



# Telemetry Workshop 3

## Winter Arrhythmia School

February 6<sup>th</sup> , 2015  
Irving Tiong, MD FRCPC  
Darren Kagal, MD FRPC  
Sunnybrook Arrhythmia Service

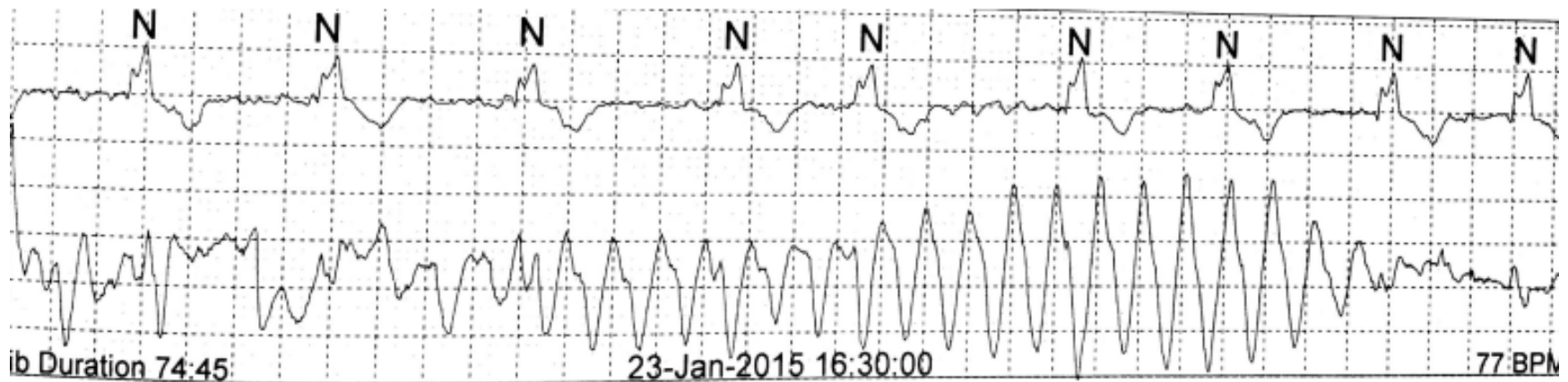


# Disclosure

- No financial conflict of interest



# Case 1





## Case 2

What would you do next?

A. Put the lead back on the patient

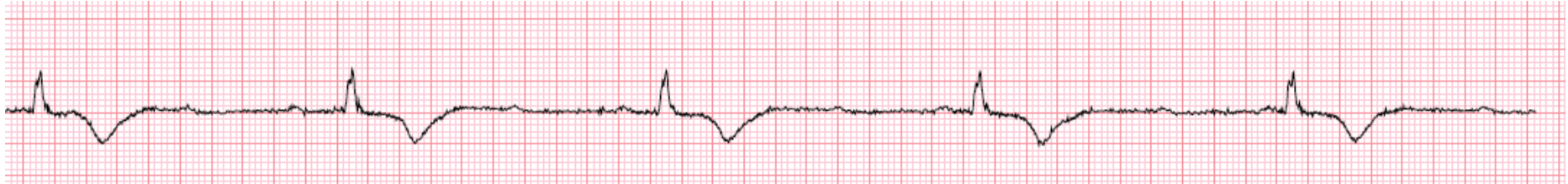
B. Call code blue

C. Ask for 12 lead EKG

D. Check the pacemaker



# Case 2





## Case 2

- A. Sinus bradycardia
- B. Second degree AV block Mobitz I
- C. First degree AV block
- D. Third degree AV block



