

*Cardiology Day for the Practitioner*

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# Atrial Fibrillation:

## Screening, Rate vs Rhythm Control, Ablation

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# Presenter Disclosure

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- ❖ Dr. Kaja Konieczny
  - ❖ Atrial fibrillation update: Screening rate vs rhythm control, ablation?
- ❖ Relationships with financial sponsors:
  - ❖ Grants/Research Support: N/A
  - ❖ Speakers Bureau/Honoraria: CHRC
  - ❖ Consulting Fees: N/A
  - ❖ Patents: N/A
  - ❖ Other: N/A

# AF: Screening, Rate vs Rhythm Control, Ablation

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- ❖ Should we screen for AF?
- ❖ Rate vs rhythm control? How to decide?
- ❖ Who to refer for ablation?

# AF: Screening, Rate vs Rhythm Control, Ablation

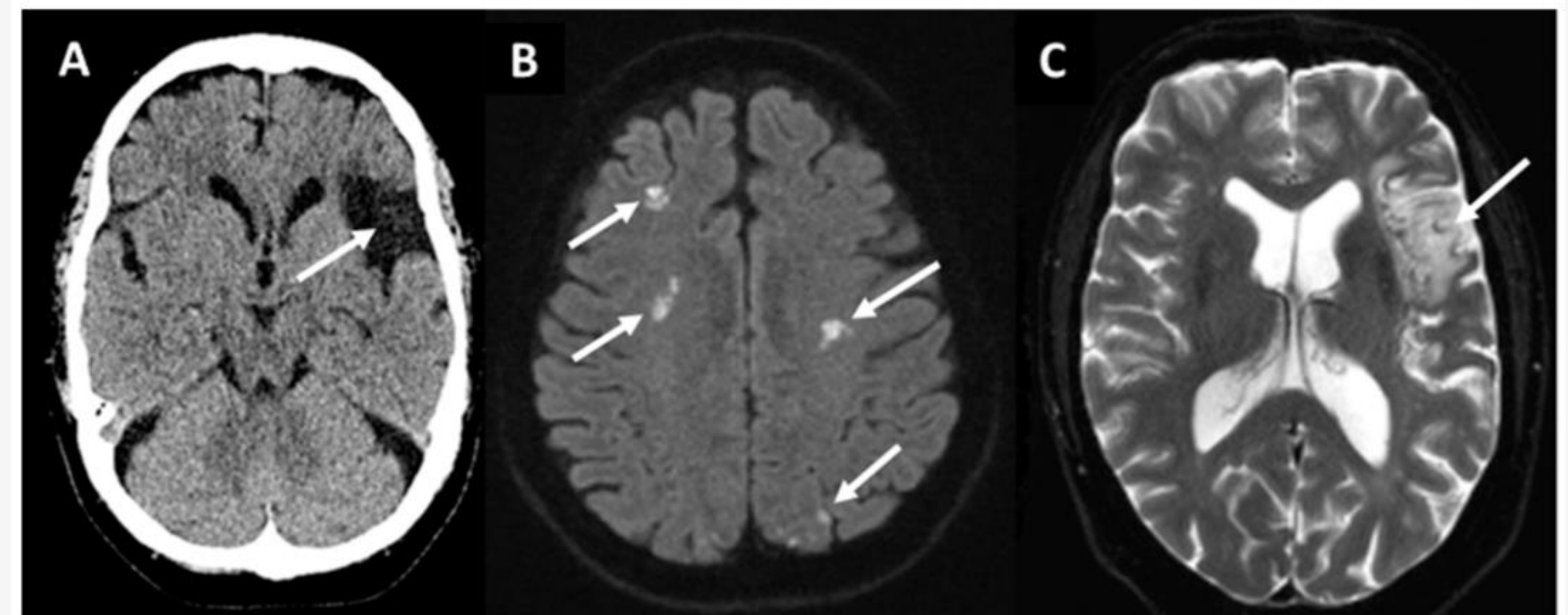
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- ❖ Should we screen for AF?
  - ❖ AF = most common sustained arrhythmia
    - ❖ 0.2% in <55 y/o, increasing to >10% at >85 y/o
  - ❖ AF = major CVA risk factor, “shower of emboli” produce multifocal deficits
    - ❖ Note: 20% of those with AF-related stroke, present with stroke
  - ❖ Motivation for screening in asymp pts: initiation of A/C in those with sufficiently elevated risk of CVA

# AF: Screening, Rate vs Rhythm Control, Ablation

- ❖ CVAs associated with AF (cardioembolic) tend to produce “shower of emboli”
- ❖ Multiterritory
- ❖ Multiple deficits

**Figure 1.** Non-contrast computed tomography (**A**) showing a chronic embolic stroke of undetermined source (arrow) in a 66-year-old woman in the left middle cerebral artery territory. Magnetic resonance diffusion-weighted imaging (**B**) revealing ischemic lesions (bright spots indicated by arrows) in multiple territories in a 78-year-old man with chronic atrial fibrillation. T2\*-weighted imaging (**C**) showing a subacute lesion (arrow) in the left middle cerebral artery territory in a patient with paroxysmal atrial fibrillation.



