

# Holter

## How to Interpret my Interpretation

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# Components

- Indications
- History
- Medications
- Symptom diary
- Resting ECG

# Components of the Report

- Demographics
- Summary of data
- Interpretation and Impression
- Tabular summary
- Graphical summary of heart rates, APBs, VPBs and VT by hour.
- Full sized strips.

# Demographics

Date of Birth:	1954-08-01	Scan Number:	
ID :	1206	Date Recorded:	2016-12-29 @ 8:45
Age:	62 Years	Date Processed:	2017-01-07
Sex:	M	Recorder Num:	021085
Analyst:		HookupTech:	VANITHA
Physician:	DR. JANMOHAMED / I. GOLDSTEIN		
Indications:	Palpitations	Medications:	RAMIPRIL ROSUVASTATIN

# Summary Data

The patient was monitored for a total of 23.59 hours. The total time analyzed was 23.52 hours. Start time was 8:45am1. There was a total of 116262 beats. There were 0 Ventricular beats, less than 1% were Supraventricular beats, and patient is not paced.

Mean Heart Rate: 83

Maximum Heart Rate: 145 @ 8:51am1

Minimum Heart Rate: 59 @ 2:13am2

Pauses: 0 (> 2.5 sec.)

## Supraventricular Ectopy

Total: 2

Single: 0

Pairs: 1

Total Runs: 0

Ventricular - Not Present

Beats in Runs: 0

Longest Run: 0 @ 8:45am1 (0 BPM)

Fastest Run: 0 @ 8:45am1 (0 BPM)

Aberrant: 0

## RR Variability

SDNN: 102.52 ms

pNN50: 1.358 %

RMSSD: 17.210 ms

SDSD: 17.210 ms

## ST Absolute

Depression: mm

Elevation: mm

# Interpretation and Impression

## COMMENTS:

Normal sinus rhythm with a normal rate range. R are atrial and no ventricular ectopy with no runs seen. No pauses noted, no symptoms reported.

Impression: Normal study.

Physician's Signature:

*Dr Amir Janmohamed*

Jan 20, 2017

LSB

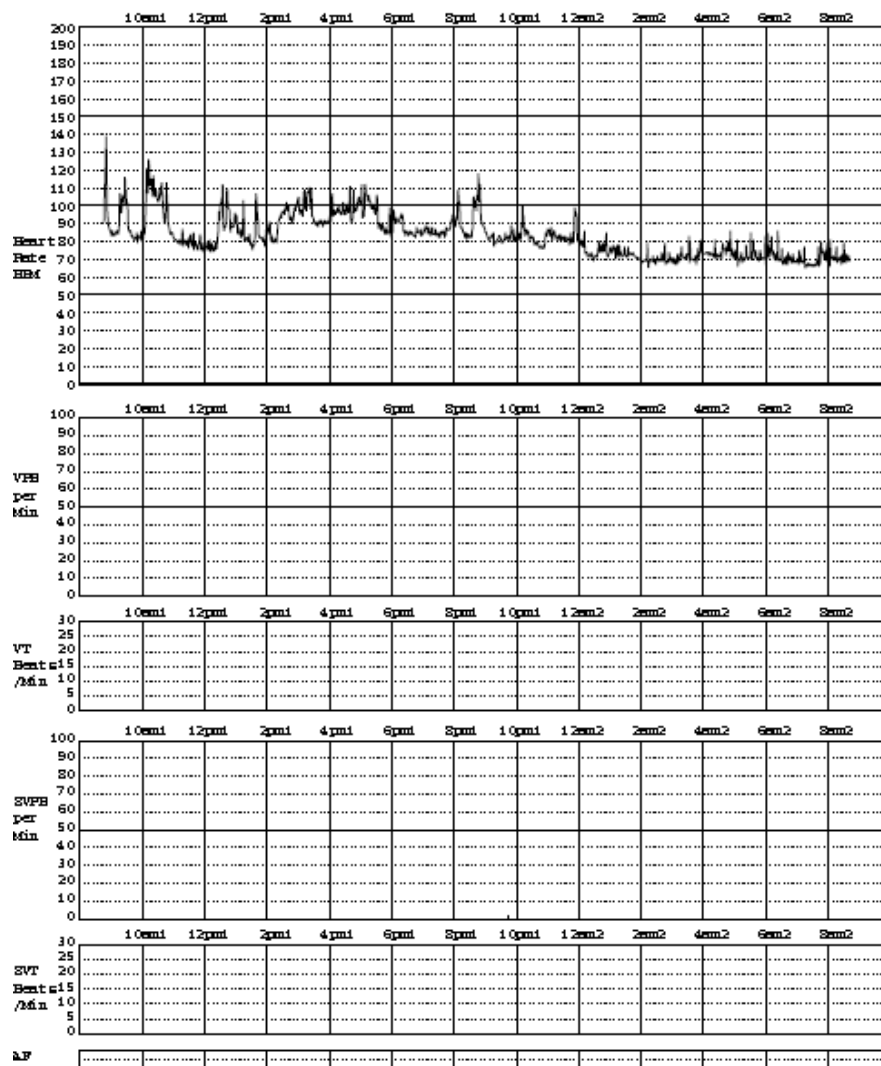
# Tabular Summary

## GENERAL PROFILE

Interval Starting	Heart Rate			Total Beats	VPB Total	VPB Pairs	Runc VT	SVPB Total	SVPB Pairs	Runc SVT	Pauses	Time Analyzed
	Lo	Mean	Hi									
8:45am1	81	100	145	1346	0	0	0	0	0	0	0	0:13
9:00am1	73	89	127	5263	0	0	0	0	0	0	0	0:52
10:00am1	69	101	132	5963	0	0	0	0	0	0	0	0:52
11:00am1	66	80	102	4202	0	0	0	0	0	0	0	1:00
12:00pm1	67	87	125	5170	0	0	0	0	0	0	0	0:59
1:00pm1	70	84	112	5059	0	0	0	0	0	0	0	0:59
2:00pm1	73	91	109	5512	0	0	0	0	0	0	0	0:59
3:00pm1	81	96	121	5762	0	0	0	0	0	0	0	0:59
4:00pm1	85	92	120	5230	0	0	0	0	0	0	0	0:59
5:00pm1	72	95	121	5707	0	0	0	0	0	0	0	0:59
6:00pm1	77	87	106	5274	0	0	0	0	0	0	0	0:59
7:00pm1	71	86	111	5127	0	0	0	0	0	0	0	0:59
8:00pm1	74	92	127	5506	0	0	0	0	0	0	0	0:59
9:00pm1	72	82	109	4954	0	0	0	2	1	0	0	1:00
10:00pm1	71	82	113	4951	0	0	0	0	0	0	0	0:59
11:00pm1	72	84	102	5043	0	0	0	0	0	0	0	1:00
12:00am2	62	75	104	4509	0	0	0	0	0	0	0	0:59
1:00am2	64	73	93	4406	0	0	0	0	0	0	0	0:59
2:00am2	59	70	111	4217	0	0	0	0	0	0	0	1:00
3:00am2	62	71	111	4317	0	0	0	0	0	0	0	0:59
4:00am2	60	74	121	4453	0	0	0	0	0	0	0	0:59
5:00am2	60	72	114	4342	0	0	0	0	0	0	0	1:00
6:00am2	60	71	111	4317	0	0	0	0	0	0	0	0:59
7:00am2	59	69	116	4199	0	0	0	0	0	0	0	0:59
8:00am2	63	71	116	3169	0	0	0	0	0	0	0	0:44
Summary:	59	83	145	119262	0	0	0	2	1	0	0	23:52

# Graphical Summary

HLART RATE TREND (24 hours)

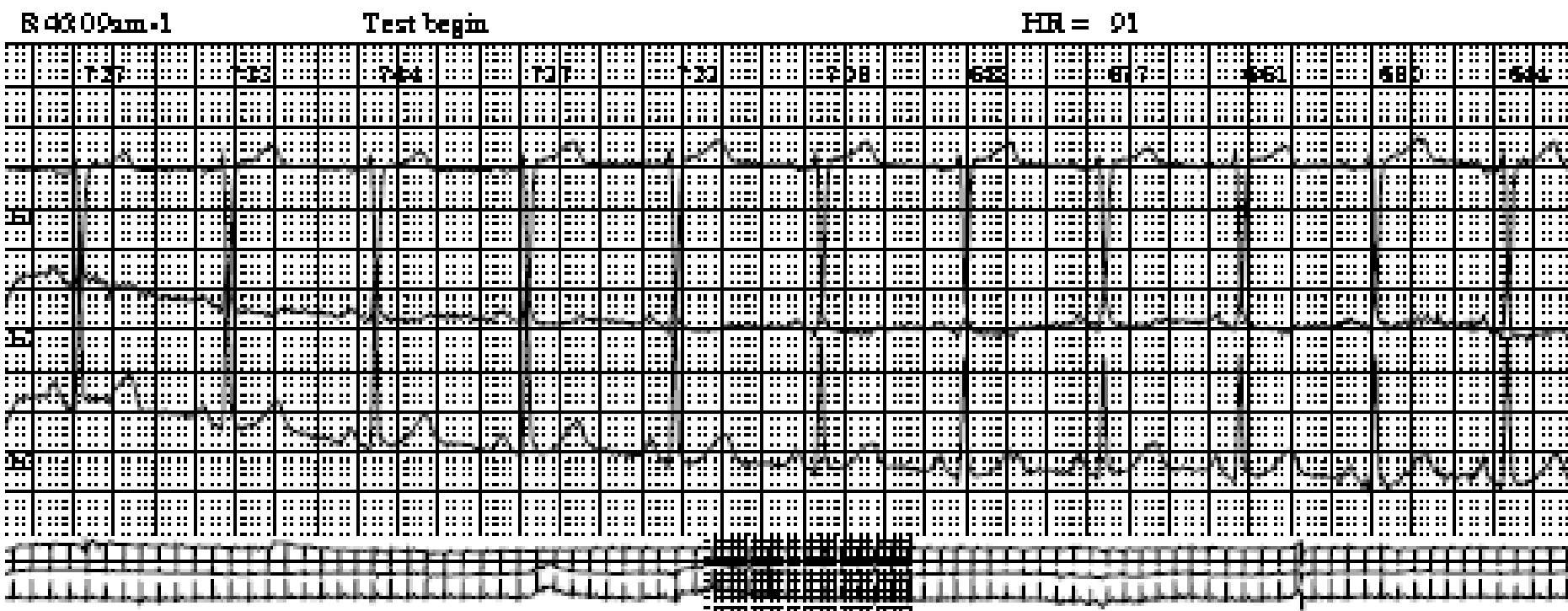




# ECG Strips

## FULL-SIZED STRIPS

Gain 10 cm/mV ECG 25mm/sec (ALL)



# Indications

- Clarity in the indication permits the most accurate and useful results.
- Specific details of the history can help clarify details of the indication and assist in the analysis and drawing of conclusions.

# Case 1

Date of Birth	8/16/1931	Scan Number:	DR E. E. BRE
ID #	694-15	Date Recorded:	10/13/2016
Age	85 Years	Date Processed:	10/16/2016
Sex	F	Recorder Num:	009693
		HookupTech:	SUEA
Indications:	PALPITATIONS	Medications:	ENalaprilate TeraZosin Telmisartan

was 46:44 hours. Start time was 1:07PM1. There were a total of 188030 Beats. Less than 1% were Ventricular beats, (9.48%) were Supraventricular beats, and less than 1% were Paced beats.

Mean Heart Rate: 67  
Maximum Heart Rate: 94 at 10:15:46AM2  
Minimum Heart Rate: 48 at 12:15:00AM3  
Pauses: 0 (Greater than 3.0 sec.)

