



Atrial Fibrillation



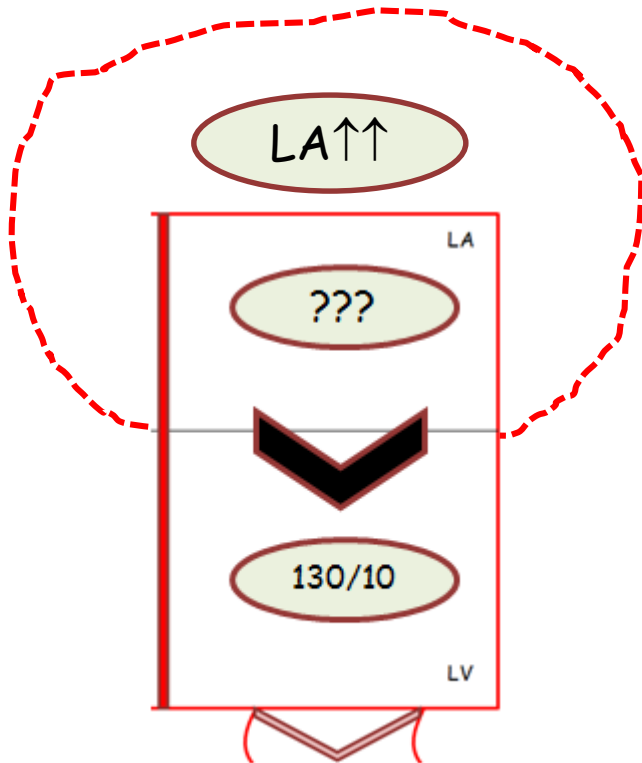
the Sounds

Cardiology

Mitral Stenosis and Derivatives:
Part III: Complications
(i.e. Atrial Fibrillation)

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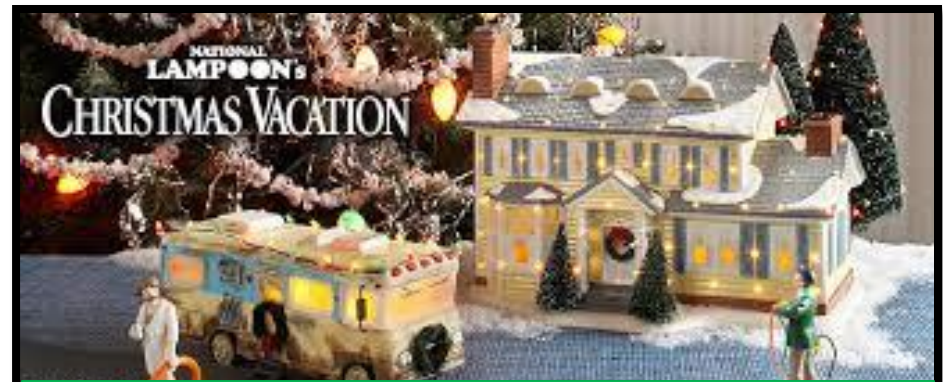
Derivatives and Final Tidbits: Complications



Compression of surrounding structures

Esophagus: dysphagia
Laryngeal nerve: hoarseness

Atrial fibrillation



This is just a small excursion...

Atrial Fibrillation



- Recognize the rhythm
 - Irregularly irregular: usually given → another derivative