# AF: Screening, Rate vs Rhythm Control, Ablation

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- ❖ A number of trials have assessed screening strategies over past decade
  - ❖ No screening vs
    - ❖ One-time, intermittent, continuous (72h - 6 months)
  - ❖ Pulse palpation vs
    - ❖ ECG, oscillometric BP monitor, pulse oximeter

# AF: Screening, Rate vs Rhythm Control, Ablation

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- ❖ Does screening pick up more AF? Yes!
  - ❖ Risk of AF detection increases with increased duration of monitoring
  - ❖ ECG operator characteristics = superior to palpation/BP/pulseox
- ❖ Does increased AF detection reduce neurologic morbidity? No.
  - ❖ Heterogenous data with composite endpoints
  - ❖ Duration of AF warranting A/C remains unclear, especially short-duration episodes

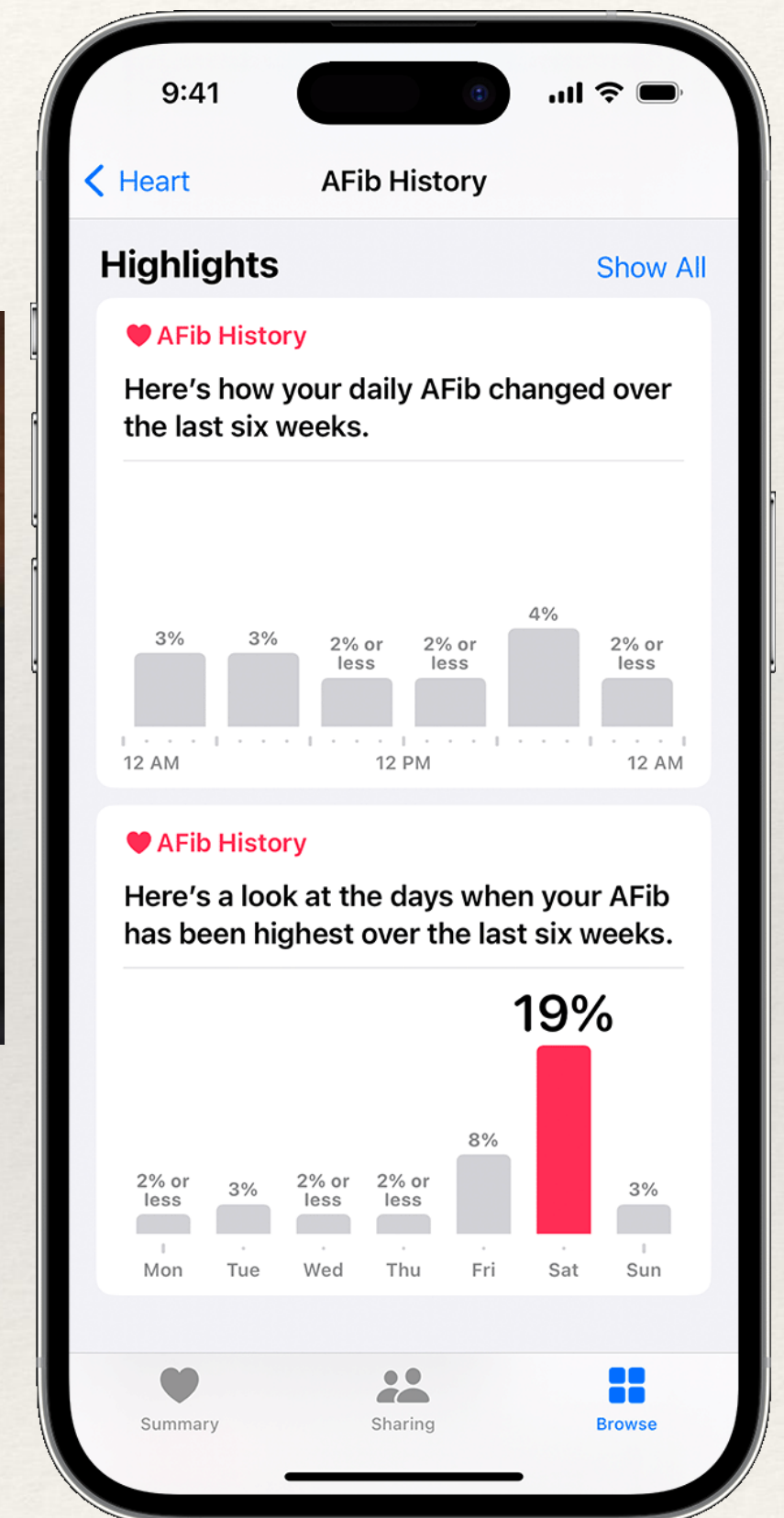
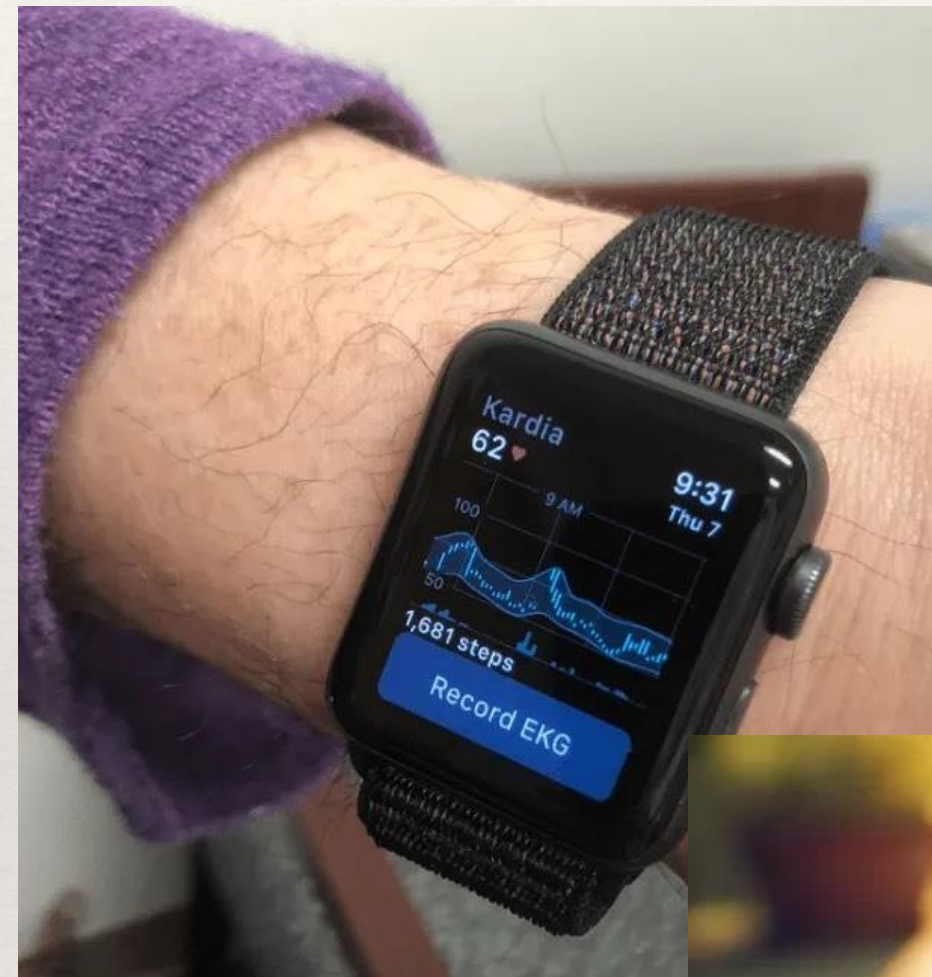
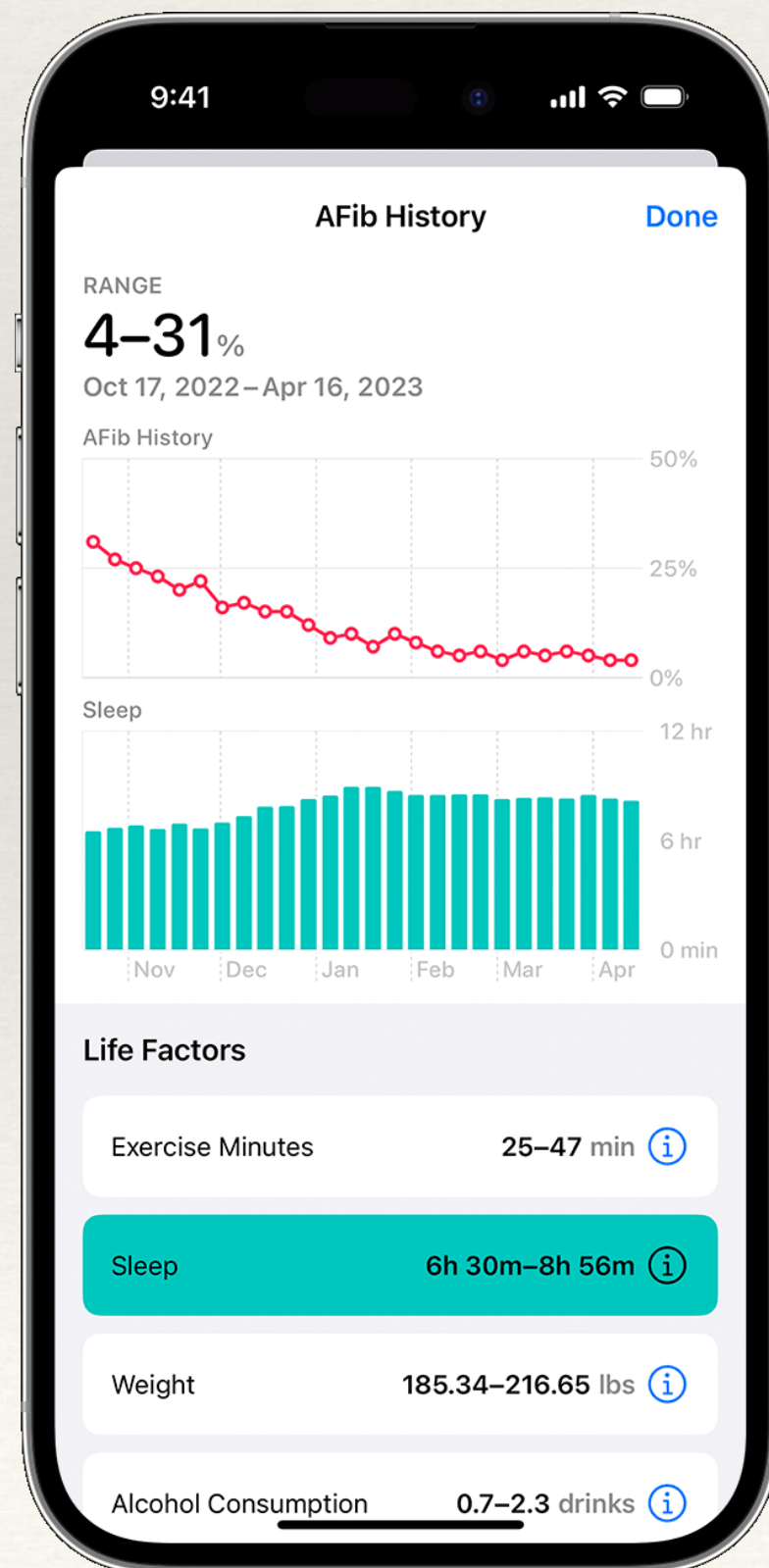
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- ❖ No guidelines that recommend routine screening of asymptomatic patients

