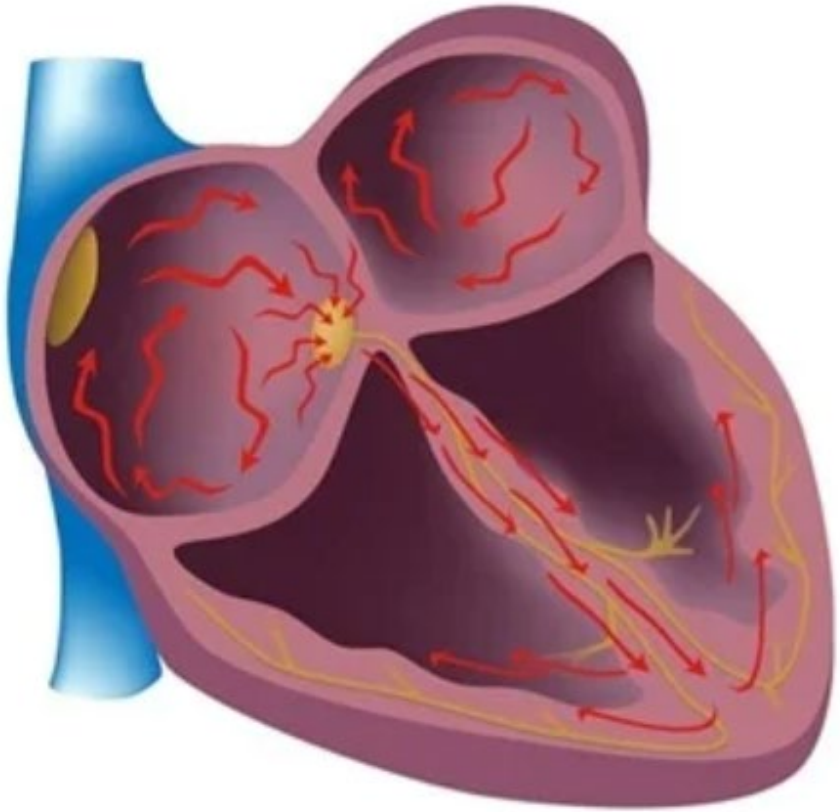
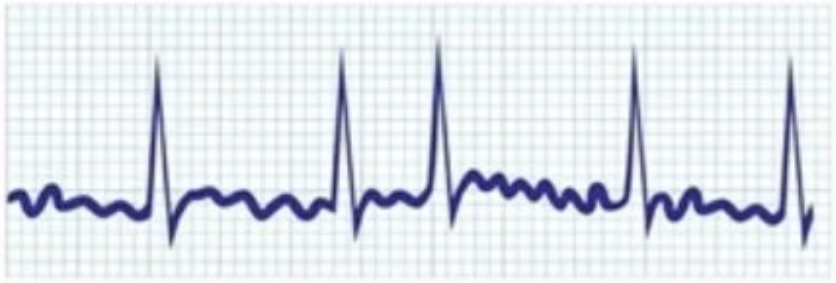
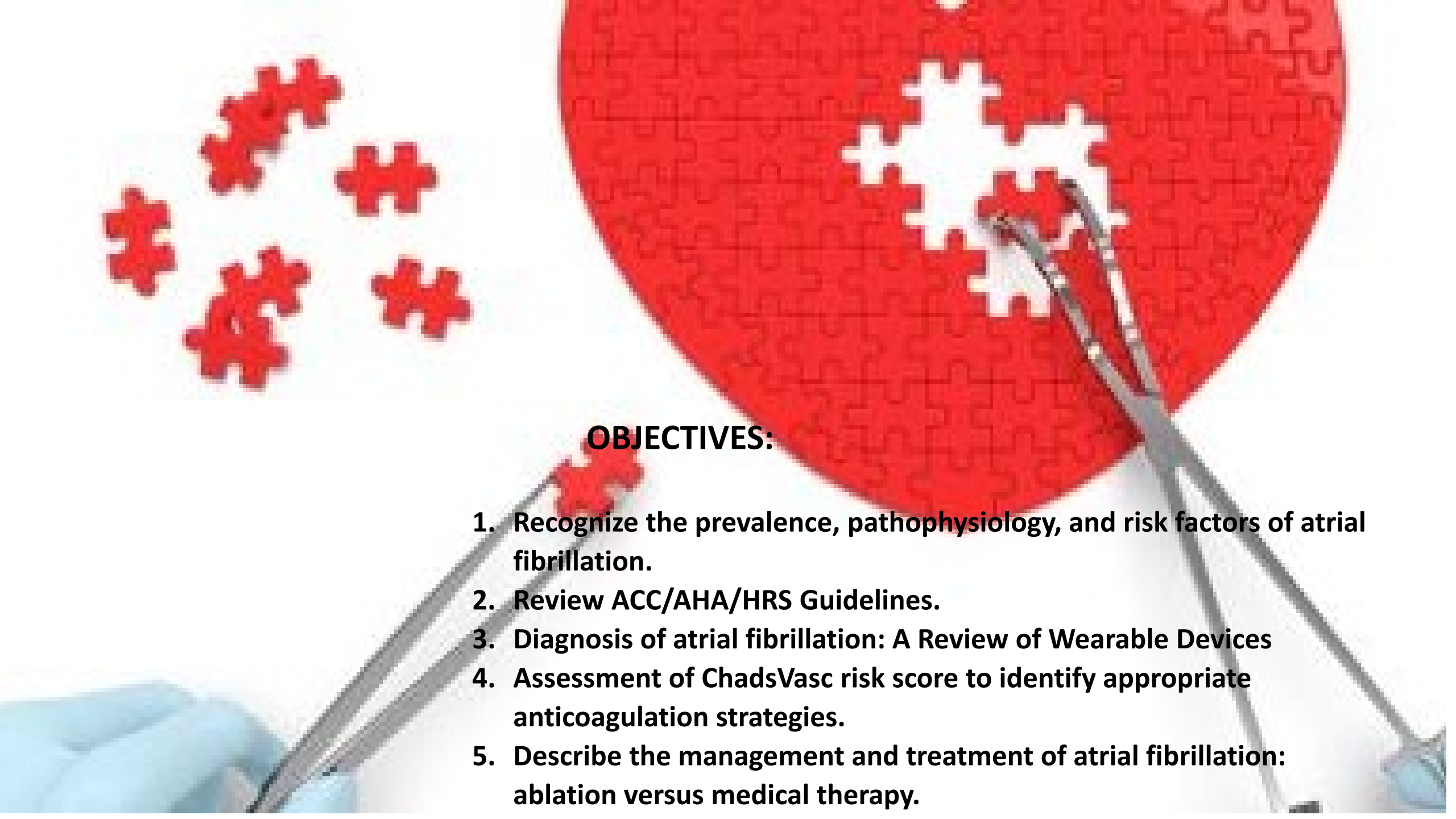




ATRIAL FIBRILLATION:

A Clinical Review

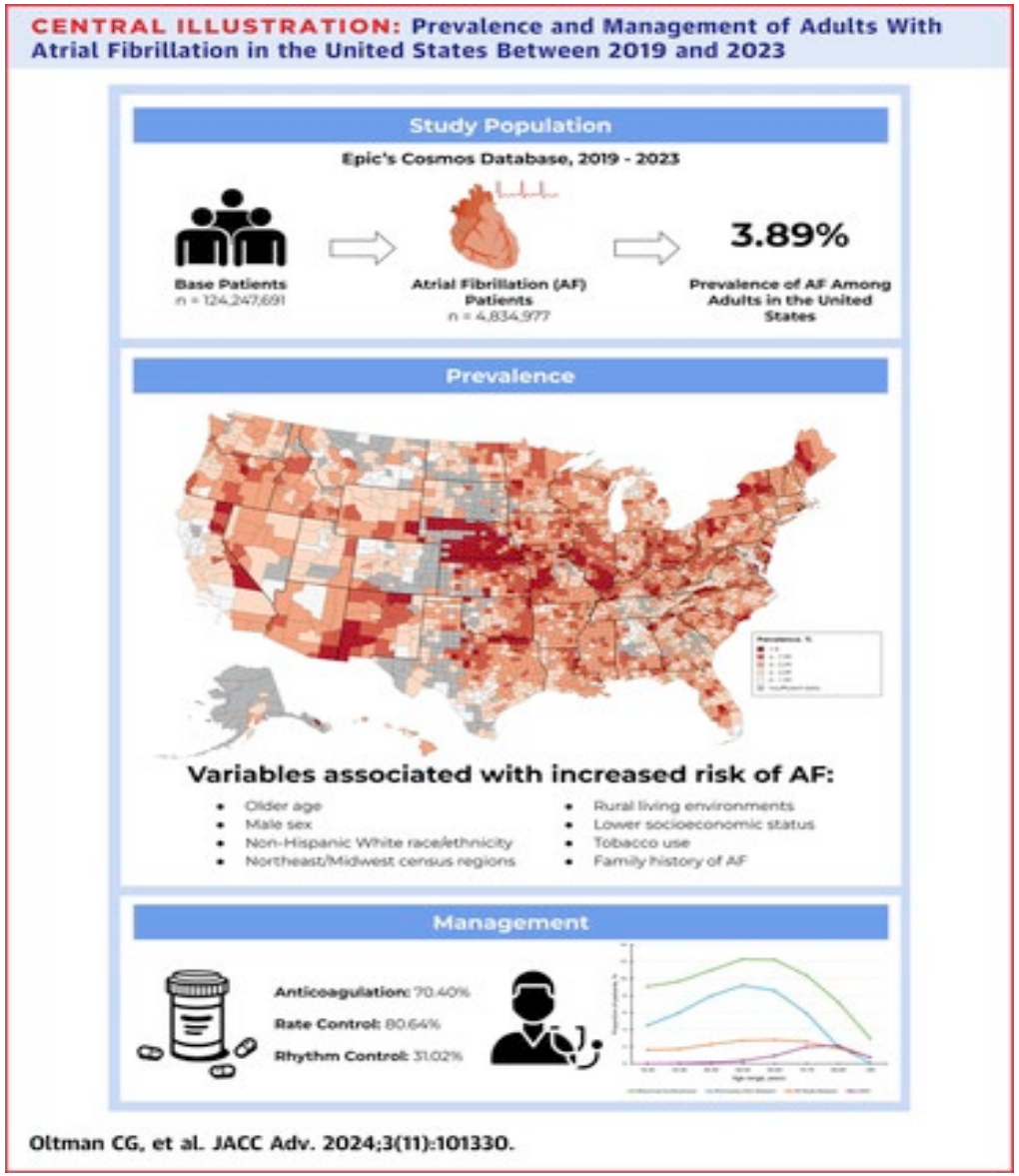
Dr. Linda “El” Summers, DMSc, PA-C
Physician Associate