Complete heart block



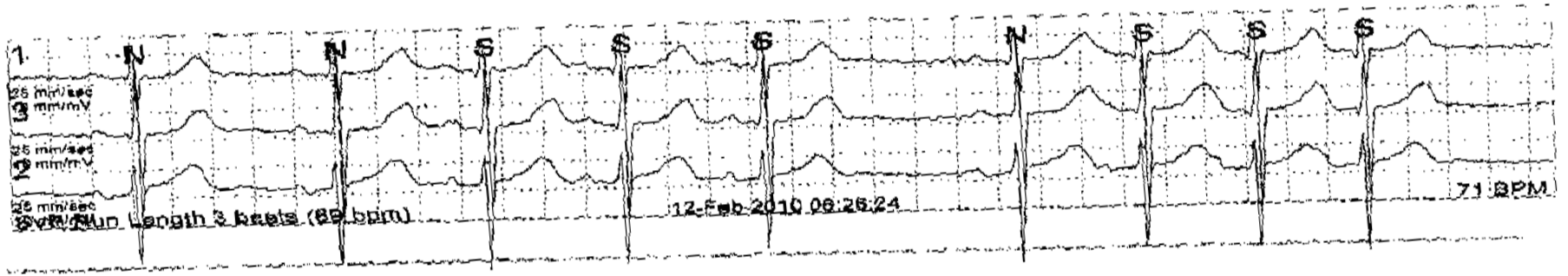
## Case 2

- A. Complete AV block
- B. Second degree AV block, Mobitz II
- C. Second degree AV block, Mobitz I
- D. Sinus bradycardia with junctional escape  
(Isorhythmic disassociation)





# Case 3



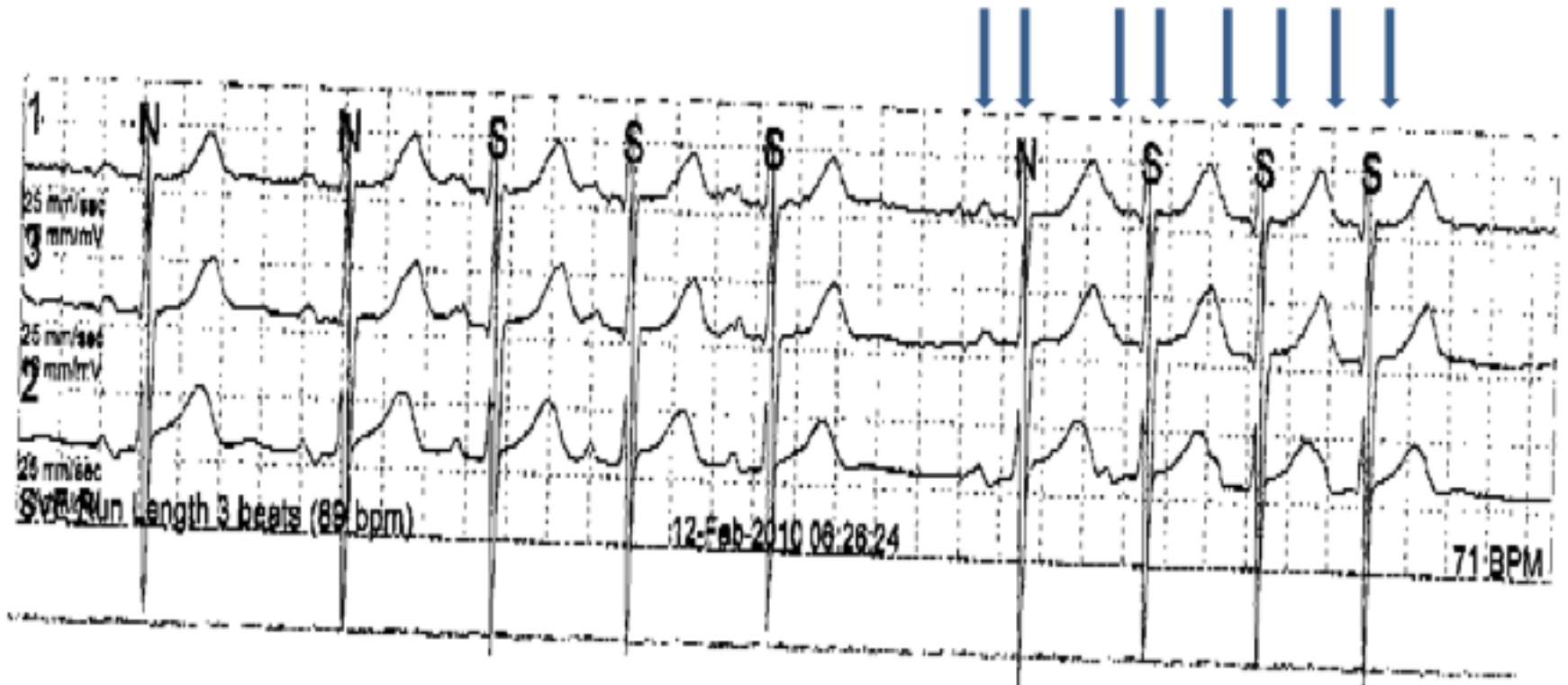


# Case 3

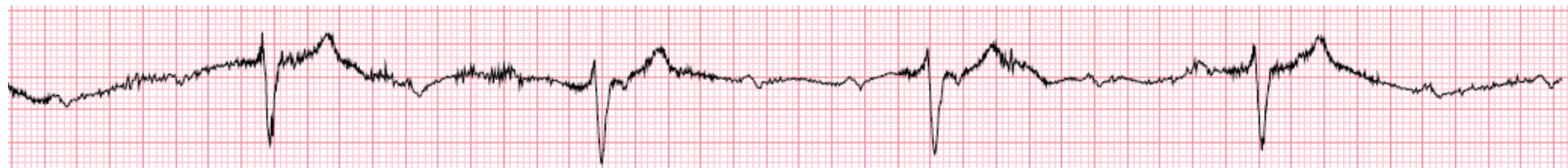
- A. Sinus tachycardia
- B. Atrial flutter
- C. Third Degree AV block
- D. Second degree, Mobitz I