# AF: Screening, Rate vs Rhythm Control, Ablation

- ❖ Patients have the desire, and ability, to screen themselves



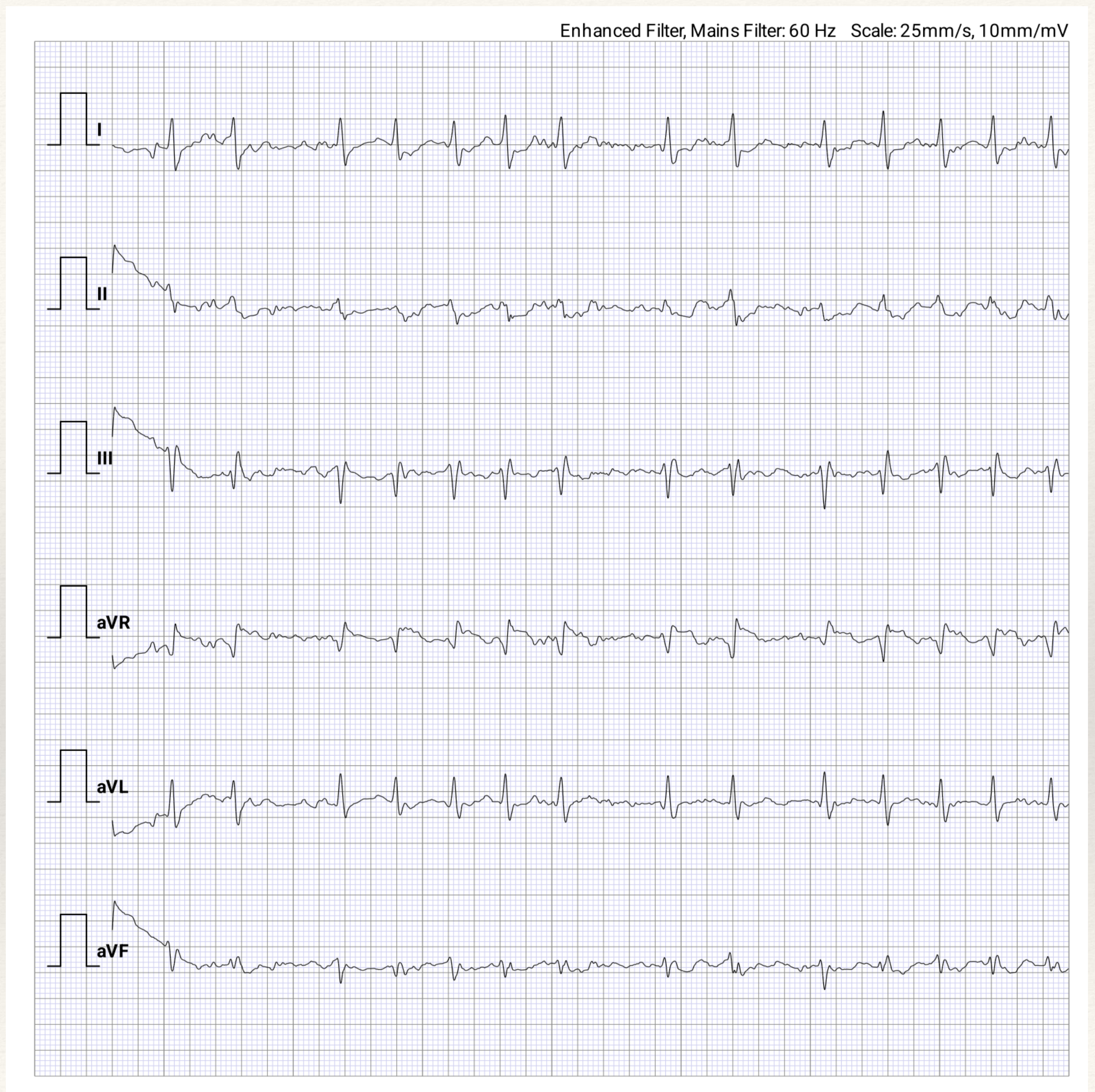
What is this rhythm?

A. Sinus with PACs

B. Atrial fibrillation

C. Atrial flutter

D. Uninterpretable



What is this rhythm?

A. Sinus with PACs

B. Atrial fibrillation

C. Atrial flutter

D. Uninterpretable



25 mm/s, 10 mm/mV, Lead I, 512Hz, iOS 18.3.2, watchOS 11.3.1, Watch7,2, Algorithm Version 2 — The waveform is similar to a Lead I ECG. For more information, see Instructions for Use.

