

Arrhythmias 341

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KSU / KCUH

Objectives

- ▶ General approach to arrhythmias
- ▶ Specific types and chronic management:
 - ▶ Atrial Fibrillation (AF)
 - ▶ Atrial Flutter (AFL)
 - ▶ Supraventricular tachycardia (SVT)
 - ▶ Wolf-Parkinson-White syndrome (WPW)
 - ▶ Ventricular tachycardia (VT)
 - ▶ Ventricular fibrillation (VF)
- ▶ Acute management

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General approach



▶ History:

▶ HPI:

- ▶ Palpitation, Dizziness, syncope, fatigue, chest pain and SOB, Stroke (AF)

▶ Family history

▶ Social history: Ethol, illicit drug use

▶ PMH:

- ▶ Underlying heart disease
- ▶ Past medical and surgical history

▶ Work-up:

▶ ECG (baseline and during episodes), Holter, Echo

▶ R/out secondary causes: electrolytes, TSH, sleep study,

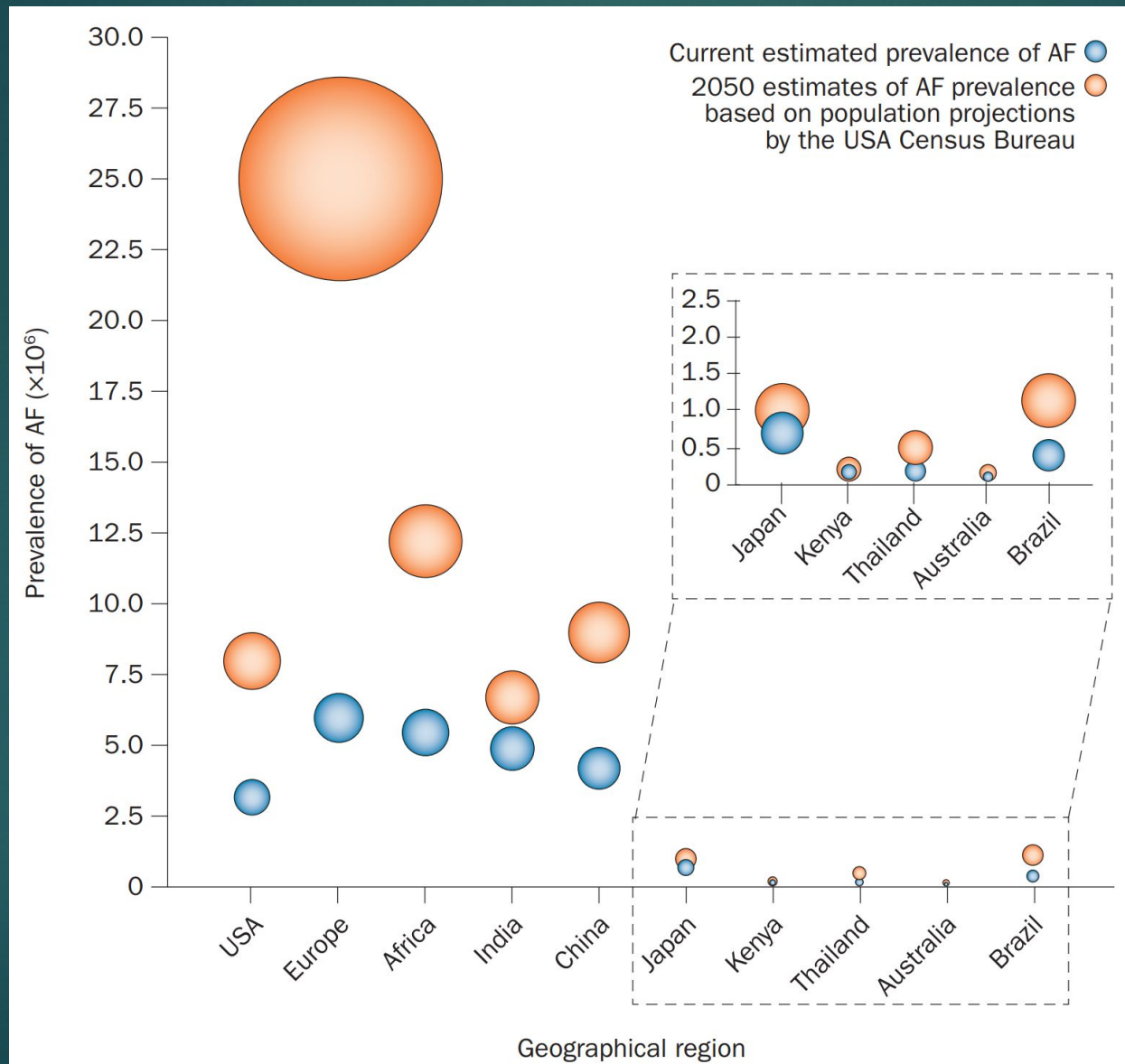
▶ Management:

- ▶ Wait and see Vs medical therapy Vs ablation

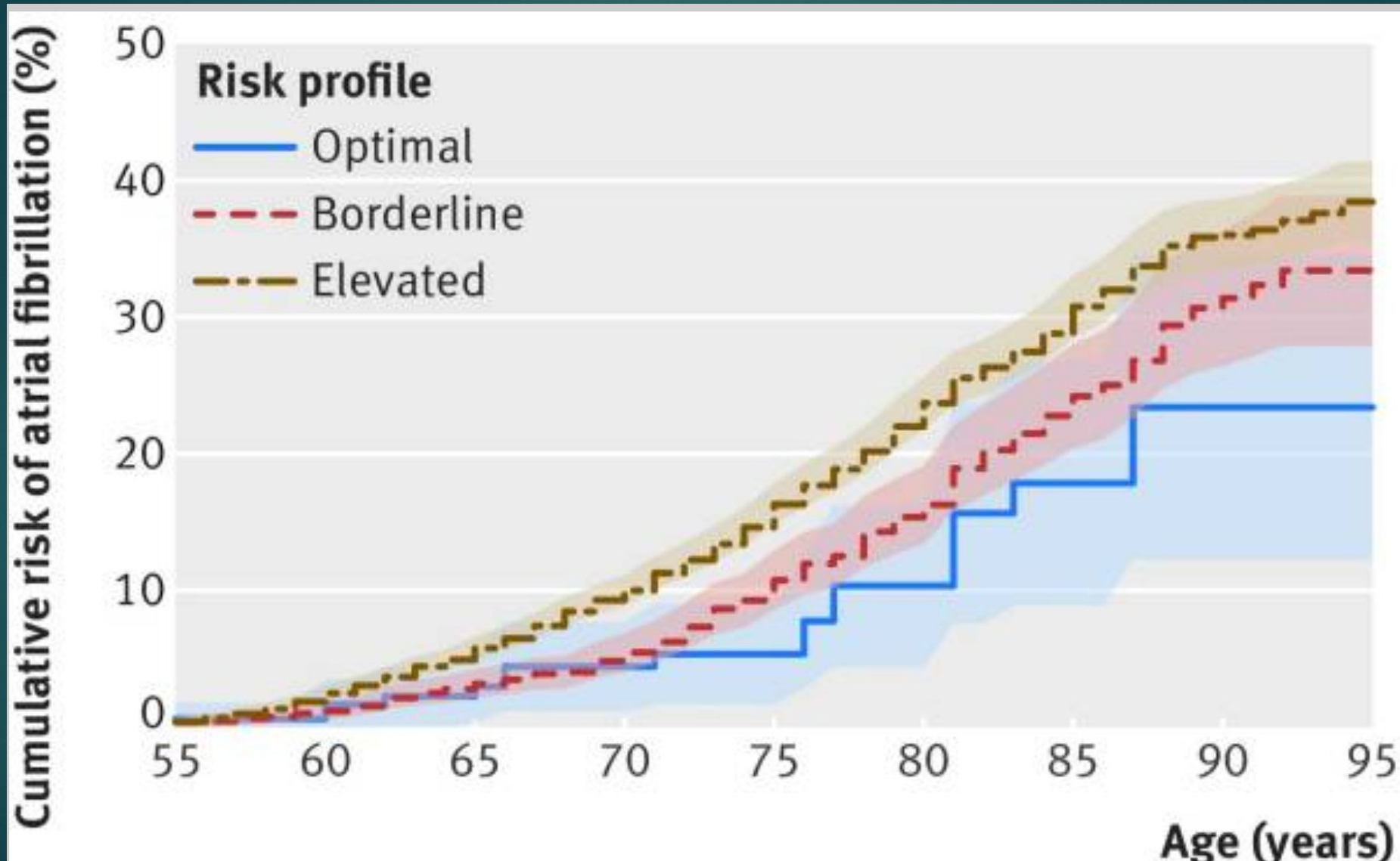
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Atrial Fibrillation (AF)