# Case 3

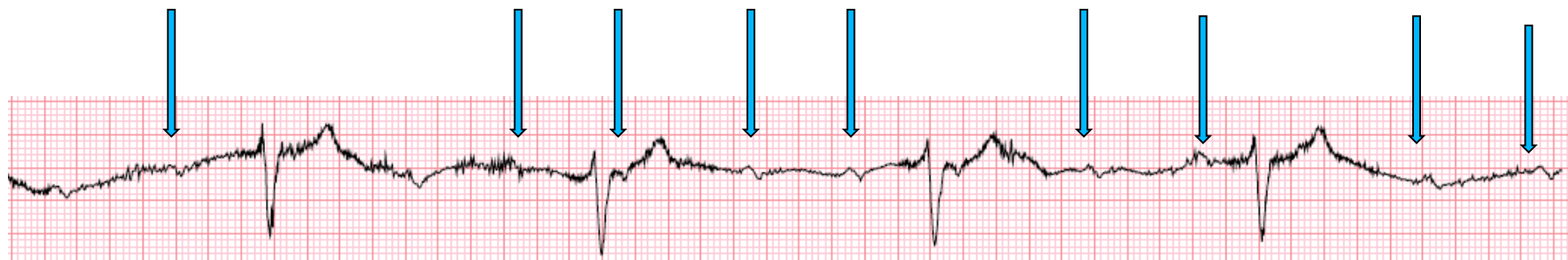


Diagnosis atrial tachycardia with wenkebach





- A. Complete AV block
- B. Second degree AV block, Mobitz II
- C. Second degree AV block, Mobitz I
- D. Sinus bradycardia with junctional escape  
(Isorhythmic disassociation)





# Case 4





# Case 4

- A. Ventricular tachycardia
- B. Atrial fibrillation
- C. SVT with aberrancy
- D. Atrial tachycardia





Narrow complex tachycardia - Most likely atrial tachycardia



# Case 5





# Case 5

- A. Pacemaker oversensing
- B. Pacemaker undersensing
- C. Pacemaker over and undersensing
- D. Doctor connected the leads the opposite way during implant.



Dual chamber pacemaker with lead reversal (atrial lead connected to ventricular port and vice versa)



# Case 6





# Case 6

- A. Supraventricular tachycardia with aberrancy
- B. First degree AV block
- C. Non sustained Ventricular tachycardia
- D. Complete heart block with ventricular escape



## Bonus Question

What are the blue arrows signifying?





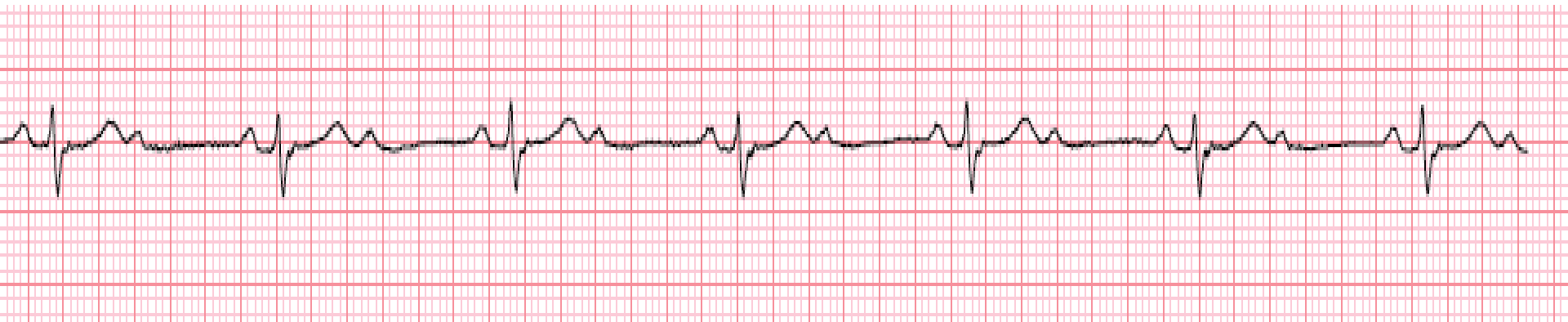
# Case 6

- A. Artifact?
- B. ST elevations?
- C. Intermittent p waves (V-A conduction)
- D. Atrial flutter with concomitant VT