# AF: Screening, Rate vs Rhythm Control, Ablation

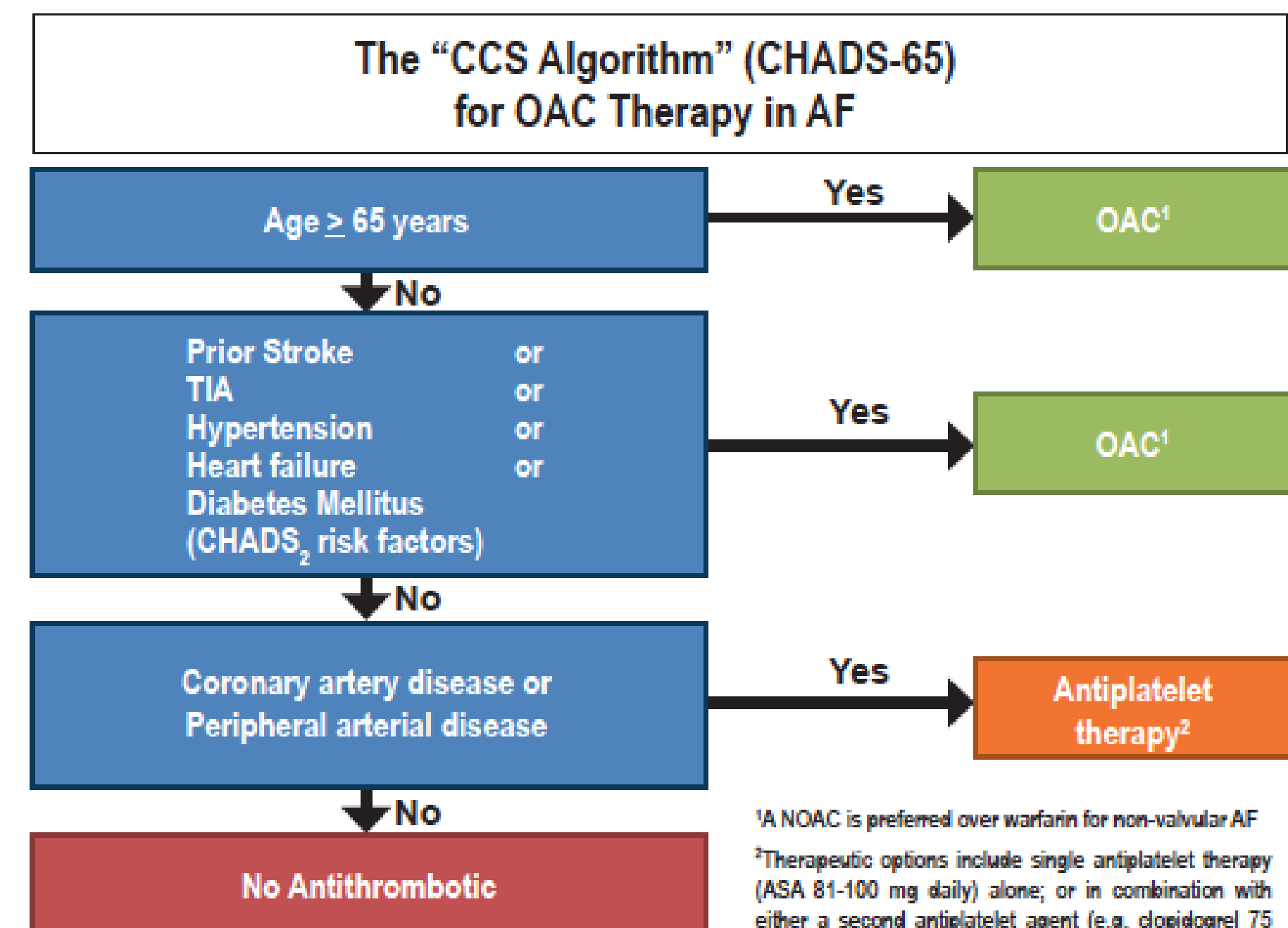
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- ❖ What to do if a patient's device identifies AF?
  - ❖ Obtain tracings, as they may be of diagnostic quality
  - ❖ If not,
    - ❖ Consider repeating assessment while minimising artifact
    - ❖ Continuous ECG monitoring

# AF: Screening, Rate vs Rhythm Control, Ablation

- ❖ Now that you've diagnosed AF, what to do??
- ❖ Anticoagulate per CHADS<sub>2</sub>-65