OBJECTIVES:

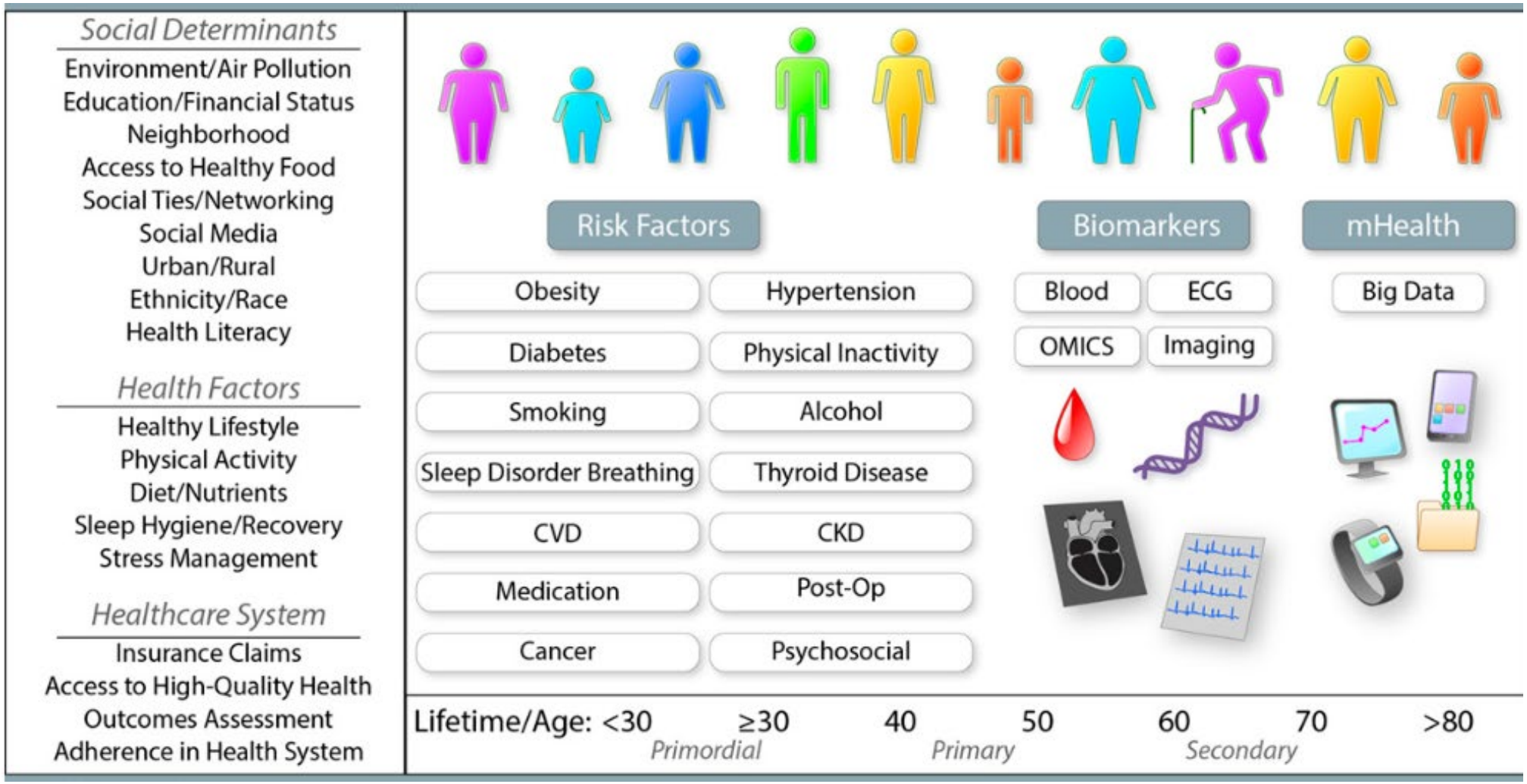
1. Recognize the prevalence, pathophysiology, and risk factors of atrial fibrillation.
2. Review ACC/AHA/HRS Guidelines.
3. Diagnosis of atrial fibrillation: A Review of Wearable Devices
4. Assessment of ChadsVasc risk score to identify appropriate anticoagulation strategies.
5. Describe the management and treatment of atrial fibrillation: ablation versus medical therapy.

Prevalence of Atrial Fibrillation (AF)



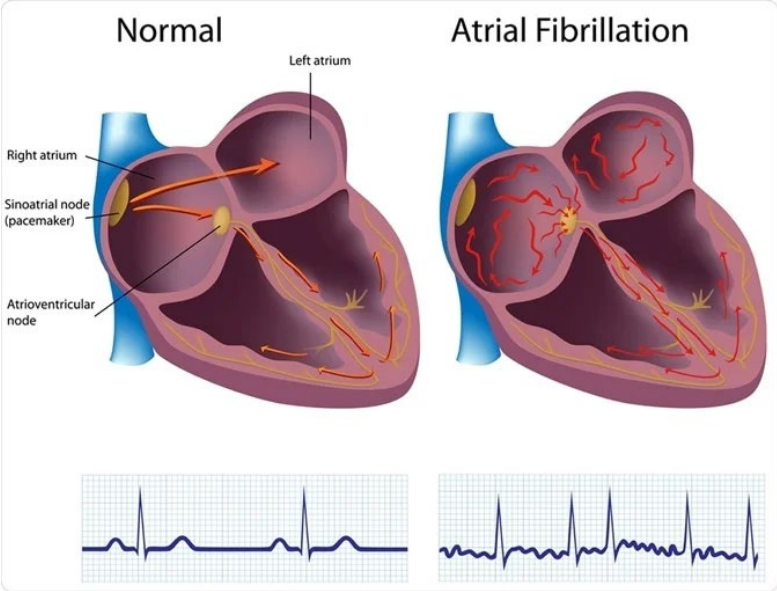
- **Most common sustained cardiac arrythmia worldwide**.
- Between 2010 and 2019, the global prevalence of AF has risen from 33.5 million to 59 million
- 3.89--4.2% American Adults
- By 2050, it is expected 6-16 million American adults will have atrial fibrillation
- Overall lifetime risk is about 30% to 40% in White individuals, 20% in African Americans, and 15% in Chinese Americans
- 11% (591 000 cases) of the >5.6 million AF cases in the United States were undiagnosed (2015)
- AF is associated with a 1.5- to 2-fold increased risk of death
- 2.4-fold risk of stroke
- 1.5-fold risk of cognitive impairment or dementia
- 1.5-fold risk of myocardial infarction
- 2-fold risk of sudden cardiac death
- 5-fold risk of heart failure
- 1.6-fold risk of chronic kidney disease
- 1.3-fold risk of peripheral artery disease
- 750,000 hospitalizations
- 160,000 deaths per year
- 1% in hospital mortality
- >28 billion in healthcare costs