# Case 7



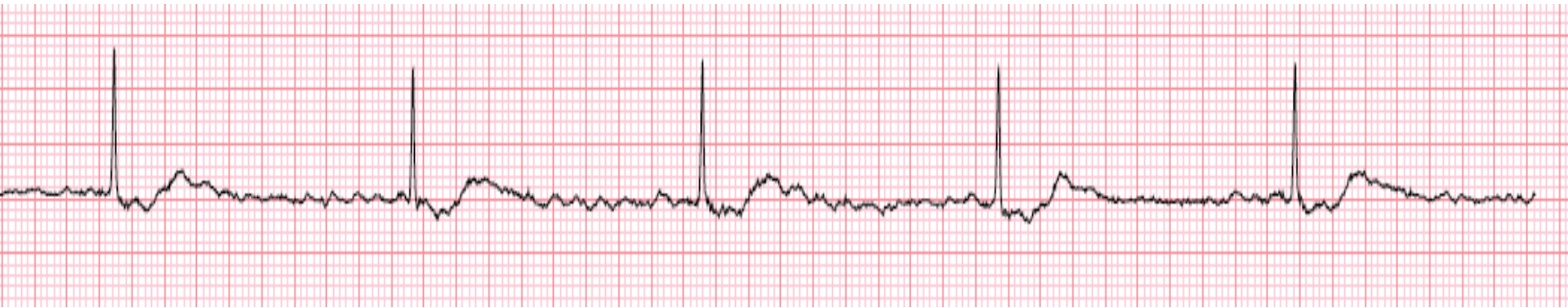


# Case 7

- A. First degree AV block
- B. Second degree, Mobitz One
- C. Second degree, Mobitz Two
- D. Third degree AV block



# Case 8





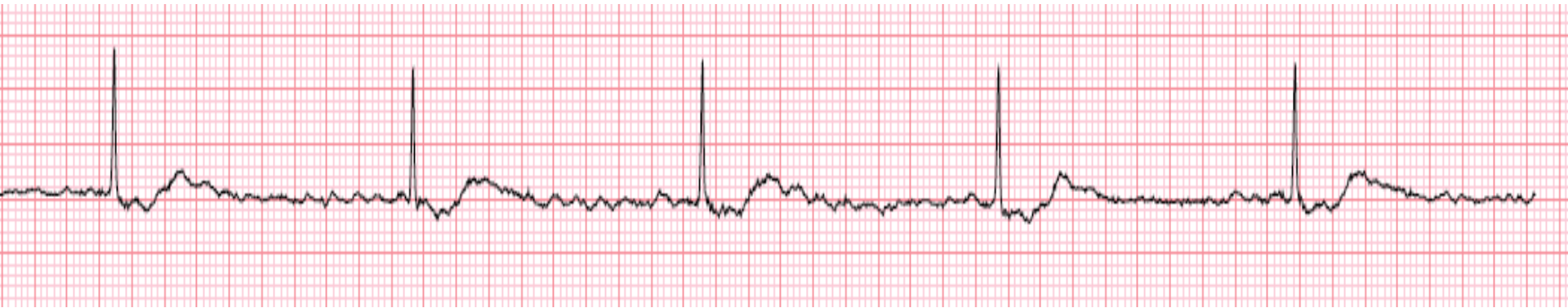
# Case 8

- A. Atrial fibrillation
- B. Supraventricular tachycardia
- C. Sinus bradycardia
- D. Atrial flutter



## **Bonus Question:**

If Atrial Fibrillation, Why is there a regular rhythm (stable R-R)?



