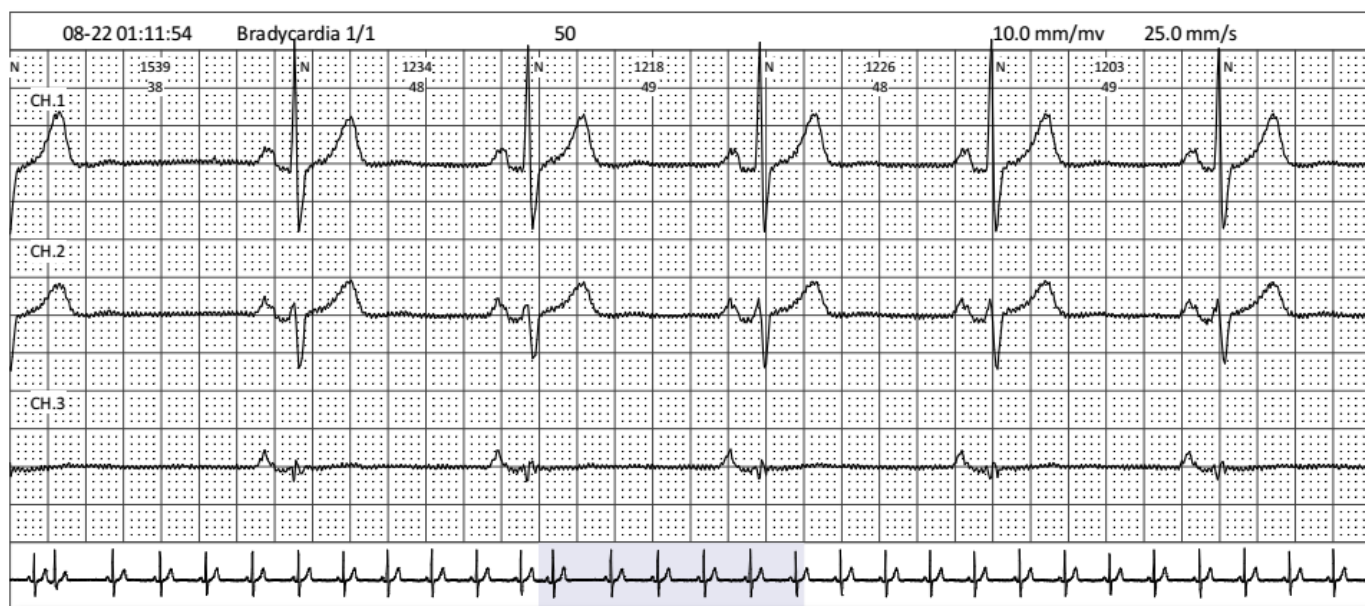
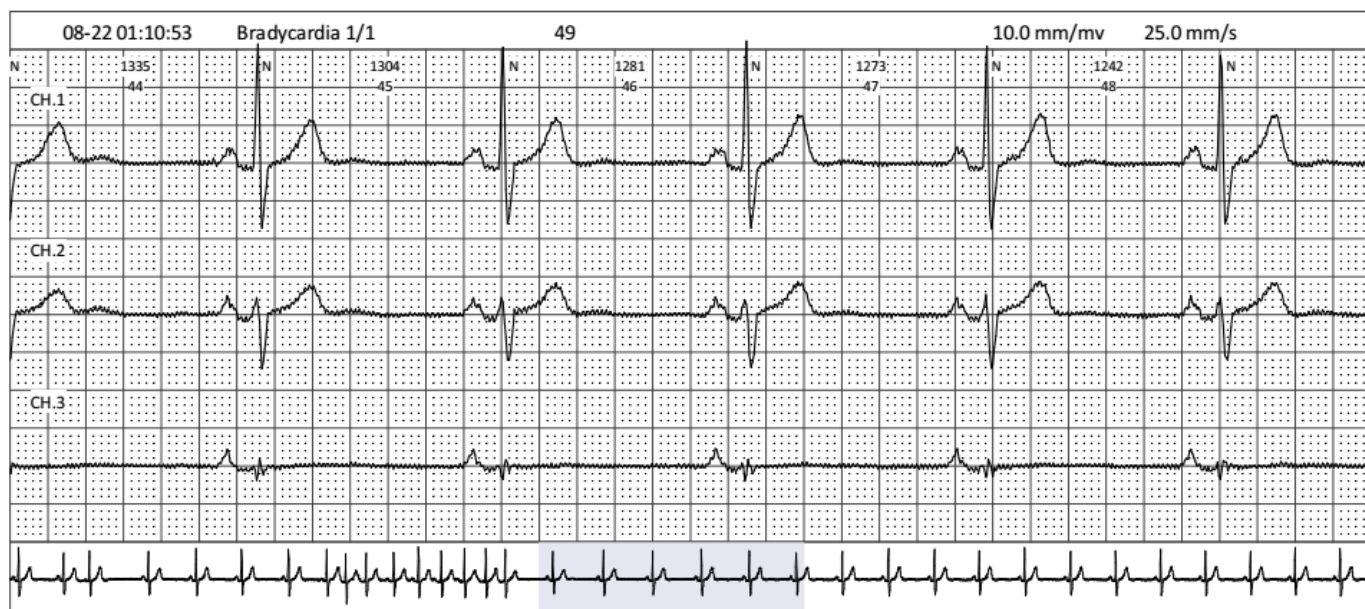
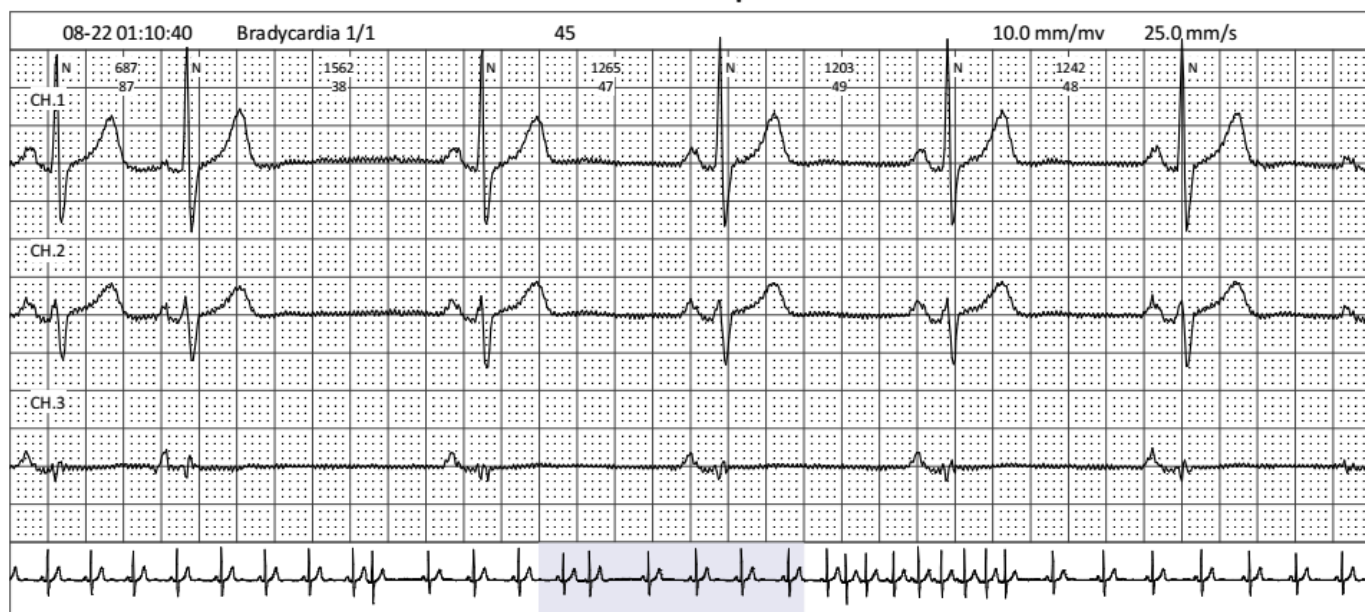
Strips