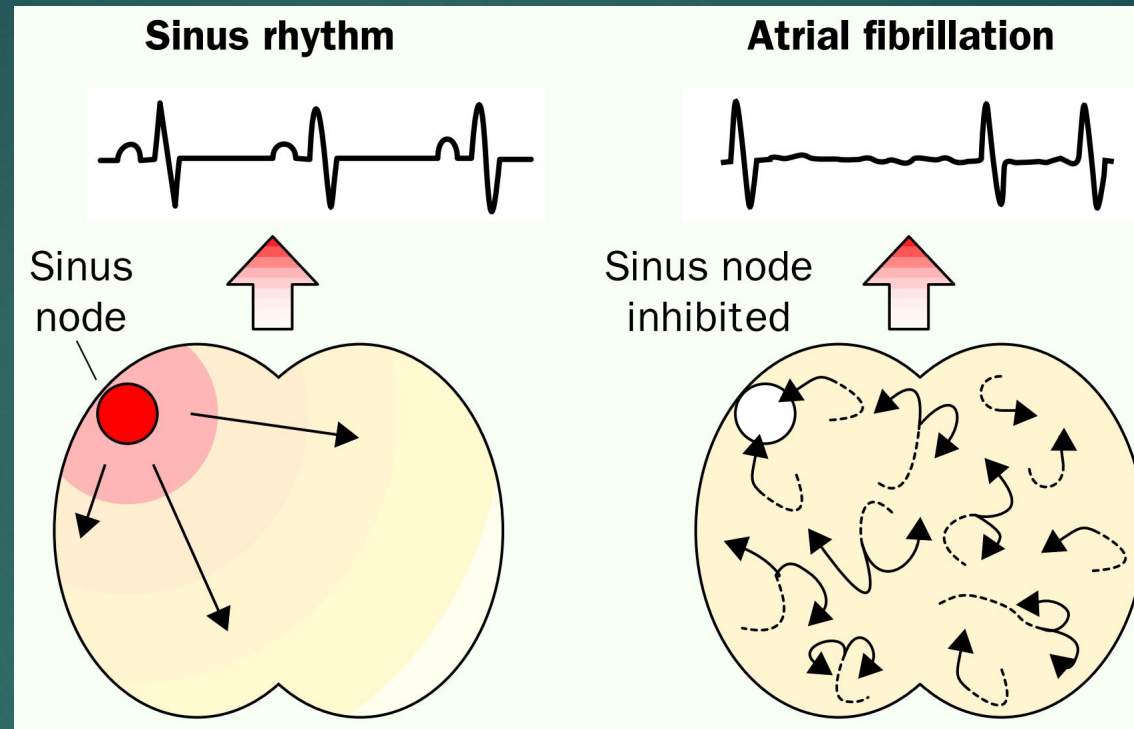
Atrial Fibrillation (AF)



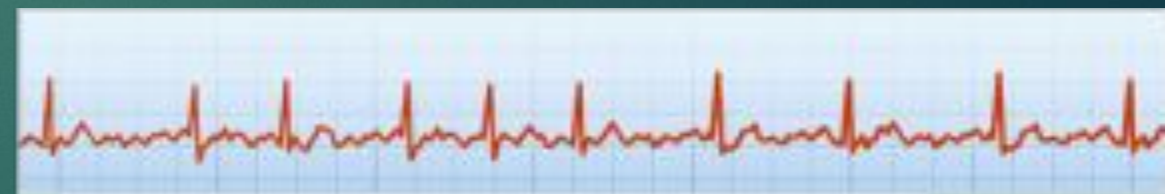
Atrial Fibrillation (AF)



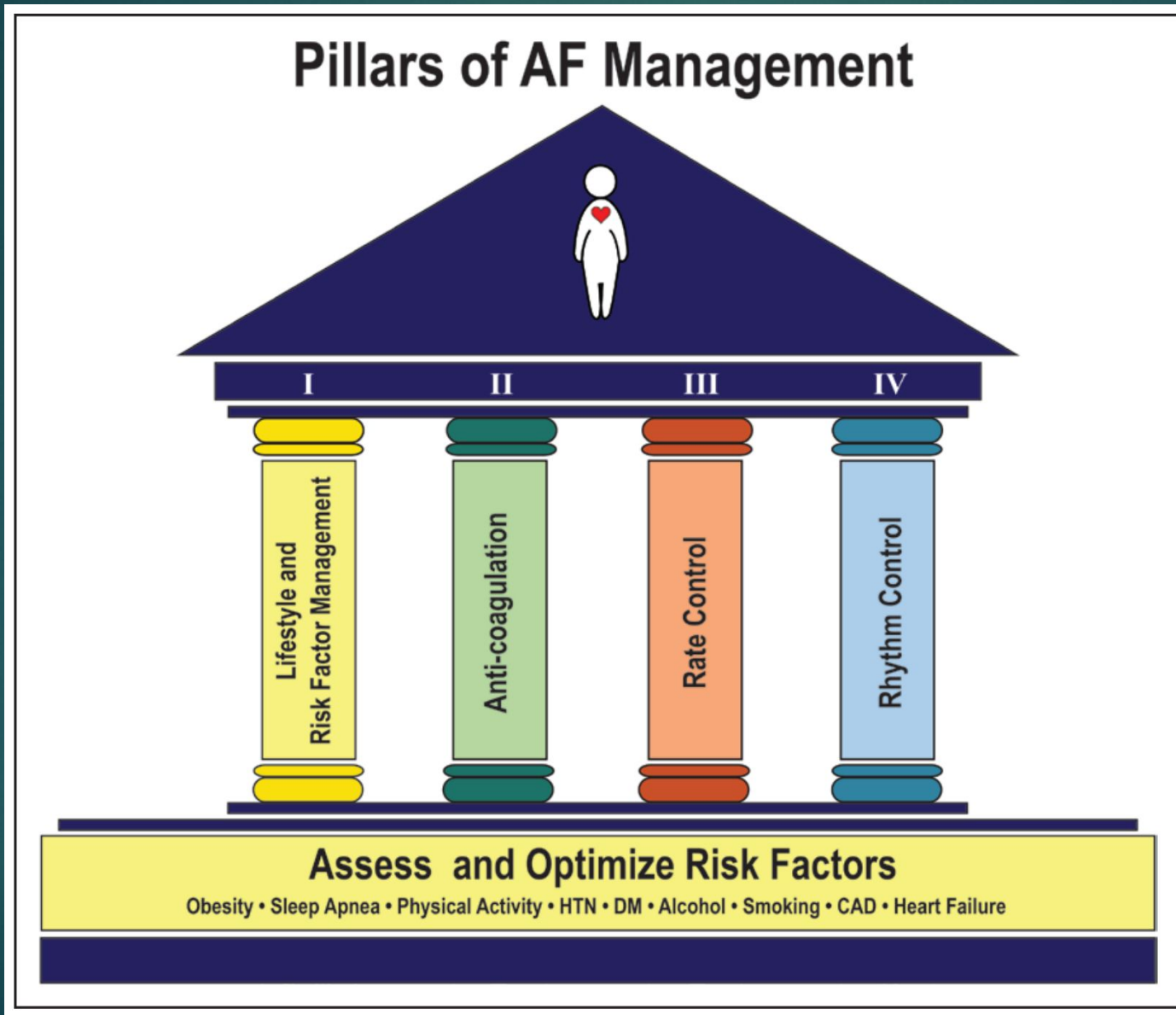
Atrial Fibrillation (AF)



