2023 ACC/AHA/ACCP/HRS Atrial Fibrillation Guideline Updates

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Objectives

1. Provide an overview of atrial fibrillation (AF) and review general treatment approaches
2. Outline major changes in the 2023 guidelines for diagnosing and managing atrial fibrillation (AF), including new recommendations for anticoagulation, risk assessment, and treatment strategies
3. Review the risk assessment tools and treatment strategies for atrial fibrillation management
4. Highlight potential challenges and considerations for implementing the updated guidelines in clinical practice, especially in the outpatient setting

Patient Case

Brutus is a 68-year-old male with a history of **hypertension, type 2 diabetes mellitus, and obesity**. He has been experiencing symptomatic paroxysmal atrial fibrillation for the past year, with episodes occurring roughly once a month and lasting several hours. His CHA2DS2-VASc score is 3, indicating a moderate stroke risk.

Vital Signs: BP 145/90 mmHg, HR 88 bpm, BMI 32

Labs: INR 2.8 (INR goal: 2.0-3.0), renal function WNL

EKG: Atrial fibrillation

Medications

- **Warfarin**: 5 mg daily
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Atrial Fibrillation (AF)

- AF is the most common heart arrhythmia, characterized by irregular and often rapid beats of the atria. This disrupts normal blood flow from the atria to the ventricles and can occur in intermittent episodes or persistently.
  - Increased risk of stroke, heart failure, and reduced quality of life
  - Incidence of AF: Women > Men
- Treatment for AF
  - Anticoagulation, such as direct oral anticoagulants (DOACs) or warfarin
  - Beta-blockers and calcium channel blockers to control heart rate
  - Antiarrhythmic drugs and electrical cardioversion for restoring normal rhythm
  - Lifestyle modifications like weight management and treatment of comorbid conditions

Centers for Disease Control and Prevention. Atrial fibrillation. https://www.cdc.gov/heart-disease/about/atrial-fibrillation.html
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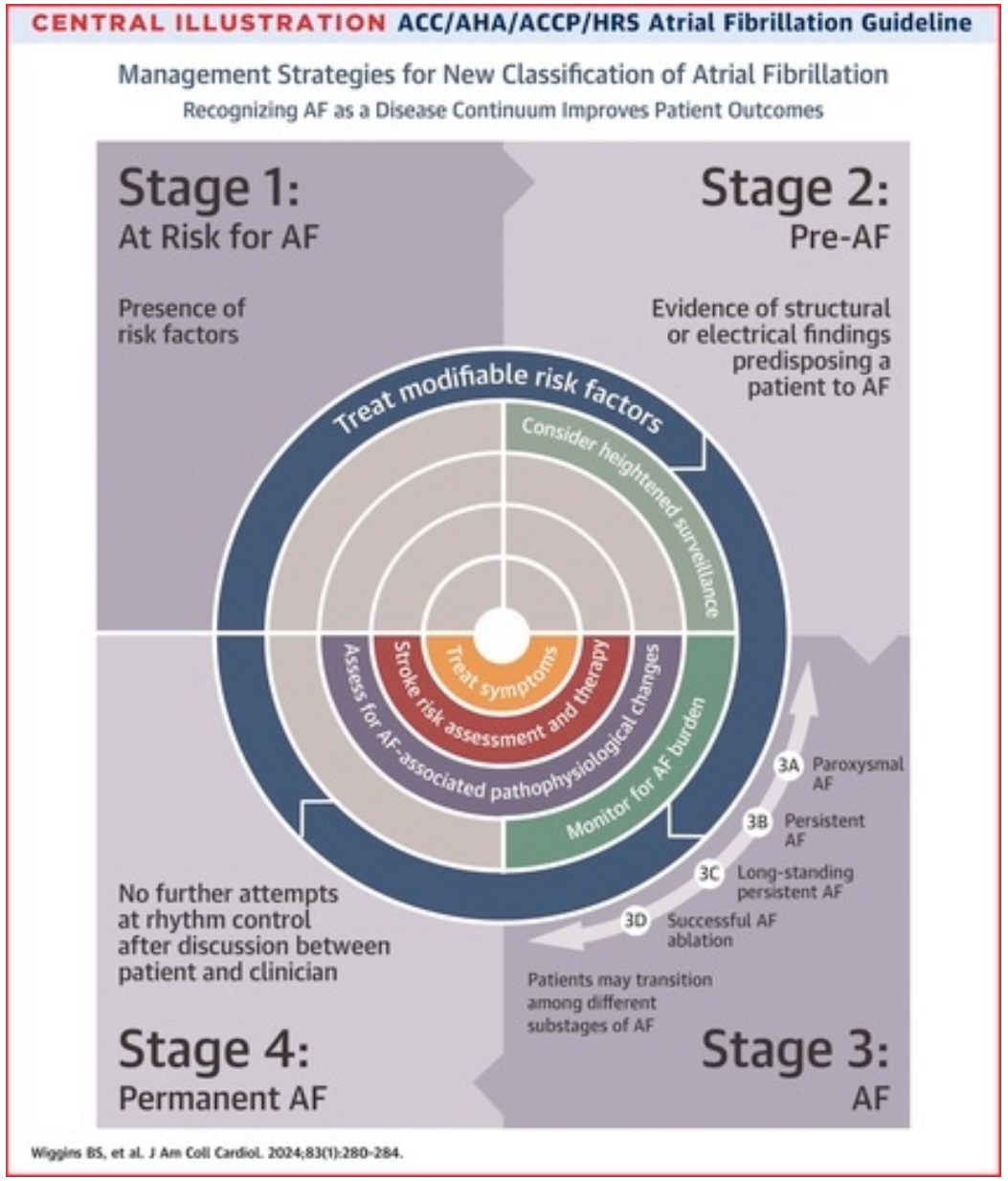
Key Updates