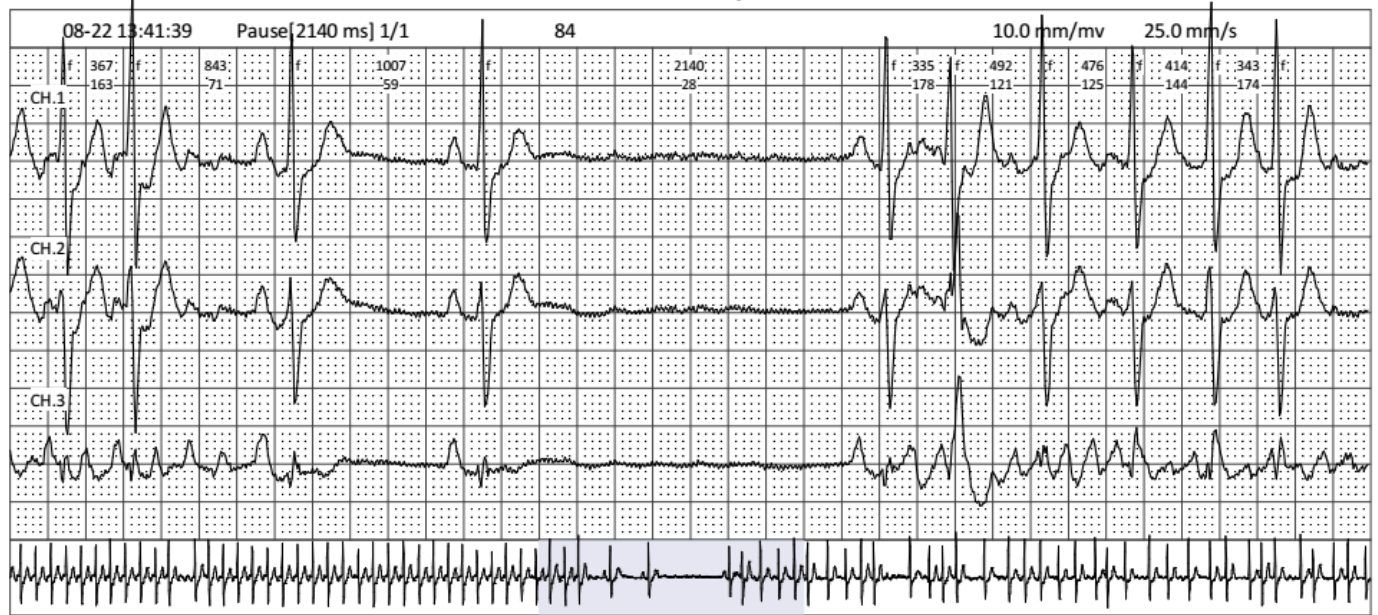
Strips



Strips



Strips





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