Images to Know for Step One

Atrial Fibrillation



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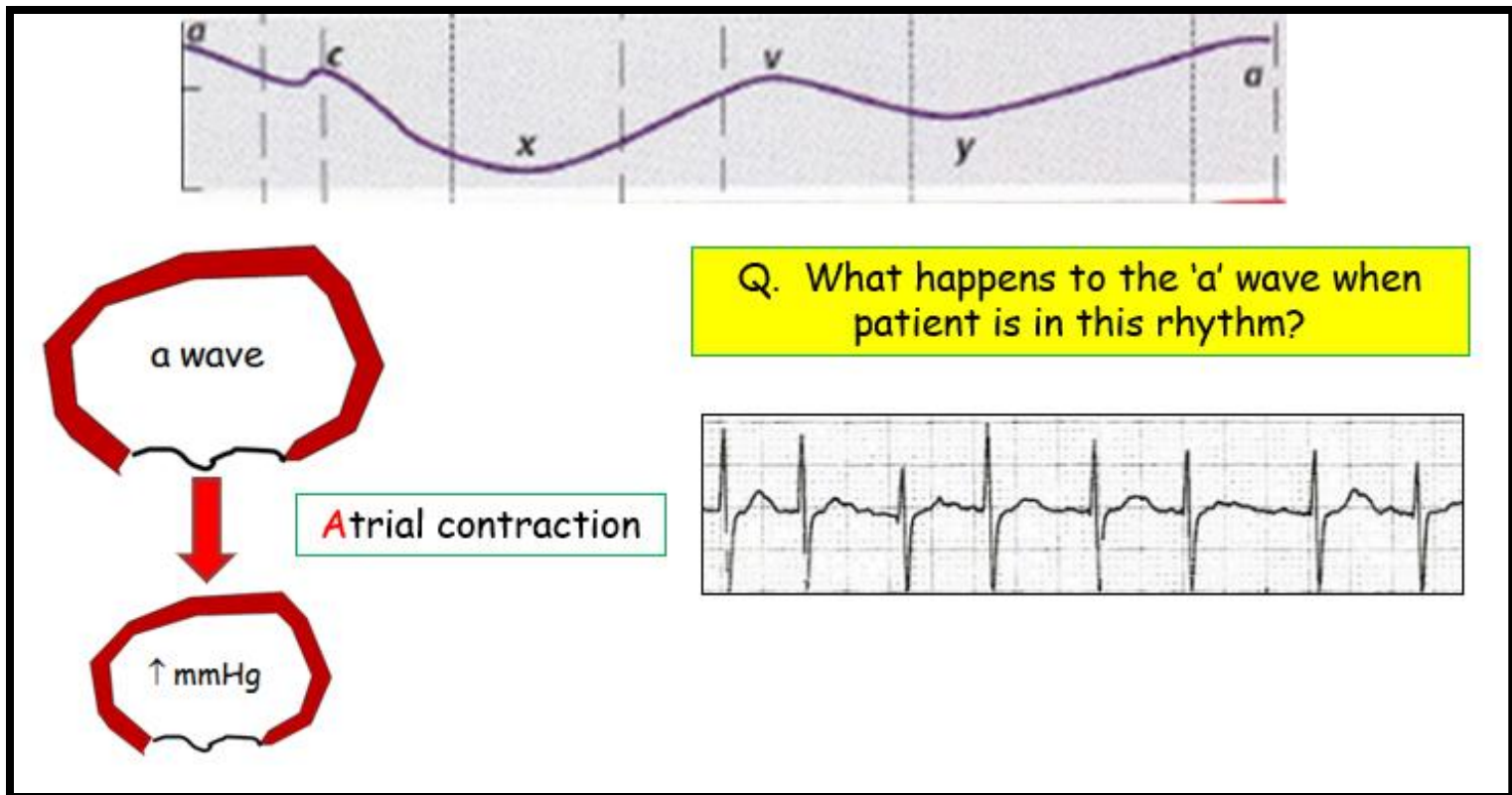


Coarse baseline tracing can mimic P-waves
*Focus on the **irregularity of the R-R intervals***

Atrial Fibrillation



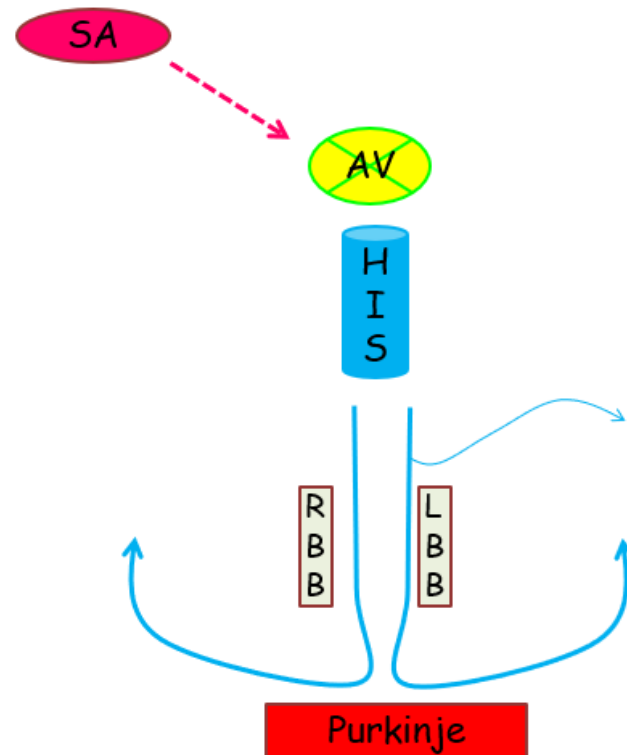
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 - Loss of 'A' wave in JVP