- New staging for atrial fibrillation
- Lifestyle and risk factor modification is a pillar of AF management to prevent onset, progression, and adverse outcomes
- The importance of early rhythm control
- The use of catheter ablation as first-line therapy in select patients



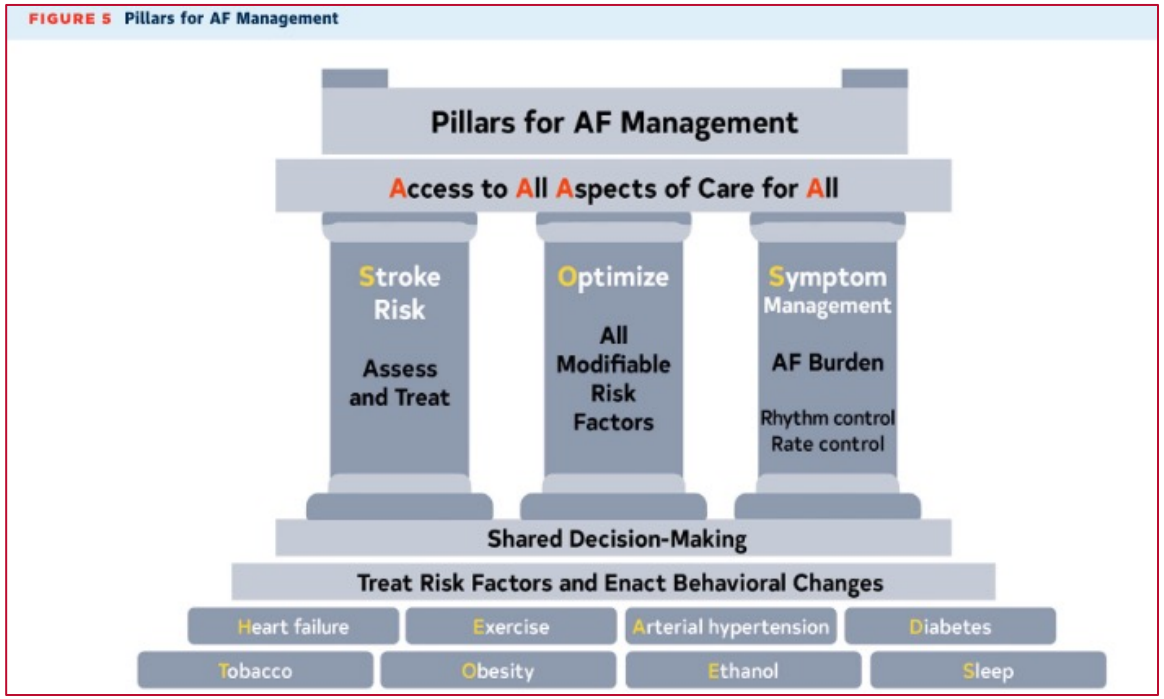
New Staging for Atrial Fibrillation

Stage	Description
Stage 1	At risk for AF presence of modifiable and nonmodifiable risk factors
Stage 2	Pre-AF (evidence of structural or electrical findings predisposing to AF)
Stage 3A	Paroxysmal AF (intermittent, lasting up to 7 days)
Stage 3B	Persistent AF (continuous and sustained for over 7 days and requires intervention)
Stage 3C	Long-standing persistent AF (continuous AF lasting >12 months)
Stage 3D	Successful AF ablation (free from AF after ablation or surgical intervention)
Stage 4	Permanent AF (no further attempts at rhythm control)