-----  
Ventricular Ectopy

Total: 244  
Single: 233  
Pairs: 2  
Total Runs: 1  
Beats in Runs: 4

	#	beats	Grate
Longest Run:	4	@	2:04AM3
Fastest Run:	4	@	2:04AM3
RonT:	3		

Supraventricular Ectopy

Total: 17840  
Single: 16996  
Pairs: 307  
Total Runs: 44  
Beats in Runs: 230

	#	beats	Grate	
Longest Run:	40	@	6:33AM3	118
Fastest Run:	9	@	7:49PM2	183
Aberrant:	0			

-----  
RR Variability

SDNN: 115 ms  
pNN50: 2.78 %  
RMSSD: 33 ms

ST Absolute

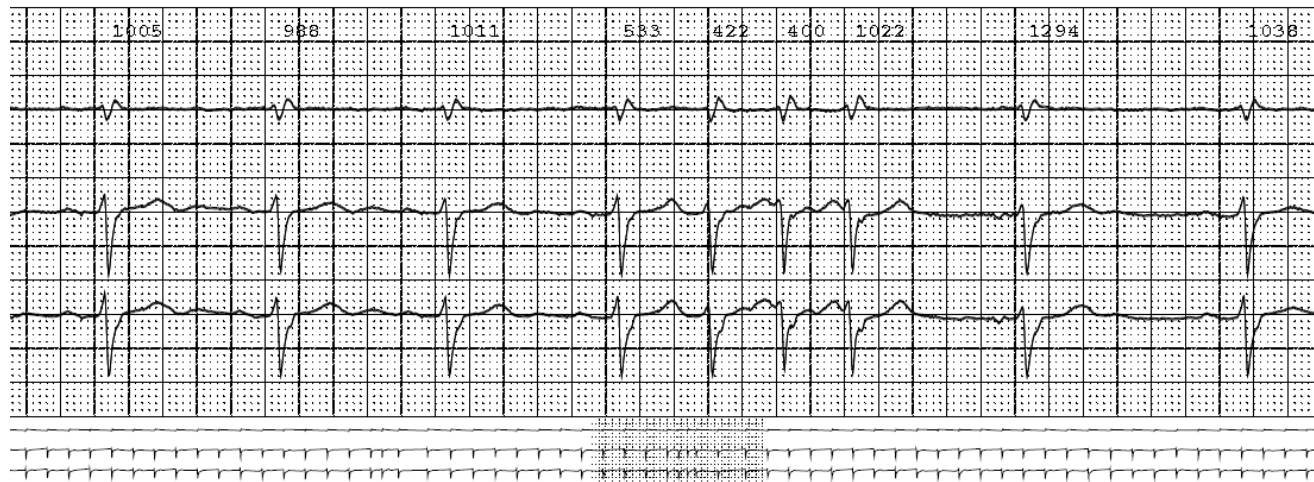
Depression :  
Elevation :

5:57:21AM2

SVT

HR = 60

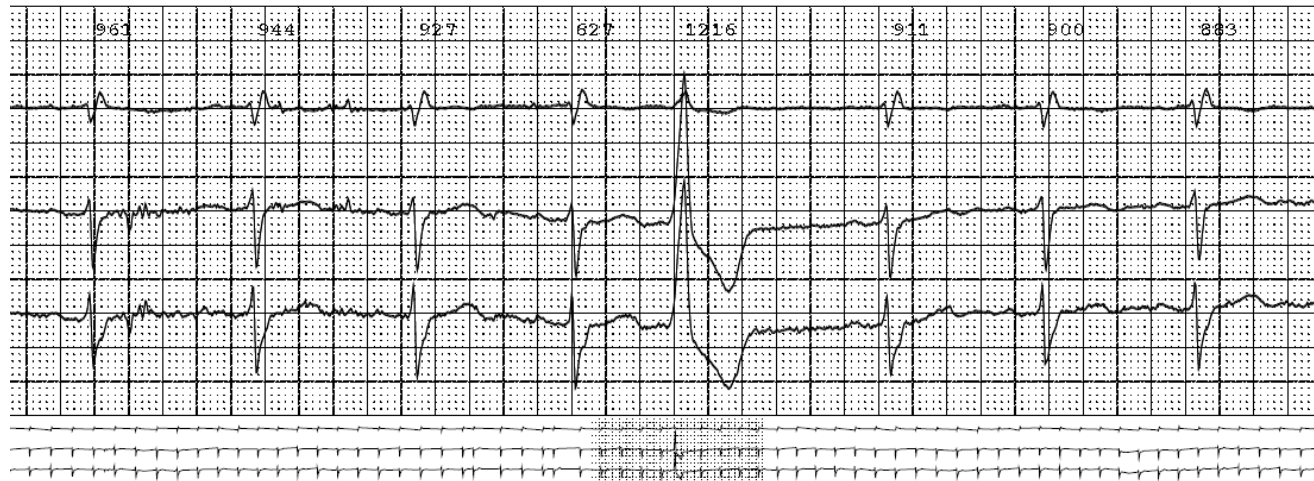
HR2 = 145



8:35:48AM2

VPB

HR = 62

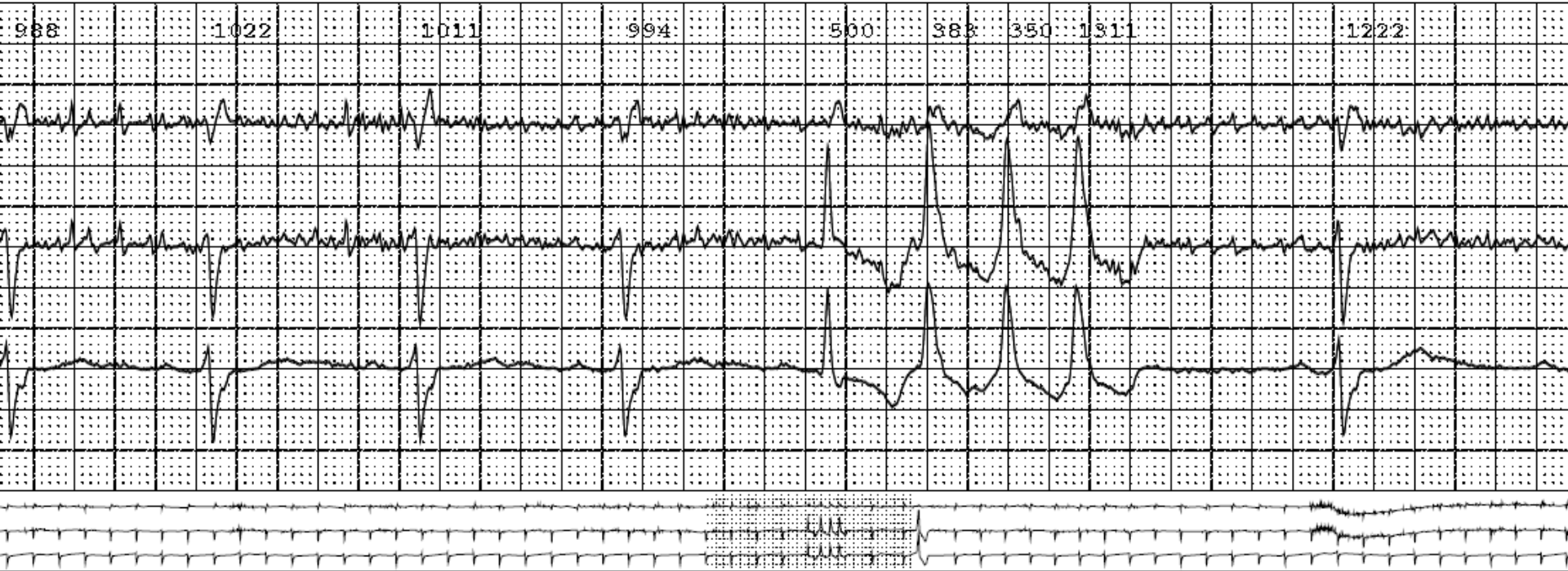


2:04:28AM3

LONGEST VTAC

HR = 62

HR2 = 163

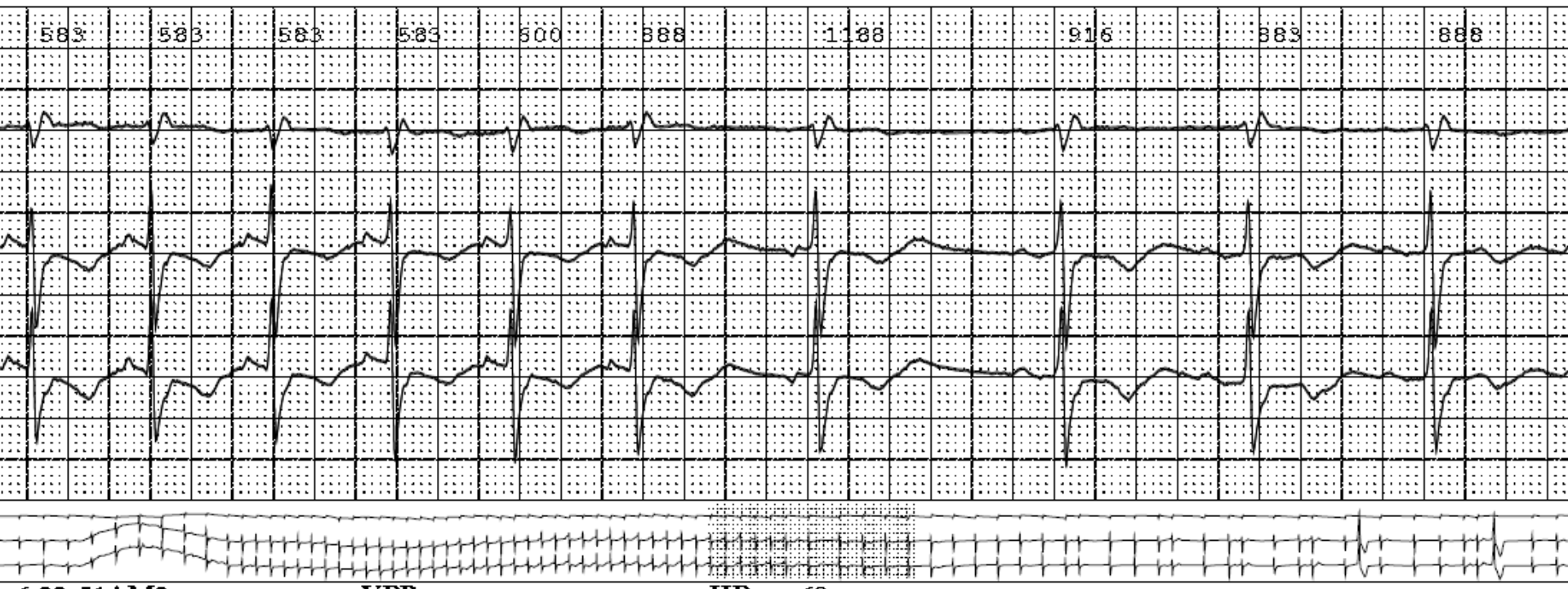


6:33:30AM3

END OF EPISODE

HR = 66

HR2 = 105



# Report

- Normal sinus rhythm with RBBB, left anterior hemiblock and first degree AV block (trifascicular block equivalent). Rare ventricular ectopy of an RVOT origin with one 4-beat run seen. Very frequent atrial ectopy with multiple short runs seen. No pauses noted. ST segment changes seen at peak heart rates. No symptoms reported.
- **Impression:** Sinus rhythm with RBBB, left anterior hemiblock and first degree AV block, but no significant pauses noted. Consider further assessment of ST segment changes.



# Case 2

Date of Birth: 09 15 1961  
ID #: 601  
Age: 55 Years  
Sex: M  
Analyst  
Interp. Physician:  
Indications: DIZZINESS  
PALPITATION

Scan Number:  
Date Recorded: 09 30 2016  
Date Processed: 10 15 2016  
Recorder Num: 020921  
Hookup Tech: SUEA  
Height: 0 -- Weight: 0 -- BMI: 0  
Medications: CRESTOR  
ASA

NAGJI, ARSHIL was monitored for a total of 313.68 hours. The total time analyzed was 251.48 hours. Start time was 9:06 AM1. There were a total of 1063010 beats. Less than 1% were Ventricular beats, less than 1% were Supraventricular beats, and there were 0 Paced beats.

Mean Heart Rate: 70

Maximum Heart Rate: 161 at 9:13:53A10

Minimum Heart Rate: 40 at 1:06:54AM3

Pauses: 0 (Greater than 3.0 sec.)