Atrial Fibrillation



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 - Ventricular rate governed by AV node refractory period



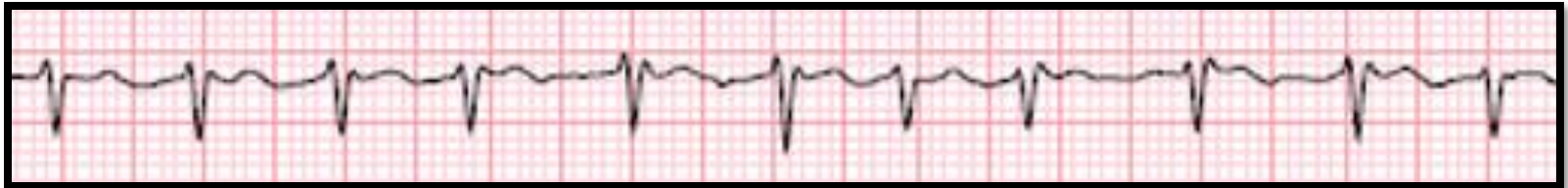
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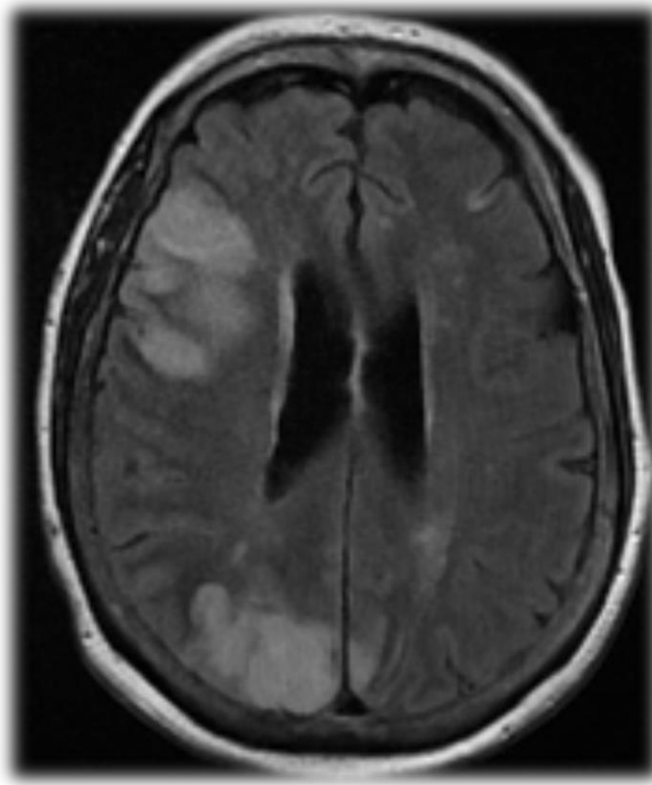
- Understand complications

1. Loss of atrial kick \rightarrow \downarrow EDV/preload

- Ramification for conditions that are 'preload-dependent' (i.e. AI, AS/HCM)

