Cardiology Day for the Practitioner

Atrial Fibrillation:

Screening, Rate vs Rhythm Control, Ablation

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Presenter Disclosure

- Dr. Kaja Konieczny
  - State of the art in 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

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

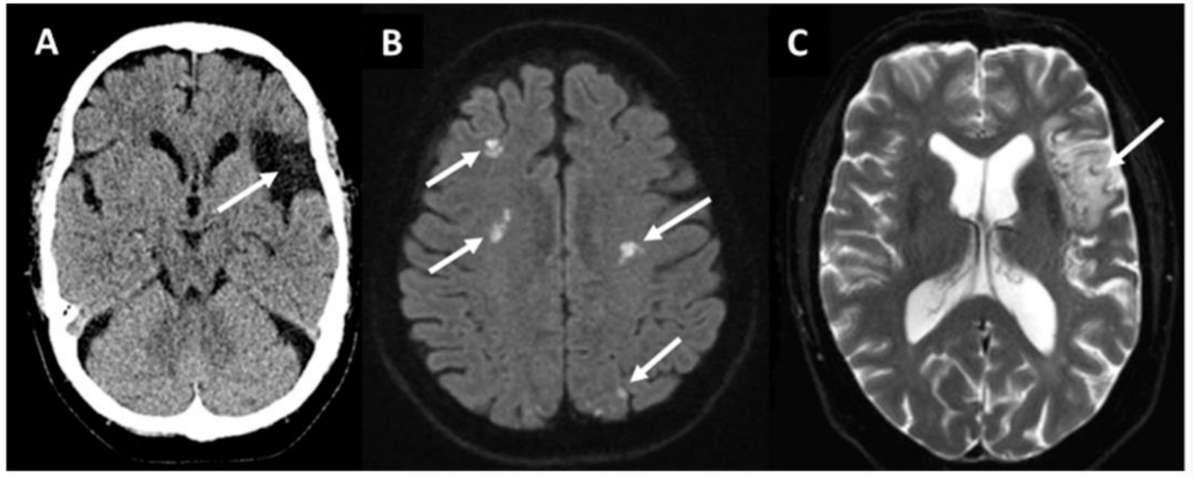
AF: Screening, Rate vs Rhythm Control, Ablation

- 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.



J. Clin. Med 2024. 13(1);30.

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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

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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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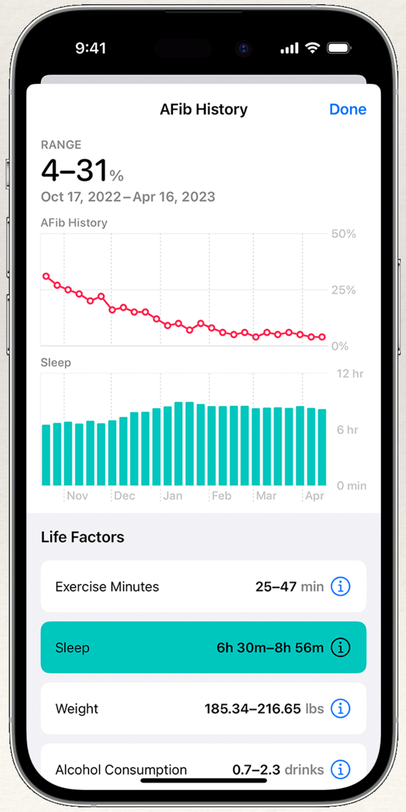
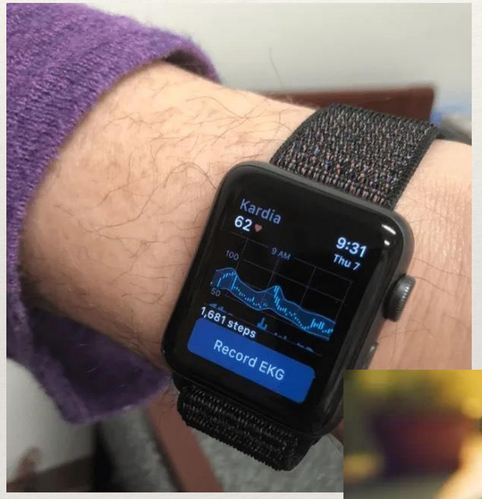
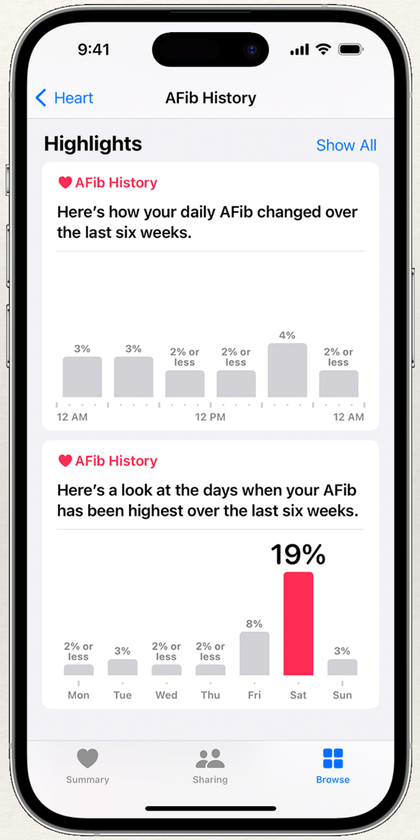
- No guidelines that recommend routine screening of asymptomatic patients