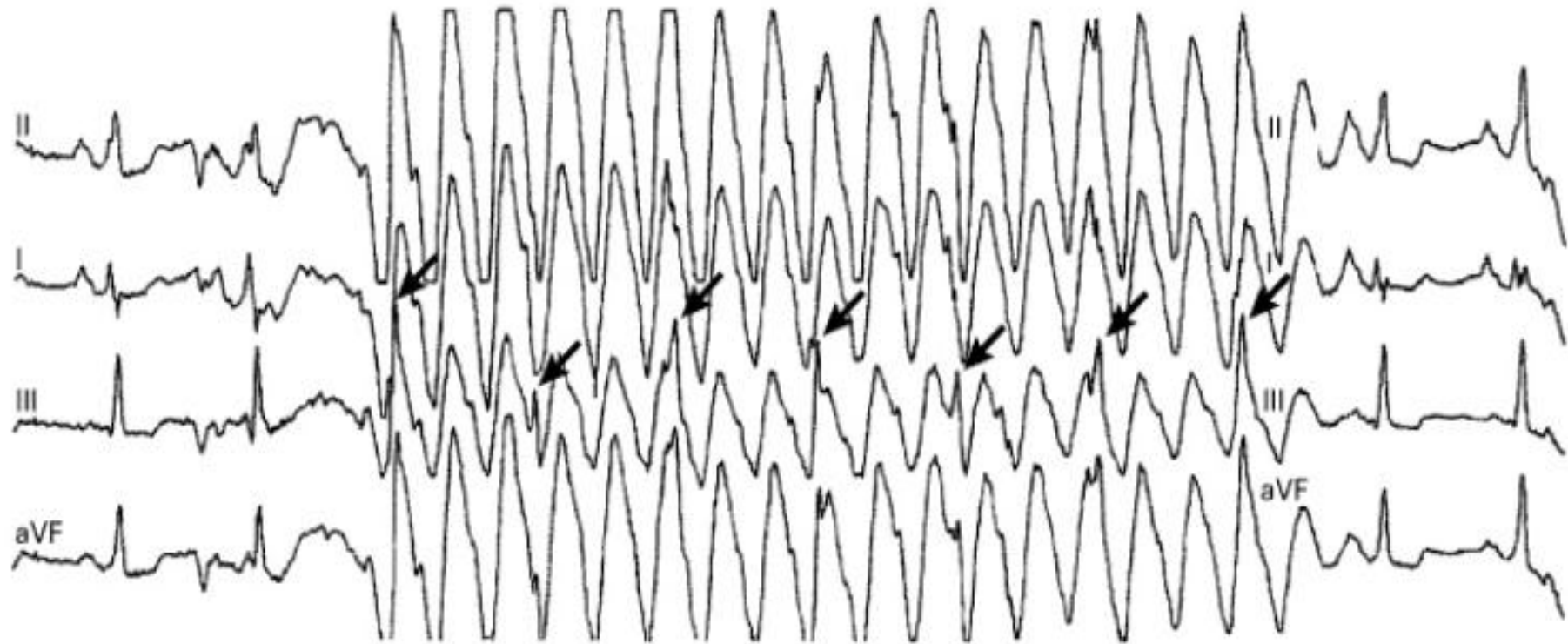


## Case 8

- A. It is actually irregular, but not irregular enough to be seen by the naked eye.
- B. Maybe because it is not atrial fibrillation?
- C. Atrial fibrillation with complete AV block, and escape junctional rhythm
- D. I do not know. I would call EP.