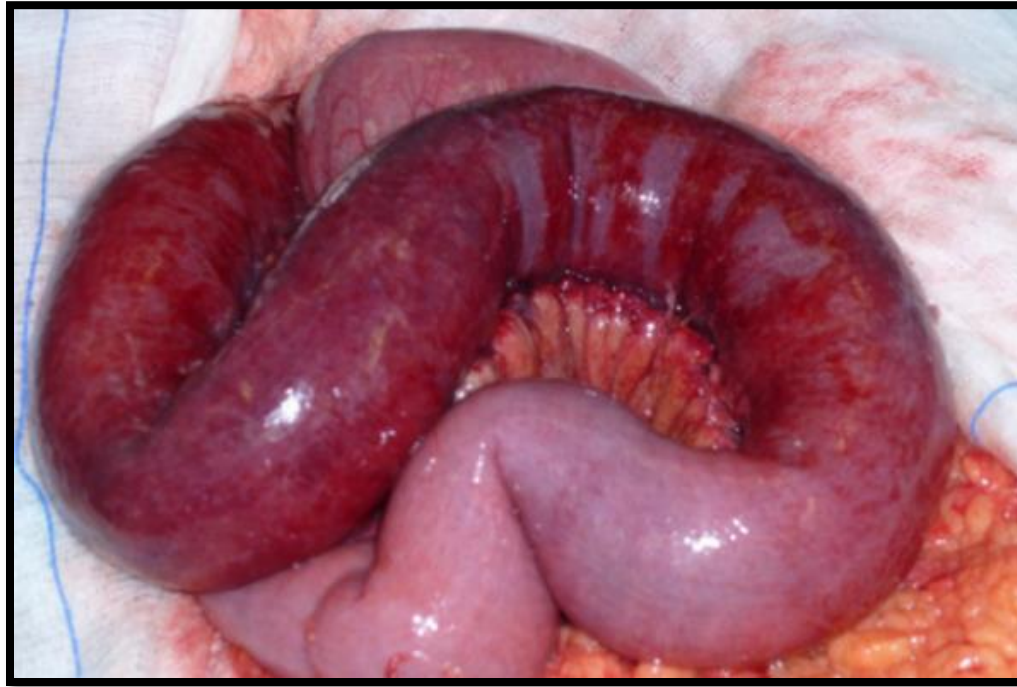


~150 bpm



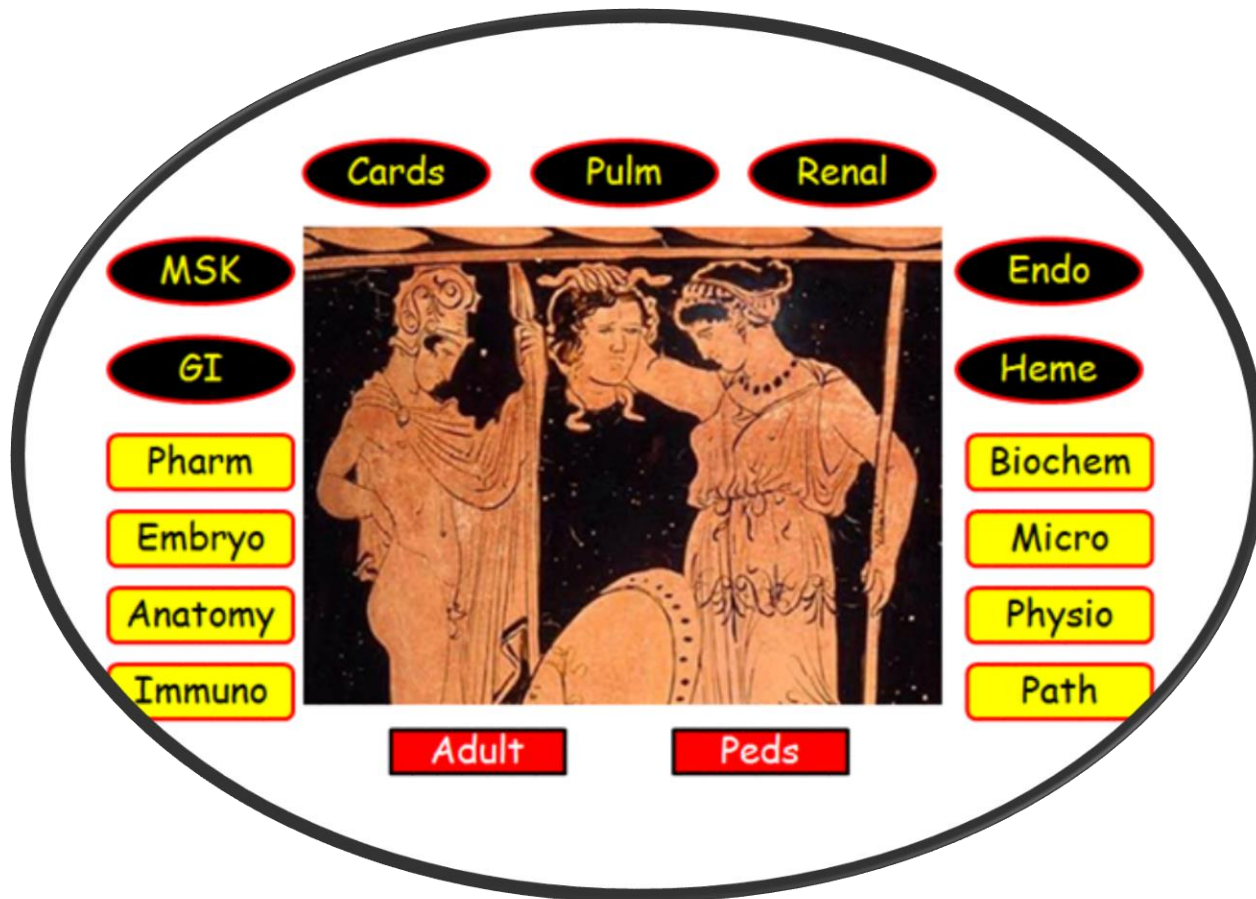
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2. Systemic embolization:
 - **Not just CVA** (viscera with 'wedge shaped infarct', ischemic gut)