AF: Screening, Rate vs Rhythm Control, Ablation

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







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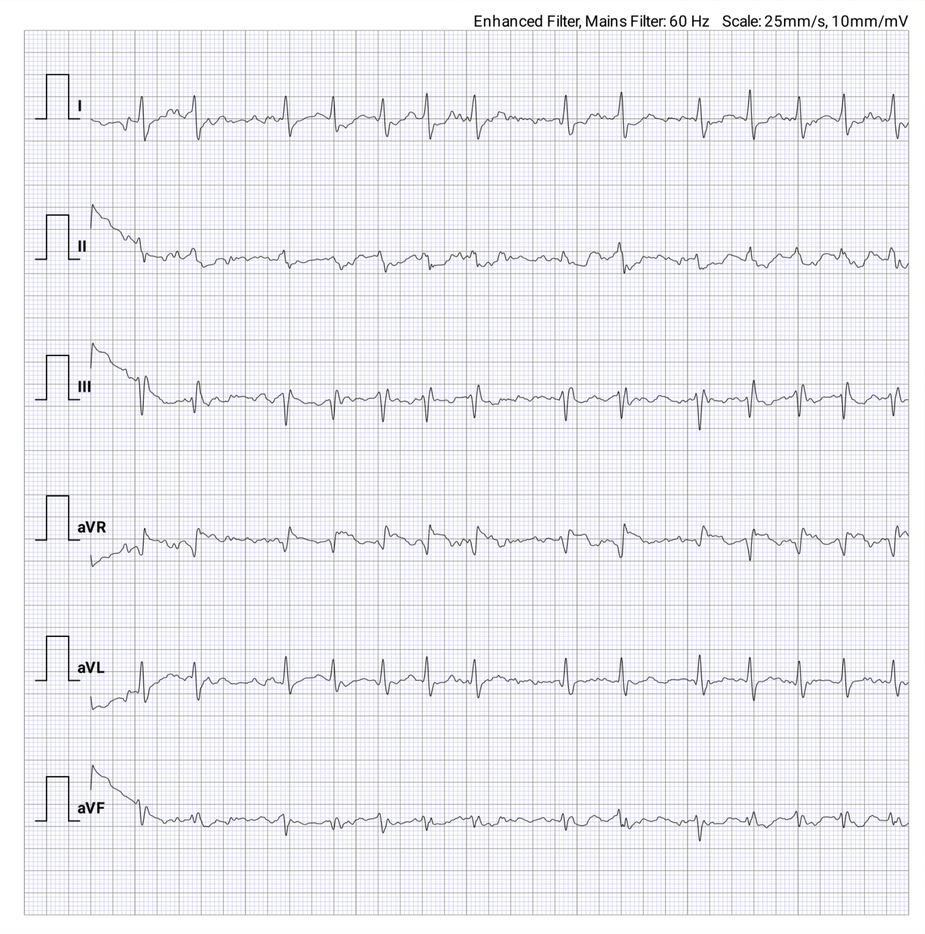
- What to do if a patient's device identifies AF?
  - Obtain tracings, as they may be of diagnostic quality
  - If not,
    - Consider repeating assessment while minimising artifact
    - Continuous ECG monitoring