Risk Factors for Atrial Fibrillation



Kornej J, et al. Circ Res. 2020;127(1):4–20

Pathophysiology of Atrial Fibrillation

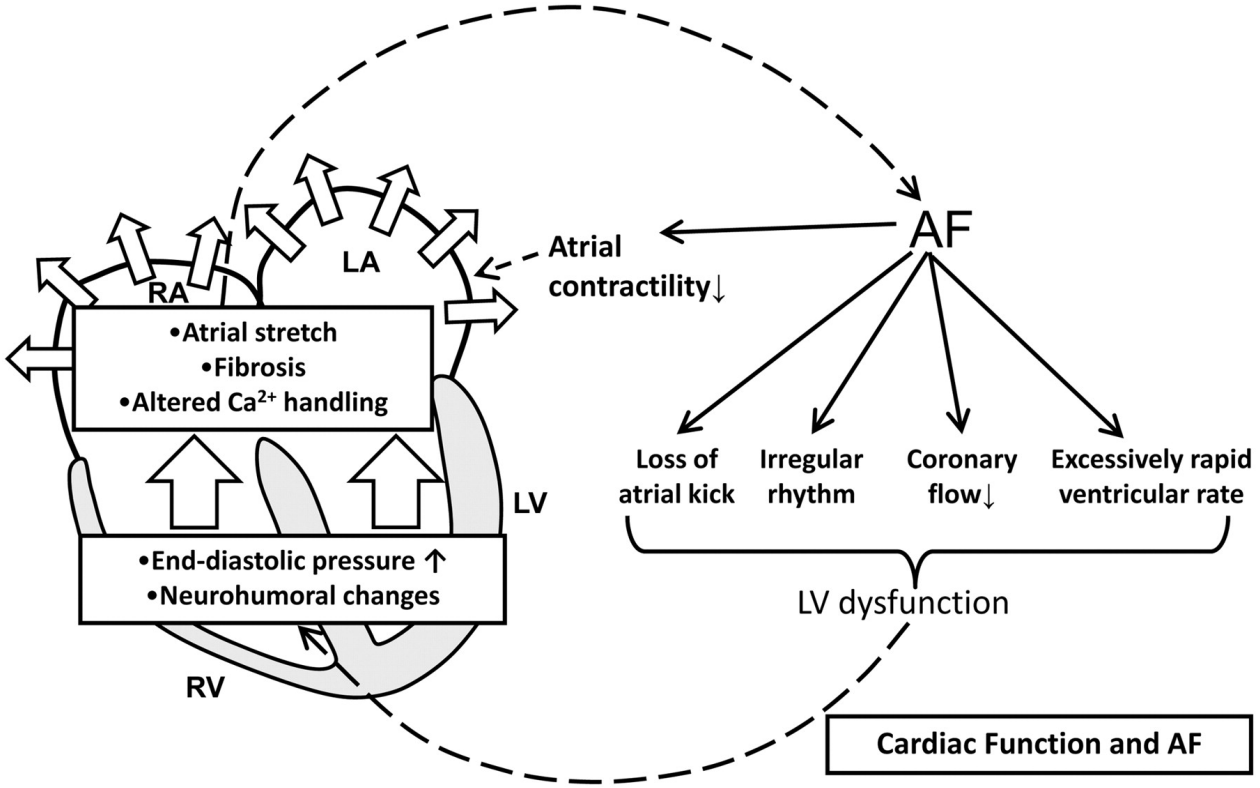


The pathogenesis of AF can be divided into the categories of:

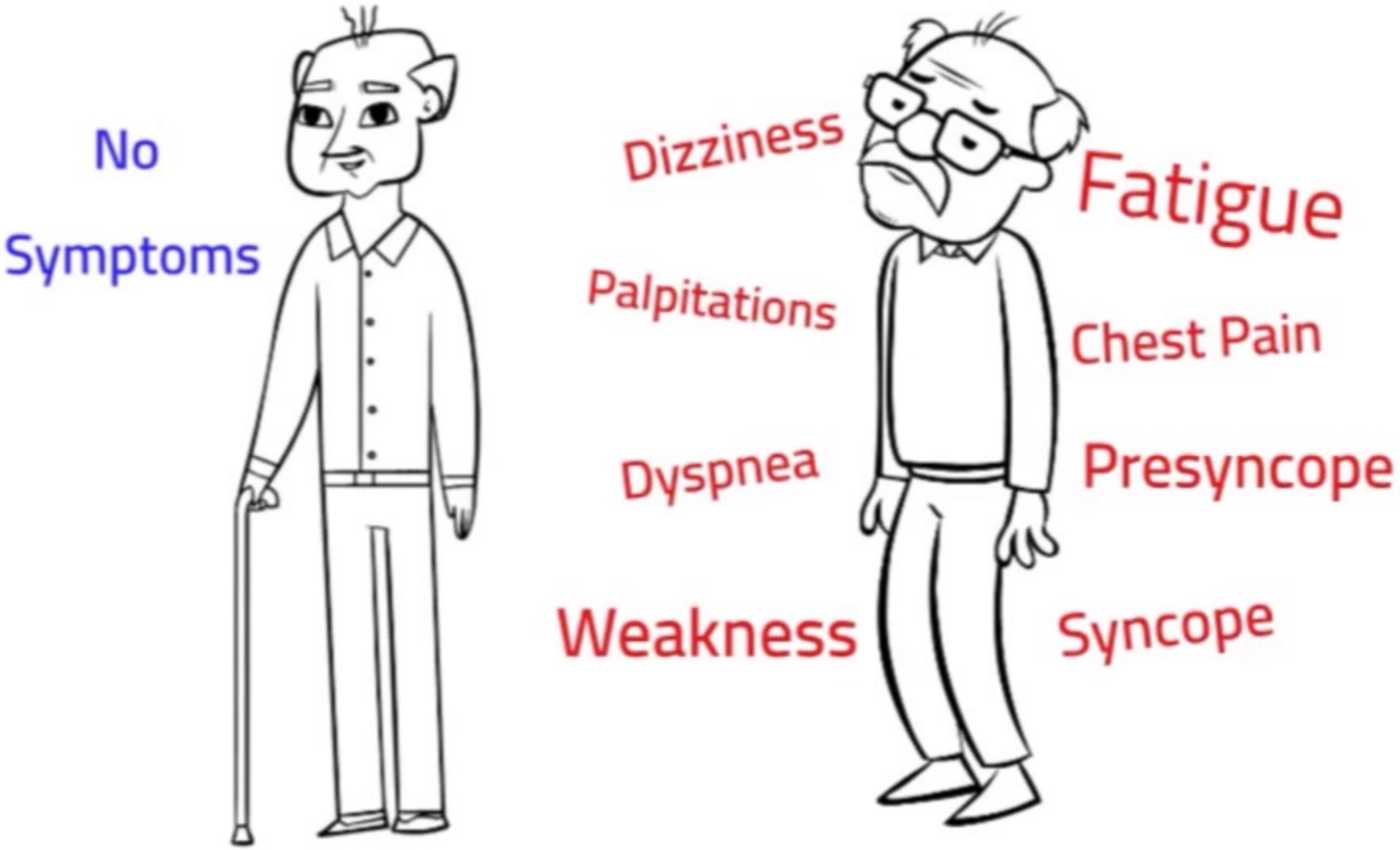
1. **Triggers**: Ectopic foci, Atrial premature beats, Autonomic nervous system imbalance, Atrial stretch

2. **Substrate**: Atrial remodeling, Ion channel dysfunction, Pulmonary vein isolation

3. **Sustaining mechanisms**: Re-entry circuits, Early afterdepolarizations, Shortened refractory period

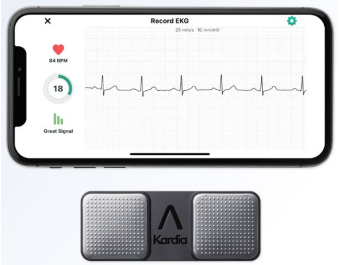


Symptoms of Atrial Fibrillation

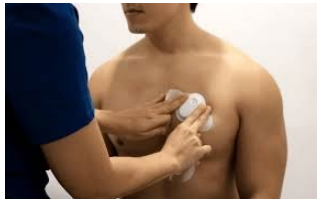


Diagnosis of Atrial Fibrillation: Wearable Devices

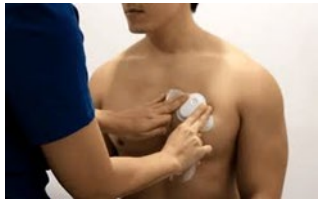
Wearable Smart Watch
Purchased by patient to monitor for arrhythmic source or palpitations



Kardia Mobile ECG
Record EKG from home
Download and email EKGs provider
FDA-cleared to detect AFib



24-48 Hour Holter Monitor
Daily or near daily symptoms
Assess rate control in atrial Fibrillation
Patient Diary
Patient returns monitor to
Download final report to provider

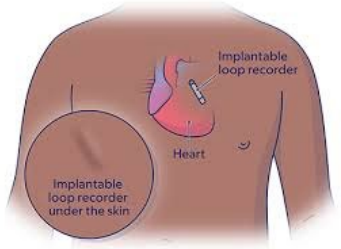


Event Monitor
Weekly symptoms
Assess source of palpitations
Most are auto triggered

Cardiac Holter Monitor Patch
Patch can be worn for 7-14 days
Monitor records all ECG data during monitoring period
Patient returns monitor to
Download final report to provider
Due to the extended monitoring time, the Zio device has a higher diagnostic yield than the Holter monitor

Mobile Cardiac Outpatient Telemetry (MCOT)
Can be worn for 3-30 days
Monitor continuously sends data to monitoring station
Provider is notified immediately if arrythmia is detected
Compared to other monitoring methods.
MCOT can detect a significantly higher percentage of AF episodes due to its prolonged monitoring capabilities
Assessment of AF burden
MCOT provides detailed data on AF episodes including duration and onset time