# Case 9





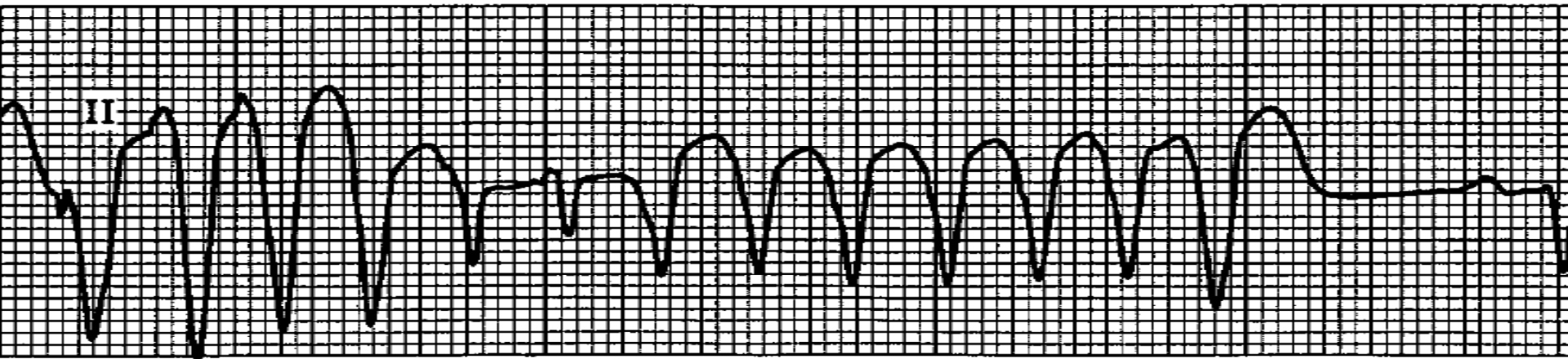
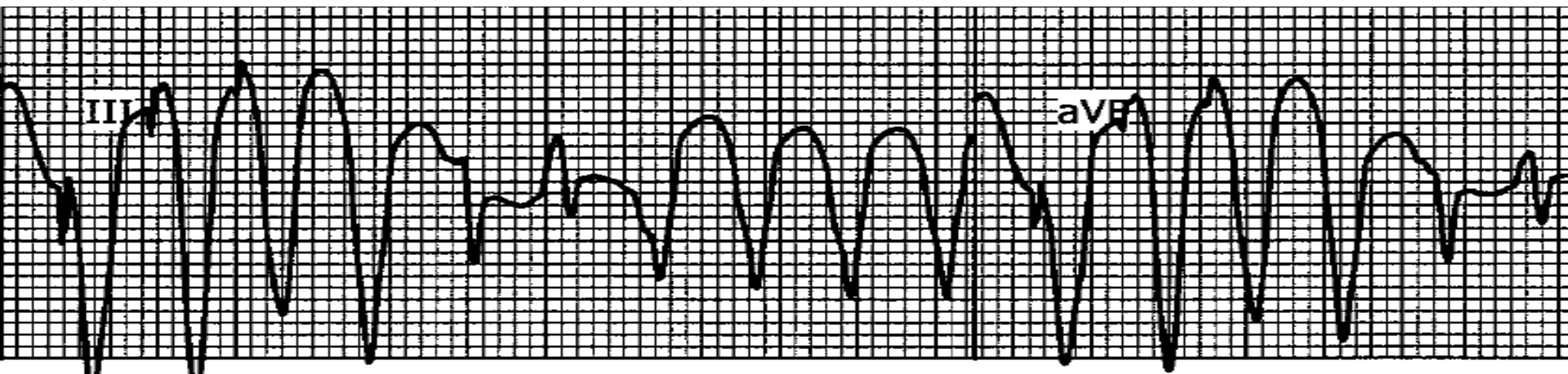
# Case 9

- A. Torsade de Pointe
- B. Ventricular fibrillation
- C. Atrial fibrillation
- D. Artifact