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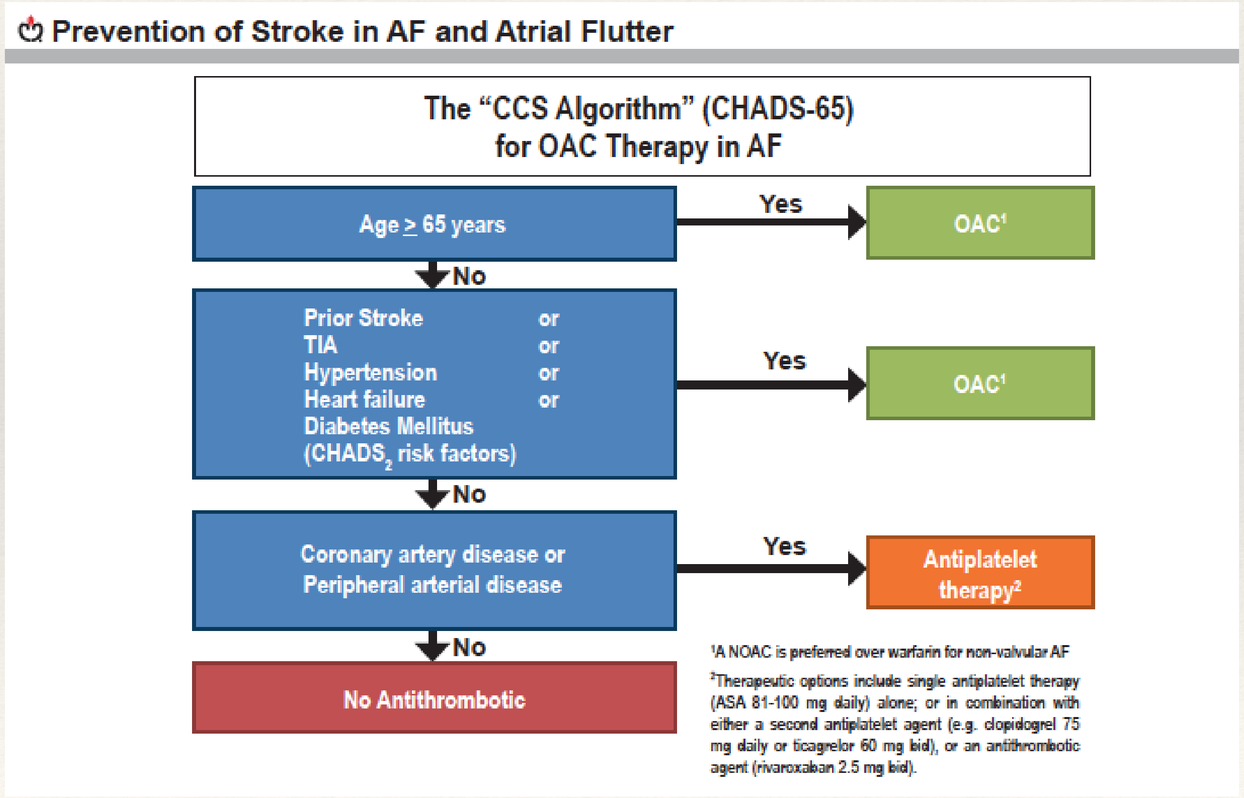
- Now that you've diagnosed AF, what to do??
  - Anticoagulate per CHADS-65