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Lifestyle and Risk Factor Modification for AF Management



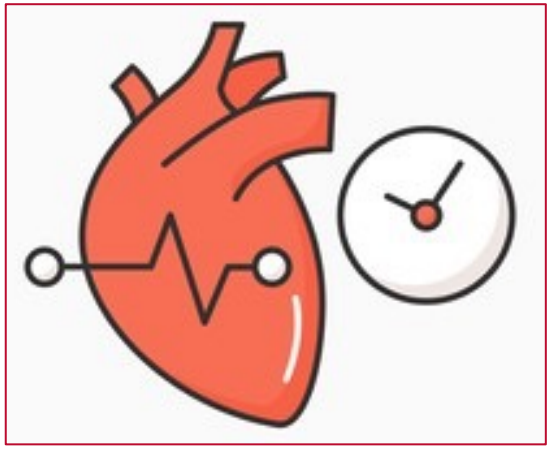
For patients with AF, the guideline recommends:

1) Weight loss in those with body mass index >27 kg/m2
2) Moderate-to-vigorous exercise training to a target of 210 minutes per week
3) Tobacco cessation
4) Minimization or elimination of alcohol consumption
5) Optimal blood pressure control
6) Screening for sleep-disordered breathing

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Importance of Early Rhythm Control

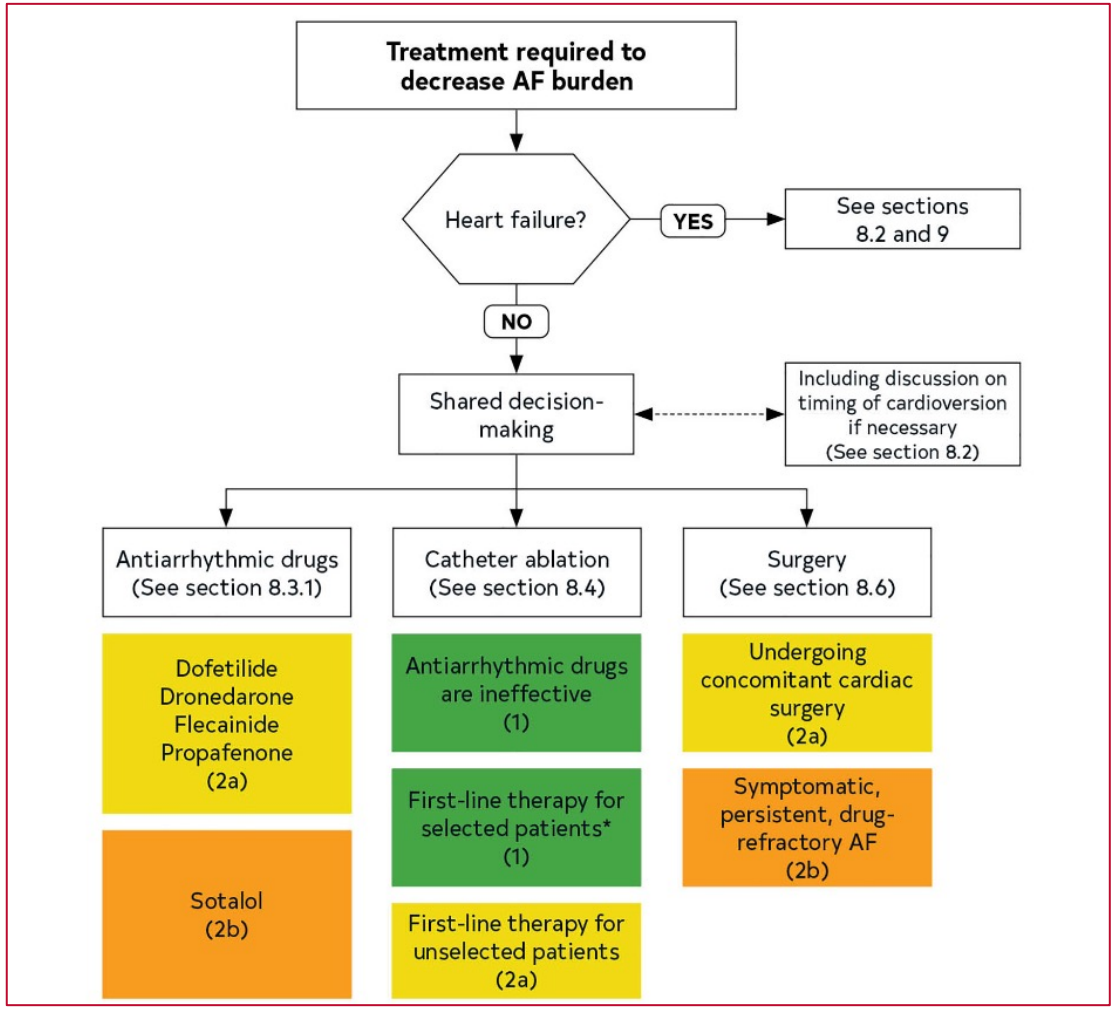
- Early rhythm control now **strongly recommended (Class 1**) compared to moderate (Class 2a) in 2014
  - **EARLY-AF Trial:** Demonstrated significant benefits of early aggressive rhythm control in improving patient outcomes.
  - **STOP AF First Trial:** Highlighted the effectiveness of cryoballoon catheter ablation as an initial treatment for drug-naive paroxysmal AF.
- Early intervention in rhythm control is now emphasized as a priority to enhance patient management and outcomes.