Implantable Loop Recorder



Class 2a Recommendation

- Patients with AF in whom monitoring is advised, reasonable to recommend use of a consumer ECG device
- An implantable loop recorder is reasonable for patients who have had a systemic thromboembolic event (CVA or TIA)

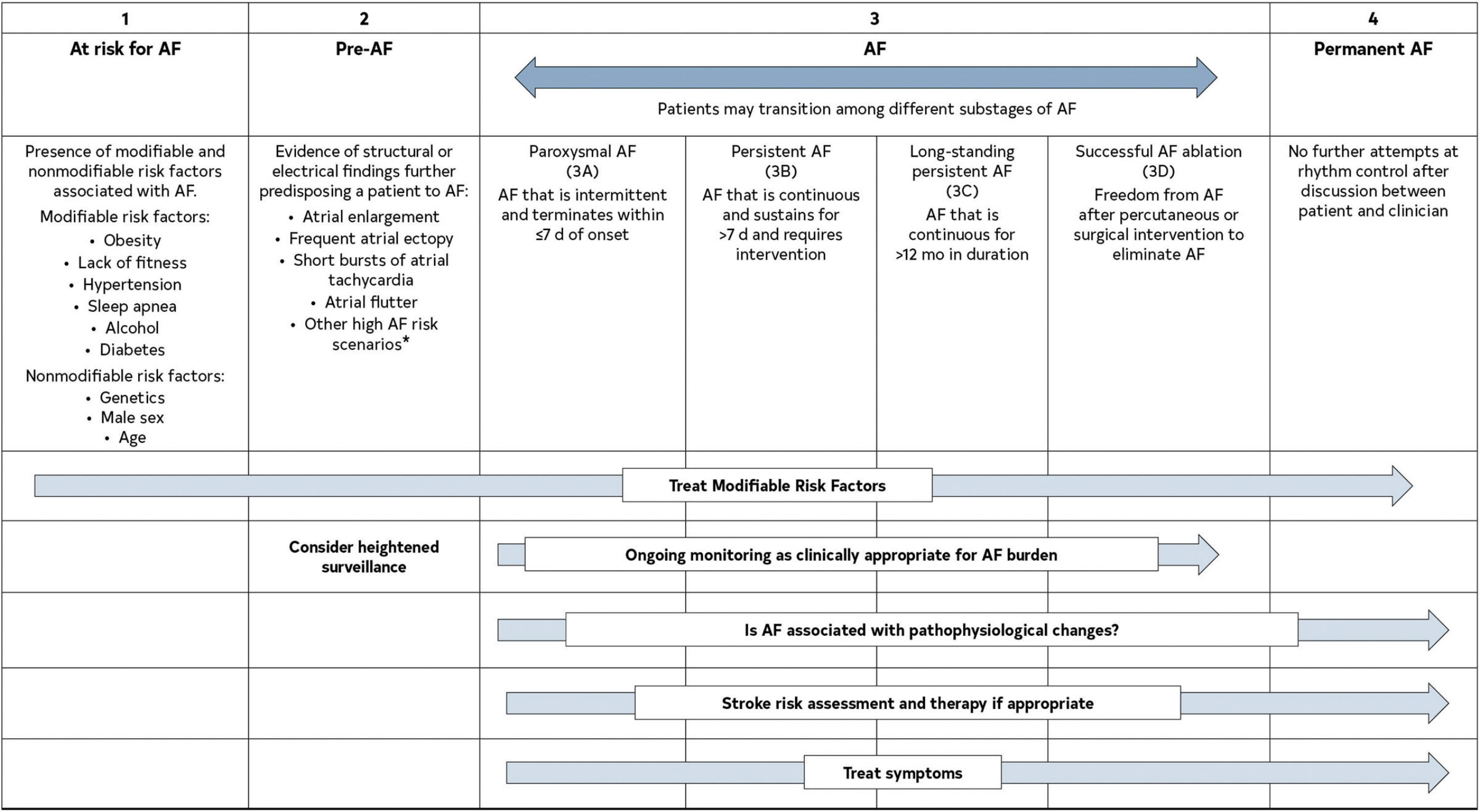
Randomized trials, predominately among cryptogenic stroke patients, demonstrate implantable cardiac monitors exhibit the highest sensitivity in detecting AF in view of extended monitoring periods compared with external monitors.

ACC/AHA/HRS Guidelines for the Diagnosis and Management of Atrial Fibrillation

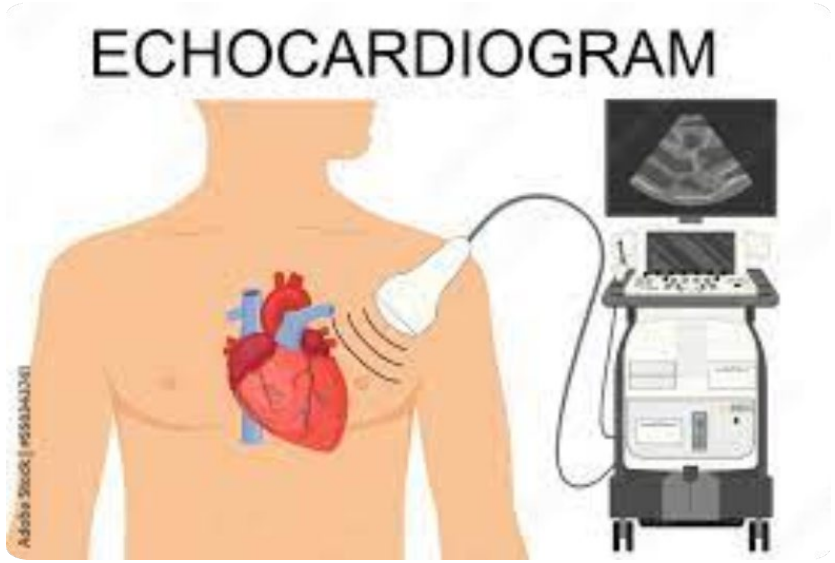
Prior Atrial Fibrillation Cla

- **Paroxysmal** ◦ < 7 days, not cardioversion
- **Persistent** ◦ > 7 days or req cardioversion
- **Long-standing persistent** ◦ in duration
- **Permanent** ◦ Rhythm contr abandoned

1	2	3				4
At risk for AF	**Pre-AF**	**AF**				**Permanent AF**
		Patients may transition among different substages of AF				
Presence of modifiable and nonmodifiable risk factors associated with AF. Modifiable risk factors: • Obesity • Lack of fitness • Hypertension • Sleep apnea • Alcohol • Diabetes Nonmodifiable risk factors: • Genetics • Male sex • Age	Evidence of structural or electrical findings further predisposing a patient to AF: • Atrial enlargement • Frequent atrial ectopy • Short bursts of atrial tachycardia • Atrial flutter • Other high AF risk scenarios*	Paroxysmal AF (3A) AF that is intermittent and terminates within ≤7 d of onset	Persistent AF (3B) AF that is continuous and sustains for >7 d and requires intervention	Long-standing persistent AF (3C) AF that is continuous for >12 mo in duration	Successful AF ablation (3D) Freedom from AF after percutaneous or surgical intervention to eliminate AF	No further attempts at rhythm control after discussion between patient and clinician
Treat Modifiable Risk Factors						
	Consider heightened surveillance	**Ongoing monitoring as clinically appropriate for AF burden**				
		Is AF associated with pathophysiological changes?				
		Stroke risk assessment and therapy if appropriate				
		Treat symptoms				


1
2
3
4
At risk for AF
Pre-AF
AF
Permanent AF
Patients may transition among different substages of AF
Presence of modifiable and nonmodifiable risk factors associated with AF.
Modifiable risk factors:
• Obesity
• Lack of fitness
• Hypertension
• Sleep apnea
• Alcohol
• Diabetes
Nonmodifiable risk factors:
• Genetics
• Male sex
• Age
Evidence of structural or electrical findings further predisposing a patient to AF:
• Atrial enlargement
• Frequent atrial ectopy
• Short bursts of atrial tachycardia
• Atrial flutter
• Other high AF risk scenarios*
Paroxysmal AF (3A)
AF that is intermittent and terminates within ≤7 d of onset
Persistent AF (3B)
AF that is continuous and sustains for >7 d and requires intervention
Long-standing persistent AF (3C)
AF that is continuous for >12 mo in duration
Successful AF ablation (3D)
Freedom from AF after percutaneous or surgical intervention to eliminate AF
No further attempts at rhythm control after discussion between patient and clinician
Treat Modifiable Risk Factors
Consider heightened surveillance
Ongoing monitoring as clinically appropriate for AF burden
Is AF associated with pathophysiological changes?
Stroke risk assessment and therapy if appropriate
Treat symptoms

ACC/AHA/HRS Guidelines for Clinical Evaluation of Atrial Fibrillation



1. Determine chamber size and function, valve function, and right ventricular pressure.
2. Left ventricular ejection fraction (LVEF)- decisions for antiarrhythmic drug
3. Strain imaging may suggest an underlying infiltrative cardiomyopathy, such as amyloidosis.
4. LA size and function: Altered LA compliance is associated with progression toward persistent-type AF

Recommendations for Basic Clinical Evaluation
Referenced studies that support the recommendations are summarized in the Online Data Supplement.