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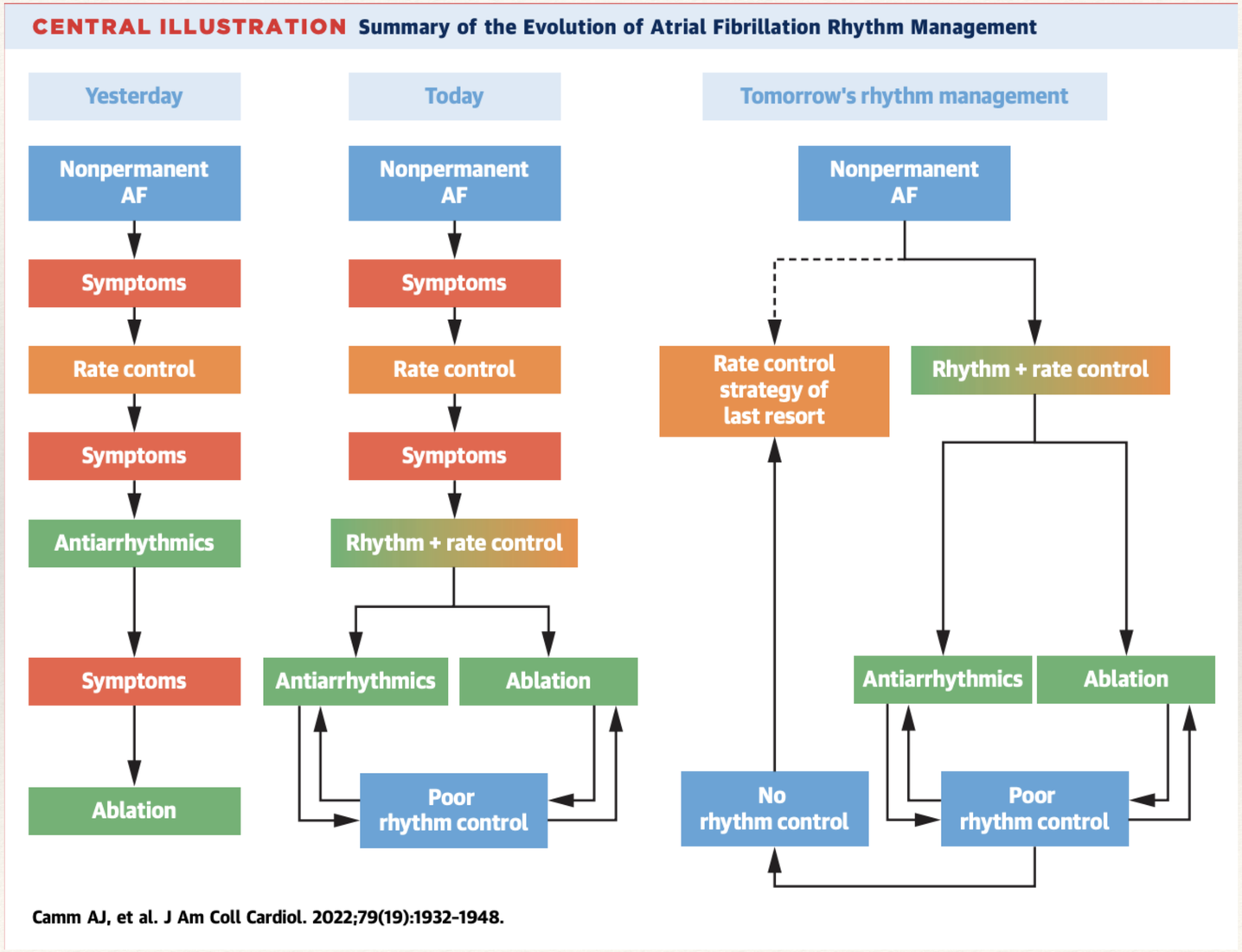
- Rate vs rhythm control?