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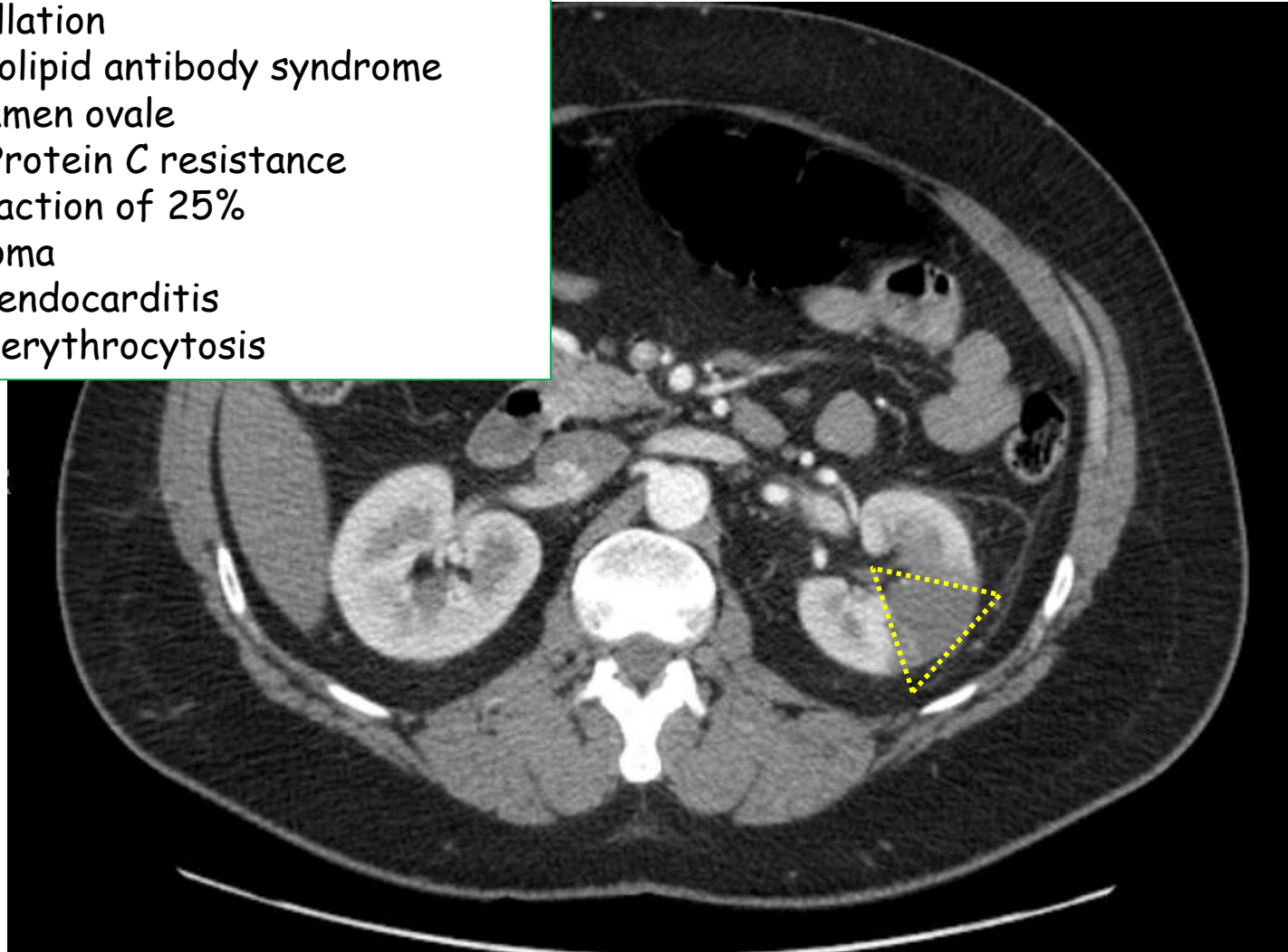