COR	LOE	Recommendations
1	B-NR	1. In patients with newly diagnosed AF, a transthoracic echocardiogram[1–4] to assess cardiac structure, laboratory testing to include a complete blood count, metabolic panel, and thyroid function,[5–7] and when clinical suspicion exists, targeted testing to assess for other medical conditions associated with AF are recommended to determine stroke and bleeding risk factors, as well as underlying conditions that will guide further management.
3: No benefit	B-NR	2. In patients with newly diagnosed AF, protocolized testing for ischemia, acute coronary syndrome (ACS), and pulmonary embolism (PE) should not routinely be performed to assess the etiology of AF unless there are additional signs or symptoms to indicate those disorders.[8–10]

ACC/AHA/HRS Guidelines for Prevention of Thromboembolism

Recommendations for Risk Stratification Schemes
Referenced studies that support the recommendations are summarized in the Online Data Supplement.

COR	LOE	Recommendations
1	B-NR	1. Patients with AF should be evaluated for their annual risk of thromboembolic events using a validated clinical risk score, such as CHA_2DS_2-VASc.[1–4]
1	B-NR	2. Patients with AF should be evaluated for factors that specifically indicate a higher risk of bleeding, such as previous bleeding and use of drugs that increase bleeding risk, in order to identify possible interventions to prevent bleeding on anticoagulation.[5–7]
2a	C-LD	3. Patients with AF at intermediate annual risk of thromboembolic events by risk scores (eg, equivalent to CHA_2DS2-VASc score of 1 in men or 2 in women), who remain uncertain about the benefit of anticoagulation, can benefit from consideration of factors that might modify their risk of stroke to help inform the decision.*
3: No Benefit	B-NR	4. In patients who are deemed at high risk for stroke, bleeding risk scores should not be used in isolation to determine eligibility for oral anticoagulation but instead to identify and modify bleeding risk factors and to inform medical decision-making.[8–10]

*Factors may include AF burden or other features in Table 3.

Class I recommendations

Assess annual stroke risk using a validated score (CHA2DS2-VASc score still most validated)

Evaluate for factors that indicate a higher bleeding risk

- Prior bleeding
- Use of other drugs that increase bleeding risk
- Gait instability, etc

CHADS2-VASC Risk Assessment

C	Heart Failure	The presence of signs and symptoms of either right (elevated central venous pressure, hepatomegaly, dependent edema) or left ventricular failure (exertional dyspnea, cough, fatigue, orthopnea, paroxysmal nocturnal dyspnea, cardiac enlargement, rales, gallop rhythm, pulmonary venous congestion) or both, confirmed by noninvasive or invasive measurements demonstrating objective evidence of cardiac dysfunction
H	Hypertension	A resting blood pressure >140 mm Hg systolic and/or >90 mm Hg diastolic on at least 2 occasions or current antihypertensive pharmacological treatment
A_2	Age, additional risk/point	Age ≥75 y
D	Diabetes	Fasting plasma glucose level ≥7.0 mmol/L (126 mg/dL) or treatment with hypoglycemic agent and/or insulin
S_2	Thromboembolism	Either an ischemic stroke, transient ischemic attack, peripheral embolism, or pulmonary embolism
V	Vascular Disease	Coronary artery disease (prior myocardial infarction, angina pectoris, percutaneous coronary intervention, or coronary artery bypass surgery) or peripheral vascular disease (the presence of any of the following: intermittent claudication, previous surgery or percutaneous intervention on the abdominal aorta or the lower extremity vessels, abdominal or thoracic vascular surgery, arterial and venous thrombosis)
A	Age standard risk/weight	Age 65–74 y
Sc	Sex Category	Female sex

Additional Risk Factors That Increase Risk of Stroke Not Included in CHA2DS2-VASc:

Higher AF burden/Long duration

Persistent/permanent AF versus paroxysmal

Obesity (BMI, ≥30 kg/m2)

HCM

Poorly controlled hypertension

eGFR (<45 mL/h)

Proteinuria (>150 mg/24 h or equivalent)

Enlarged LA volume (≥73 mL) or diameter (≥4.7 cm)

ACC/AHA/HRS Guidelines for Prevention of Thromboembolism

Recommendations for Risk Stratification Schemes Referenced studies that support the recommendations are summarized in the Online Data Supplement.		
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3: No Benefit	B-NR	4. In patients who are deemed at high risk for stroke, bleeding risk scores should not be used in isolation to determine eligibility for oral anticoagulation but instead to identify and modify bleeding risk factors and to inform medical decision-making.[8–10]

*Factors may include AF burden or other features in Table 3.

Class 2a

Intermediate stroke risk patients who are uncertain about OAC should know about other factors that influence stroke risk:

LA size
AF burden
Persistent/permanent AF versus paroxysmal
Obesity (BMI, ≥30 kg/m2)
HCM
Poorly controlled hypertension
eGFR (<45 mL/h)
Proteinuria (>150 mg/24 h or equivalent)
Enlarged LA volume (≥73 mL) or diameter (≥4.7 cm)

ACC/AHA/HRS Guidelines for Prevention of Thromboembolism

Recommendations for Risk Stratification Schemes Referenced studies that support the recommendations are summarized in the Online Data Supplement.		
COR	**LOE**	**Recommendations**
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2a	**C-LD**	3. Patients with AF at intermediate annual risk of thromboembolic events by risk scores (eg, equivalent to CHA_2DS2-VASc score of 1 in men or 2 in women), who remain uncertain about the benefit of anticoagulation, can benefit from consideration of factors that might modify their risk of stroke to help inform the decision.*
3: No Benefit	**B-NR**	4. In patients who are deemed at high risk for stroke, bleeding risk scores should not be used in isolation to determine eligibility for oral anticoagulation but instead to identify and modify bleeding risk factors and to inform medical decision-making.[8–10]

*Factors may include AF burden or other features in Table 3.

Class III recommendation

Do not use bleeding risk scores in isolation to determine whether to anticoagulate

ACC/AHA/HRS Guidelines for Prevention of Thromboembolism

Recommendations for Antithrombotic Therapy
Referenced studies that support the recommendations are summarized in the Online Data Supplement.

COR	LOE	Recommendations
1	A	1. For patients with AF and an estimated annual thromboembolic risk of ≥2% per year (eg, CHA_2DS_2-VASc score of ≥2 in men and ≥3 in women), anticoagulation is recommended to prevent stroke and systemic thromboembolism.[1–7]
1	A	2. In patients with AF who do not have a history of moderate to severe rheumatic mitral stenosis or a mechanical heart valve, and who are candidates for anticoagulation, DOACs are recommended over warfarin to reduce the risk of mortality, stroke, systemic embolism, and ICH.[1–7]
2a	A	3. For patients with AF and an estimated annual thromboembolic risk of ≥1% but <2% per year (equivalent to CHA_2DS_2-VASc score of 1 in men and 2 in women), anticoagulation is reasonable to prevent stroke and systemic thromboembolism.[1,3]
3: Harm	B-R	4. In patients with AF who are candidates for anticoagulation and without an indication for antiplatelet therapy, aspirin either alone or in combination with clopidogrel as an alternative to anticoagulation is not recommended to reduce stroke risk.[8,9]
3: No Benefit	B-NR	5. In patients with AF without risk factors for stroke, aspirin monotherapy for prevention of thromboembolic events is of no benefit.[10,11]

Class I recommendations

Anticoagulate based on stroke risk (>2%)

Do not base decision on AF pattern

Class 2a recommendation

CHA2DS2-VASc score 1 in men and 2 in women (risk between 1 and 2%)

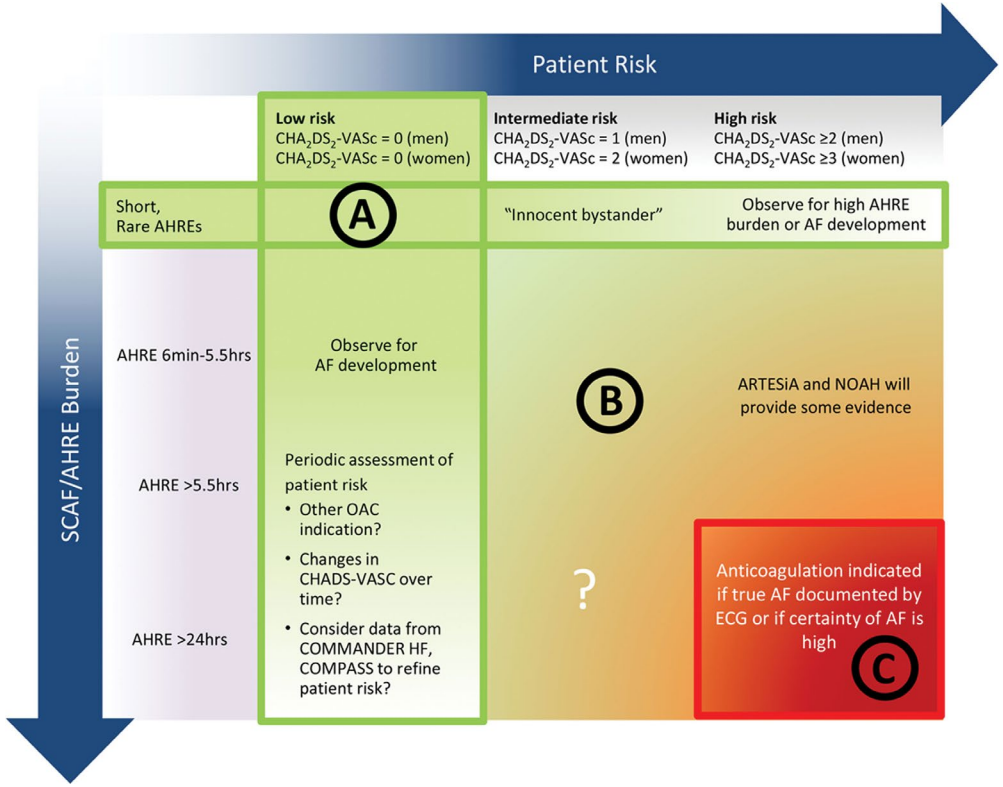
Anticoagulation is reasonable

Class III recommendations

Do not use ASA/clopidogrel or ASA + clopidogrel in lieu of OAC

In patients with AF and without risk factors for stroke ASA is of no benefit

ACC/AHA/HRS Guidelines for Prevention of Thromboembolism in Subclinical Atrial Fibrillation