## 🔥 Prevention of Stroke in AF and Atrial Flutter

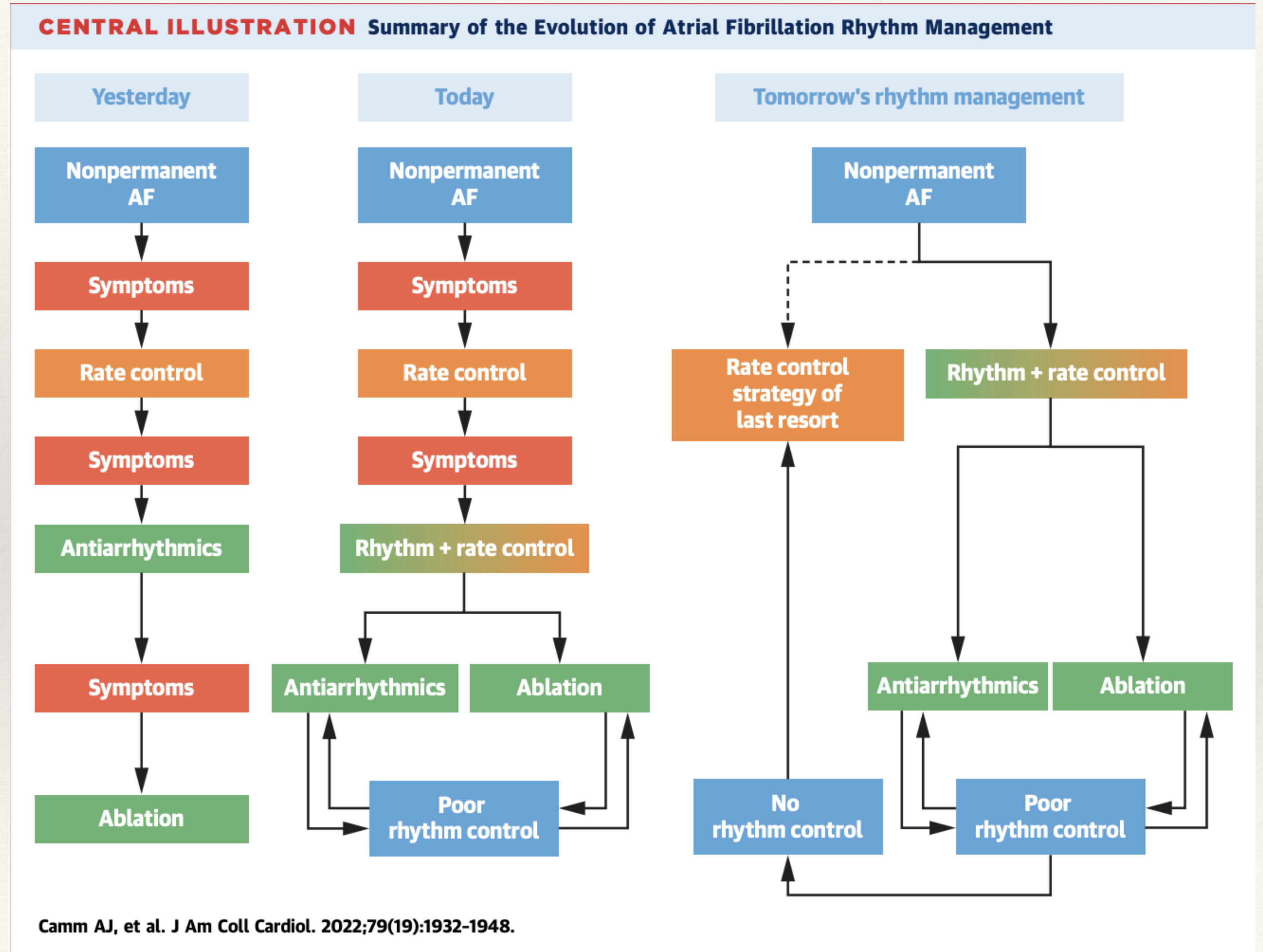


<sup>1</sup>A NOAC is preferred over warfarin for non-valvular AF

<sup>2</sup>Therapeutic 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).

# AF: Screening, Rate vs Rhythm Control, Ablation

❖ Rate vs rhythm control?



# AF: Screening, Rate vs Rhythm Control, Ablation

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- ❖ Why the pursuit of rhythm control?
- ❖ Why earlier ablation?

# AF: Screening, Rate vs Rhythm Control, Ablation

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- ❖ Why rhythm control?
  - ❖ Rhythm control, even successful, does not significantly reduce all-cause mortality, CV mortality, stroke - this is being challenged
  - ❖ Rate control does not always achieve satisfactory symptom control

- ❖ In whom do we pursue sinus rhythm?
- ❖ AF symptoms
  - ❖ Palpitations, dyspnea, exercise intolerance, chest discomfort, lightheadedness
  - ❖ Present DURING AF

2012 CCS Atrial Fibrillation Guidelines Update













CCS SAF Score	Impact	EHRA Class	Impact
CCS SAF 0	Asymptomatic	EHRA I	No symptoms
CCS SAF 1	Minimal effect on QOL	EHRA II	Mild symptoms
CCS SAF 2	Modest effect on QOL	EHRA III	Severe symptoms; daily activity affected
CCS SAF 3	Moderate effect on QOL	EHRA IV	Disabling symptoms; Normal daily activity discontinued
CCS SAF 4	Severe effect on QOL		

Skanes AC, Healey JS et al., *Can J Cardiol* 2012 Mar;28(2): 125-136

# AF: Screening, Rate vs Rhythm Control, Ablation

❖ Candidates for rhythm control:

**FIGURE 2** Guideline Recommendations for Rhythm Management in Patients With Nonpermanent AF

Factors Favoring Rhythm-Control Strategies	
 Age <65 years	 Pregnancy
 Tachycardia-induced myopathy	 No or minor structural heart disease
 Disabling AF symptoms <sup>a</sup>	 No/few comorbidities
 Increased stroke risk	 Normal or only moderately enlarged LA
 AF recurring with transient events	 Heart failure
 Rate control difficult to achieve	 Patient choice

# AF: Screening, Rate vs Rhythm Control, Ablation

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- ❖ Why are we ablating earlier?
  - ❖ Patients do better
  - ❖ Risks of ablation are decreasing

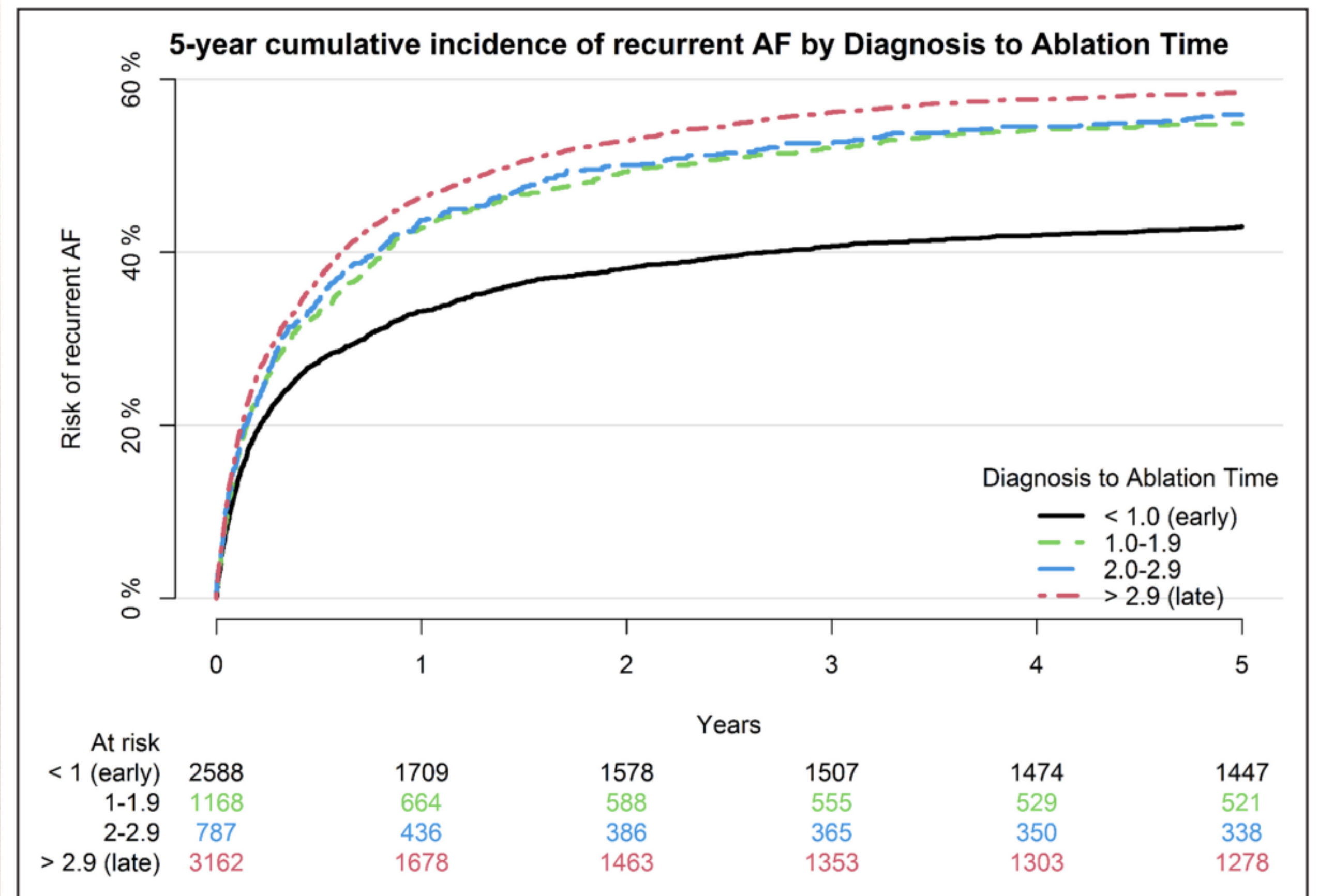
# AF: Screening, Rate vs Rhythm Control, Ablation