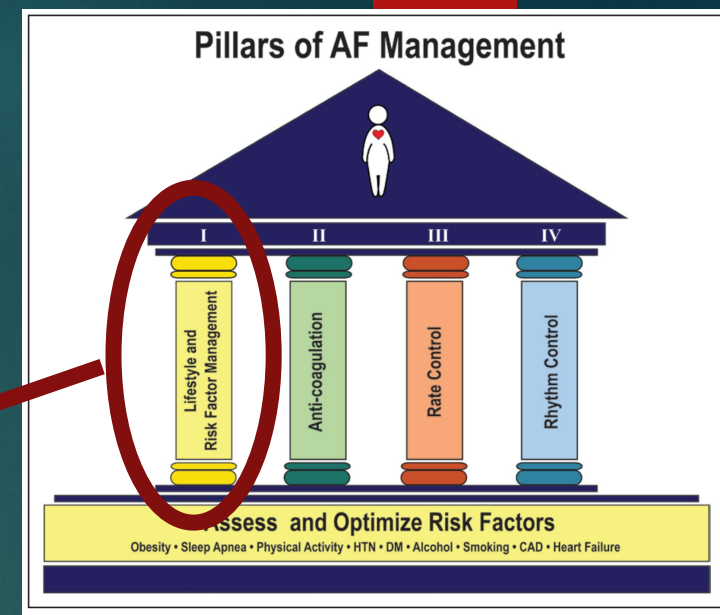
VS



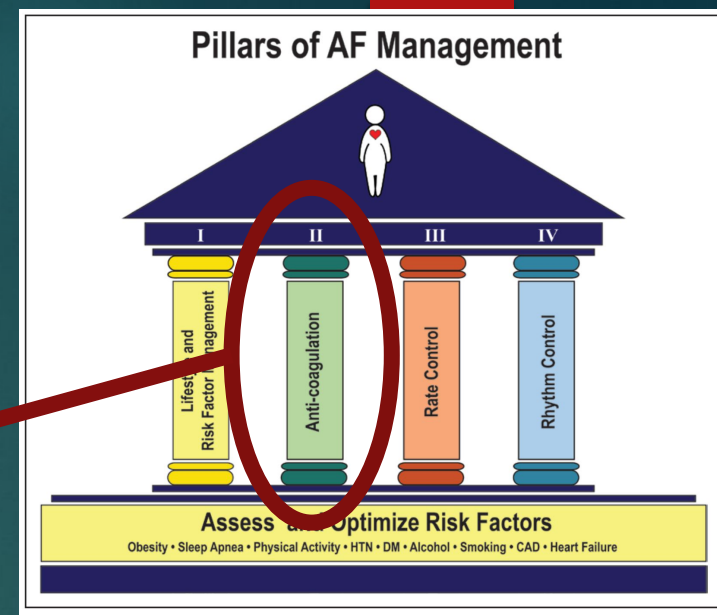
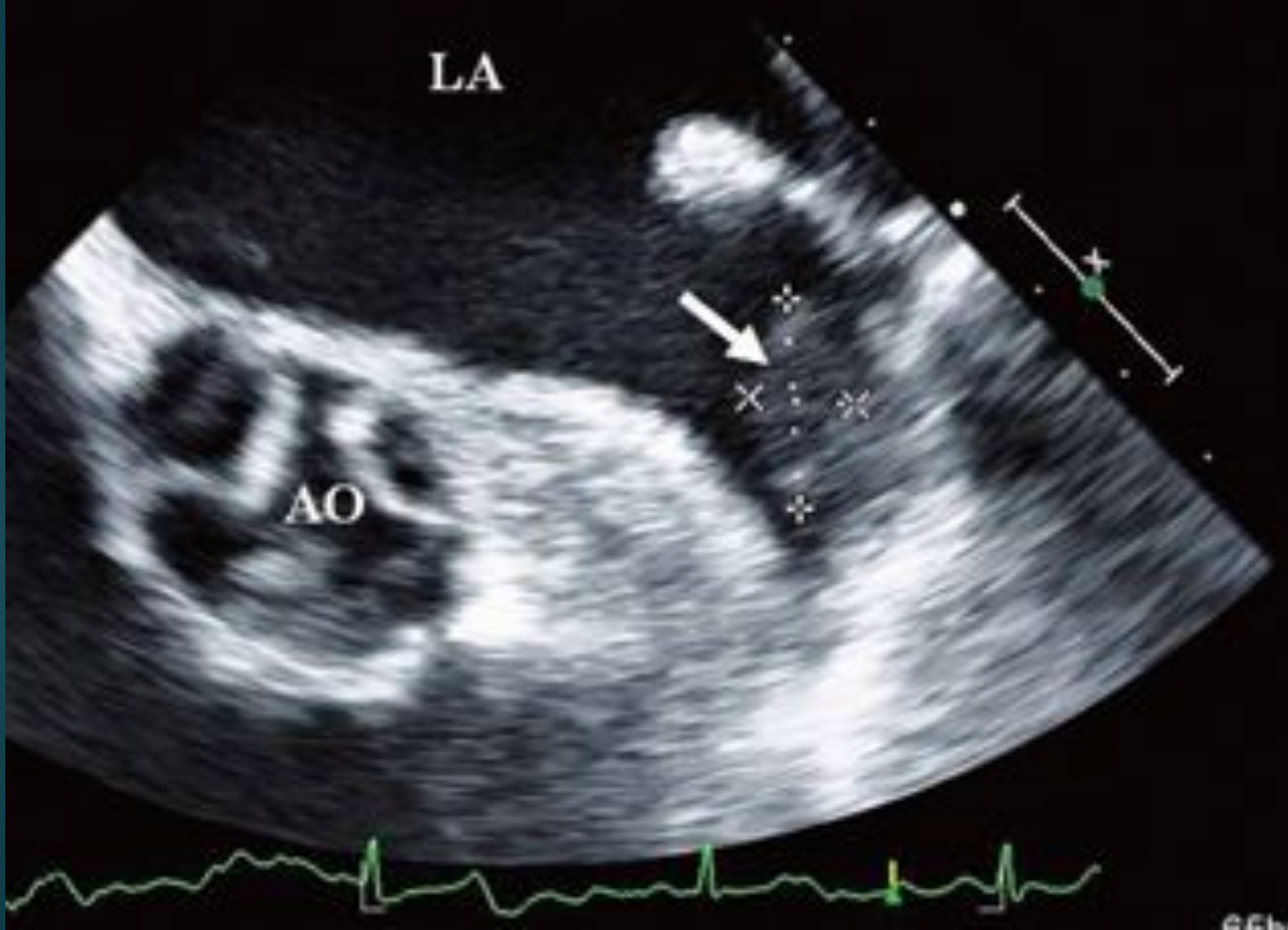
Atrial Fibrillation (AF)



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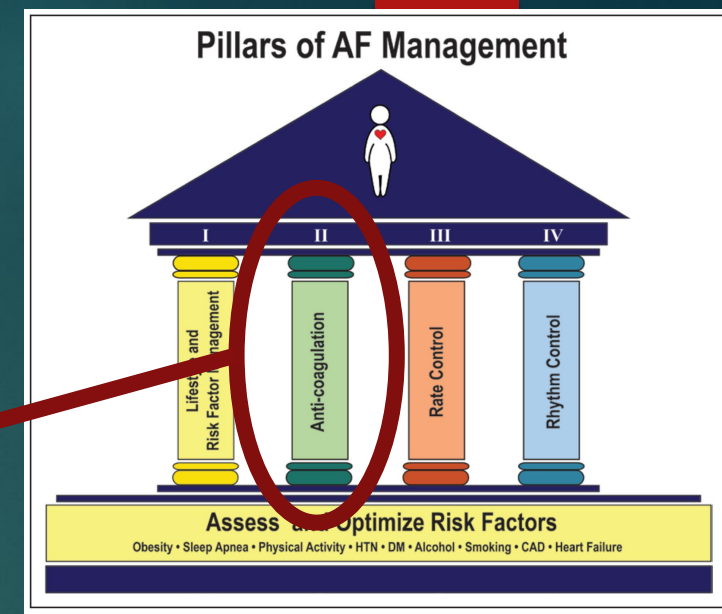


Atrial Fibrillation (AF)



Atrial Fibrillation (AF)

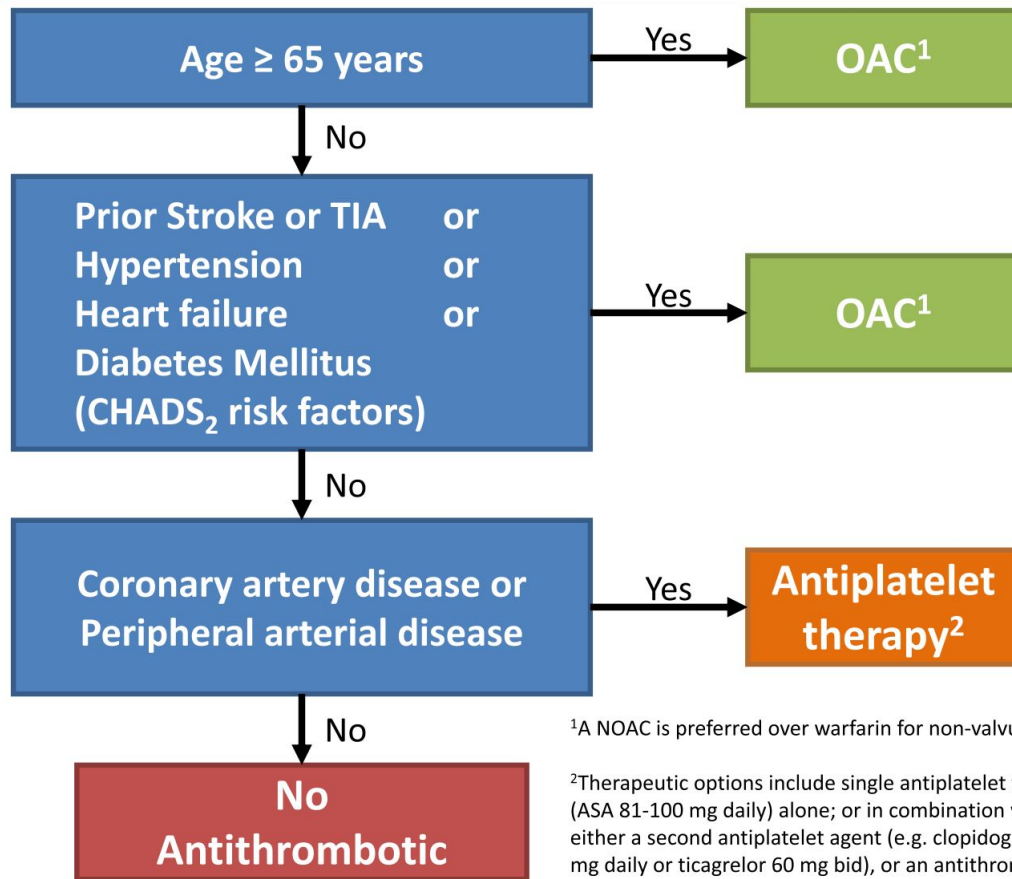
CHA ₂ DS ₂ -VASc	Score
Congestive heart failure/LV dysfunction	1
Hypertension	1
Age ≥ 75 years	2
Diabetes mellitus	1
Stroke/TIA/TE	2
Vascular disease [prior MI, PAD, or aortic plaque]	1
Age 65-74 years	1
Sex category (female)	1



CHADS ₂ score	Patients (n=1733)	Adjusted stroke rate (%/year) ^a (95% confidence interval)
0	120	1.9 (1.2–3.0)
1	463	2.8 (2.0–3.8)
2	523	4.0 (3.1–5.1)
3	337	5.9 (4.6–7.3)
4	220	8.5 (6.3–11.1)
5	65	12.5 (8.2–17.5)
6	5	18.2 (10.5–27.4)