#### Ventricular Ectopy

Total: 3048

Single: 3038

Pairs: 3

Total Runs: 1

Beats in Runs: 4

#beats	@ rate
Longest Run	4 @ 6:55AM5 175
Fastest Run	4 @ 6:55AM5 175
RunT: 0	

#### Supraventricular Ectopy20%

Total: 2109

Single: 2109

Pairs:

Total Runs:

Beats in Runs:

#beats	@ rate
Longest Run	@ 10:48 P11
Fastest Run	@ 10:48 P11
Aberrant: 0	

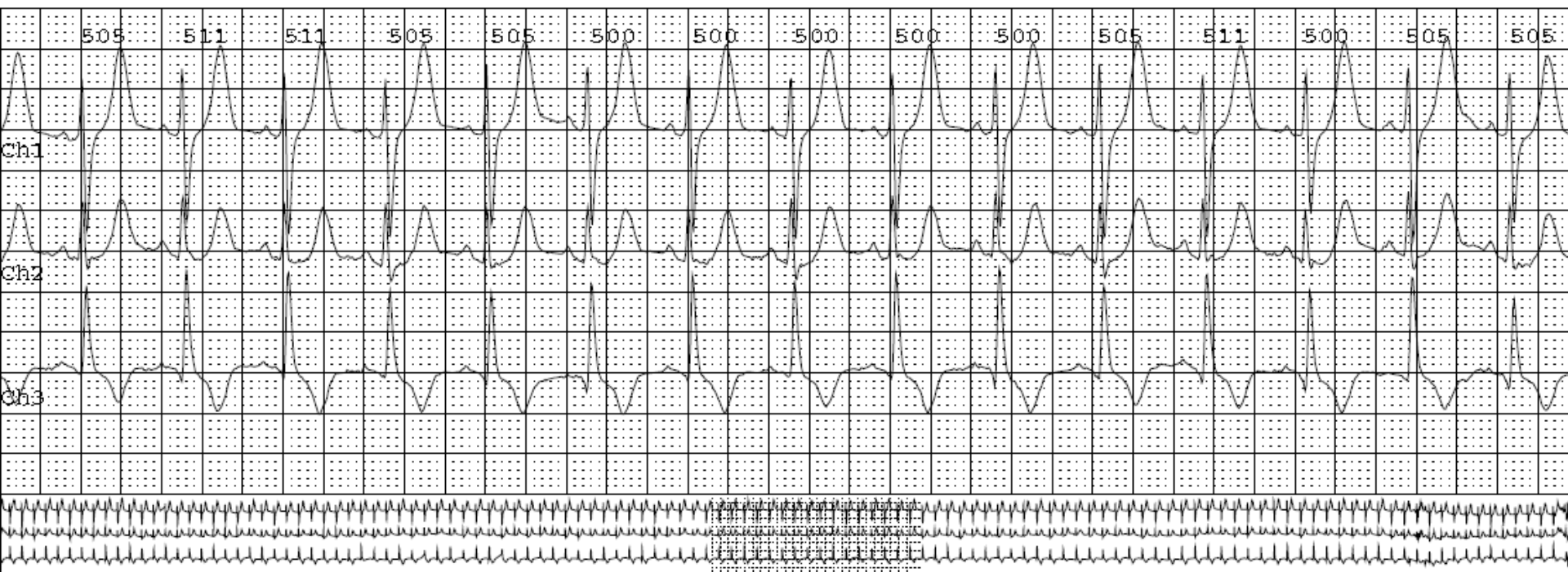
Time Beginning	Total Beats	Time Analyzed	Brady Beats	Time in Bradycardia	Tachy Beats	Time in Tachycardia
9:05:00AM	0	0:00:00	0	0:00:00	0	0:00:00
11:59:54AM	0	0:00:00	0	0:00:00	0	0:00:00
9:05:01AM	3234	0:47:56	0	0:00:00	139	0:01:19
10:00:00AM	3624	0:59:53	0	0:00:00	0	0:00:00
11:00:00AM	4007	0:58:58	1	0:00:01	0	0:00:00
12:00:00PM	4269	0:54:17	0	0:00:00	50	0:00:28
1:00:00PM	4075	0:51:35	0	0:00:00	69	0:00:39
2:00:00PM	2375	0:27:16	0	0:00:00	168	0:01:35
3:00:00PM	3418	0:38:08	0	0:00:00	223	0:02:07
4:00:00PM	2201	0:23:15	0	0:00:00	519	0:04:47
5:00:00PM	1264	0:12:40	0	0:00:00	623	0:05:54
6:00:00PM	3326	0:41:18	0	0:00:00	276	0:02:36
7:00:00PM	3959	0:50:45	0	0:00:00	43	0:00:25
8:00:00PM	4609	0:59:37	0	0:00:00	0	0:00:00
9:00:00PM	4576	0:59:57	0	0:00:00	0	0:00:00
10:00:00PM	4385	0:58:00	0	0:00:00	0	0:00:00
11:00:00PM	3887	0:59:14	0	0:00:00	0	0:00:00
12:00:00AM	3842	0:58:51	0	0:00:00	0	0:00:00
1:00:00AM	3950	0:59:14	0	0:00:00	0	0:00:00
2:00:00AM	3382	0:55:38	1	0:00:01	0	0:00:00
3:00:00AM	3454	0:56:48	27	0:00:32	0	0:00:00
4:00:00AM	3139	0:57:44	400	0:08:14	0	0:00:00
5:00:00AM	3053	0:52:24	247	0:05:06	0	0:00:00
6:00:00AM	3202	1:00:00	335	0:06:50	0	0:00:00
7:00:01AM	3305	0:59:59	289	0:05:56	0	0:00:00
8:00:00AM	3297	0:59:12	223	0:04:34	0	0:00:00
9:00:00AM	3435	0:56:16	28	0:00:33	8	0:00:04
10:00:00AM	3690	0:58:17	0	0:00:00	0	0:00:00
11:00:00AM	3834	0:58:19	0	0:00:00	0	0:00:00
12:00:00PM	3197	0:46:13	0	0:00:00	0	0:00:00
1:00:00PM	3633	0:55:37	0	0:00:00	0	0:00:00
2:00:00PM	3834	0:55:22	0	0:00:00	60	0:00:37
3:00:00PM	4080	0:59:45	0	0:00:00	0	0:00:00
4:00:00PM	3534	0:58:18	12	0:00:14	0	0:00:00
5:00:00PM	3340	0:59:57	119	0:02:25	0	0:00:00
6:00:00PM	3589	0:58:24	2	0:00:02	0	0:00:00
7:00:00PM	3798	0:59:33	0	0:00:00	0	0:00:00
8:00:00PM	4046	0:58:46	0	0:00:00	0	0:00:00
9:00:00PM	4039	0:59:34	0	0:00:00	0	0:00:00
10:00:00PM	3667	0:59:59	12	0:00:14	0	0:00:00
11:00:00PM	3593	0:58:24	9	0:00:10	0	0:00:00
12:00:00AM	3151	0:59:08	534	0:11:00	0	0:00:00
1:00:01AM	3141	0:59:34	655	0:13:34	0	0:00:00
2:00:00AM	2970	0:58:47	1412	0:29:30	0	0:00:00
3:00:01AM	3129	0:58:15	787	0:16:24	0	0:00:00
4:00:00AM	3263	0:59:06	332	0:06:50	0	0:00:00
5:00:01AM	3087	0:58:46	793	0:16:24	0	0:00:00
6:00:00AM	3954	0:59:11	30	0:00:36	0	0:00:00
7:00:00AM	4270	0:57:08	0	0:00:00	425	0:03:57
8:00:00AM	4465	0:37:28	0	0:00:00	4069	0:32:57
9:00:00AM	2731	0:28:55	0	0:00:00	1177	0:10:45
10:00:00AM	3122	0:23:34	0	0:00:00	734	0:07:05
11:00:00AM	5149	0:58:45	0	0:00:00	213	0:02:01
12:00:00PM	4459	0:54:15	0	0:00:00	254	0:02:26
1:00:00PM	4622	0:59:06	0	0:00:00	0	0:00:00
2:00:00PM	4988	0:59:30	0	0:00:00	3	0:00:01
3:00:00PM	4134	0:52:04	0	0:00:00	5	0:00:02
4:00:00PM	3900	0:52:52	0	0:00:00	0	0:00:00
5:00:00PM	4283	0:58:02	0	0:00:00	35	0:00:20

3:55:38AM8

Normal

HR = 65





# Results

- Normal sinus rhythm with a blunted rate range. Frequent PVOT PVCs and occasional atrial ectopy with no significant runs seen. No pauses noted, no sustained arrhythmias seen. Ambulatory ST-T changes noted.
- **Impression:** Normal study. Consider ischemia testing.

# Case 3

Date of Birth: 11/6/1970  
ID #: 1391-26  
Age: 46 Years  
Sex: F

Indications: A. FERTILIZATION

Scan Number: DR. C. NEWMAN  
Date Recorded: 1/16/2017  
Date Processed: 1/25/2017  
Recorder Num: 016225  
HookupTech: INGRID  
Medications: METOPROLOL  
SYNTHROID  
TECTA

was 60:22 hours. Start time was 11:00AM. There were a total of 270023 Beats. Less than 1% were Ventricular beats. (3.17%) were Supraventricular beats and less than 1% were Paced beats.

Mean Heart Rate: 75  
 Maximum Heart Rate: 140 at 6:42:55PM  
 Minimum Heart Rate: 50 at 5:45:11AM  
 Pauses: 0 (Greater than 3.0 sec.)

#### Ventricular Ectopy

Total: 10  
 Single: 2  
 Pairs: 0  
 Total Runs: 1  
 Beats in Runs: 8

	#	beats	Rate
Longest Run:	8	@	9:21AM
Fastest Run:	8	@	9:21AM
Count:	0		

#### Supraventricular Ectopy

Total: 8577  
 Single: 530  
 Pairs: 133  
 Total Runs: 36  
 Beats in Runs: 7381