Class 2a

Device detected AHRE >= 24 hours and CHA2DS2-VASc score >= 2

Reasonable to anticoagulated

Class 2b

Device detected AHRE between 5 minutes and 24 hours, and CHA2DS2VASc score >= 3

Reasonable to anticoagulated

Class III recommendation

Device detected AHRE < 5 minutes

Do not anticoagulate

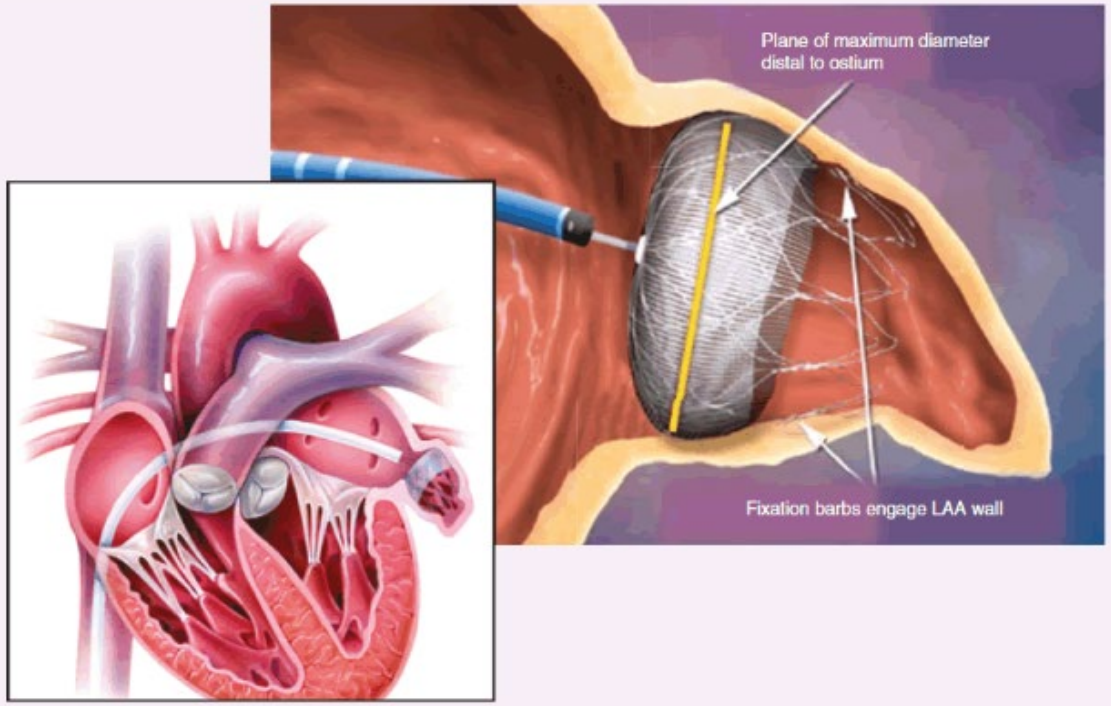
ARTESIA January 2024 (Clinical Trial)

Apixaban versus 81mg ASA for subclinical AF between 6 minutes to 24 hours

Apixaban reduced risk of stroke or thromboembolism (0.78% per person-year versus 1.24%) p 0.007

Apixaban increased risk of major bleeding (1.53% per person-year versus 1.12%) p 0.04

Percutaneous Left Atrial Appendage Occlusion (LAAO)



Class 2a

CHA2DS2-VASc score >= 2
Contraindication to long-term OAC due to nonreversible cause
Percutaneous LAAO is reasonable

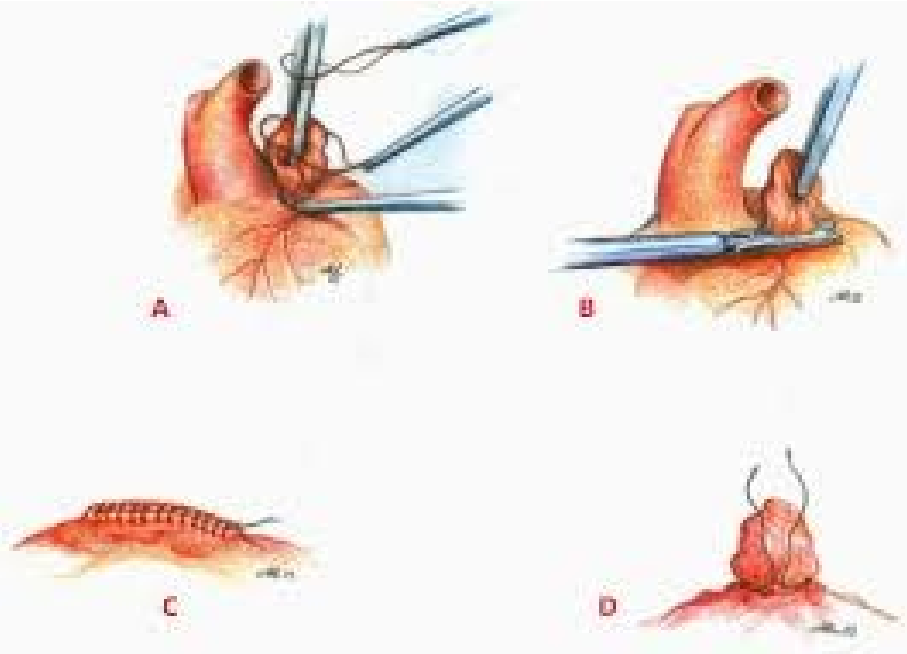
Class 2b

CHA2DS2-VASc score >=2
High risk of major bleeding

Percutaneous LAAO reasonable based on patient preference

- **Consider procedural risk**
- **Emphasize evidence for OAC is more extensive**

Surgical Left Atrial Appendage Closure



Class I recommendation

CHA2DS2-VASc score >=2
Undergoing cardiac surgery
Surgical LAAE indicated
With continued OAC

Use a technique that results in absence of flow across suture line
Stump < 1cm

Class 2b

CHA2DS2-VASc score >=2
Surgical LAAE WITHOUT ongoing OAC is of uncertain benefit

Anticoagulation Strategy for Management of Atrial Fibrillation and Coronary Artery Disease

Class I recommendations

Patients with AF and increased stroke risk
Undergoing PCI
DOACs preferred over VKA (warfarin) in combination with antiplatelet therapy (APT)

Patients with AF on OAC undergoing PCI
Recommend early discontinuation of ASA (30 days) and then OAC plus P2Y12 inhibitor (clopidogrel, prasugrel, ticagrelor) preferred over triple therapy to reduce bleeding risk

Patients with AF and chronic coronary disease (> 1 year post revascularization or CAD not requiring revascularization)
Without prior stent thrombosis
OAC monotherapy recommended over OAC + single APT

Management and Treatment of Atrial Fibrillation

Recommendation for Primary Prevention Referenced studies that support the recommendation are summarized in the Online Data Supplement.		
COR	**LOE**	**Recommendation**
1	**B-NR**	1. Patients at increased risk of AF should receive comprehensive guideline-directed LRFM for AF, targeting obesity,[1] physical inactivity,[2] unhealthy alcohol consumption,[3] smoking,[4] diabetes,[5] and hypertension.[6]

Patients at risk for AF should receive comprehensive lifestyle/risk factor assessment and modification

Class I Recommendation

Patients with AF and Obesity (BMI 27)- weight loss is recommended

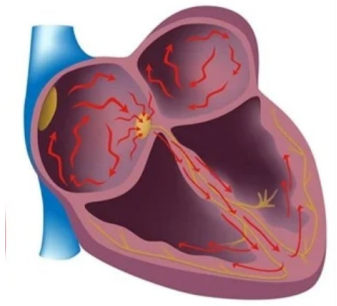
Recommend at least 10% weight loss
- Reduce AF symptoms
- Reduce AF burden
- Reduce recurrence
- Reduce progression to persistent AF

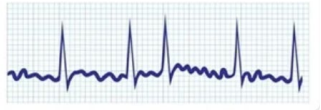
Class I Recommendation

Physical inactivity—210 minutes moderate-vigorous exercise per week
Avoid heavy alcohol use
STOP Smoking
Diabetes Management
Hypertension—optimize blood pressure

Class 2b Sleep Apnea: reasonable to screen for OSA in patients with AF

Class 3: No Benefit to Caffeine Abstention!