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- ❖ Why are we ablating earlier?
  - ❖ Patients do better
    - ❖ RAAFT, RAAFT-2, MANTRA-PAF, CAPTAF showed that PVI>AADs
    - ❖ CABANA, AATAC, CASTLE-AF showed this in CHF patients
    - ❖ EAST-AFNET4, EARLY-AF, Tonnesen et al showed reduced risk of permanent AF, MACE in early intervention

# AF: Screening, Rate vs Rhythm Control, Ablation

❖ Improved patient outcomes:

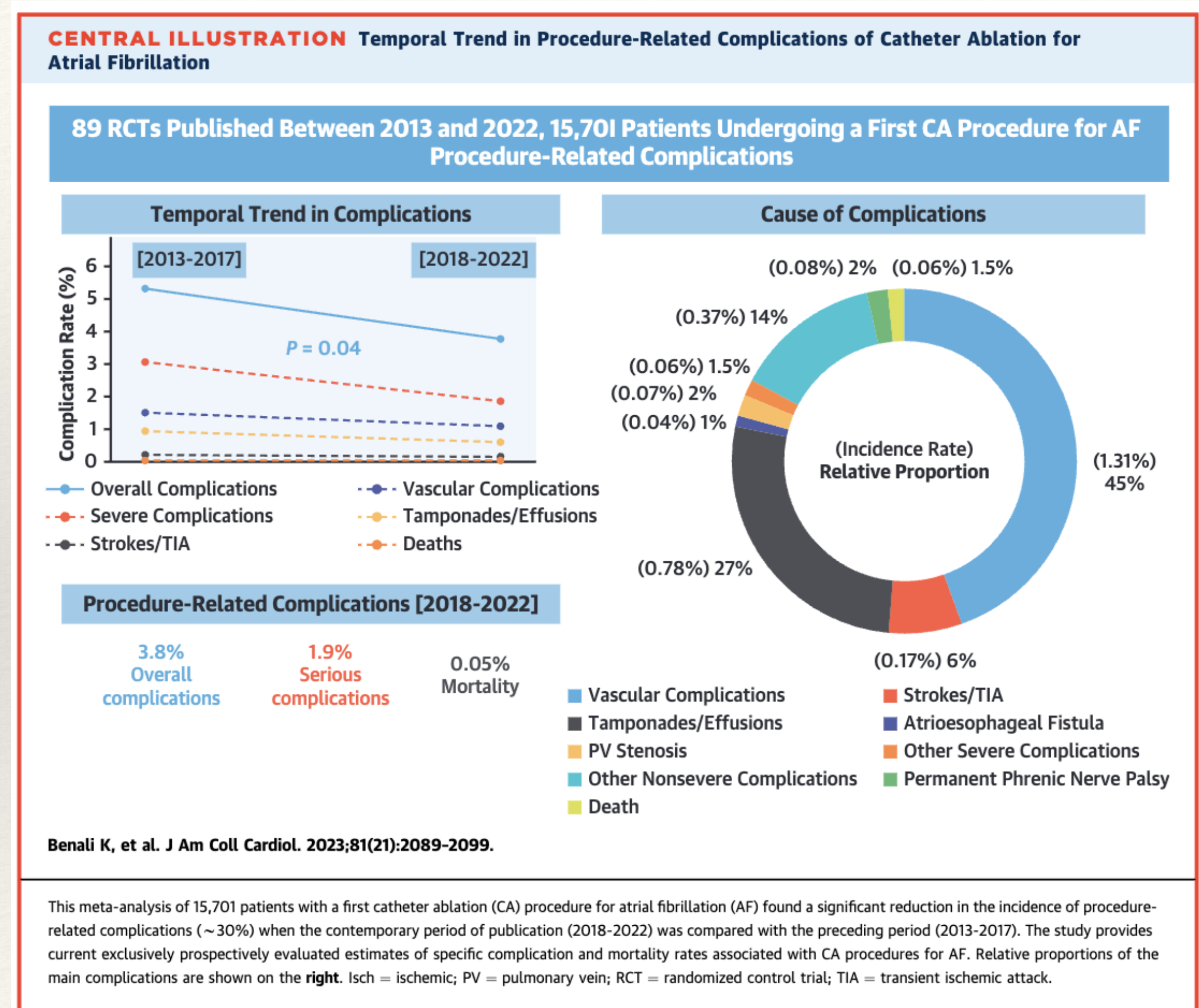


**Figure 1.** Cumulative 5-year AF recurrence incidence after AF ablation by diagnosis-to-ablation time.

The x axis depicts time in days, and the y axis depicts the cumulative AF recurrence. AF indicates atrial fibrillation.