	#	beats	Rate
Longest Run:	5983	@	8:48AM
Fastest Run:	5983	@	8:48AM
Count:	0		

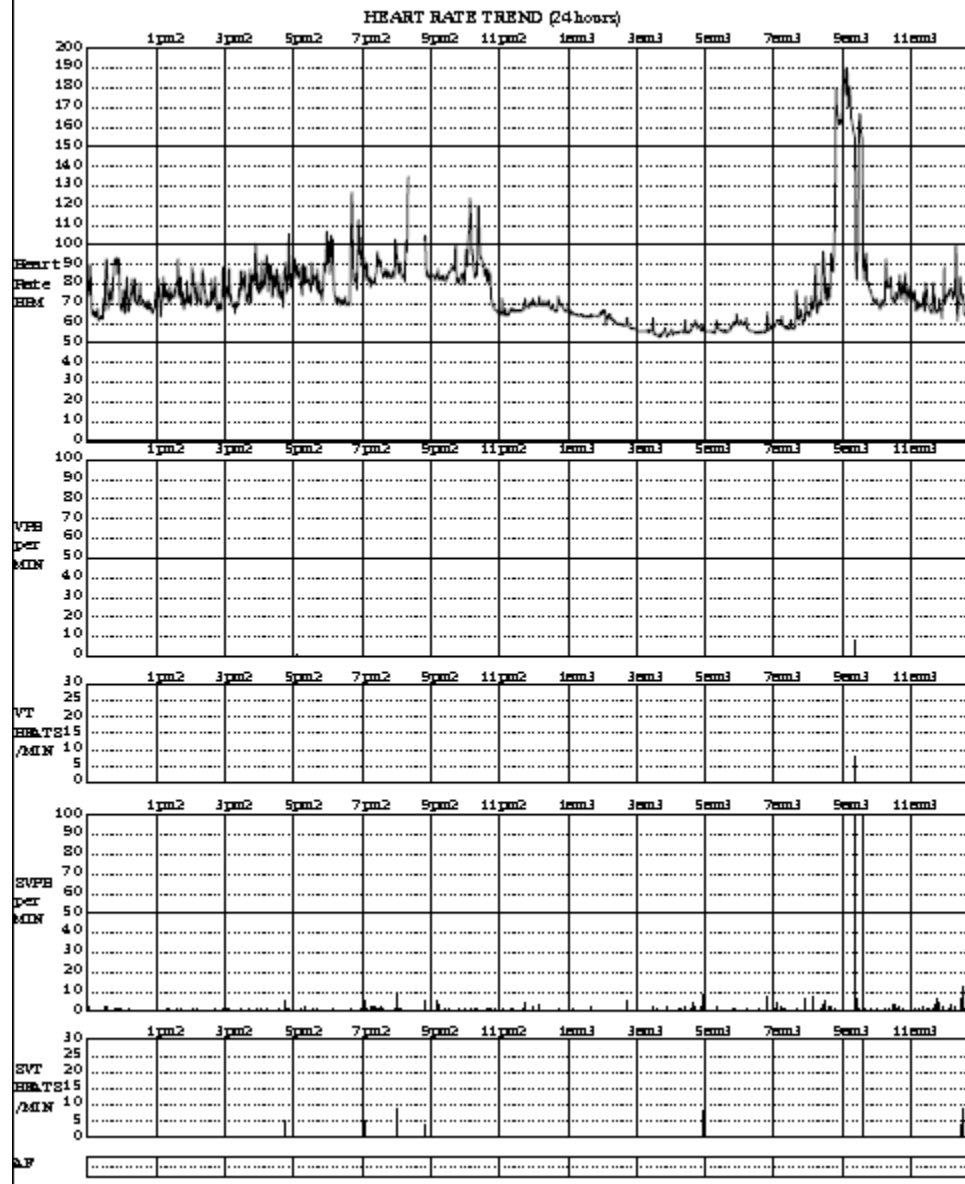
#### PR Variability

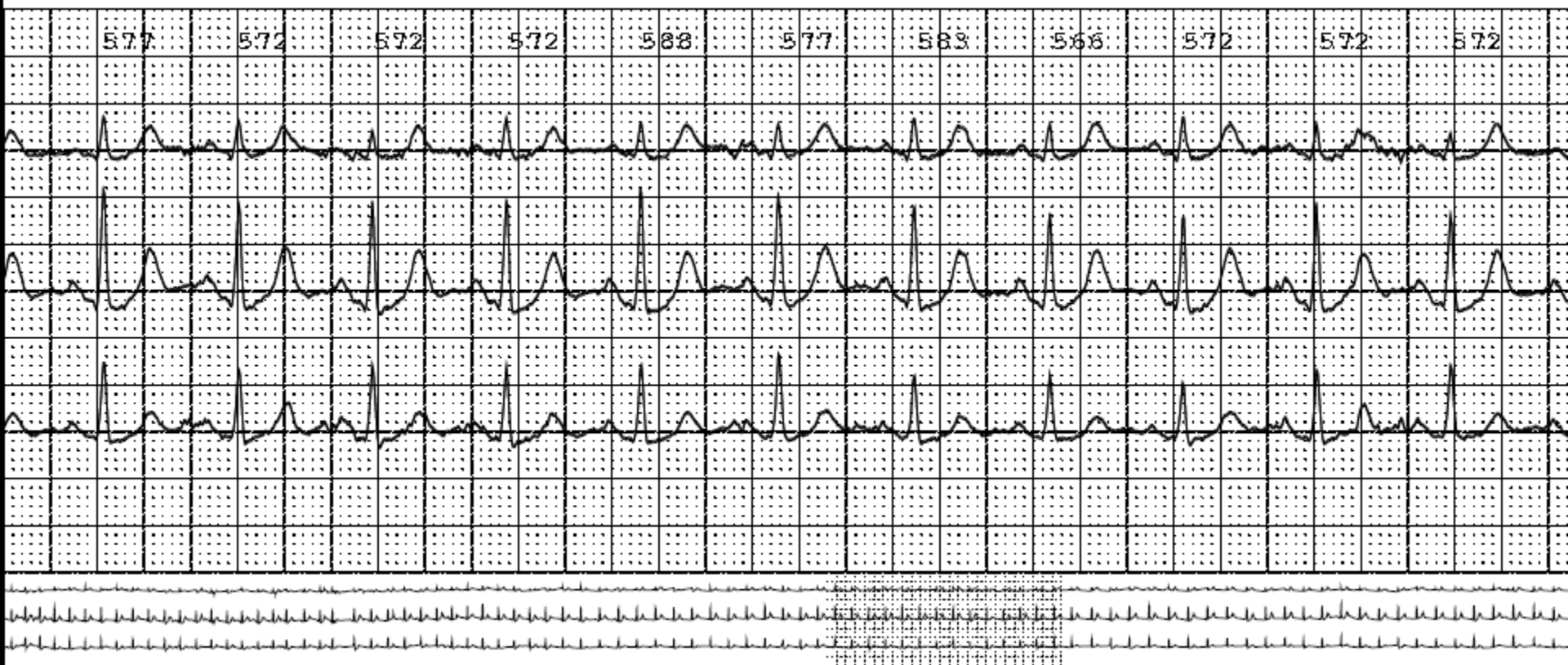
SDNN: 131 ms  
 pNN50: 1.88 %  
 RMSSD: 25 ms

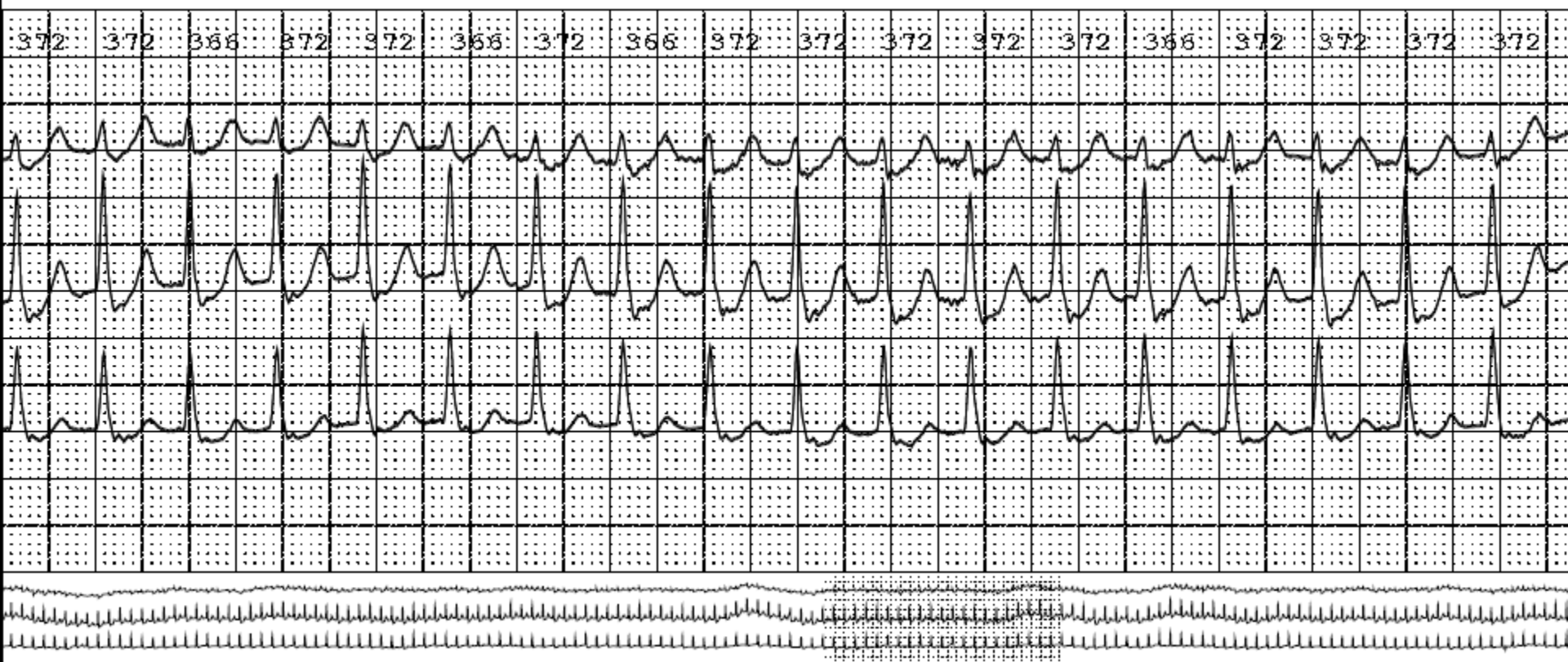
#### ST Absolute

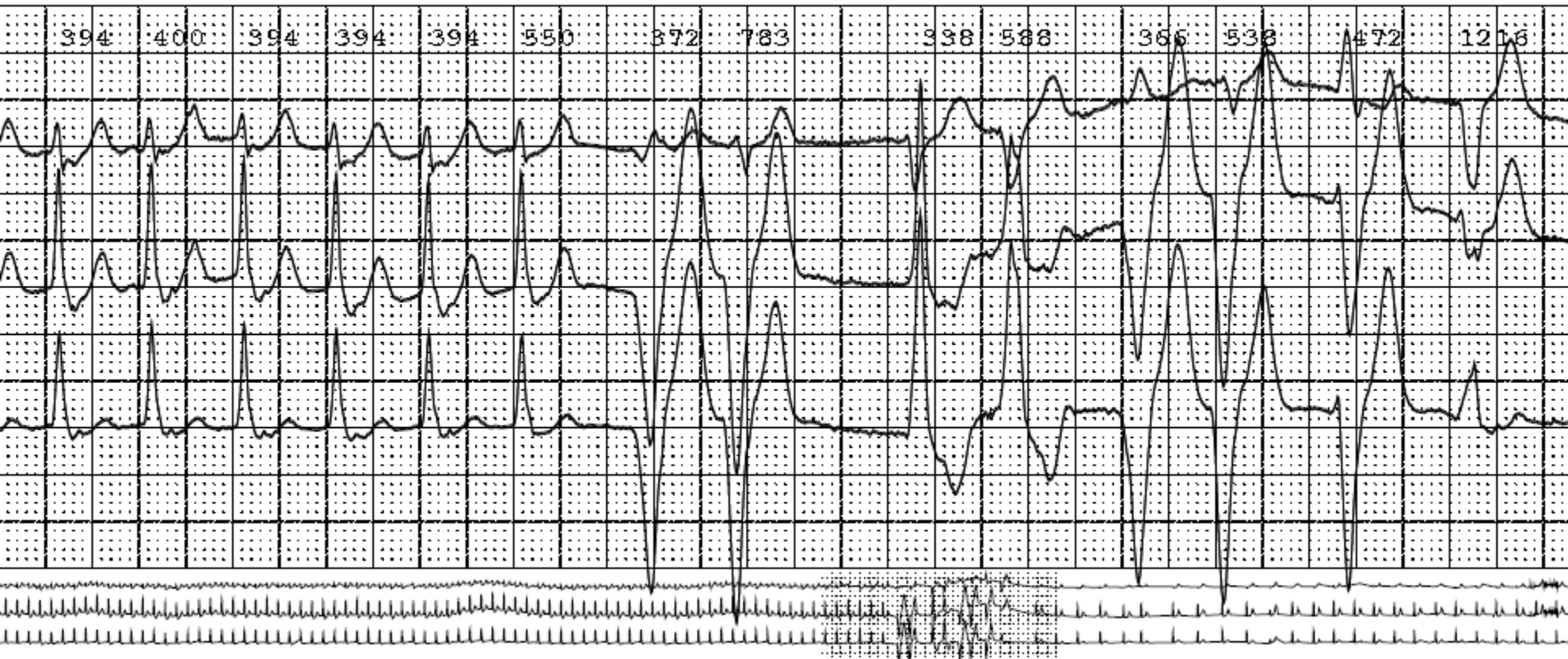
Depression : -1.0 mm  
 Elevation :











# Report

- Normal sinus rhythm with a normal rate range. Rare ventricular ectopy with no runs seen. Frequent atrial ectopy with multiple runs of SVT, likely AVNRT, seen. No pauses noted. Symptoms were reported with SVT.
- **Impression:** Normal study with symptomatic SVT, AVNRT. Consider EP Study and ablation.

# Case 4

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Date of Birth:	3/24/1961	Scan Number:	DR. R. DOMINGUEZ
ID #	1098-45	Date Recorded:	12/1/2016
Age	55 Years	Date Processed:	12/3/2016
Sex	M	Recorder Num:	024419
		HookupTech:	INCFID
Indications:	Palpitations	Medications:	Aspirin
	Dizziness		

was 44:21 hours. Start time was 10:03AM. There were a total of 268036 Beats.  
(49.28) were Ventricular beats, less than 18 were Supraventricular beats, and less  
than 18 were Paced beats.

Mean Heart Rate: 101  
Maximum Heart Rate: 147 at 10:56:23AM  
Minimum Heart Rate: 58 at 8:16:48PM  
Pauses: 0 (Greater than 3.0 sec.)

Ventricular Ectopy			Supraventricular Ectopy		
Total:	131984		Total:	3	
Single:	276		Single:	3	
Pairs:	0		Pairs:	0	
Total Runs:	18		Total Runs:	0	
Beats in Runs:	131708		Beats in Runs:	0	
#	beats	Rate	#	beats	Rate
Longest Run:	46563 @ 12:44AM	148	Longest Run:	0 @ 10:03AM	0
Fastest Run:	17804 @ 10:03AM	152	Fastest Run:	0 @ 10:03AM	0
RunT:	0		Aberrant:	0	

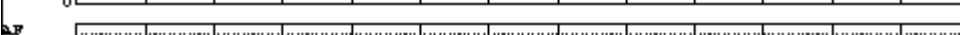
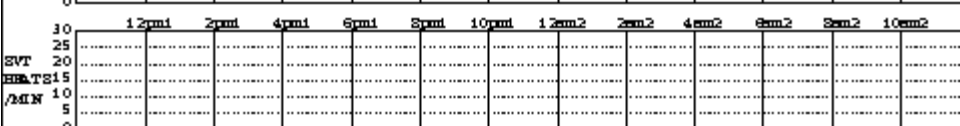
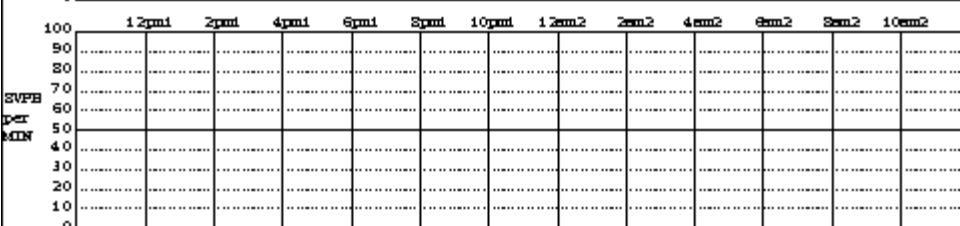
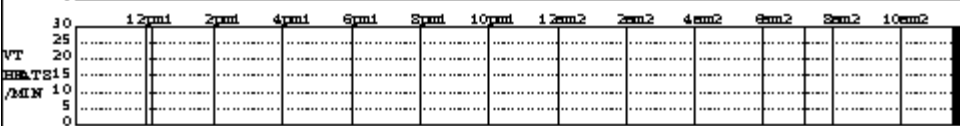
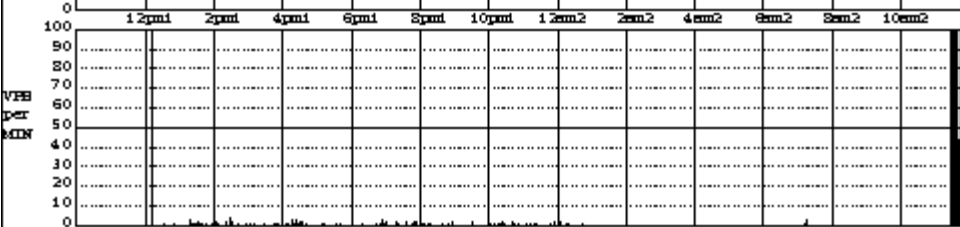
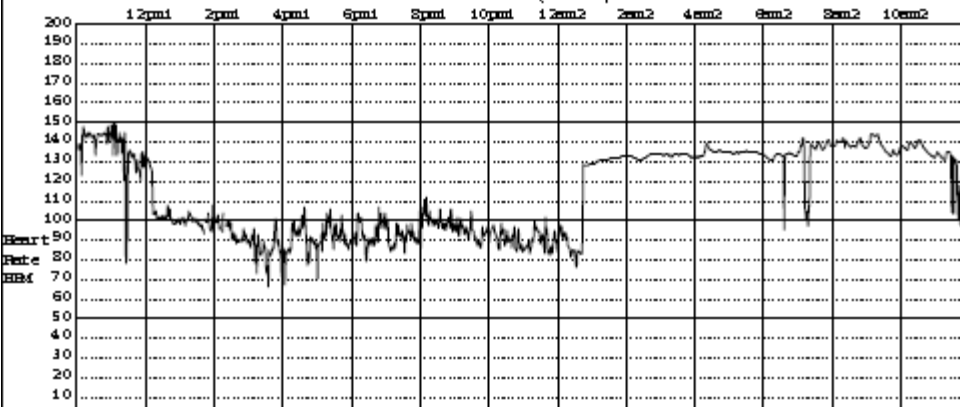
HR Variability