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- Why the pursuit of rhythm control?
- Why earlier 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

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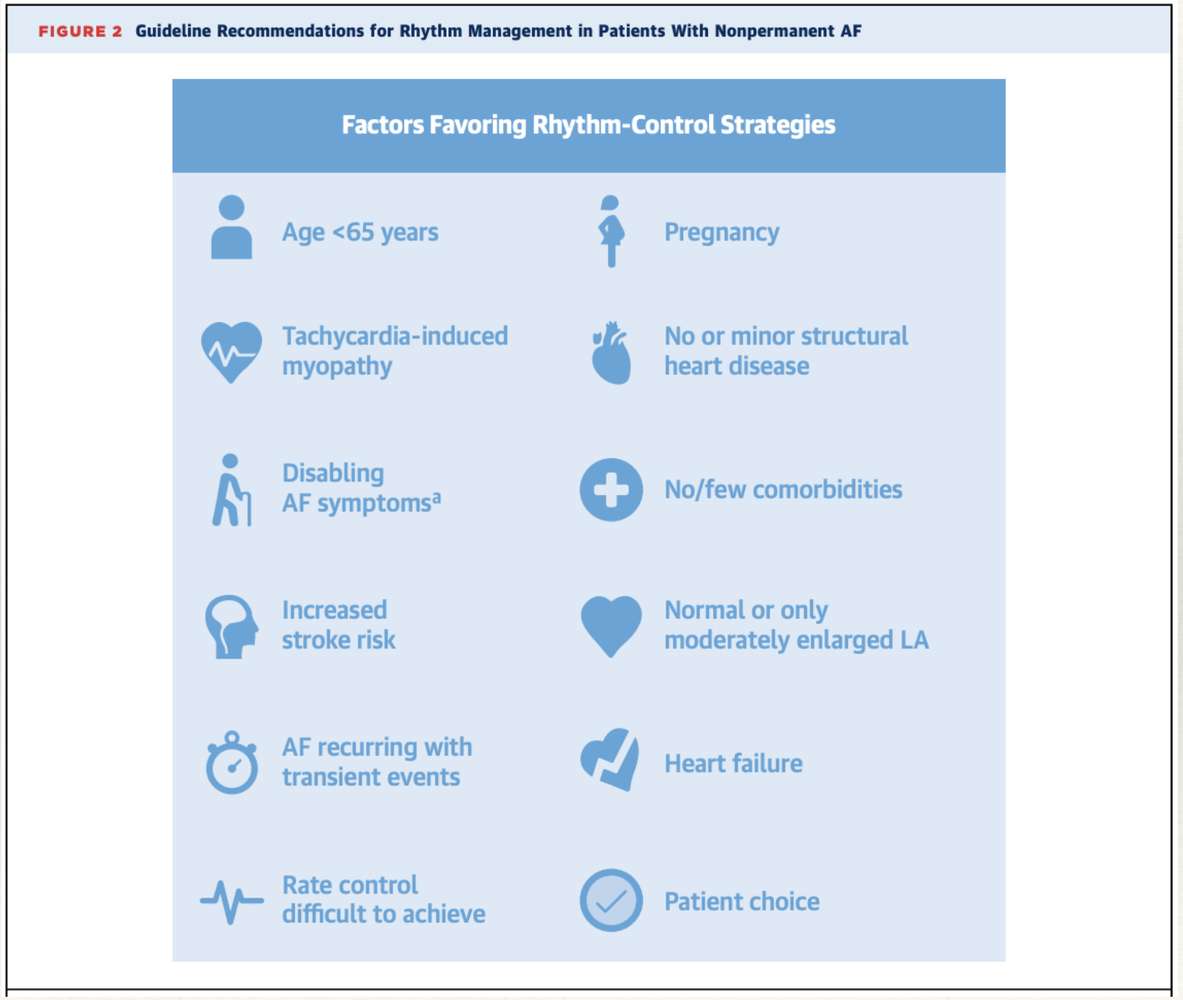
- Candidates for rhythm control:



JACC 2022. 79(19):1932-48.