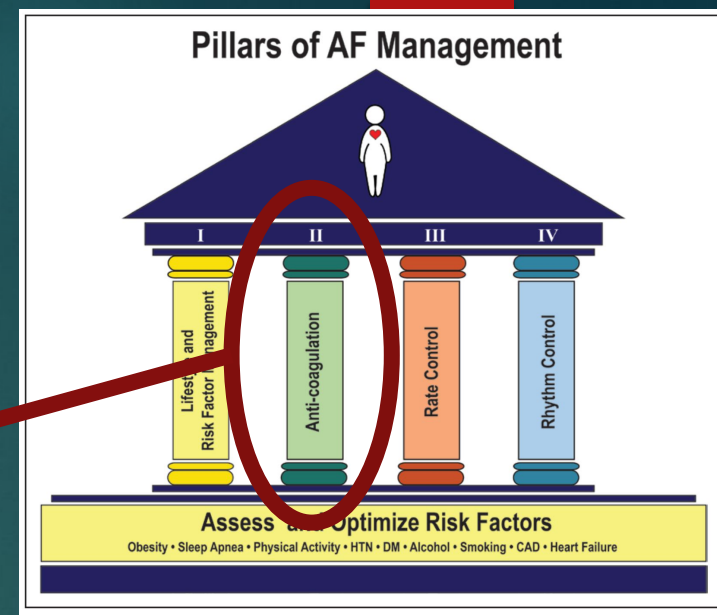
Atrial Fibrillation (AF)

The "CCS Algorithm" ("CHADS-65") for OAC Therapy in AF



¹A NOAC is preferred over warfarin for non-valvular AF

²Therapeutic options include single antiplatelet therapy (ASA 81-100 mg daily) alone; or in combination with either a second antiplatelet agent (e.g. clopidogrel 75 mg daily or ticagrelor 60 mg bid), or an antithrombotic agent (rivaroxaban 2.5 mg bid).



OAC:

Warfarin
Dabigatran
Rivaroxaban
Apixaban
Edoxaban

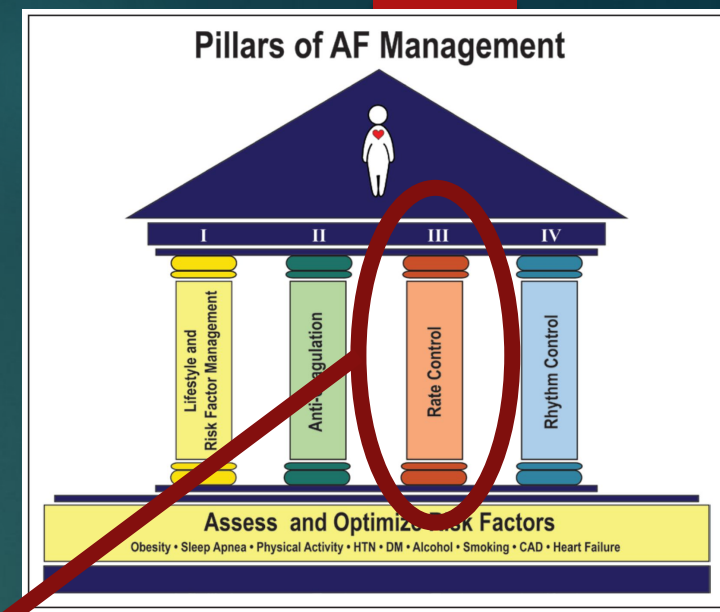
Atrial Fibrillation (AF)

Medications:

- 1- Beta-blocker
- 2- Calcium channel blockers
- 3- Digoxin

Procedure:

- 1- Pace and ablate



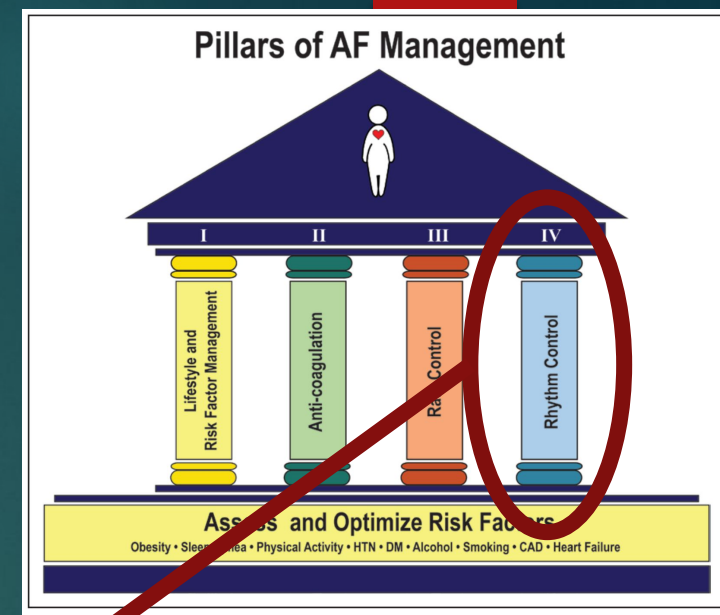
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Medications:

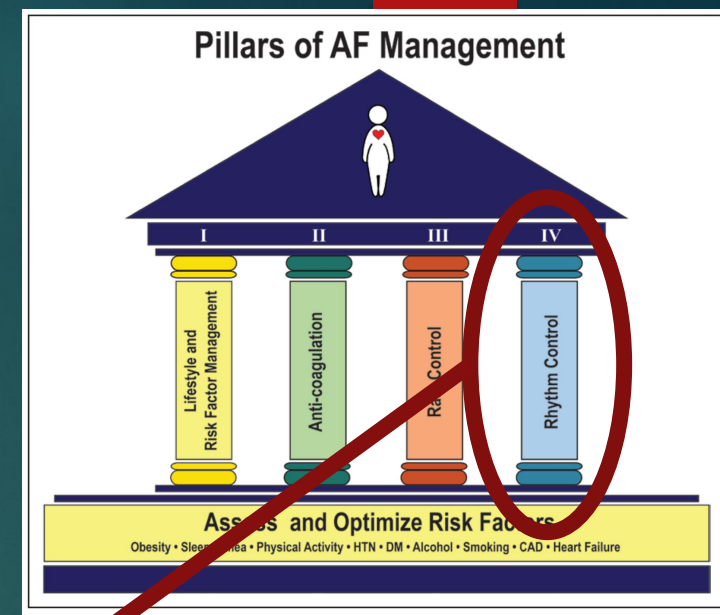
- 1- Amiodarone
- 2- Sotalol
- 3- Flecainide
(PRN or maintenance)

Procedure:

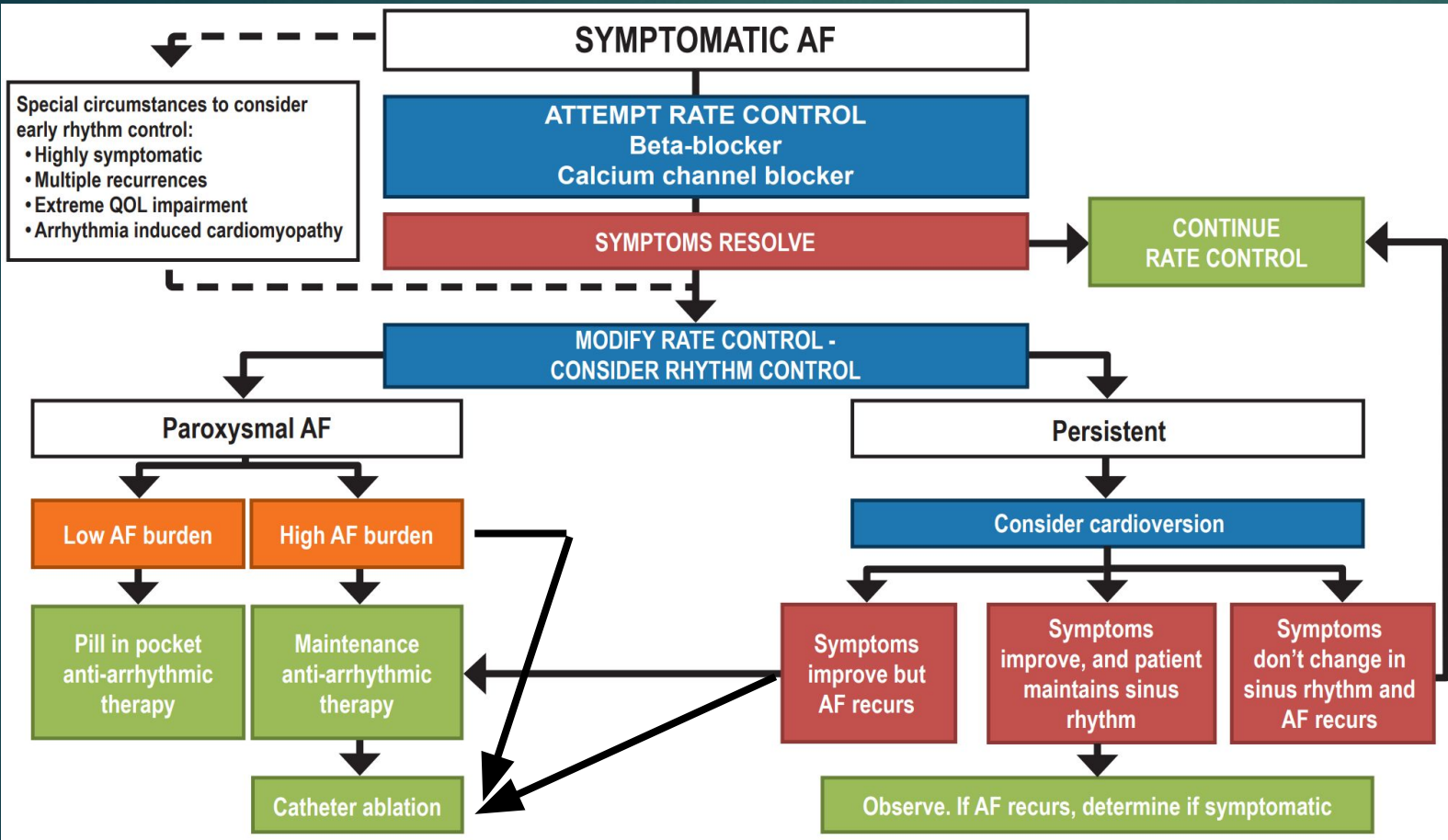
- 1- AF ablation



Atrial Fibrillation (AF)