SDNN: 105 ms  
pNN50: 6.51 %  
RMSSD: 46 ms

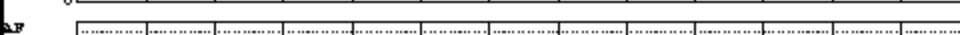
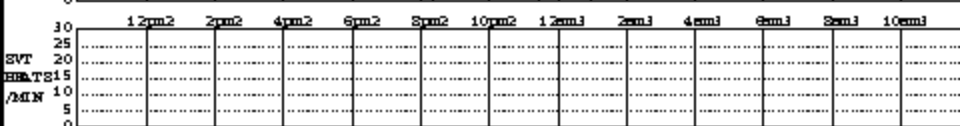
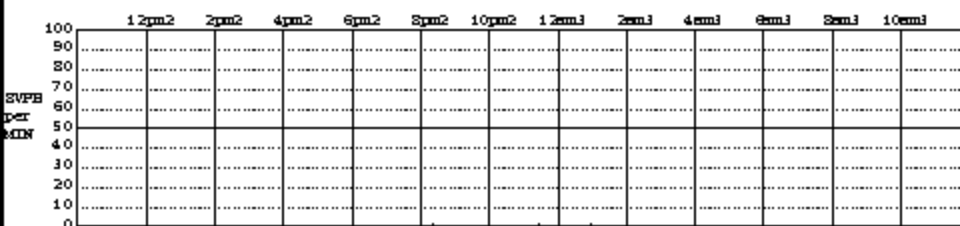
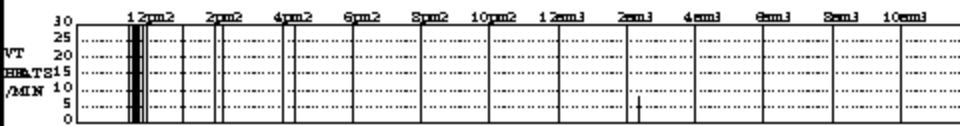
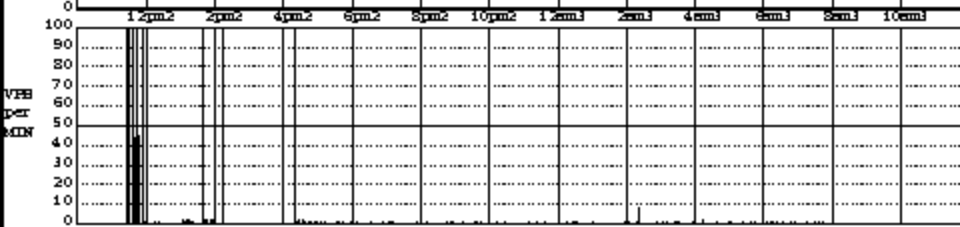
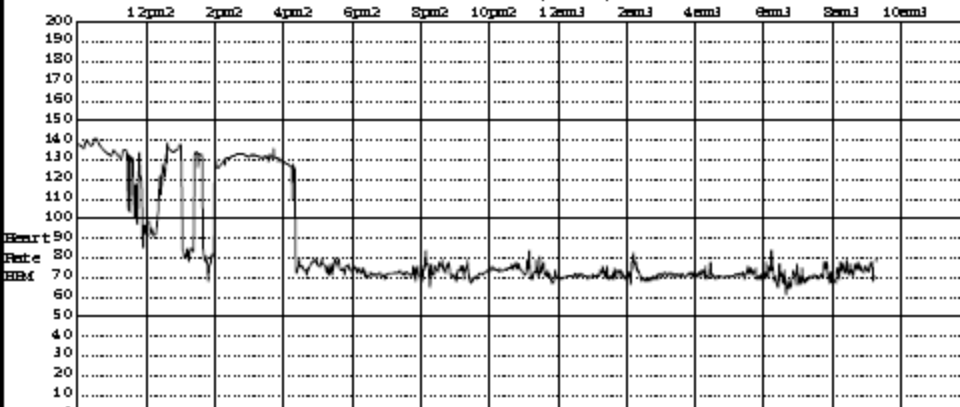
ST Absolute

Depression :  
Elevation :

HEART RATE TREND (24hours)



HEART RATE TREND (24hours)