AF: Screening, Rate vs Rhythm Control, Ablation

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

AF: Screening, Rate vs Rhythm Control, Ablation

- Why are we ablating earlier?
  - Patients do better
    - RAAFT, RAAFT-2, MANTRA-PAF, CAPTAF showed that pulmonary vein isolation > antiarrhythmics
    - 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

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- Improved patient outcomes:

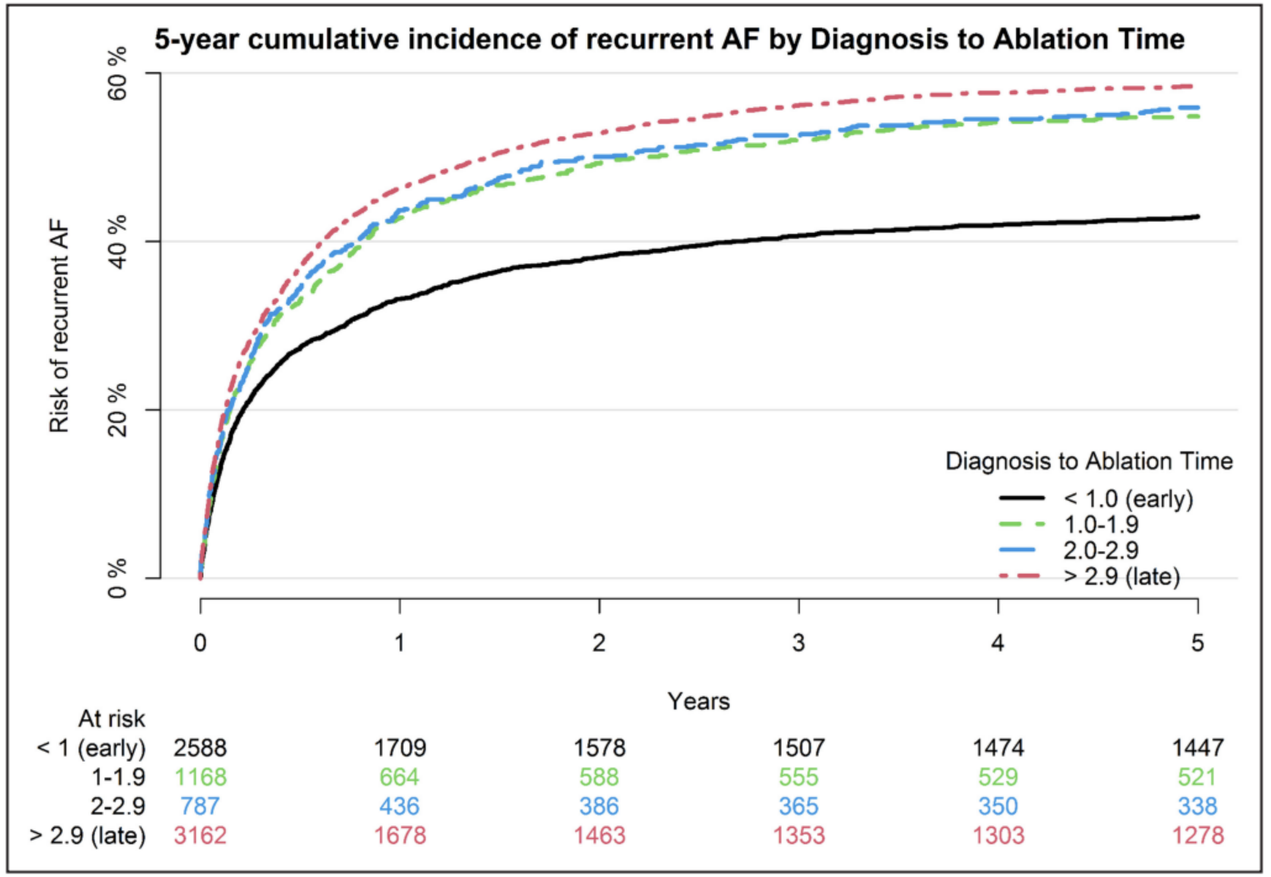

Figure 1. Cumulative 5-year AF recurrence incidence after AF ablation by diagnosis-to-ablation time.
The *x* axis depicts time in days, and the *y* axis depicts the cumulative AF recurrence. AF indicates atrial fibrillation.