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Catheter Ablation as First-Line Therapy in Select Patients

- Catheter ablation is preferred as first line in select patients to improve symptoms and reduce progression to persistent AF
  - Younger with less comorbidities and symptomatic paroxysmal AF
- Recent randomized studies have demonstrated the superiority of catheter ablation over drug therapy for rhythm control
  - Patients with heart failure and reduced ejection failure



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Flexibility in Using Clinical Risk Scores

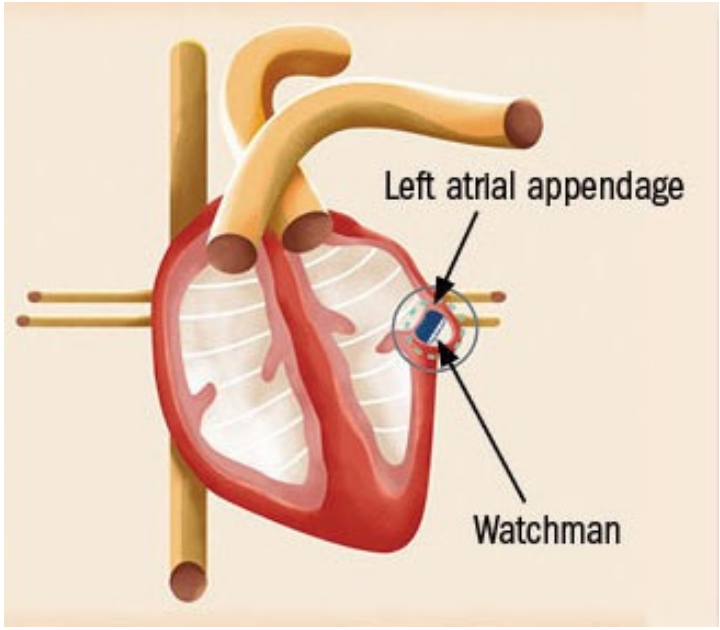
- The new guidelines highlight the flexibility in using clinical risk scores for anticoagulation decisions
- For patients with an intermediate annual stroke risk, additional risk factors should be considered to clarify the benefit of anticoagulation
  - **CHA2DS2-VASc:** Used for assessing stroke risk in AF patients
  - **ATRIA:** Provides a risk estimate for bleeding complications with anticoagulation
  - **GARFIELD:** Offers insights into long-term outcomes and guides management strategies

Higher AF burden/Long duration
Persistent/permanent AF versus paroxysmal
Obesity (BMI, ≥30 kg/m^2)
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)

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Other Updates

- **Device-Detected AF**
  - New guidelines account for episode duration and thromboembolism risk in patients with AF detected by implantable devices or wearables.
- **Left Atrial Appendage Occlusion**
  - Class 2a recommendation for using occlusion devices in patients with long-term anticoagulation contraindications, reflecting recent safety and efficacy data.
- **Stroke Risk Assessment**
  - For patients with AF and low (<2%) stroke risk, guidelines suggest evaluating factors that could alter stroke risk for more informed decision-making.
- **Recurrent AF Risk**
  - Emphasis on the risk of recurrent AF following detection during noncardiac illness or procedures.