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45 y.o. woman presents with flank pain and hematuria. CT obtained. Which of the following would not be associated with this presentation?

1. Essential thrombocythemia
2. Polycythemia vera
3. Atrial fibrillation
4. Antiphospholipid antibody syndrome
5. Patent foramen ovale
6. Activated Protein C resistance
7. Ejection fraction of 25%
8. Atrial myxoma
9. Infectious endocarditis
10. Physiologic erythrocytosis





Renal Infarct, left (wedge shaped)

Thrombo-Embolism for the Boards

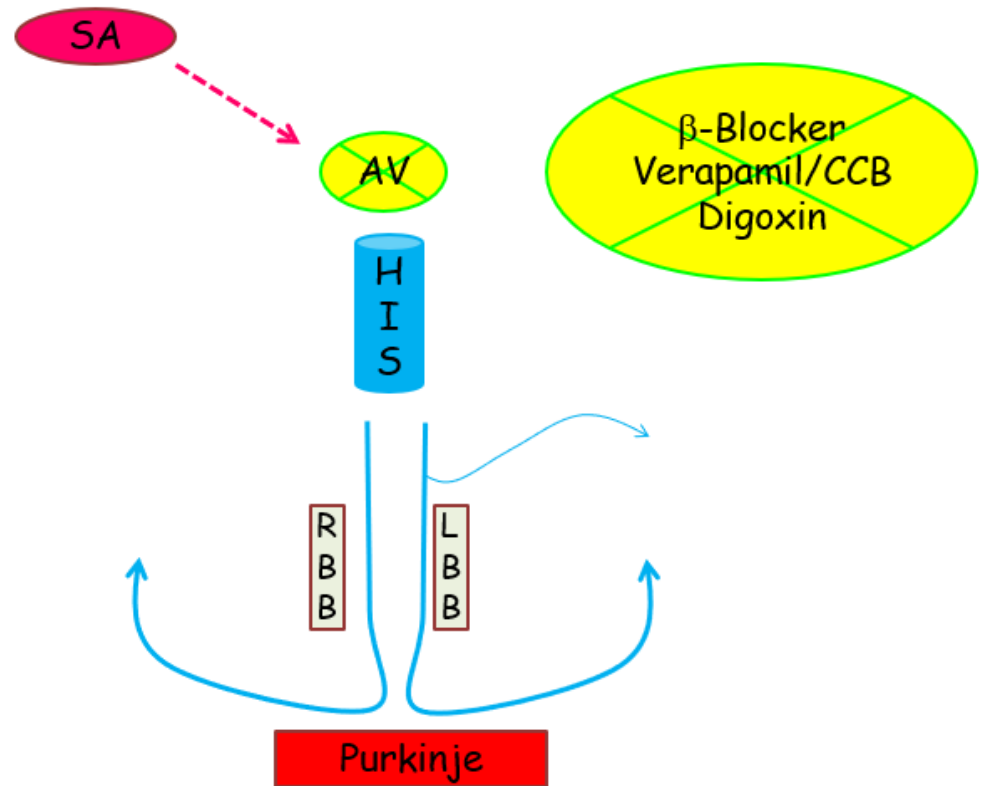
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Atrial Fibrillation