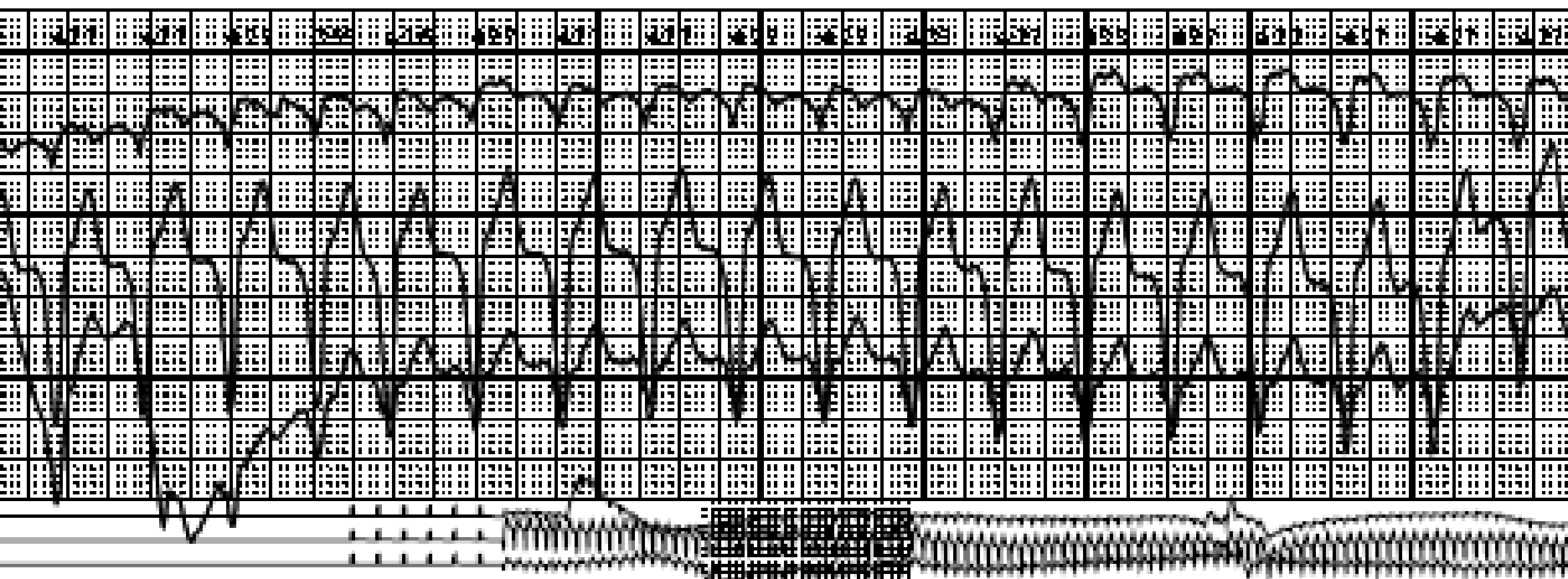




10:03:16AM

TEST BEGIN/VTAC

HR = 139

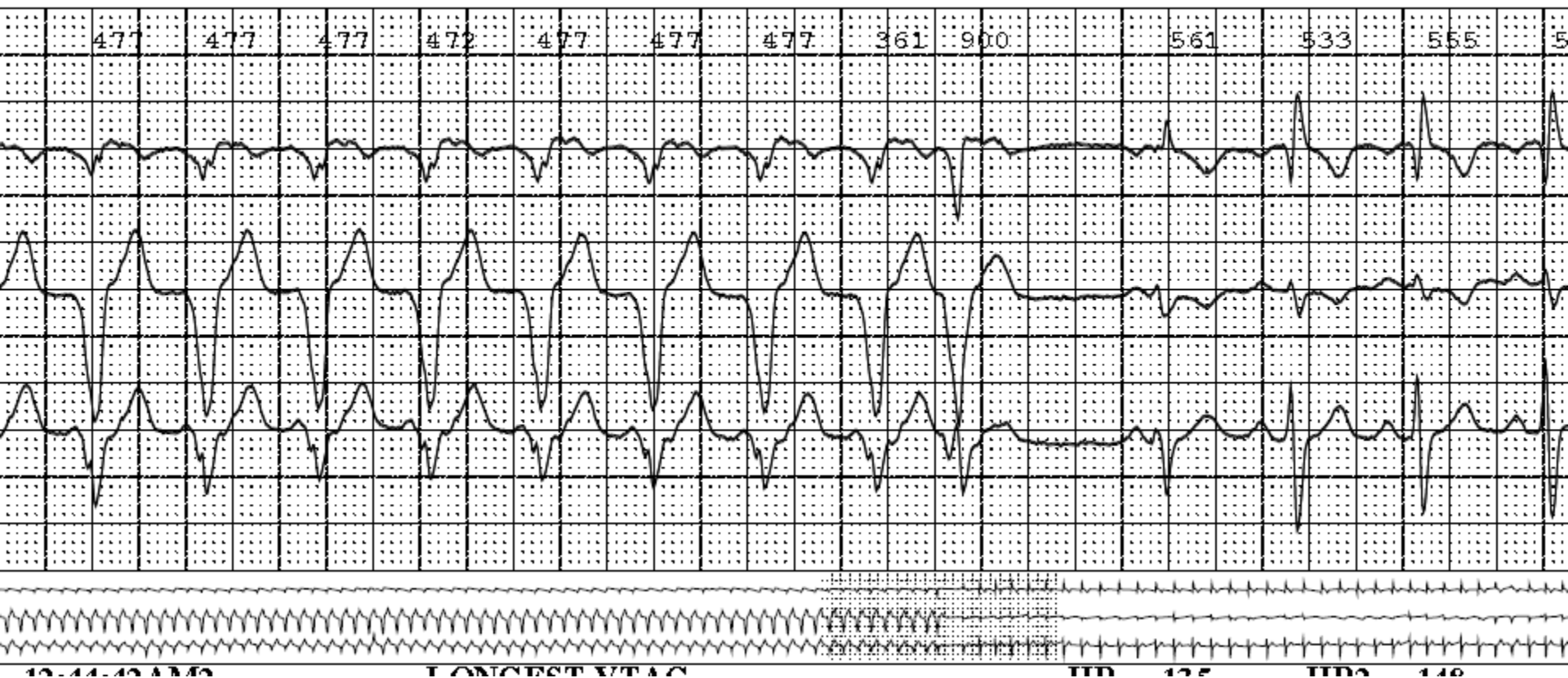


12:13:21PM1

END OF EPISODE

HR = 82

HR2 = 130

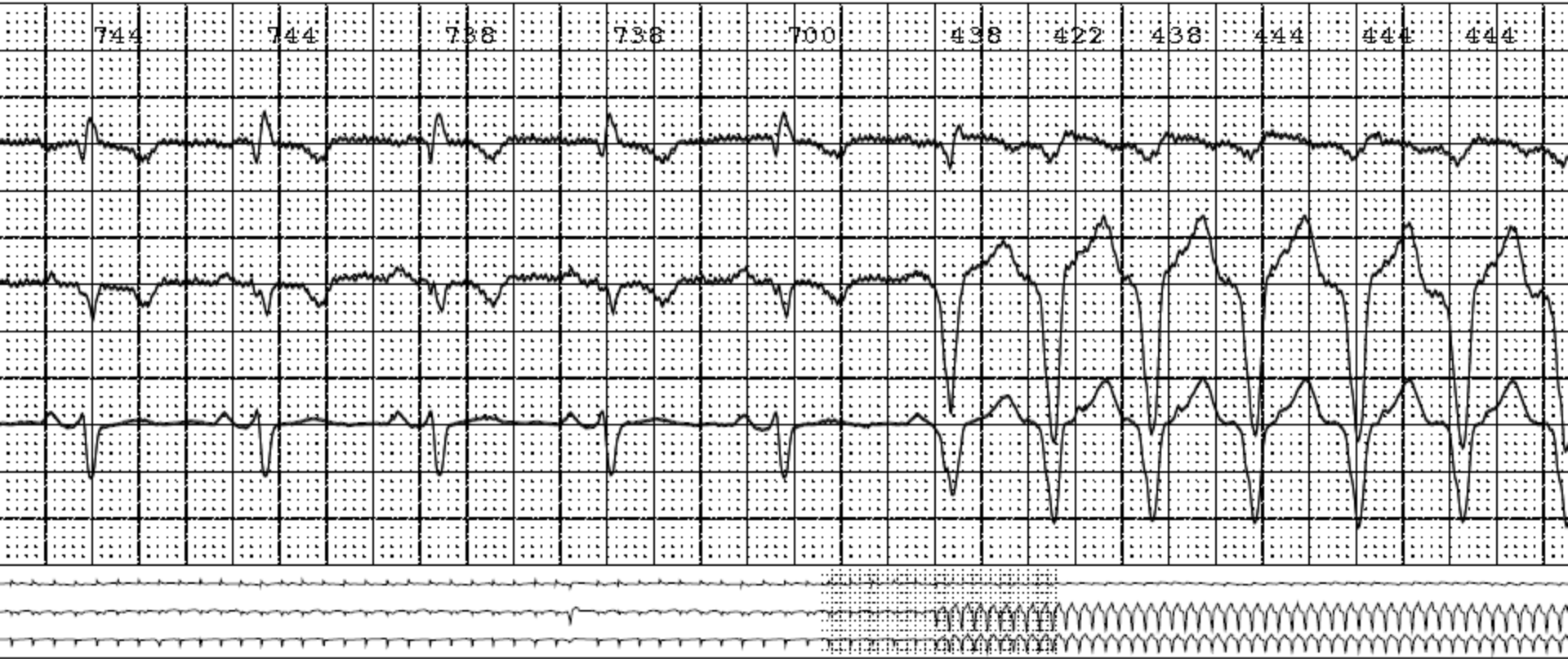


12:44:42 AM2

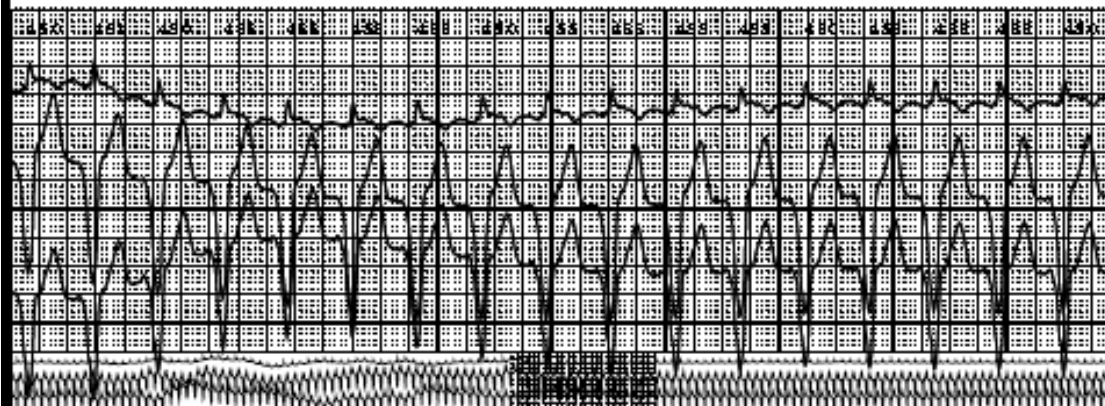
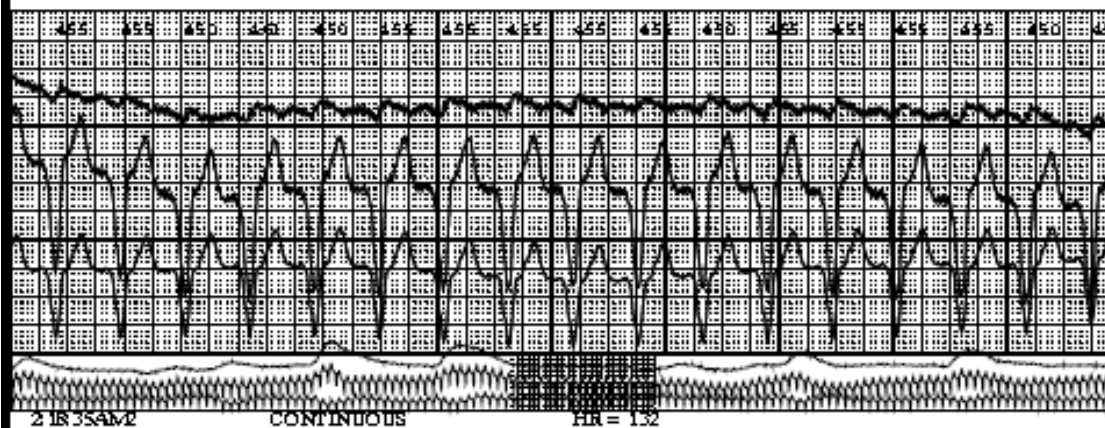
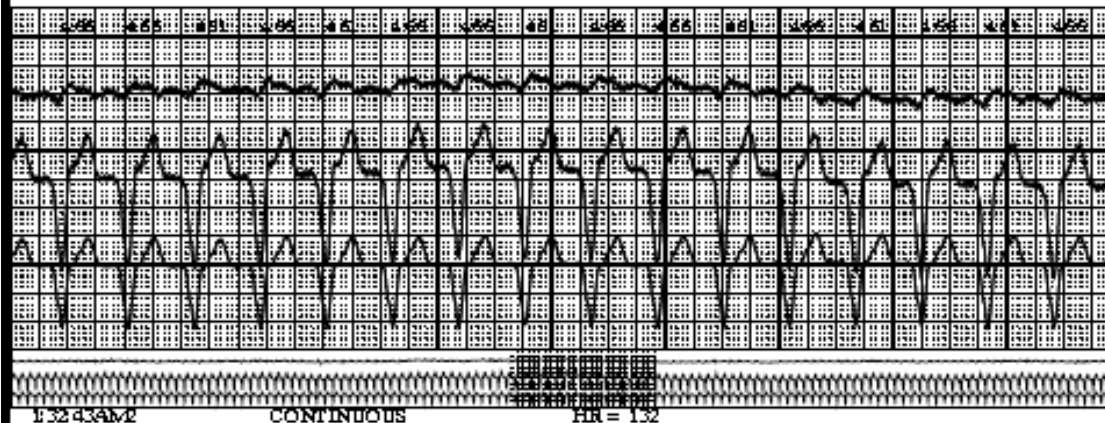
LONGEST VTAC

HR = 135

HR2 = 148



12:57:22AM/2 CONTINUOUS HR = 130



# Report

- Underlying rhythm is sinus with RBBB, LAD and a normal PR interval. Rate range is elevated, mean HR is 101. Very frequent ventricular ectopy with runs of VT. Rare atrial ectopy with no runs seen. No pauses noted, no symptoms reported.
- **Impression:** Frequent and long runs of VT at a rate of 130 bpm. Urgent cardiac evaluation arranged.

# Case 5

Date of Birth: 2/23/1956  
ID #: 657-6  
Age: 60 Years  
Sex: F

Indications: PALPITATIONS  
CHEST PAIN, A.FIB

Scan Number: DR T. VAN  
Date Recorded: 10/6/2016  
Date Processed: 10/15/2016  
Recorder Num: 016211  
HookupTech: SUEA  
Medications: SALEDUTOMOL, ASA  
PRADAXA  
EUBESCONIDE

ANALYZED WAS 18:12 HOURS. START TIME WAS 1:45PM. THERE WERE A TOTAL OF 152402 Beats. Less than 10 were Ventricular beats, less than 10 were Supraventricular beats, and less than 10 were Paced beats.

Mean Heart Rate: 69  
 Maximum Heart Rate: 133 at 3:10:51PM  
 Minimum Heart Rate: 41 at 6:52:27AM  
 Pauses: 0 (Greater than 3.0 sec.)

-----  
 Ventricular Ectopy

Total: 6  
 Single: 6  
 Pairs: 0  
 Total Runs: 0  
 Beats in Runs: 0

	#	beats	Rate
Longest Run:	0	@	1:45PM
Fastest Run:	0	@	1:45PM
RunT:	0		

Supraventricular Ectopy

Total: 0  
 Single: 0  
 Pairs: 0  
 Total Runs: 0  
 Beats in Runs: 0

	#	beats	Rate
Longest Run:	0	@	1:45PM
Fastest Run:	0	@	1:45PM
RunT:	0		

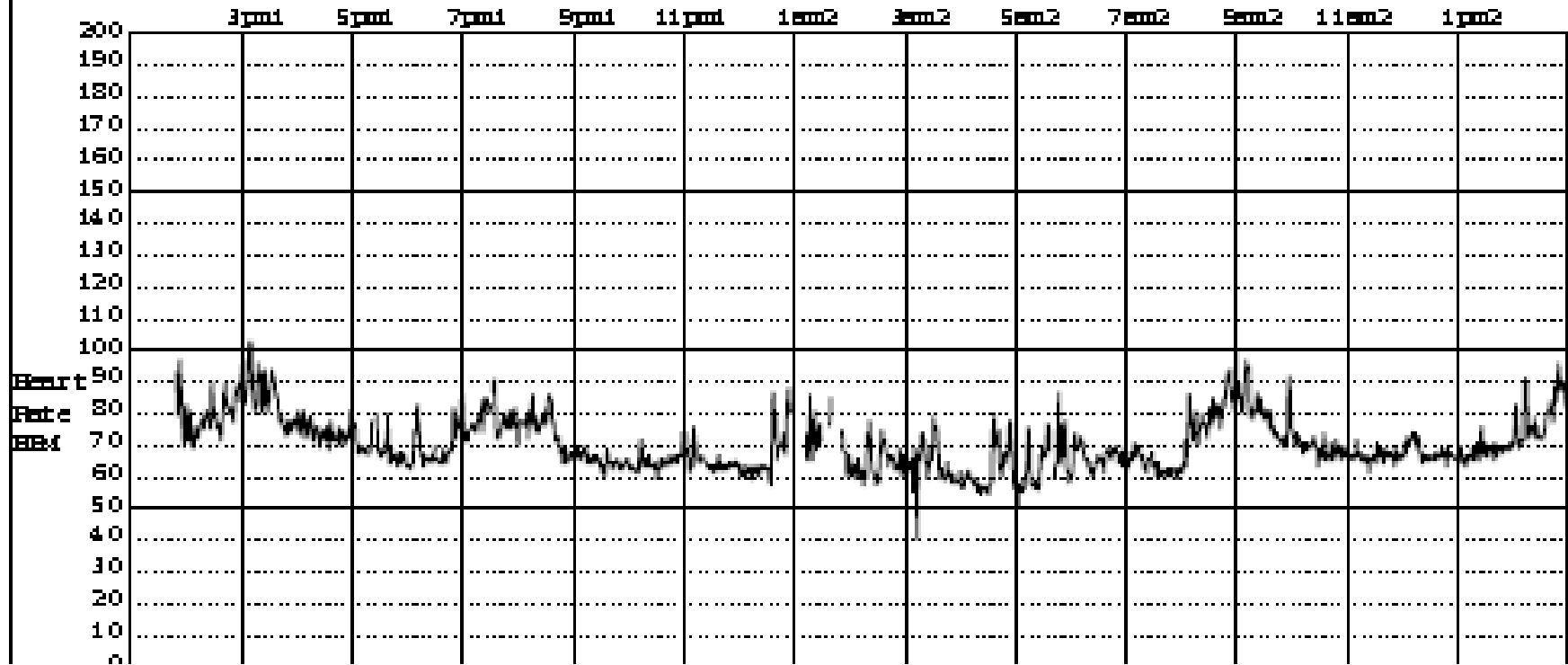
-----  
 HR Variability

SINN: 201 ms  
 pNN50: 76.29 %  
 RMSSD: 24.8 ms

ST Absolute

Depression :  
 Elevation :