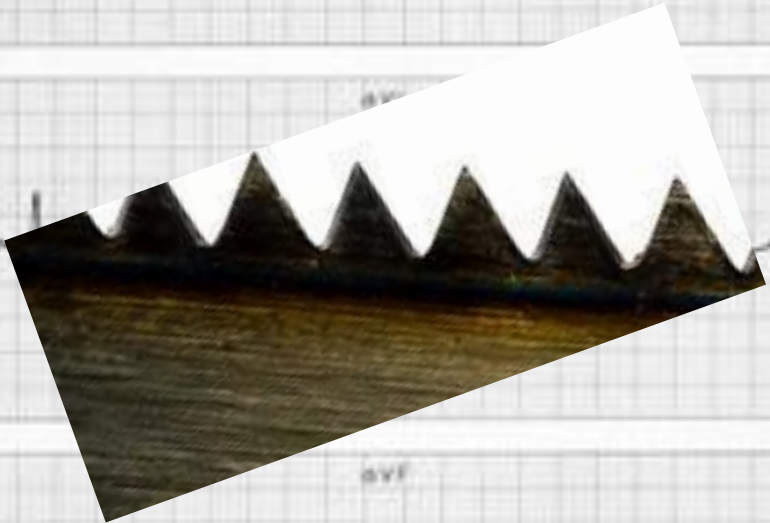
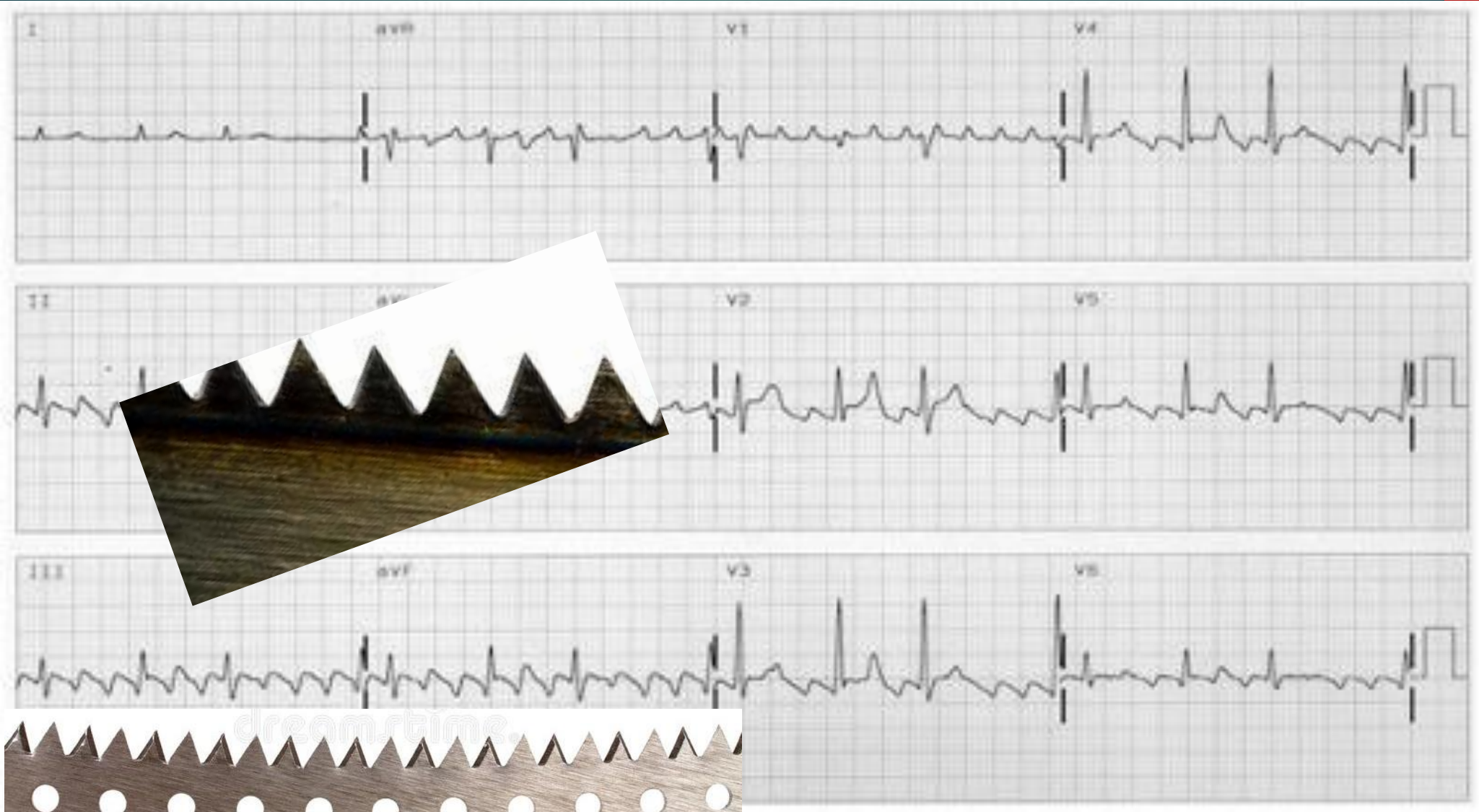
- Rate control is reasonable if asymptomatic
- Consider rhythm control for symptoms Rx
- Catheter ablation is a reasonable first line



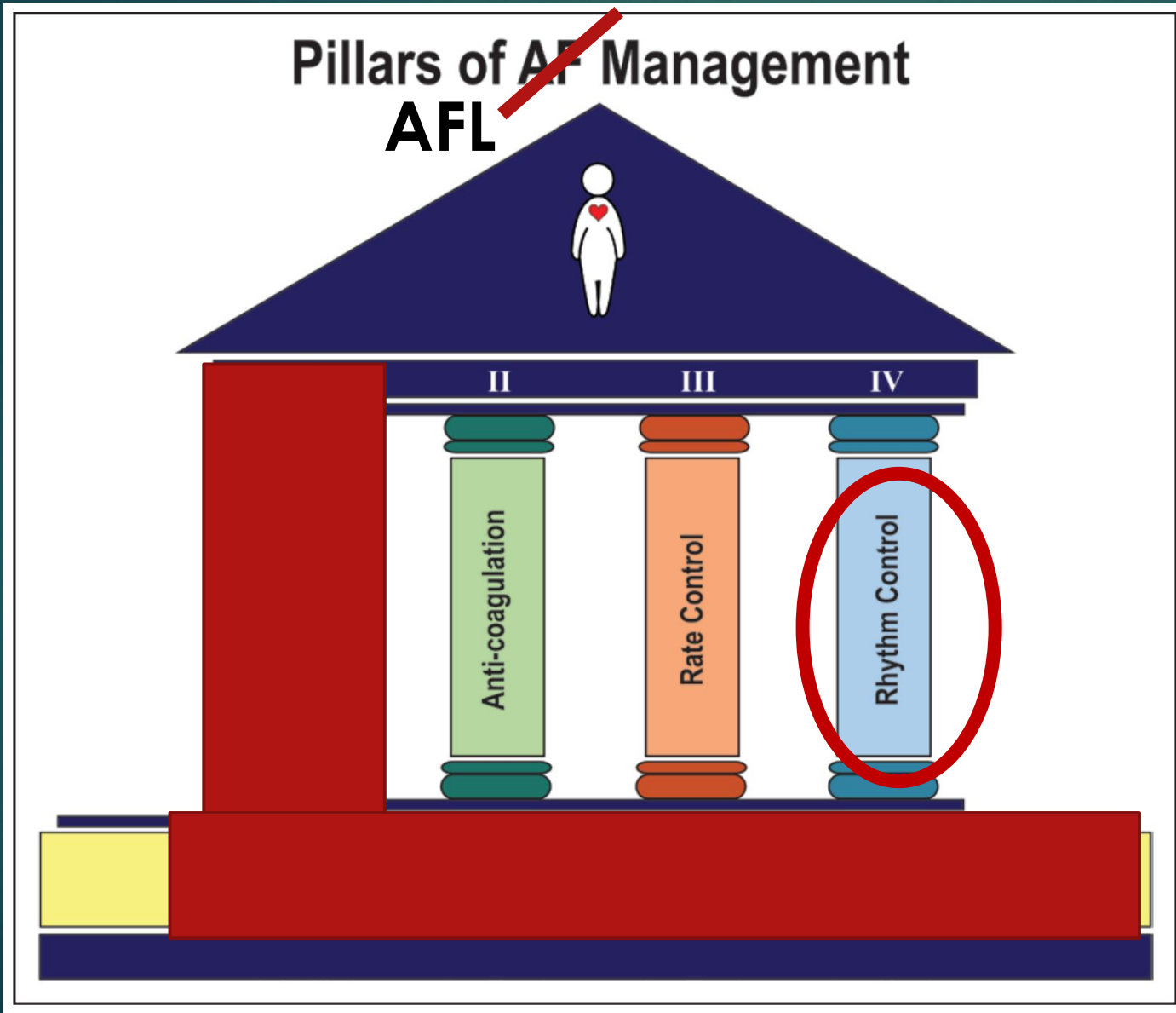
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Atrial Flutter (AFL)