- Be familiar with Rx
 - Anticoagulation
 - Rate control (β -blockers, CCB)
 - Digoxin

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Digoxin: *Separate MOA*

- **Inotropic MOA**

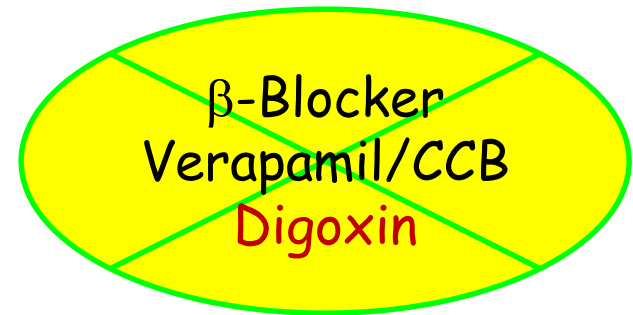
- ↓ Na efflux → ↑ IC Calcium
- Really

- **Chronotropic MOA**

- ↑ Parasympathetic tone
- Really

Digoxin: *Separate MOA*

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 - ↑ Parasympathetic tone
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AV Node Inhibitors

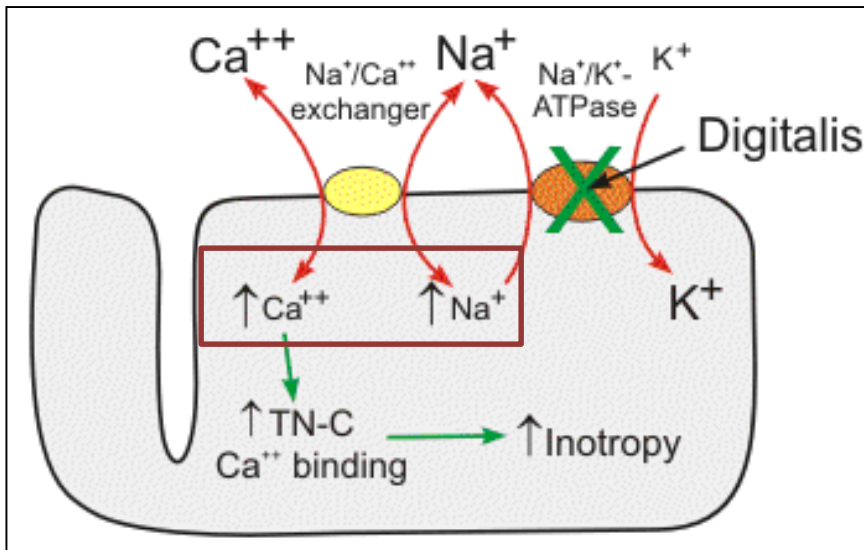
Digoxin: Separate MOA

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~~β-Blocker
Verapamil/CCB
Digoxin~~

AV Node Inhibitors

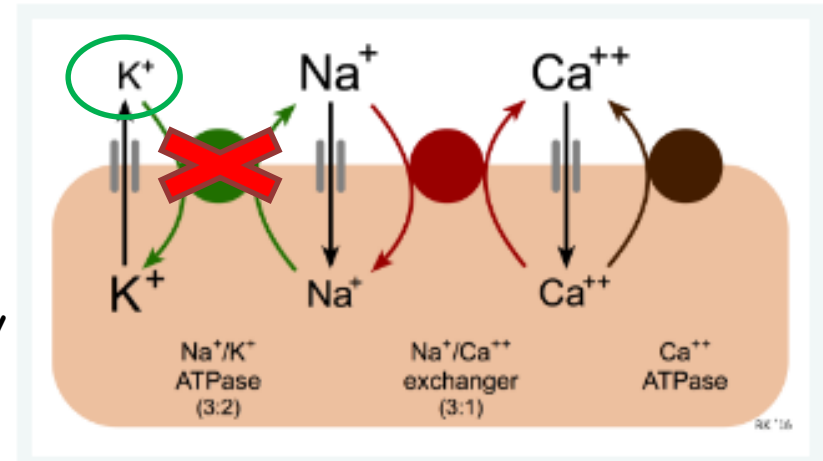
If Na is NOT extruded (via pump), there is no need for Ca to leave in the first place