Tonnesen et al. JAHA 2024;13:e032722

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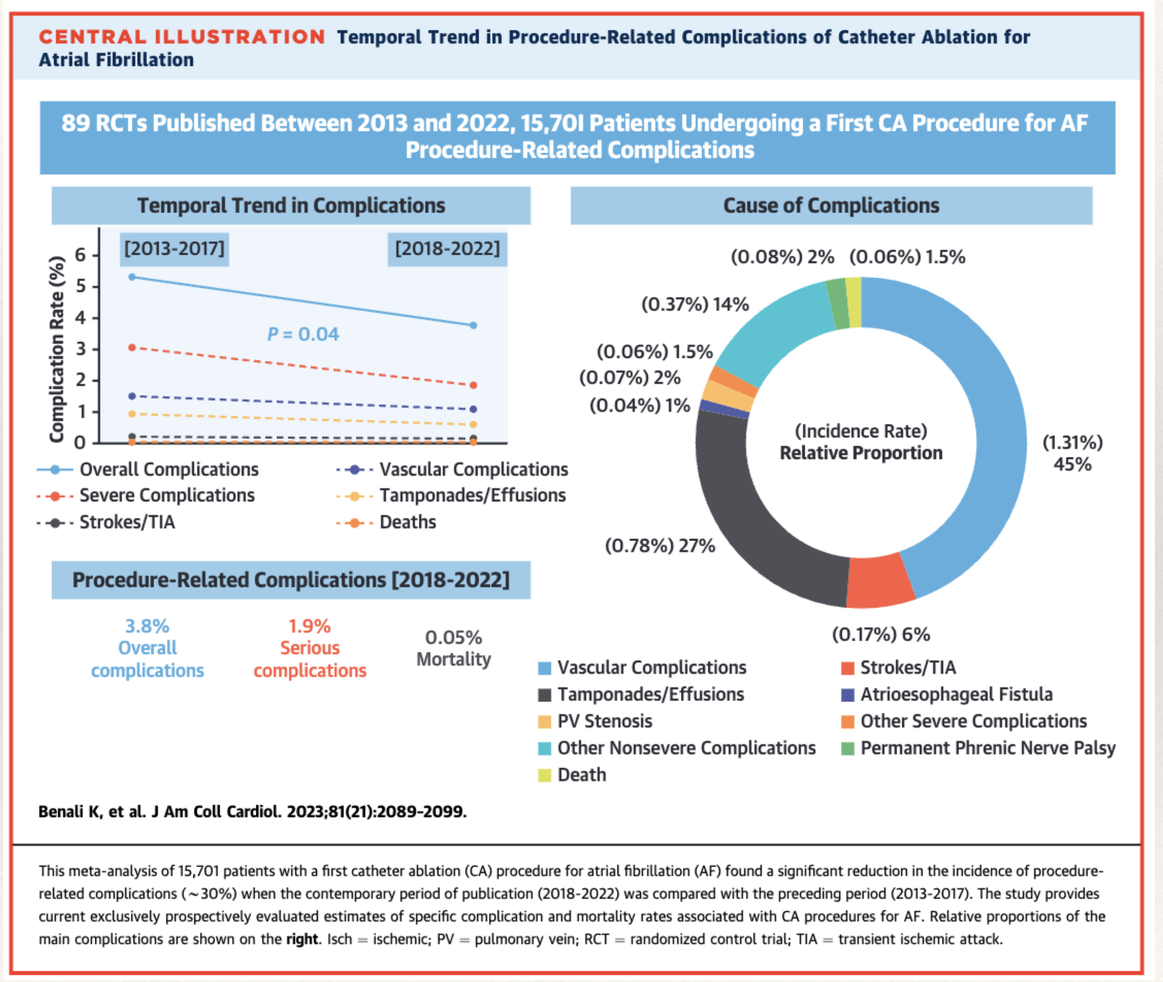
- Why are we ablating earlier?
  - Risks of ablation are decreasing
    - Increased experience, refined ablation techniques
    - Technological advances
      - Force-sensing catheters (reduced perforation risk, shorter procedure time, real-time assessment of lesion adequacy)
      - Mapping systems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