Atrial Flutter (AFL)

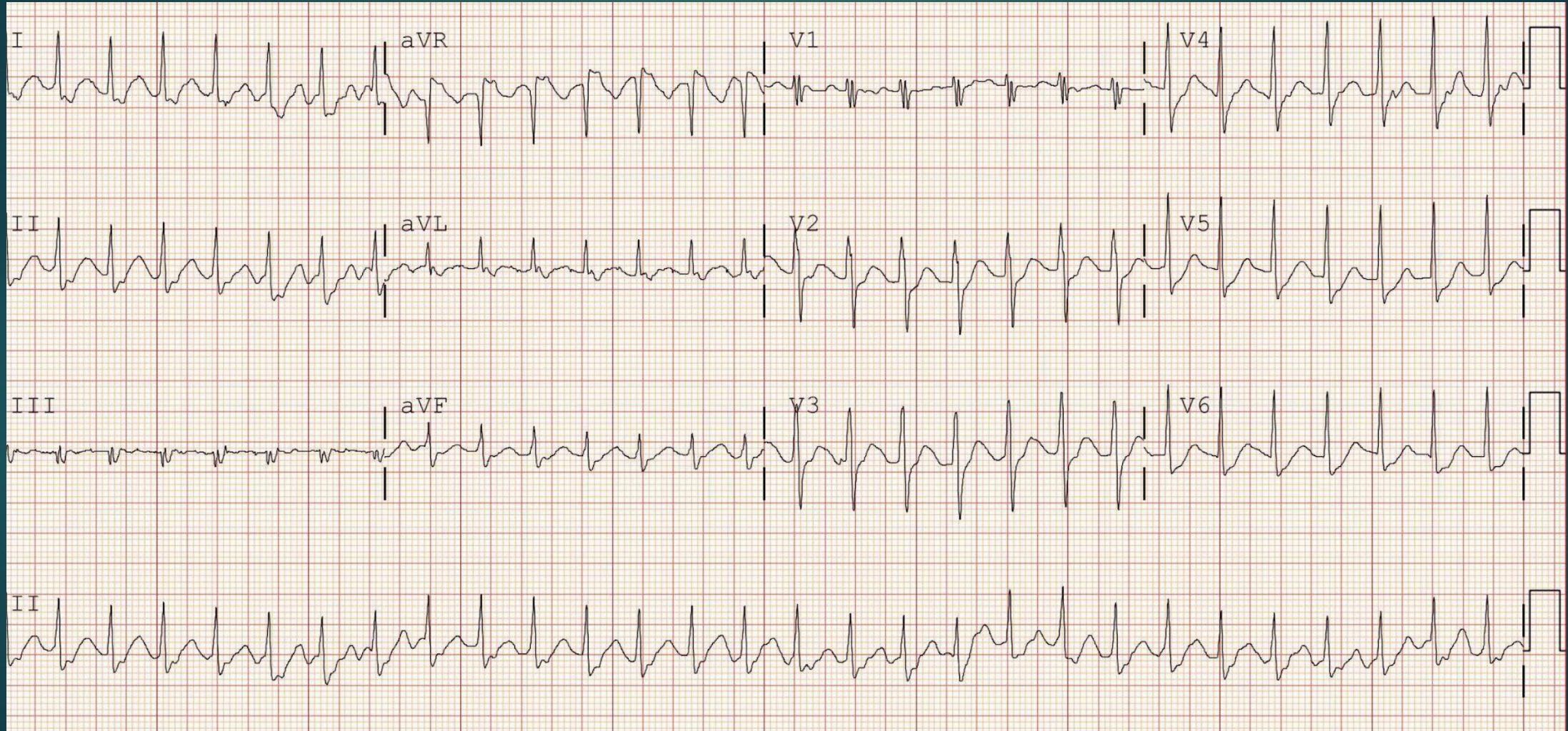


- Catheter ablation is first line !

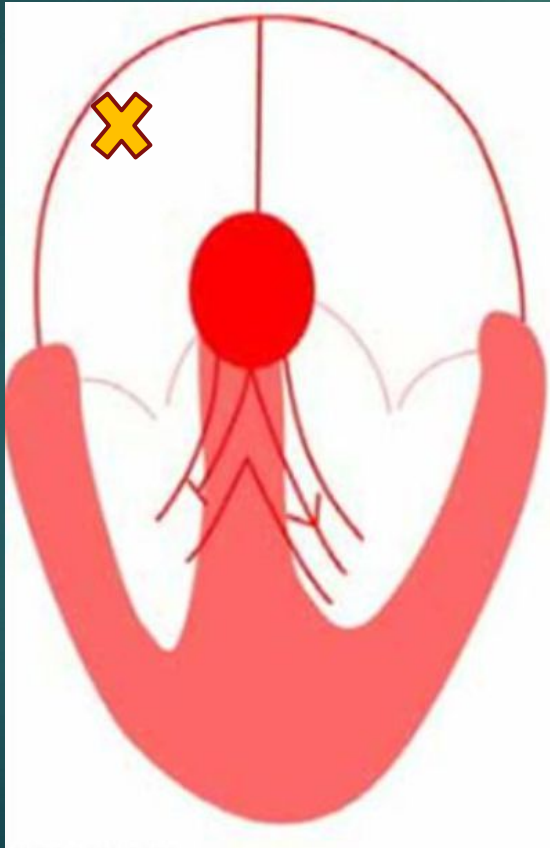
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Supraventricular Tachy (SVT)



Supraventricular Tachy (SVT)



Supraventricular Tachy (SVT)

Acute Rx:

Valsalva

Adenosine

Chronic Rx:

1- Catheter ablation

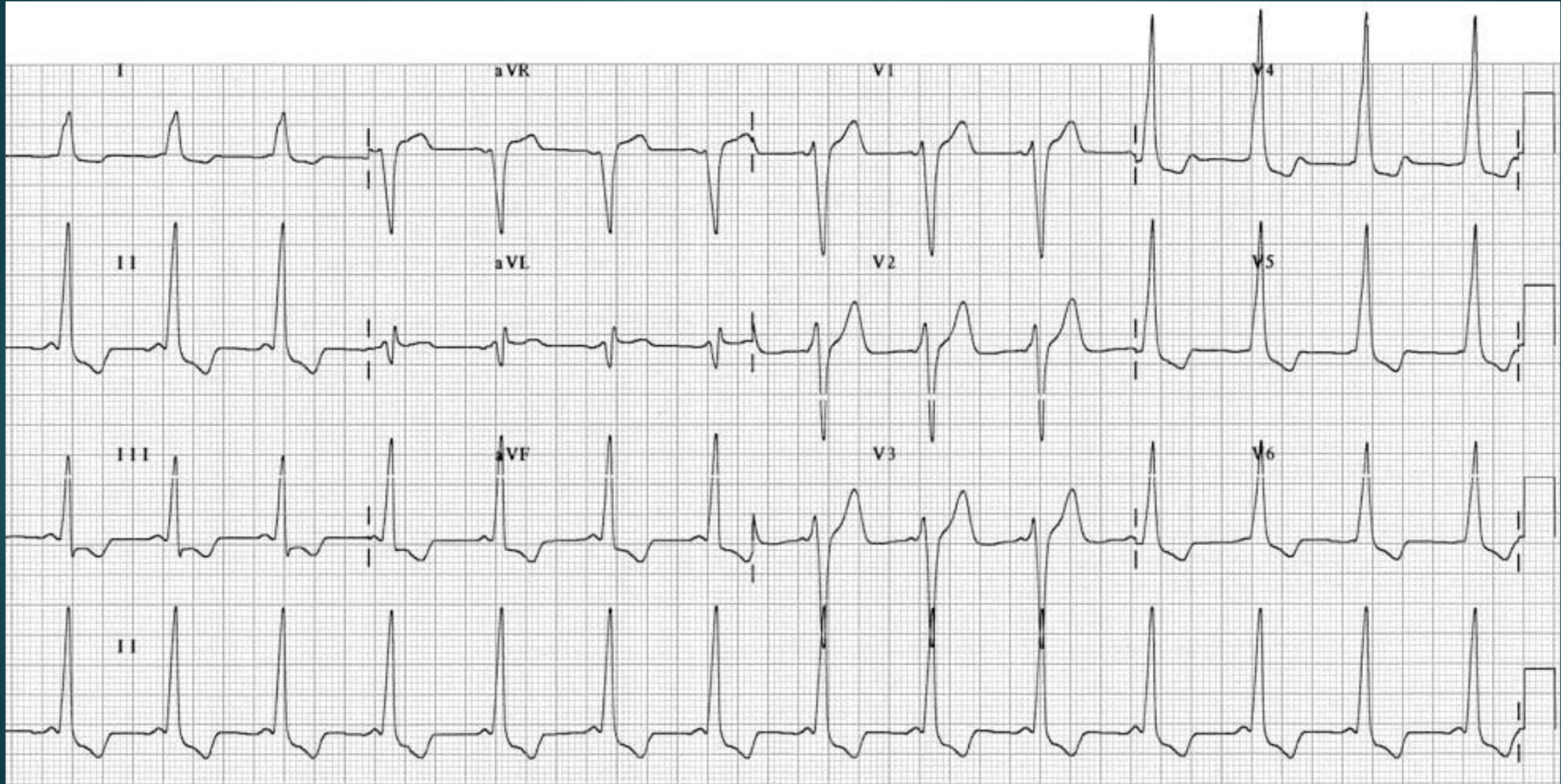
2- Medical therapy

3- Watchful waiting

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Wolf-Parkinson-White syndrome (WPW)