Management and Treatment of Atrial Fibrillation: Rate Control

Discuss rate versus rhythm control strategies with patient (consider comorbidities and patient preferences)

AF without Heart Failure: HR target guided by symptoms: <100-110bpm

AF with RVR and stable
Beta blockers
Non-dihydropyridine CCB (if EF > 40%)

AF with RVR and BB or CCB ineffective or not tolerated
Digoxin can be considered

AF with RVR
Adding IV magnesium is reasonable

AF with RVR + acute decompensated Heart Failure or critical illness
(CCB and BB not effective or contraindicated)
IV amiodarone can be considered for acute rate control

AF with RVR + low EF (or unknown EF)
IV non-dihydropyridine CCBs (diltiazem) should not be administered

AF and EF < 40% ◦
CCBs should not be administered and can exacerbate heart failure

Permanent AF + risk factors for cardiovascular events: Dronedarone should not be used for long-term rate control

Management and Treatment of Atrial Fibrillation: Rate Control

Recommendations for AVNA Referenced studies that support the recommendations are summarized in the Online Data Supplement.		
COR	**LOE**	**Recommendations**
1	**C-LD**	1. In patients with AF and a persistently rapid ventricular response who undergo AVNA, initial pacemaker lower rate programming should be 80 to 90 bpm to reduce the risk of sudden death.[1,2]
2a	**B-R**	2. In patients with AF and uncontrolled rapid ventricular response refractory to rate-control medications (who are not candidates for or in whom rhythm control has been unsuccessful), AVNA can be useful to improve symptoms and QOL.[3–6]
1	**B-NR**	3. In patients with AF who are planned to undergo AVNA, implantation of a pacemaker before the ablation (ie, before or same day of ablation) is recommended to ensure adequacy of the pacing leads before performing ablation.[7–9]
2b	**C-LD**	4. In patients with AF with normal EF undergoing AVNA, conduction system pacing of the His bundle[10–13] or left bundle area[12,13] may be reasonable.

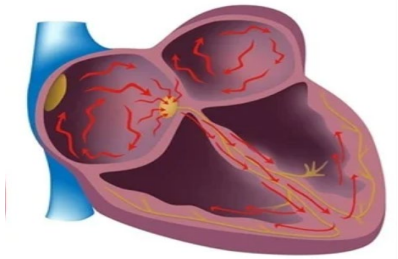
Class 2a recommendation

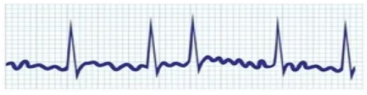
AF and refractory RVR

AV node ablation can be useful to improve symptoms and Quality of Life

Class 2b recommendation

AF and normal LV EF undergoing AV node ablation *Conduction system pacing may be reasonable*





Management and Treatment of Atrial Fibrillation: Rhythm Control

High burden AF and low LV EF
Trial of rhythm control recommended to assess whether AF is contributory to systolic dysfunction

AF with symptoms
Rhythm control may be useful to improve symptoms

Recent diagnosis of AF (< 1 year)
Rhythm control to reduce hospitalization, stroke, and mortality (Data from EAST-AFNET 4)

AF and Heart Failure
Rhythm control may be useful to reduce hospitalization, mortality, and symptoms Driven CABANA (46% reduction in mortality with ablation versus drug therapy)

Rhythm control may be useful to reduce AF progression

AF and symptom correlation unclear
Trial of rhythm control may be useful

Rhythm control may be useful to reduce likelihood of developing:
Dementia
Worsening structural heart disease

TAKE HOME: New diagnosis and HFrEF and AF
Suspect arrhythmia-induced cardiomyopathy
Pursue early and aggressive rhythm control

Management and Treatment of Atrial Fibrillation: Rhythm Control: Antiarrhythmic Medications

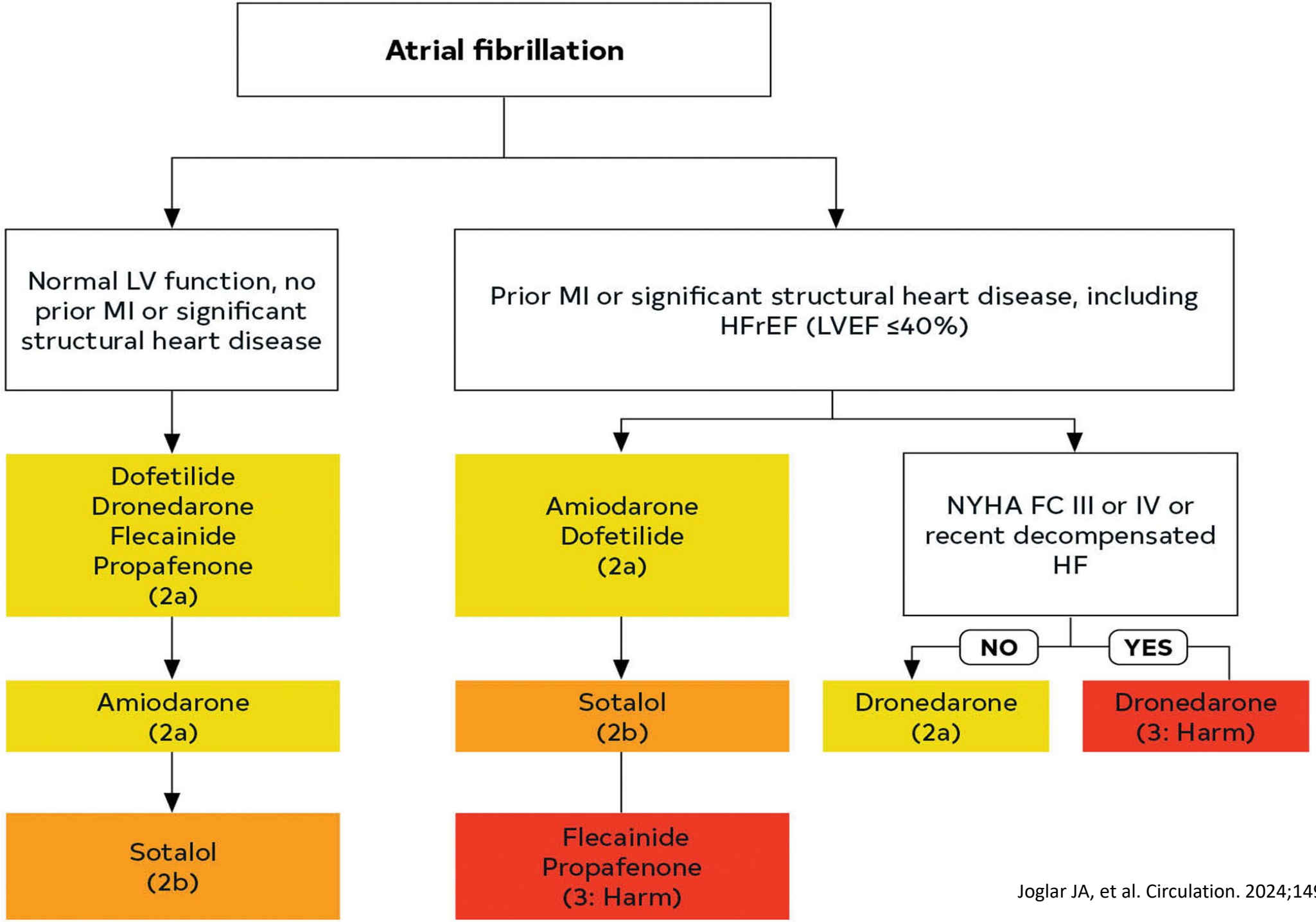
Dofetilide (Tikosyn) and sotalol are effective for maintenance of sinus rhythm but are associated with torsades de pointes and require QT interval monitoring. Sotalol: Monitor K, Mg, Cr (dose selection based on kidney function)

Dofetilide and amiodarone—reasonable in patients with AF and HFrEF (EF < 40%)
*Amiodarone monitoring: pulmonary fibrosis, hypo- or hyperthyroidism, elevated transaminases, hepatotoxicity, photosensitivity, changes in skin pigmentation, peripheral neuropathy, sinus bradycardia, QT interval prolongation and torsades de pointes, corneal microdeposits, rarely optic neuropathy. In addition, amiodarone is associated with many drug interactions.