Digoxin: Adverse Effects

- Nausea/Vomiting/Visual Δ
 - Blurred or **yellow vision**

- **Potassium**

1. Displaces K^+ \rightarrow hyperkalemia*
2. Competes w/ K^+ : low K \rightarrow dig toxicity

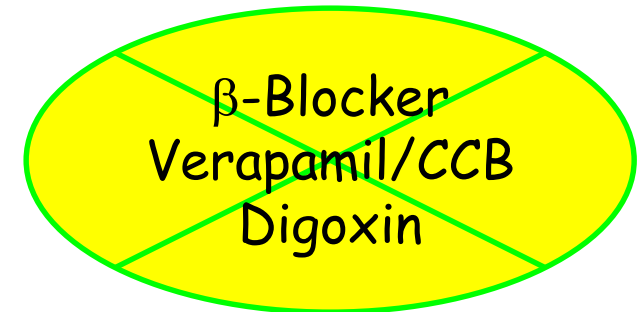


- Renal clearance

- **Azotemia*** (esp from other drugs) \rightarrow **dig toxicity**

- Dysrhythmias:

- Bradycardia/heart block
 - Ventricular tachycardia/fibrillation



*Do Not Confuse: ACE/spironolactone

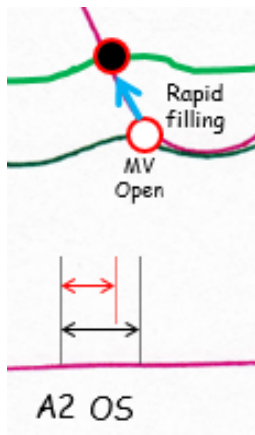
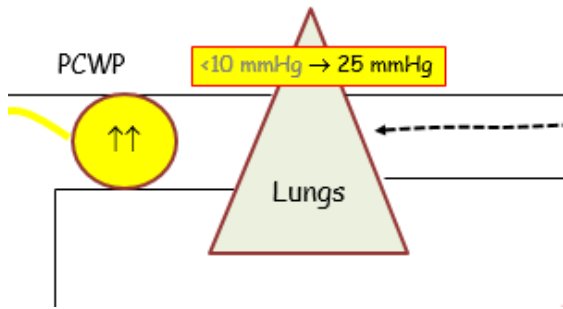
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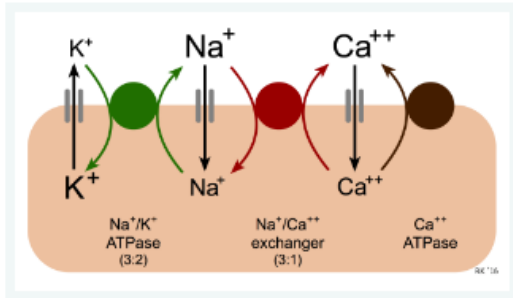
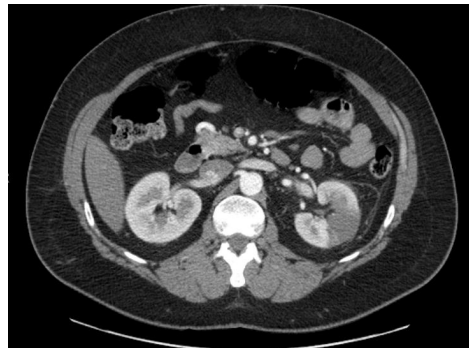
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End Mitral Stenosis

Hemodynamics



Complications



Rheumatic Fever

Acute Rheumatic Fever (5)
(MS is late manifestation)



Fleeting Nonerosive



Skin Criteria (2)



Sydenham Chorea

Acute Pancarditis (DCM)
Valvulitis (MR/AI)
Cause of Death



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