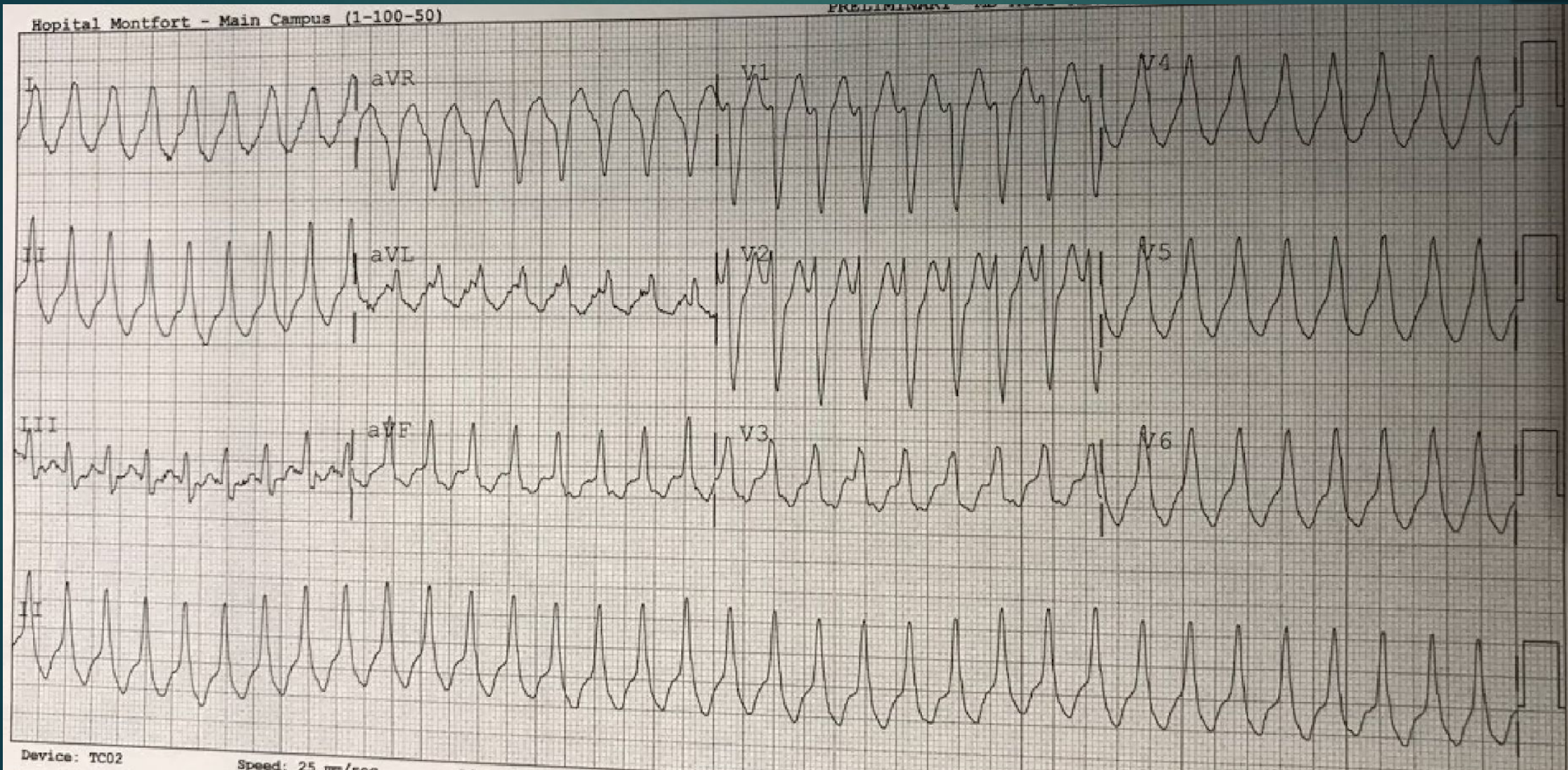
Wolf-Parkinson-White syndrome (WPW)

- Small risk of SCD from pre-excited AF
- Risk stratification (assess if the accessory pathway is capable of conducting rapid AF)

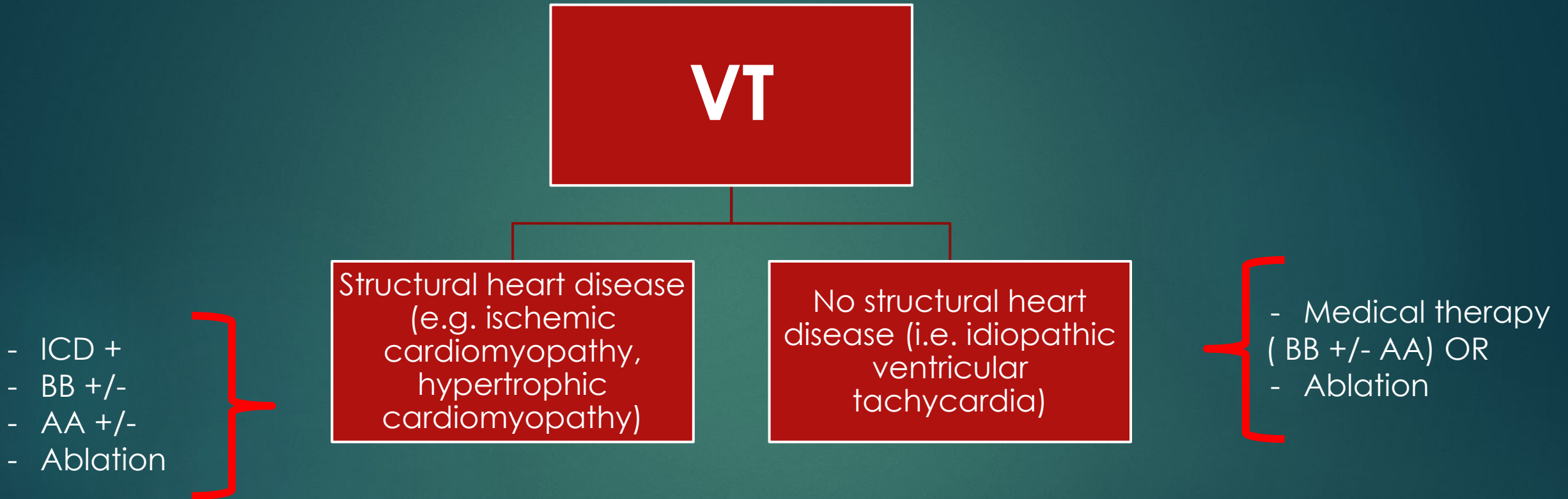
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Ventricular tachycardia (VT)



Ventricular tachycardia (VT)



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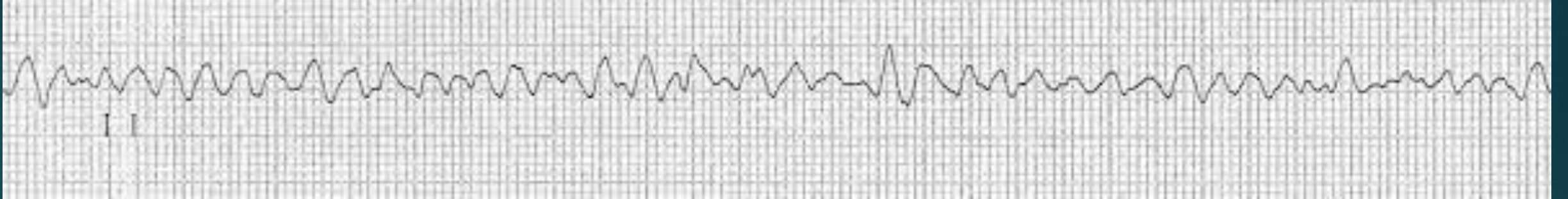
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Ventricular fibrillation (VF)



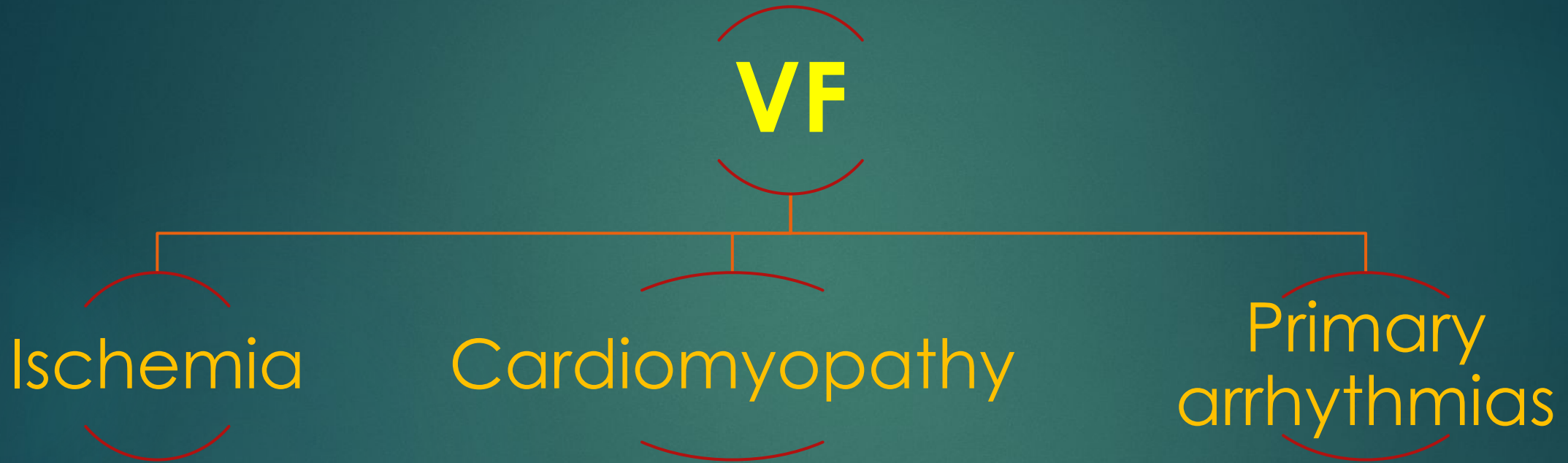
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Ventricular fibrillation (VF)