# 11570011 10011 10011111 (24000011)

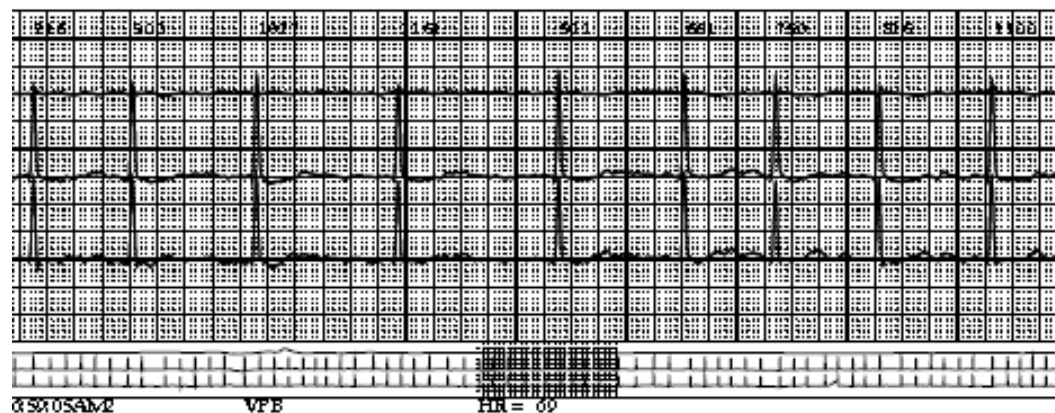




1:20:57PM

IRREGULAR RR

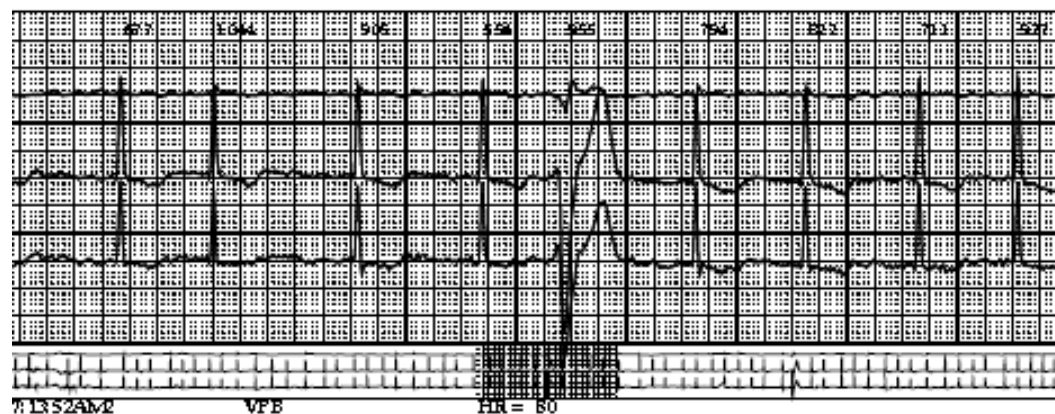
HR = 66



05/05/2022

VFB

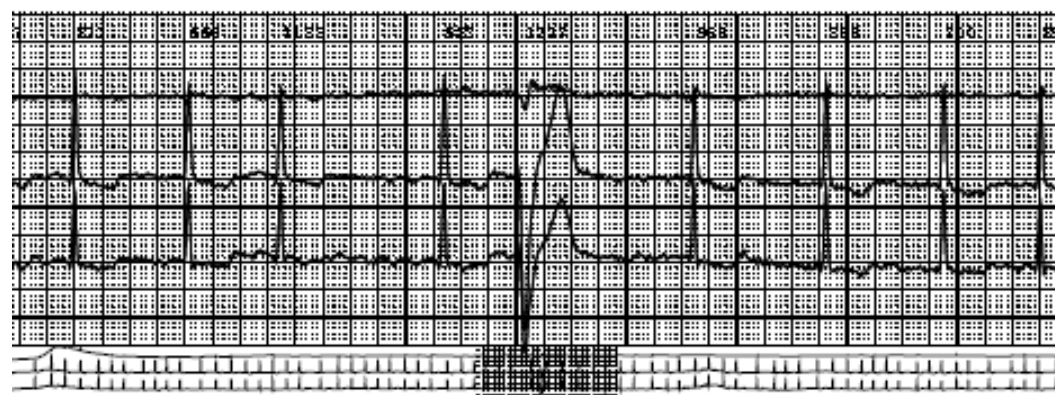
HR = 69



05/05/2022

VFB

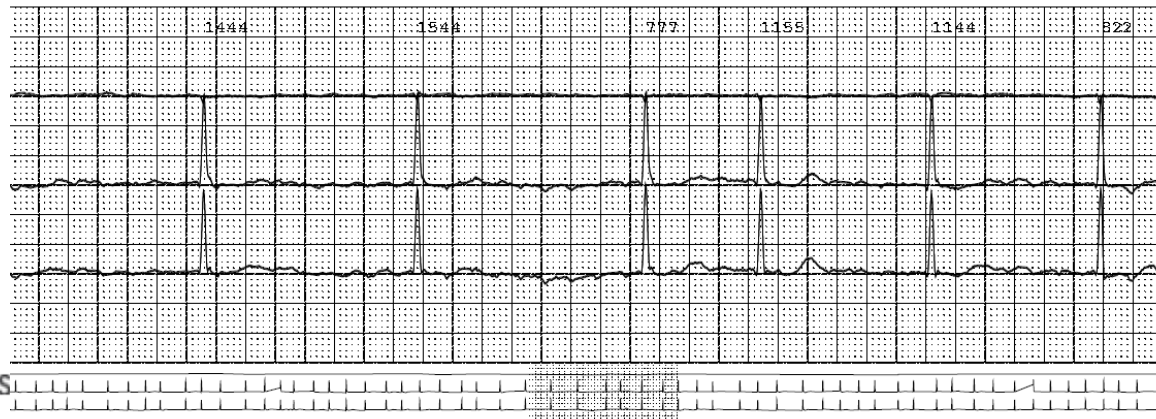
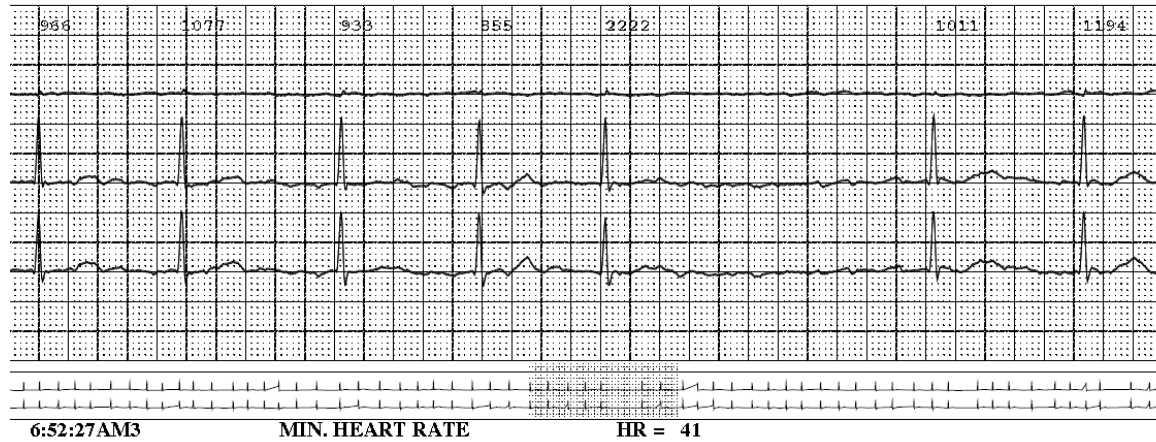
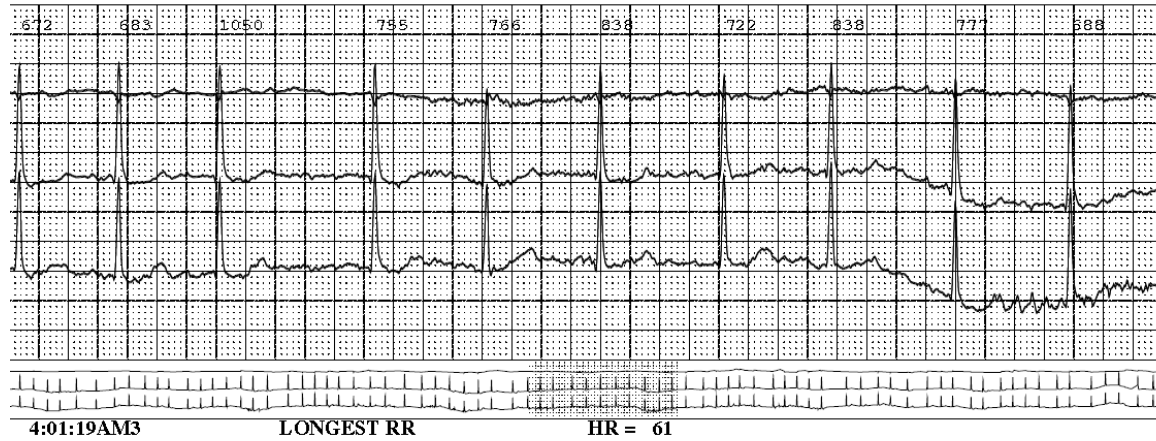
HR = 80



4:56:43PM2

IRREGULAR RR

HR = 76



# Report

- Atrial fibrillation with a normal rate range. Rare ventricular ectopy with no significant runs seen. No pauses noted.
- **Impression:** Atrial fibrillation, patient is anticoagulated.

# Case 6

-----	-----	-----	-----
ID #	9955-129	Date Recorded:	10/18/2016
Age	79 Years	Date Processed:	10/22/2016
Sex	M	Recorder Num:	023540
		HookupTech:	EM
Indications:	Palpitations	Medications:	NONE RECORDED

---

was 37:49 hours. Start time was 9:04AM. There were a total of 167374 Beats. Less than 10 were Ventricular beats, less than 10 were Supraventricular beats, and less than 10 were Paced beats.

Mean Heart Rate: 74  
 Maximum Heart Rate: 135 at 8:15:41AM  
 Minimum Heart Rate: 50 at 12:04:16PM  
 Pauses: 0 (Greater than 3.0 sec.)

#### Ventricular Ectopy

Total: 35  
 Single: 35  
 Pairs: 0  
 Total Runs: 0  
 Beats in Runs: 0

	#	beats	Rate
Longest Run:	0	@	9:04AM
Fastest Run:	0	@	9:04AM
RunT:	0		

#### Supraventricular Ectopy

Total: 857  
 Single: 849  
 Pairs: 4  
 Total Runs: 0  
 Beats in Runs: 0

	#	beats	Rate	
Longest Run:	0	@	9:04AM	0
Fastest Run:	0	@	9:04AM	0
Aberrant:	0			

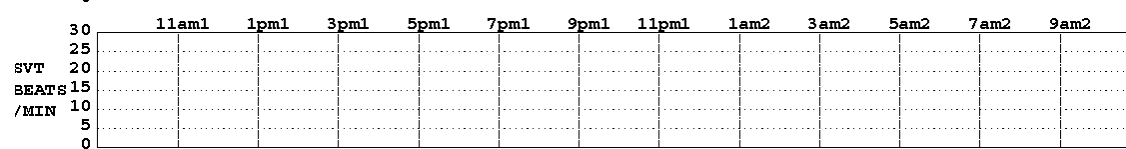
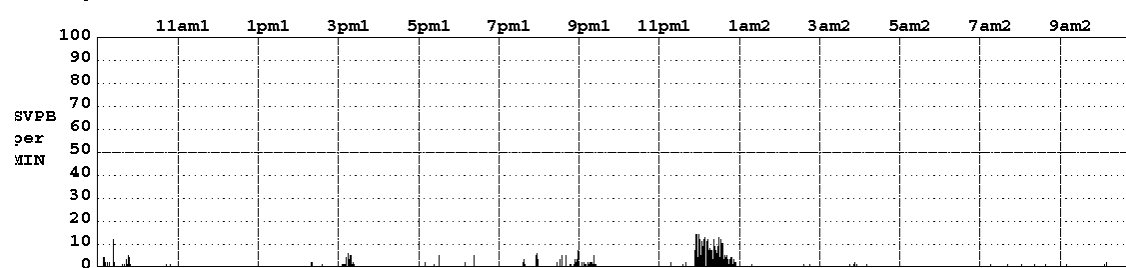
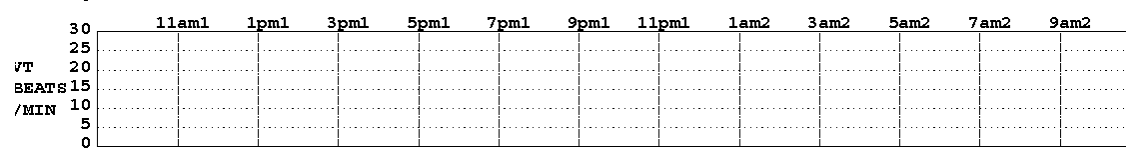
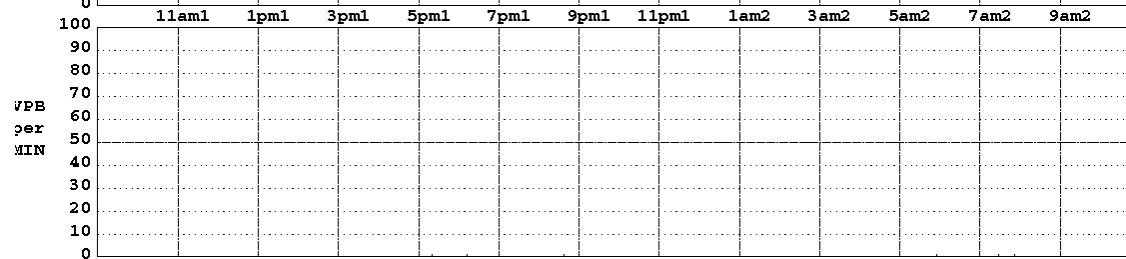
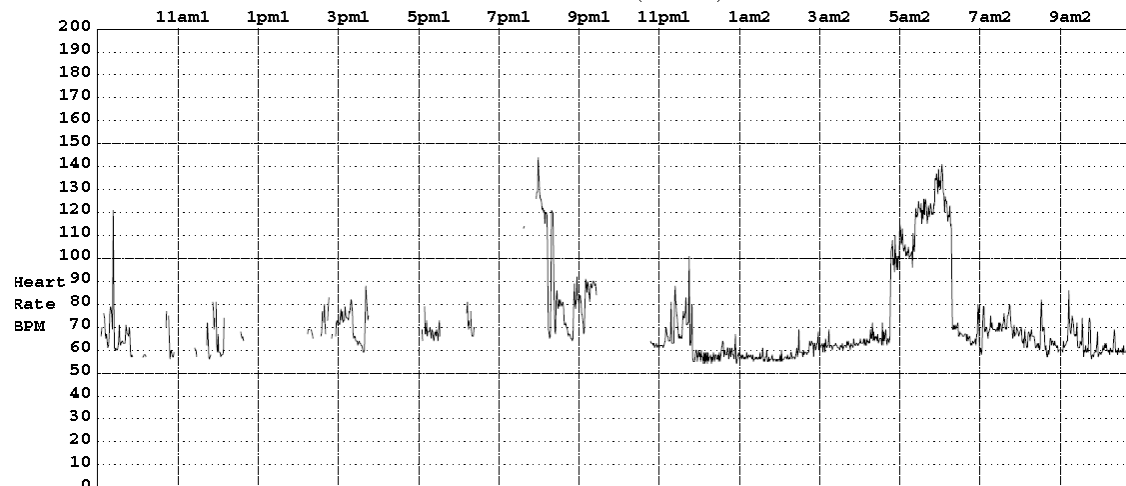
#### HR Variability

