Day 9
Rhythms

CARDIAC ARRHYTHMIAS
...concepts to clarify
...lingo to learn
1. Sinus rhythm @ ~90 bpm (arrows)
2. Junctional escape rhythm (50 bpm) with LBBB
3. Complete AV dissociation (due to 3\textsuperscript{rd} degree AV block)

1. Sinus rhythm 80 bpm)
2. Type II (Mobitz) 2\textsuperscript{nd} degree AV block with 3:2 and 2:1 conduction
3. RBBB
3. Sinus rhythm @ 75 bpm (arrows); 2 sinus captures (*) with RBBB aberration
2. Accelerated junctional rhythm @ 80 bpm
3. Incomplete AV dissociation due to the faster junctional rhythm; note: there is no AV block; the sinus captures whenever there is an opportunity for conduction.

Sinus rhythm with nonconducted PAC’s (*) in a pattern of bigeminy
5. Normal sinus rhythm (PR=220ms, QRS=120 ms)
2. Late (i.e., end-diastolic) PVC’s (*) of LV origin

6. Atrial fibrillation with one aberrantly conducted (RBBB) beat (note long cycle-short cycle rule of aberrancy, aka Ashman phenomenon)
1. Sinus rhythm (~70 bpm) with 2 nonconducted PAC’s (arrows)
2. Aborted 2nd degree AV block (Type I); note the PAC’s are early and they reset the sinus timing)
3. Two junctional escapes (*)

Atrial flutter (240 bpm) with variable conduction
1. Sinus rhythm (75 bpm)
2. 2nd degree AV block (2:1 conduction) with RBBB (it’s Mobitz II because the last beat has same PR interval)
3. Ventricular escape rhythm, ~30 bpm, RV origin (*), with incomplete AV dissociation
4. One fusion beat (F) due to a ventricular escape + sinus with RBBB; the fusion of a sinus beat traversing the left bundle (because of the RBBB) with the escape coming from the RV (results in a normal looking beat).
1. Sinus rhythm (75 bpm)
2. Incomplete AV dissociation due to 2\textsuperscript{nd} degree AV block (probably type I, Wenckebach) \textit{with} a Junctional escape rhythm (40 bpm): \textbf{J} = junctional beats; \textbf{C} = sinus captures (note the shorter RR intervals, differentiating the three sinus captures from the junctional escapes)

12.

Sinus rhythm with 2 aberrantly conducted PACs (RBBB)
1. Sinus rhythm (90 bpm)
2. Two PAC’s (arrows) with RBBB aberration; (#3 morphology, 50:50 probability, but with PAC on T wave; *cherchez le P*)
3. One PVC (*) from the LV (# 4 morphology – always ventricular ectopy)
1. Sinus rhythm (90 bpm)
2. Single PVC’s and runs of nonsustained VT from the LV (#4 morphology)
15.

1. Sinus rhythm (90 bpm)
2. 2nd degree AV block, Moibitz type II, with 3:2 and 3:1 AV conduction (note fixed PR’s)
3. LBBB

16.

1. Sinus rhythm (75 bpm)
2. One PVC (*), RV origin
3. Ectopic atrial tachycardia (115 bpm, arrows)
17. Atrial tachycardia (200 bpm) with 2:1 AV block

18. Sinus rhythm (55 bpm) with a pause (2:1 sino-atrial exit block)
1. Demand ventricular pacemaker (70 bpm) with normal function
2. Sinus rhythm (65 bpm); the sinus captures whenever there is opportunity (*)
3. Incomplete AV dissociation due to slightly faster ventricular pacemaker (there is no AV block)

1. Sinus rhythm (100 bpm)
2. Junctional escape rhythm (52 bpm) with RBBB
3. Complete (3rd degree) AV block with AV dissociation