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Comparison to Previous ACC/AHA/ACCP/HRS and ESC Guidelines

Category	Previous ACC/AHA/ACCP/HRS Guidelines	2023 ACC/AHA/ACCP/HRS Guidelines	ESC Guidelines
Anticoagulation Therapy	Primarily warfarin; less emphasis on DOACs.	DOACs recommended as first-line therapy.	DOACs preferred; warfarin reserved for specific cases.
Dosing Recommendations	Limited guidance for DOAC dosing in special populations.	Detailed dosing adjustments for renal function and weight.	Specific dosing adjustments, with additional focus on bleeding risk.
Risk Assessment Tools	CHA2DS2-VASc and HAS-BLED used but less refined.	Enhanced CHA2DS2-VASc and HAS-BLED scores with updated thresholds.	CHA2DS2-VASc and HAS-BLED scores used, with additional considerations.
Rate vs. Rhythm Control	General recommendations for rate control; rhythm control used as needed.	Personalized approach, with tailored strategies for rate and rhythm control.	Emphasis on early rhythm control and personalized strategies.
Management of Special Populations	Limited specific guidance for obese and elderly patients.	Updated recommendations for obese patients, elderly, and those with renal impairment.	Specific guidelines for special populations, including a stronger focus on elderly care.
Risk Factor Modification	General lifestyle and comorbidity management.	Emphasis on comprehensive risk factor modification, including lifestyle changes and comorbidity management.	Emphasis on risk factor modification with a detailed approach to lifestyle changes.

Wiggins, B, Cibotti-Sun, M, Moore, M. 2023 Atrial Fibrillation Guideline-at-a-Glance. JACC. 2024 Jan, 83 (1) 280–284. https://doi.org/10.1016/j.jacc.2023.10.021

Potential Challenges and Considerations with Integrating New Recommendations

Challenge	Consideration
Ensuring patient adherence to updated plans	Implement effective education and follow-up strategies
Coordination among various healthcare providers	Develop clear communication channels and collaborative care models
Resource-intensive monitoring and follow-up	Utilize efficient follow-up protocols and telehealth
Adopting and applying new risk stratification tools	Ensure understanding and accurate use of tools

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Patient Case Part 2

Brutus is a 68-year-old male with a history of **hypertension, type 2 diabetes mellitus, and obesity**. He has been experiencing symptomatic paroxysmal atrial fibrillation for the past year, with episodes occurring roughly once a month and lasting several hours. His CHA2DS2-VASc score is 3, indicating a moderate stroke risk. He has a sedentary lifestyle, smokes 1ppd, and drinks 3-4 times per week. He mentions wanting to cut down on appointments d/t busy schedule.

Vital Signs: BP 145/90 mmHg, HR 88 bpm, BMI 32

Labs: INR 2.8 (INR goal: 2.0-3.0), renal function WNL, last A1C was 9%

EKG: Atrial fibrillation

Medications

- **Warfarin**: 5 mg daily
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- **Metformin**: 500 mg twice daily



Patient Case Part 2 cont.

- Most recent guidelines recommend transitioning to DOACs for better convenience and fewer interactions. Given his symptom persistence, catheter ablation is an option for more effective long-term management of AF.
- **Plan**
  - Discontinue Warfarin
  - Start Apixaban (Eliquis) 5 mg twice daily
  - Continue Metoprolol
  - Reinforce lifestyle changes including weight management, dietary modifications, and increased physical activity, optimize diabetes management and monitor blood pressure closely
  - Follow up appointment in 4 weeks to reassess for safety and efficacy
  - Refer Brutus for catheter ablation evaluation to address persistent AF symptoms and improve quality of life

Conclusions

- AFib is a common arrhythmia with significant impact on stroke risk and overall health
  - Treatment approaches include anticoagulation, rate, and rhythm control
- The updated 2023 guidelines emphasize DOACs as first-line therapy, refined risk assessment with updated tools, and personalized treatment strategies
  - CHA2DS2-VASc, ATRIA, and GARFIELD scores for better risk assessment and tailored management
- Adopting the updated guidelines in clinical practice, particularly in outpatient settings, requires addressing potential challenges such as integrating new recommendations into existing workflows and ensuring effective patient monitoring, patient education and adherence

Thank you for your time!
Questions?

References

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