# Case 10



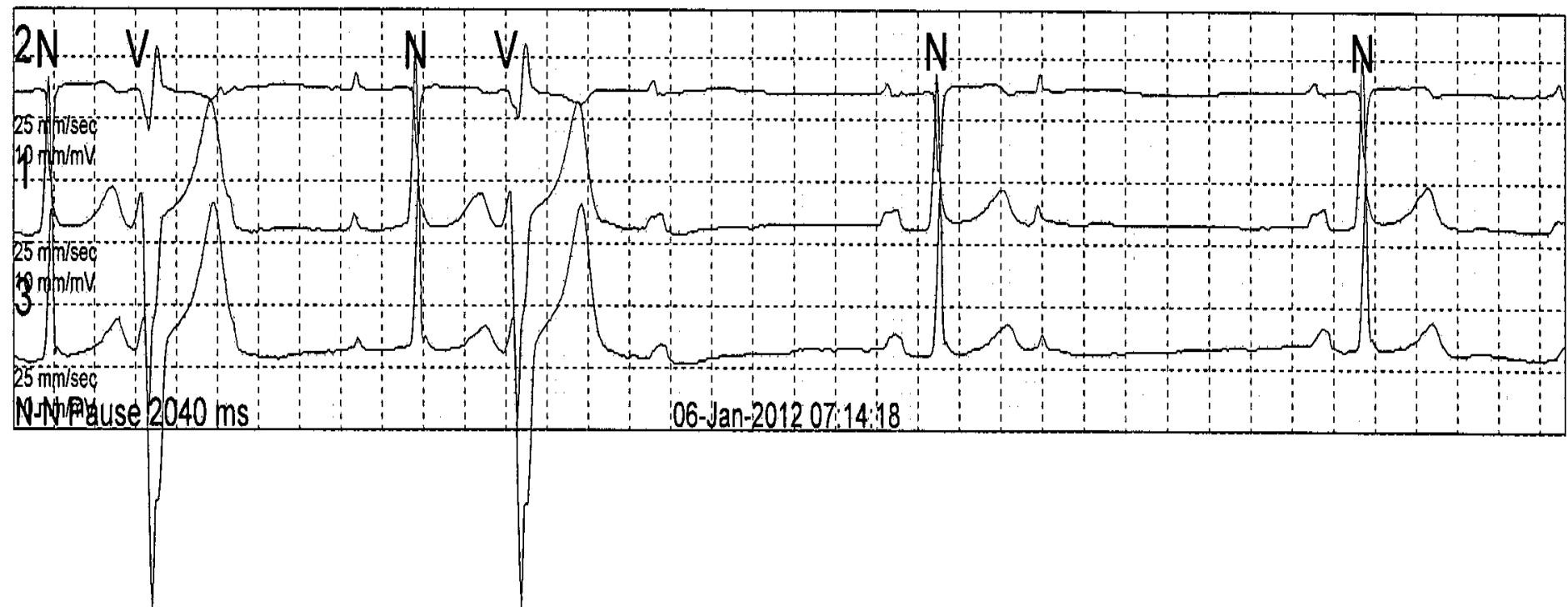


# Case 10

- A. Torsade de Pointe
- B. Ventricular fibrillation
- C. Atrial fibrillation
- D. Artifact



# Case 11



12-01-31

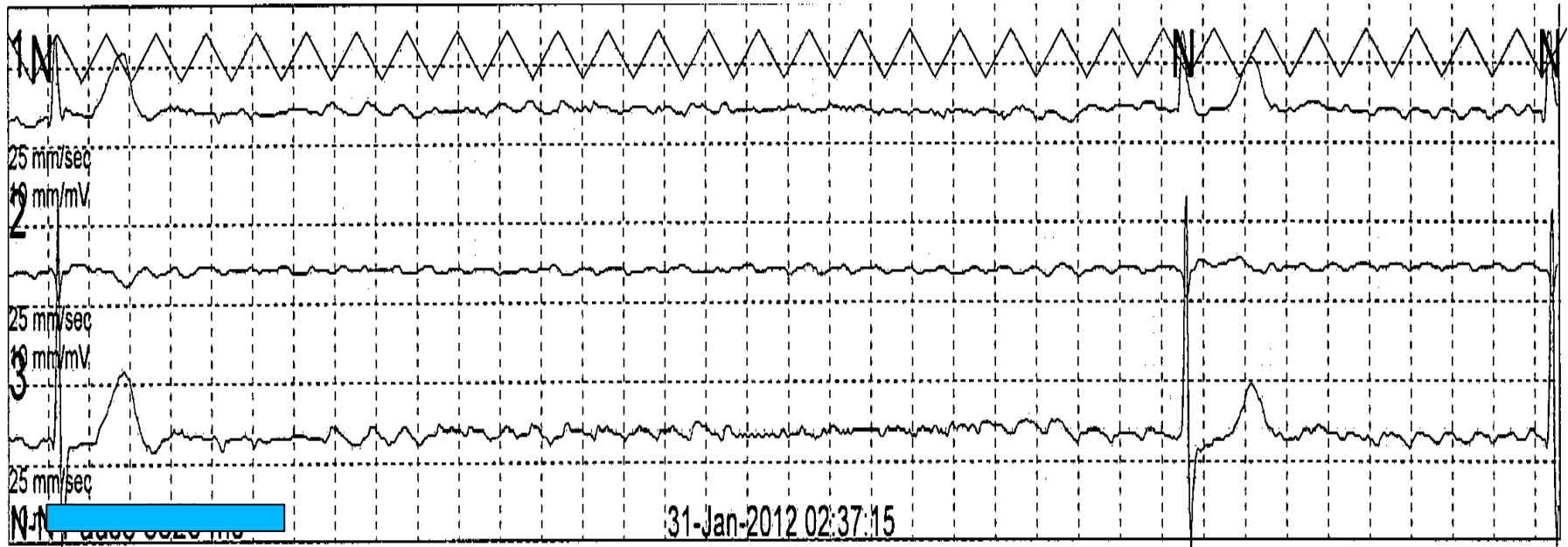


# Case 11

- A. Normal sinus rhythm
- B. Second degree AV block, Mobitz II, and PVC
- C. PVC. Normal sinus rhythm
- D. PVC and PAC, then initiating SVT.