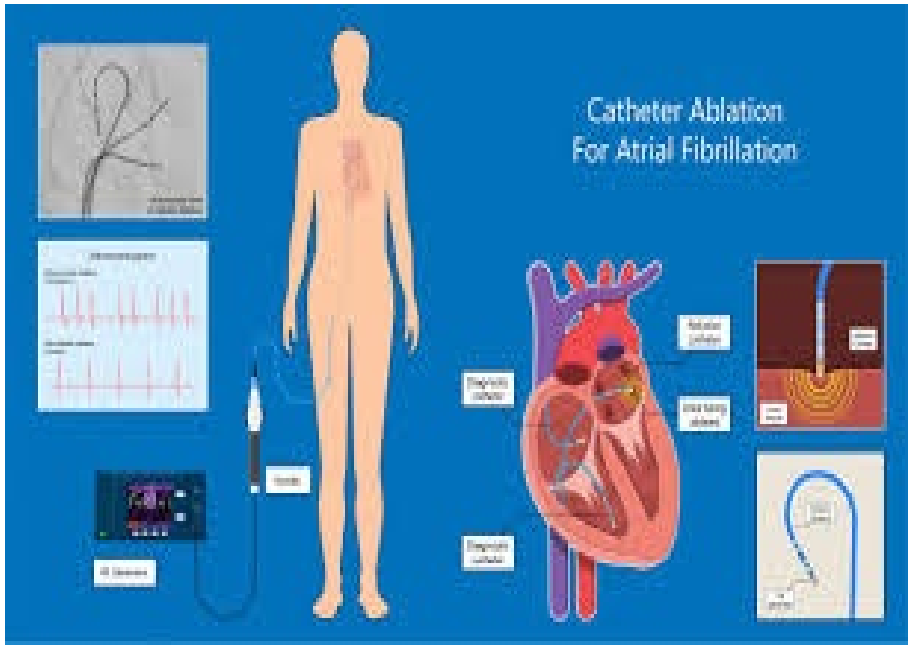
Sotalol is best avoided in patients with HFrEF, because most patients are already taking a beta blocker

DO NOT USE flecainide and propafenone with patients who have had an MI, structural heart disease, or HFrEF (LVEF<40%). Increase risk of worsening HF, proarrhythmia, and increased mortality

Avoid dronedarone in Class III or IV HF or Decompensated HF in the past 4 weeks (increase mortality and worsening HF)



Joglar JA, et al. Circulation. 2024;149(1):e1–e156

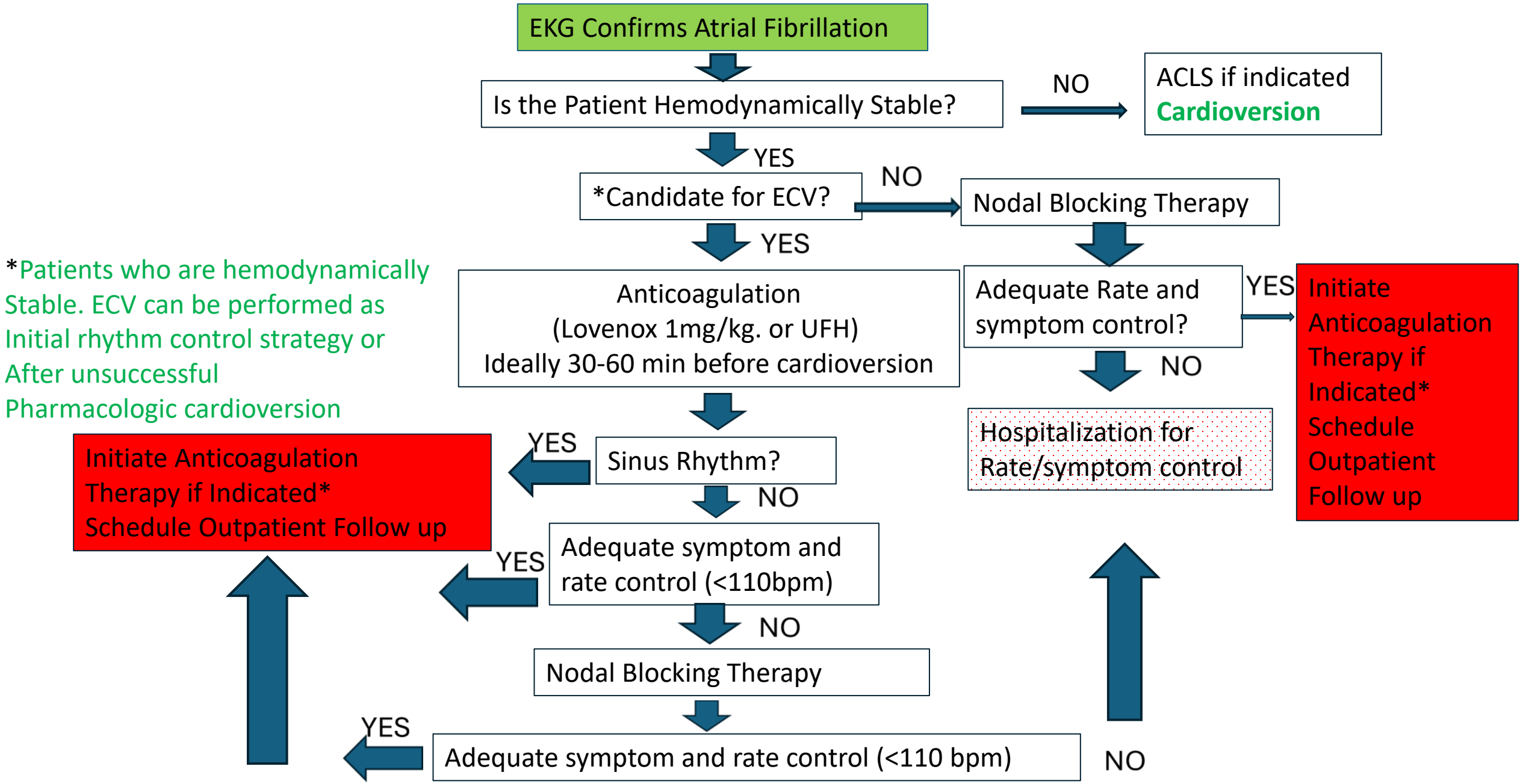


Rhythm Control: Ablation

- **Symptomatic AF and AAD failed, contraindicated, or not preferred: Ablation is useful to improve symptoms**
- **In selected patients with symptomatic paroxysmal AF, ablation useful as first-line therapy to improve symptoms and reduce progression**
- **Ablation is useful for symptomatic or clinically significant atrial flutter**
- **For recurrent AF post ablation--Repeat ablation or AAD therapy is useful to improve symptoms and AF burden**

- Patients (co-morbid conditions, older age) with symptomatic paroxysmal or persistent AF --Ablation as first-line therapy can be useful to improve symptoms
- **In some patients post ablation, short-term AAD tx can be useful to reduce early recurrence and hospitalization**
- **In selected patients with AF and no or minimal symptoms**
  Ablation may be useful for reducing progression of AF and associated complications
- **Patients with AF and HFrEF on GDMT- AND with reasonable expectation of procedural benefit Catheter ablation beneficial to improve: Symptoms ◦ Quality of life ◦ Ventricular function ◦ Cardiovascular outcomes**

Acute Management of Atrial Fibrillation (Riverside Health System)



Acute Management of Atrial Fibrillation (Riverside Health System)

Nodal Blocking Therapy:

Metoprolol is 1st line preference:

Metoprolol 5 mg over 2 min, every 5 min for up to total of 15 mg

OR

Diltiazem 0.25 mg/kg (Max 25 mg) IV bolus x1.
Start drip at 5 mg/hr

***DO NOT USE diltiazem if known EF < 40% or clinical signs of hypoperfusion.**

AND/OR

Digoxin 250-500 mcg X 1 dose either alone or in combination with metoprolol or diltiazem if ineffective or BB/CCB contraindicated.

If SBP < 90 mmHg and/or decompensated HF with EF < 40% and BB/CCB ineffective or contraindicated

THEN

Amiodarone 150 mg bolus then 1 mg/min x 6 hours and 0.5 mg/min x 18 hours. If rates > 120 after 1 hour, optional 2nd 150 mg IV bolus and continue 1 mg/min drip.-

Must fully anticoagulate
Do not use amiodarone if on Sotalol or Tikosyn

A Few More Things to Take Home:

1. Patients <30 years of age with unexplained onset of atrial fibrillation, EPS Study with targeted ablation is Reasonable given high prevalence of reentrant SVTs (atrioventricular nodal reentrant tachycardia and atrioventricular reentrant tachycardia) found in about 25% of patients.
2. Young patients who develop AF may have susceptibility for inherited ion channel and cardiomyopathic disorders, even with normal echocardiograms. In addition to the standard workup for newly diagnosed AF, genetic testing for rare pathogenic variation, advanced imaging modalities, and surveillance screening could detect occult cardiomyopathy.
3. Adults with congenital heart disease with symptomatic AF or hemodynamically significant paroxysmal or Persistent AF, rhythm control is recommended regardless of lesion severity as AF is poorly tolerated
4. Patients who have AF due to hyperthyroidism should and elevated risk score, should be anticoagulated until Restoration of euthyroid and maintain sinus rhythm
5. Cardioversion (DCCV) is safe to the pregnant patient and fetus
6. Pregnant women without structural heart disease may take flecainide and sotalol to maintain sinus rhythm or Metoprolol and propranolol for rate control (2a)
7. Patients with cancer require a multidisciplinary approach to reduce drug interactions, QT prolongation, bleeding, and thromboembolism

QUESTIONS???

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