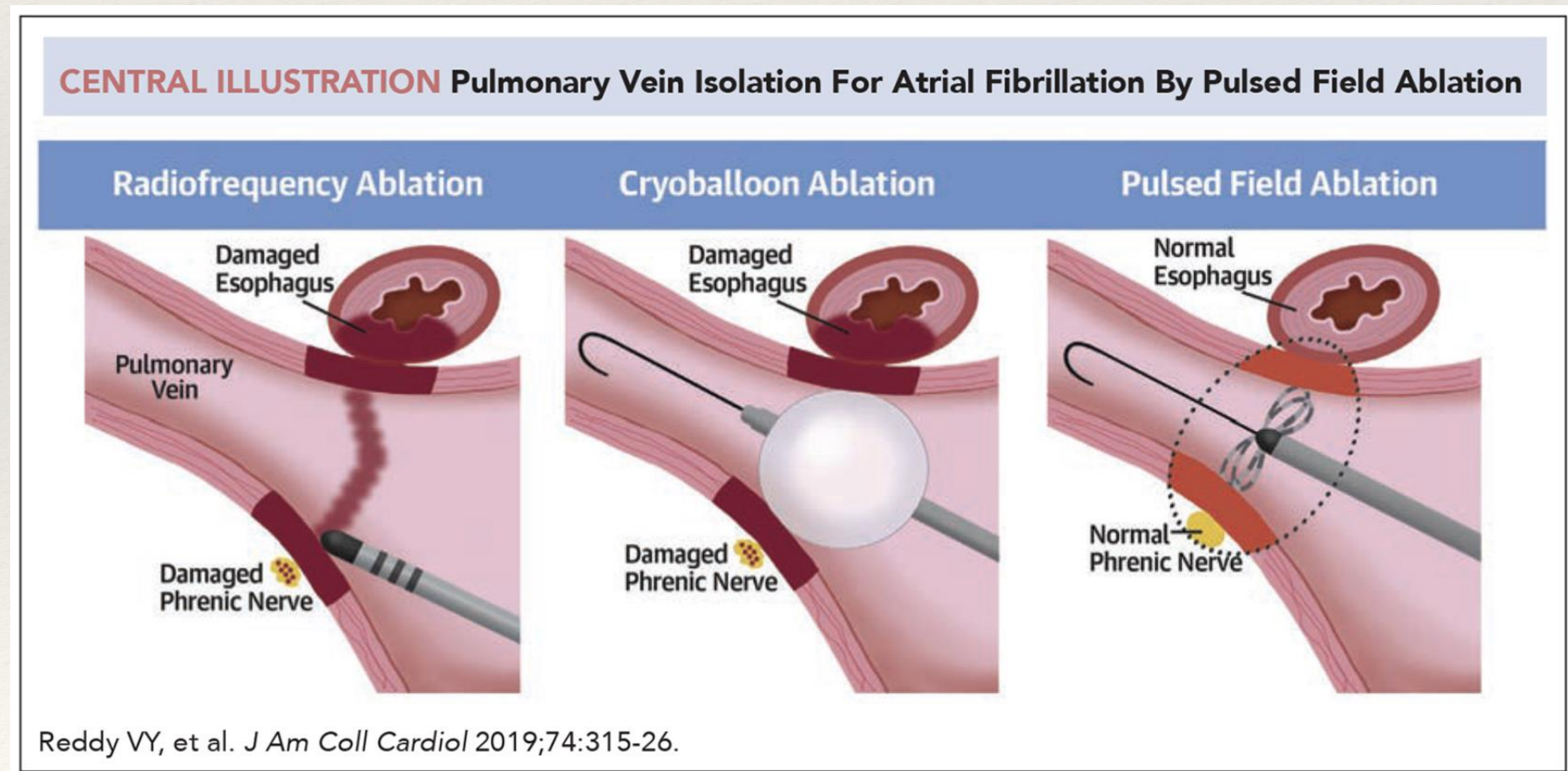
# AF: Screening, Rate vs Rhythm Control, Ablation

- ❖ Why are we ablating earlier?
- ❖ Risks of ablation are decreasing
  - ❖ Increased experience, refined ablation techniques
  - ❖ Technological advances
    - ❖ Force-sensing catheters (reduced perforation risk, shorter procedure time, real-time assessment of lesion adequacy)
    - ❖ Mapping systems
    - ❖ Multiple modalities



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- ❖ Established modalities are RF and cryoablation
- ❖ Newest kid on the block: PFA
  - ❖ Nonthermal energy source



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- ❖ Who to refer to consideration of ablation?
- ❖ Patients with symptoms.
  - ❖ Don't wait for them to fail rate control or AADs.
- ❖ Patients with AF.

# AF: Screening, Rate vs Rhythm Control, Ablation

❖ [www.stmikeEP.com](http://www.stmikeEP.com)

## Cardiac Arrhythmia Service at St. Michael's Hospital

7th Floor Donnelly Wing (Robert McRae Heart Health Unit)

416-864-5152

Fax: 416-864-5348

[EP@smh.ca](mailto:EP@smh.ca)

Monday to Friday, 8 a.m. to 4 p.m.

## Referrals

- [Arrhythmia Referral Form](#)
- [Atrial Fibrillation Referral Form](#)

## Clinics & Services

Arrhythmia Clinic



Atrial Fibrillation Clinic



Implantable Cardioverter Defibrillator (ICD) Clinic



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❖ Thank you