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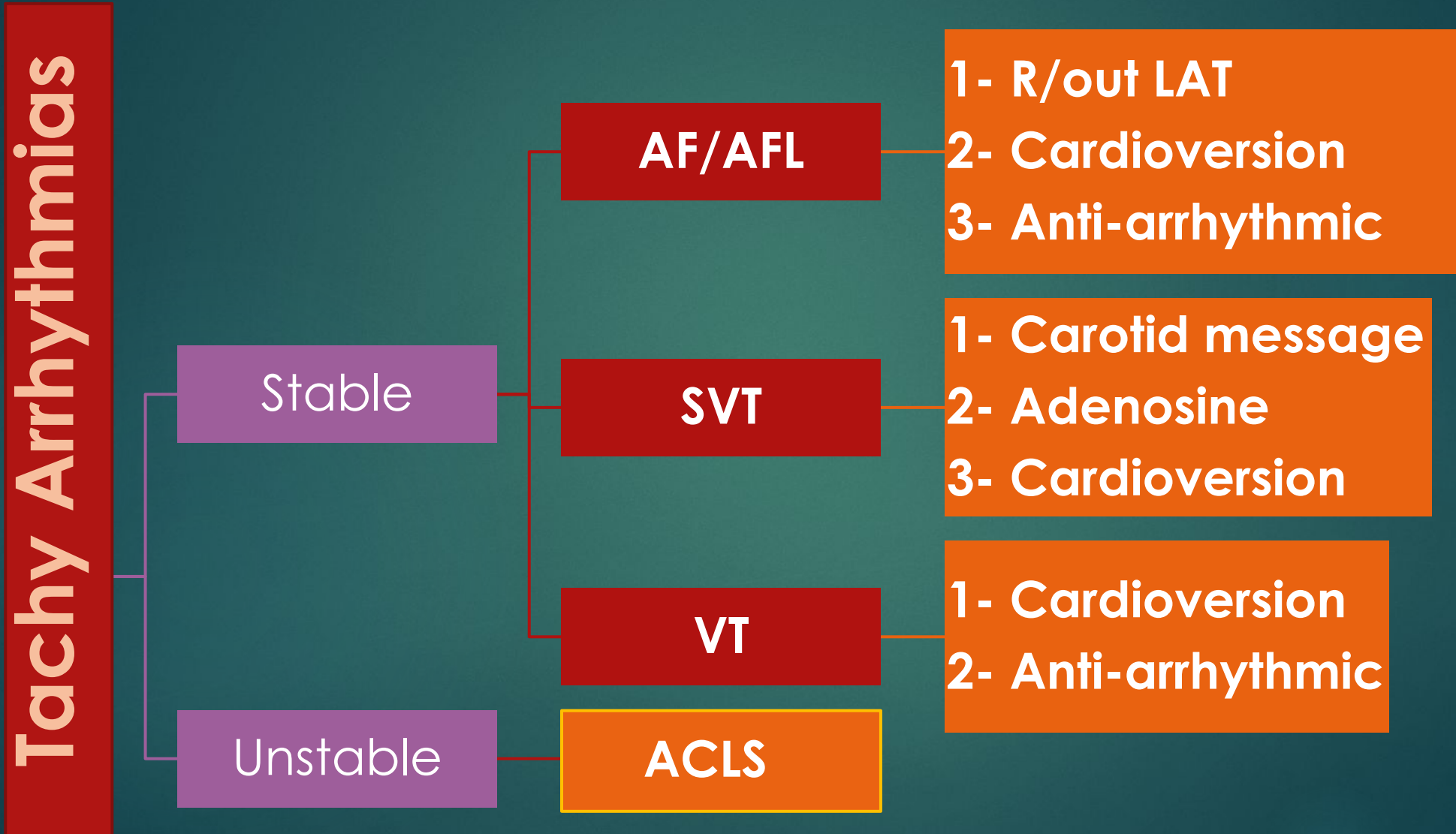
Ventricular fibrillation (VF)



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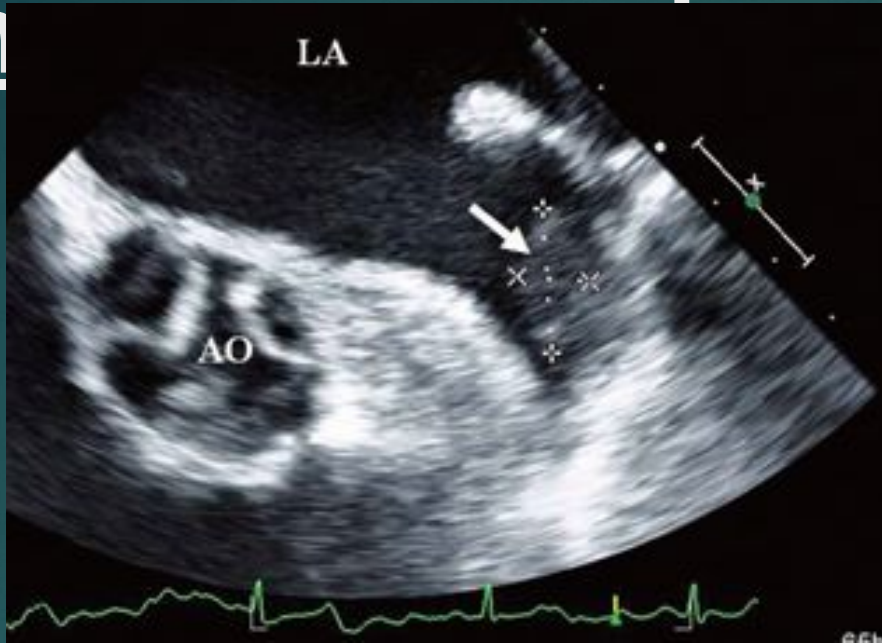
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Acute management:



Acute m

Tachy Arrhythmias



Stable

SVT

- 1- R/out LAT
- 2- Cardioversion
- 3- Anti-arrhythmic

- 1- Carotid massage
- 2- Adenosine
- 3- Cardioversion

VT

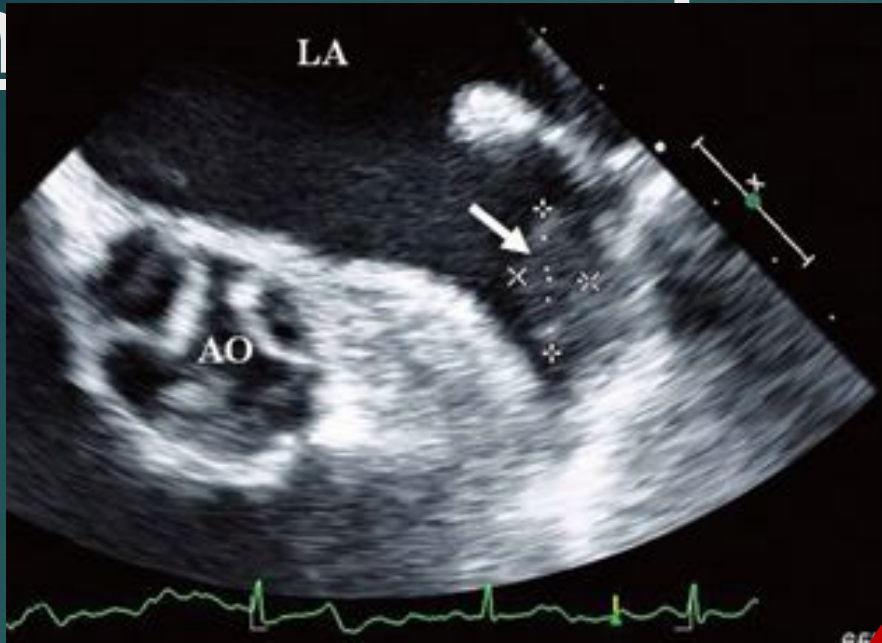
- 1- Cardioversion
- 2- Anti-arrhythmic

Unstable

ACLS

Acute m

Tachy Arrhythmias



Stable

SVT

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- 3- Anti-arrhythmic

- 1- Carotid massage
- 2- Adenosine
- 3- Cardioversion

VT

- 1- Cardioversion
- 2- Anti-arrhythmic

Unstable

ACLS

Take Home Messages:

- ▶ 3 acceptable approaches to manage tachy arrhythmias (watchful waiting / medical Rx / ablation)
- ▶ AF is the most common arrhythmia
- ▶ Use CHADS-65 score to assess the need for OAC in AF
- ▶ Use Carotid massage/Adenosine for acute Rx of stable SVT