

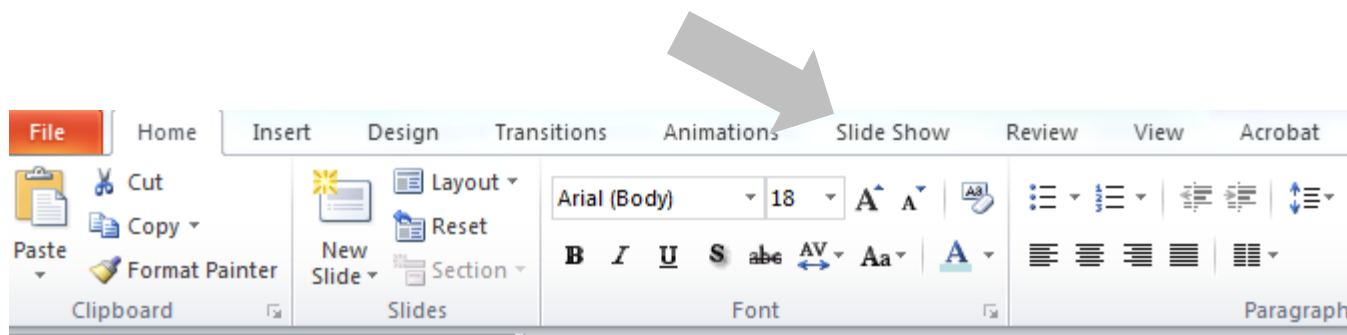
July 2017

ECG Underwriting Puzzler

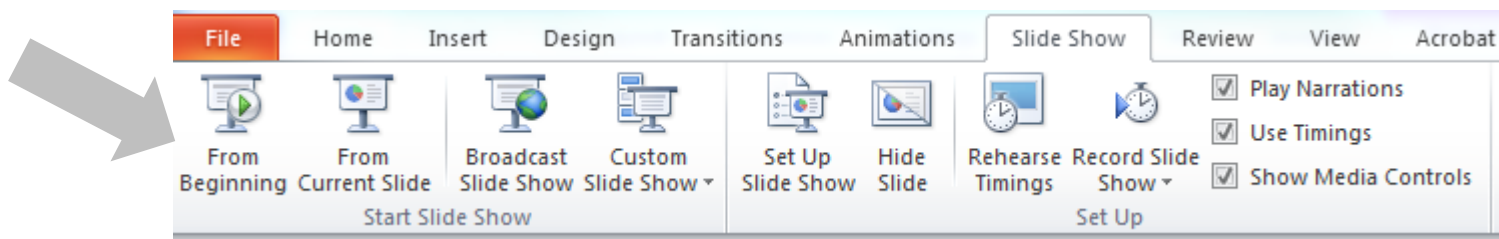
Dr. Richard Braun
Chief Medical Officer

For best results from this presentation, please follow these instructions:

- Select “Slide Show” from the menu option on top



- Select “From the beginning”