SDNN: 21.2 ms  
 pNN50: 22.12 %  
 RMSSD: 27 ms

#### ST Absolute

Depression : \*\*\* mm  
 Elevation : \*\*\* mm

## HEART RATE TREND (24 hours)

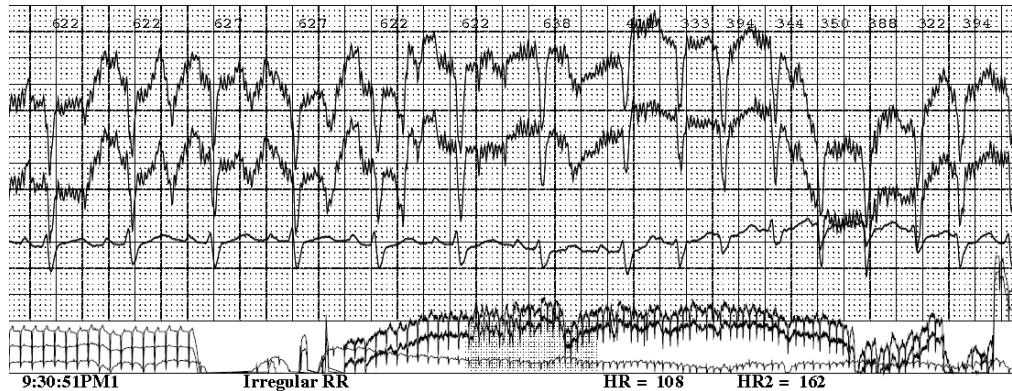


9:27:16PM1

PAF

HR = 96

HR2 = 170

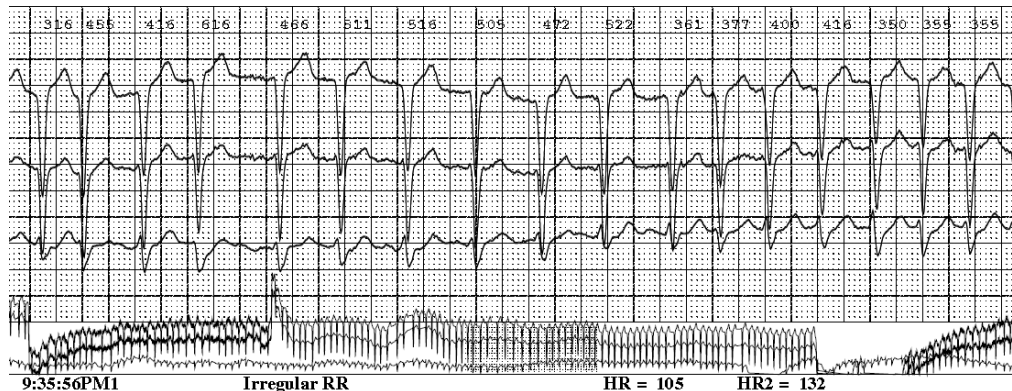


9:30:51PM1

Irregular RR

HR = 108

HR2 = 162

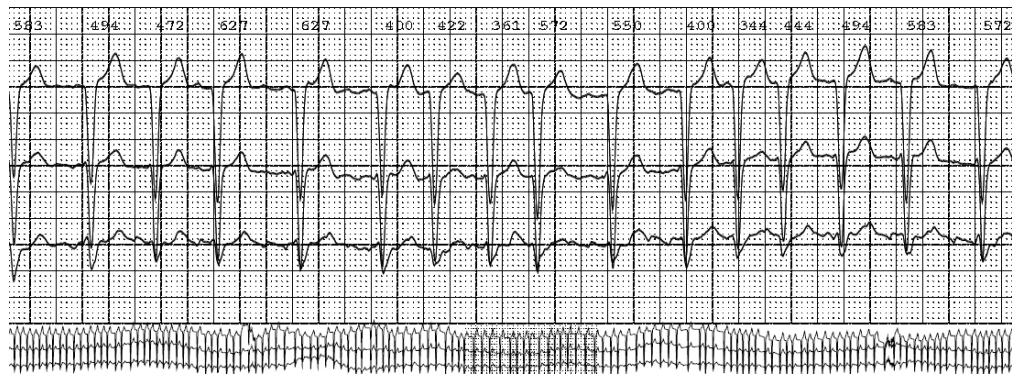


9:35:56PM1

Irregular RR

HR = 105

HR2 = 132



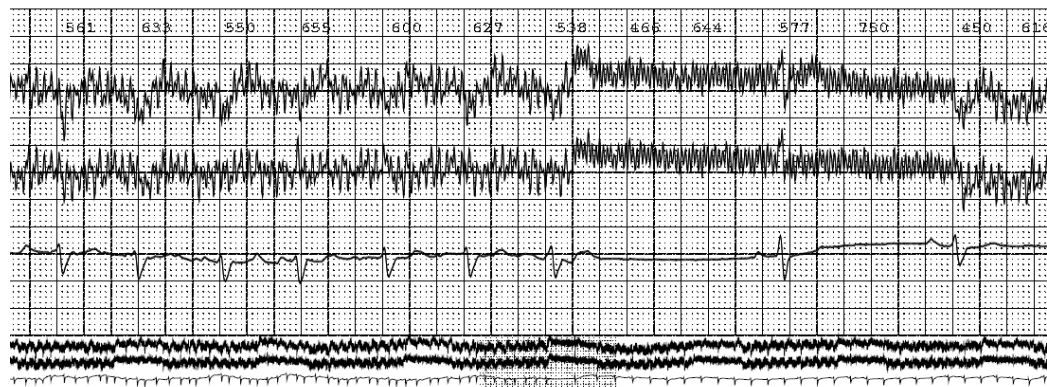
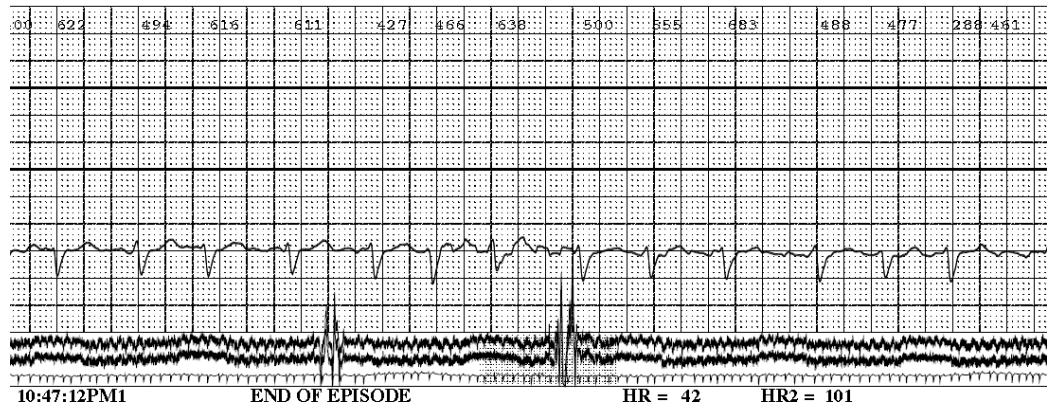
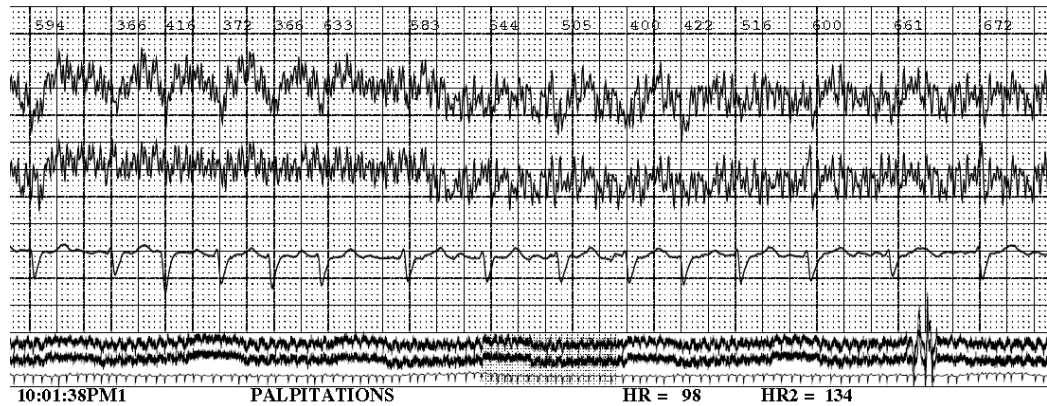


10:01:03PM1

PRE EVENT

HR = 102

HR2 = 146





# Report

- Quality of study is limited. Normal sinus rhythm with paroxysmal atrial fibrillation and a normal rate range. No ectopy with no runs seen. No pauses seen. Symptoms were reported during atrial tachycardia and atrial fibrillation.
- **Impression:** Sinus rhythm with paroxysmal atrial fibrillation. Consider anticoagulation.

# Indications for Symptoms related to Rhythm Disturbances

- Patients with unexplained recurrent palpitations.
- Patients with unexplained syncope, near syncope, or episodic dizziness.
- Patients with episodic shortness of breath, chest pain, or fatigue that is not otherwise explained.
- Neurological events when transient atrial fibrillation or flutter is suspected.
- Cerebrovascular accidents without other evidence of arrhythmias.

# Indications for patients without symptoms from arrhythmia

- Post-MI patients with ejection fraction < 40%.
- Congestive Heart Failure.
- Idiopathic hypertrophic cardiomyopathy.
- Sustained myocardial contusion.
- Systemic hypertensive patients with LV hypertrophy.
- Post-MI patients with normal LV function.
- Pre-operative arrhythmia evaluation.
- Patients with Sleep Apnea.
- Patients with valvular heart disease.

# Indications for Heart Rate Variability

- Post-MI patients with LV dysfunction.
- Congestive Heart Failure.
- Idiopathic hypertrophic cardiomyopathy.
- Post-MI patients with normal LV function.
- Diabetics to evaluate for diabetic neuropathy.
- Rhythm disturbances that preclude HRV analysis.

# Indications to assess Anti-arrhythmic Therapy

- To assess anti-arrhythmic drug response in individuals in whom baseline frequency of arrhythmia has been characterized as reproducible and of sufficient frequency to permit analysis.
- To detect pro-arrhythmic responses to anti-arrhythmic therapy in patients at high risk.
- To assess rate control during atrial fibrillation.
- To document recurrent or asymptomatic non-sustained arrhythmias during therapy in the out-patient setting

# Indications for Pacemaker and ICD

- Suspected pacemaker or ICD failures.
- Post-operative evaluation of pacemaker and ICD.

# Indications for Ischemia Monitoring

- Patients with suspected variant angina.
- Patients with chest pain who cannot exercise.
- Pre-operative for vascular surgery who cannot exercise
- Patients with known CAD.
- Patients with atypical chest pain syndrome.
- Initial evaluation of patients with chest pain who are able to exercise