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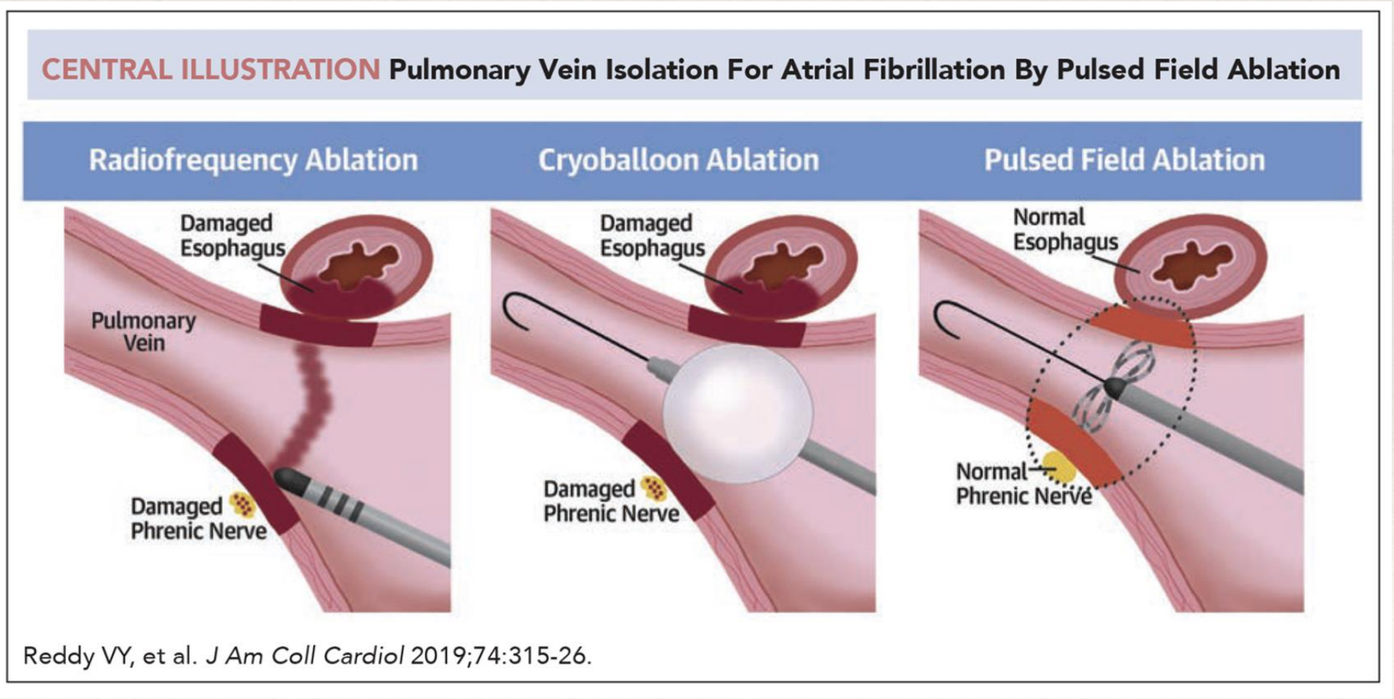
- Established modalities are RF and cryoablation
- Newest kid on the block: PFA
  - Nonthermal energy source



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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.

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- 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
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