# Case 12



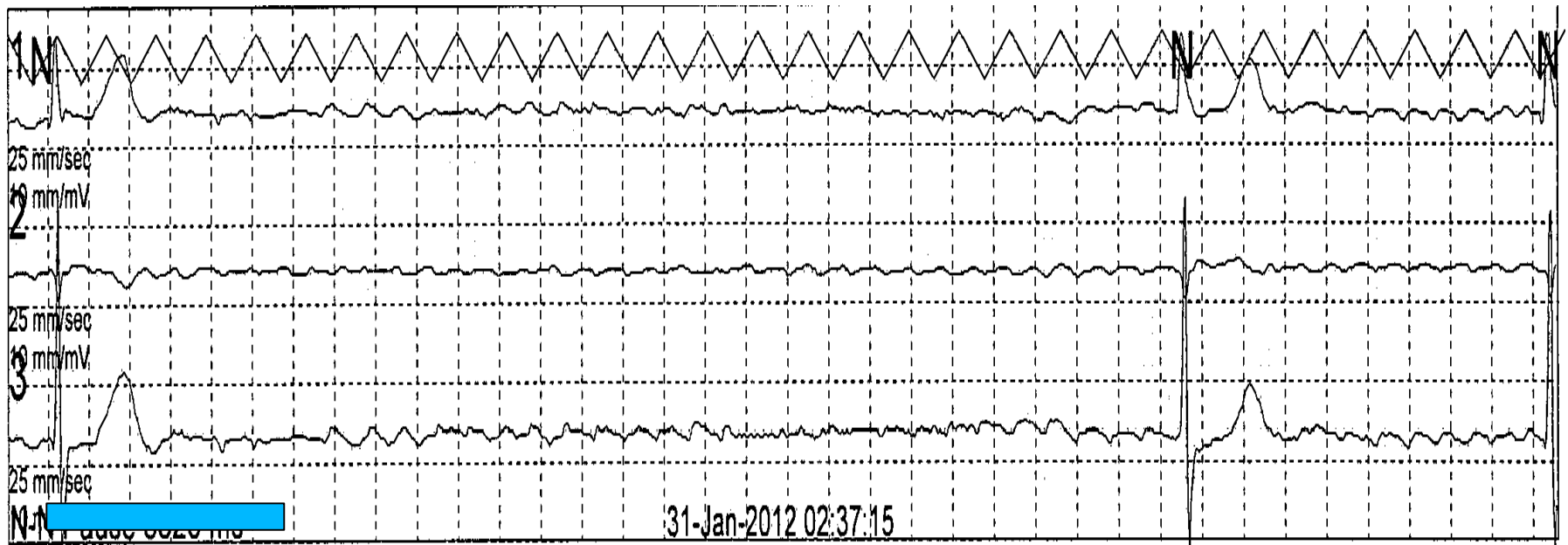


# Case 12

- A. Sinus pause
- B. Atrial fibrillation and pause
- C. Junctional bradycardia
- D. Ventricular bradycardia



# Bonus Question: How long is the pause?





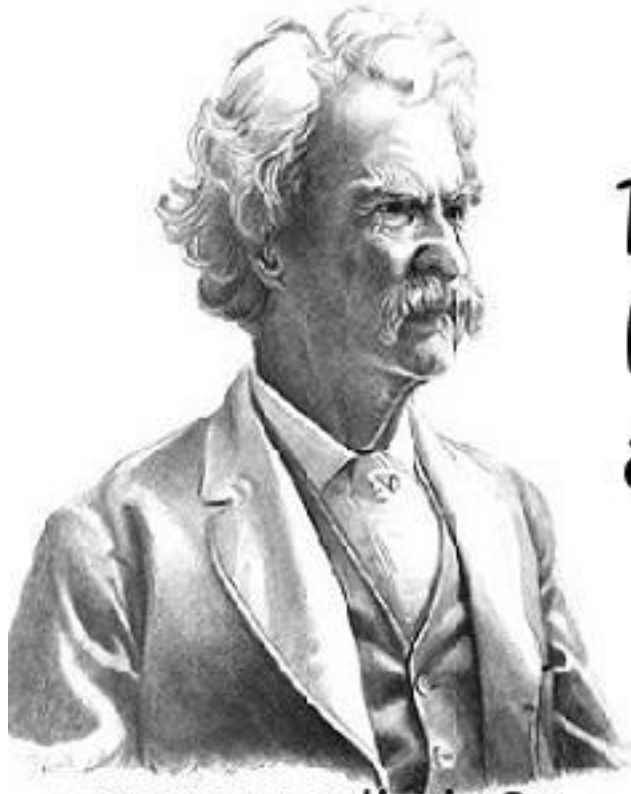
# Case 13

- A. ~2 seconds
- B. ~3 seconds
- C. ~4 seconds
- D. ~5 seconds





# Questions



Be careful about reading health books. You may die of a misprint.

[quotespedia.info](http://quotespedia.info)

Mark Twain