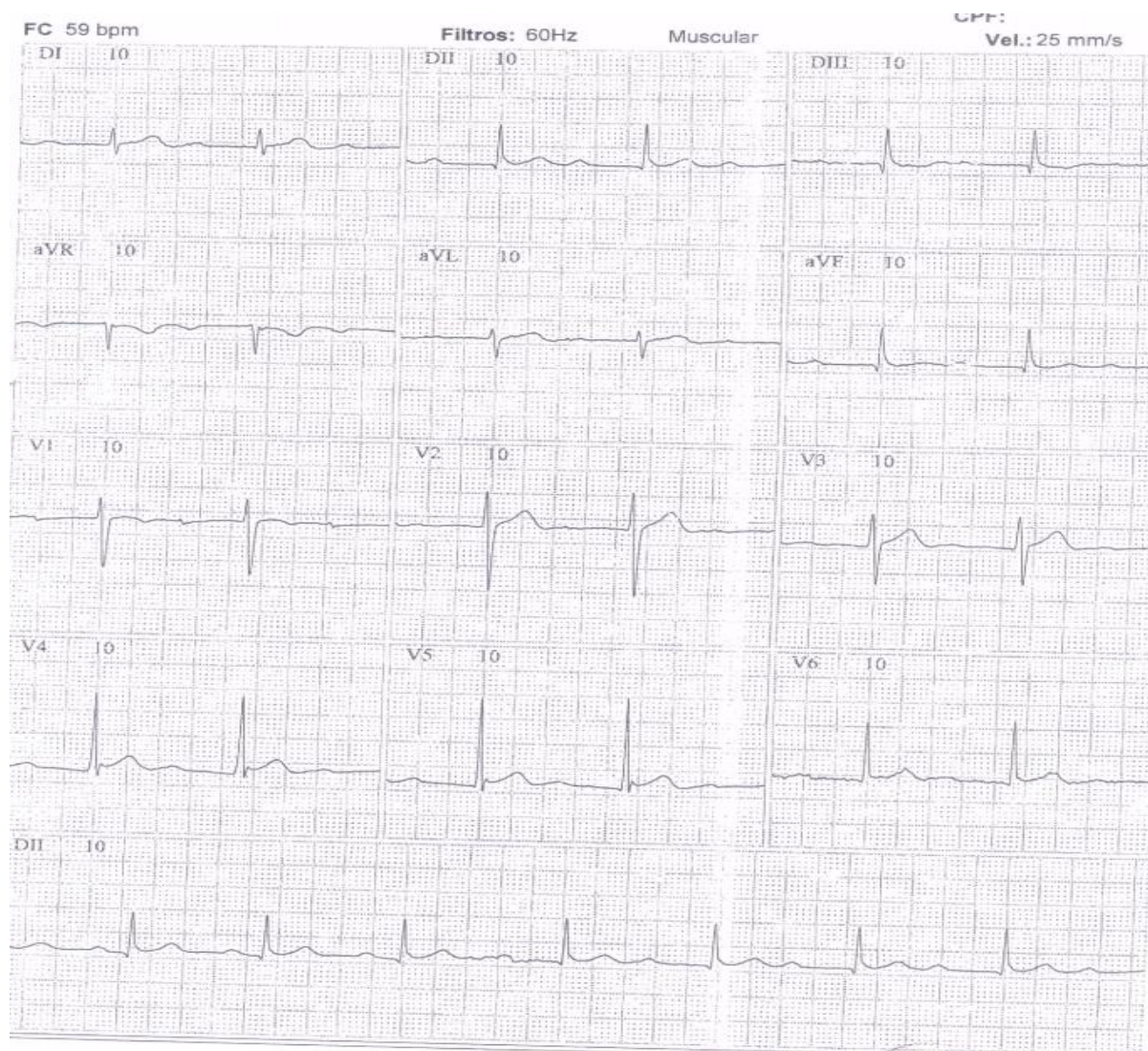


- Slowly click through the presentation
- Have fun and good luck!

Puzzler

- A 23 year-old man applied for life insurance.
- He denied any significant health history and had no regular doctor.
- Due to the amount of insurance an electrocardiogram was obtained.

ECG on a 23-year-old Asymptomatic Man



What is Abnormal about this ECG?



There is a highly variable P-R interval.

What is the differential with a highly variable P-R interval?

1. Second degree AV block – Mobitz type I (Wenckebach)
2. Complete heart block (third degree AV block)

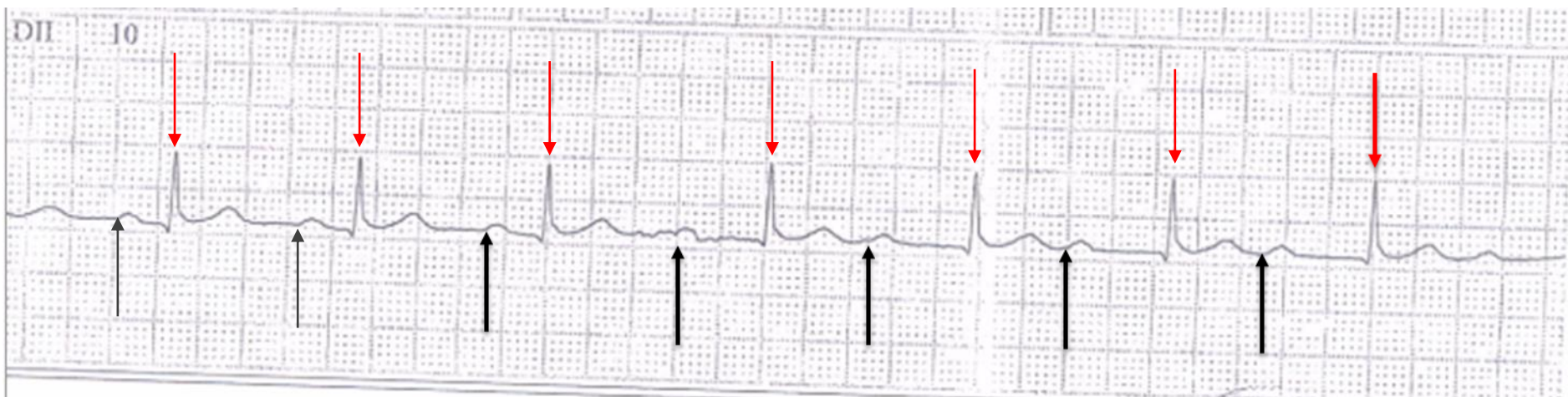
What is Abnormal about this ECG?

AV block – Mobitz type I (Wenckebach) has an irregular QRS rhythm with dropped ventricular beats



What is Abnormal about this ECG?

Our tracing has a fairly regular ventricular rhythm with minimal respiratory variation and no dropped beats.



Due to the short rhythm strip, we cannot be entirely certain that there are no dropped beats but none are seen, making complete heart block the provisional interpretation.

Major Causes of Complete Heart Block

- Ischemic heart disease
- Cardiomyopathy
- Congenital heart disease
- Familial AV block
- Fibrosis of the conduction system
- Infectious – Lyme disease
- Hyperkalemia
- Iatrogenic due to drugs or heart surgery
- Rare infiltrative neoplasm
- Connective tissue disease
- Degenerative neuromuscular disease
- Thyroid disease

Conclusion

- While we are not certain that this is complete heart block, a cardiac evaluation is warranted.
- Underlying causes of complete heart block most likely at this age would include autoimmune antibodies, congenital heart disease and familial CHB.
- An echocardiogram, 24-hour ambulatory monitoring and cardiac consultation is required.
- It would be prudent to await those results.