



AFib and Heart Failure: A Deadly Combination

Friday April 11, 2025

Prevalence of Atrial Fibrillation

1. Globally in 2019, there were 4.7 million new cases of AF and 0.32 million deaths from AF or Aflutter.
2. Natural course of AF increases over time—should be considered a lifelong condition.
3. The burden of AF/Aflutter is increasing and there is need for reducing modifiable risk factors.
4. Approximately 41% of patients with AF go on to develop HF—making HF the most common complication of AF—twice as likely as stroke.
5. One consequence of AF is cognitive impairment. AF and Alzheimer's Disease are both diseases of aging, leading to a doubling of the incidence as the population ages, and are anticipated to result in a 2.5 - 3.0 fold increase by 2050 in the prevalence of older adults with both AF and cognitive dysfunction.

Dong, XJ, et al., *Europace* 2023;25(3):793-803; Wanga TJ, et al. *Circulation* 2003;107:2920-2925; Kotecha D & Piccini J, *European Heart Jnl* 2015;36(46):3250-3257.

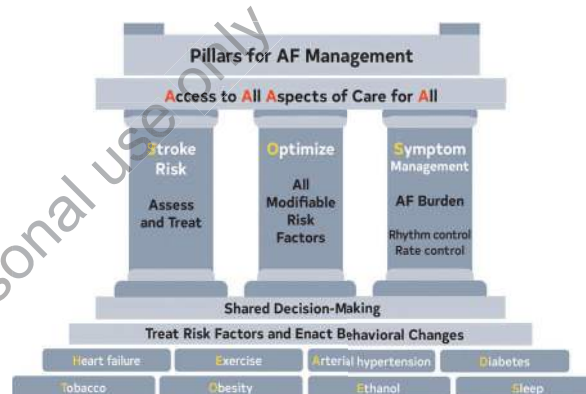
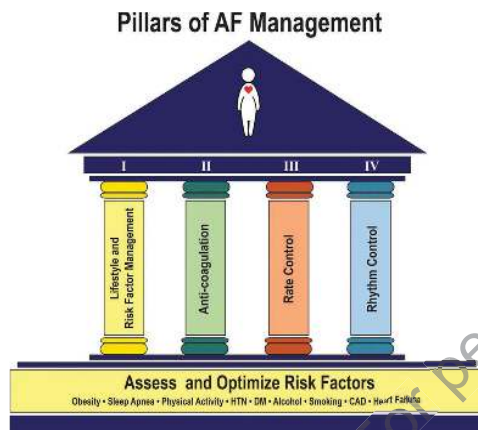
Prevalence of Heart Failure

1. Globally, an estimated 56.2 - 64 million people are living with HF in 2019 with a prevalence of 1% to 3% of the total population. In U.S., 6.5 million over the age of 20 have HF.
2. The rate of new cases in the U.S. was approximately 960,000 annually (0.6% of the population) from 2017 to 2019. This rises to > 10% of population for those ≥ 70 years of age.
3. The burden of HF is increasing and there is need to reduce modifiable risk factors.
4. 41% of those with HF and AF developed HF first, 38% developed AF first, and 21% AF & HF occurred at same time.

Risk Factors for AF and Heart Failure

1. Risk factors for AF—high systolic BP, high body mass index, alcohol use, smoking, diet high in sodium, and sleep apnea.
2. Risk factors for HF: hypertensive heart disease, Ischemic heart disease, COPD, AF
3. The most widely replicated risk prediction model for predicting new AF is CHARGE-AF, while the C₂HES₂ score was derived and validated in Asian cohorts.

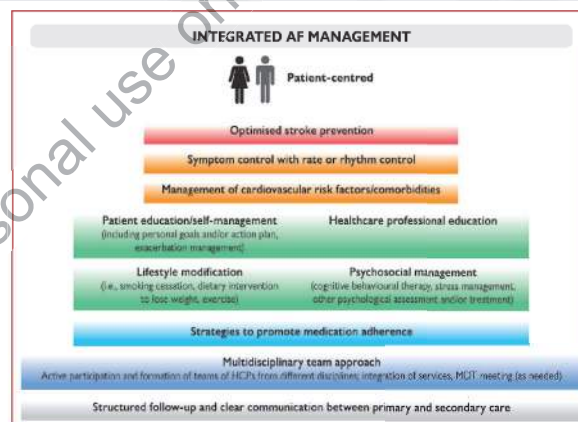
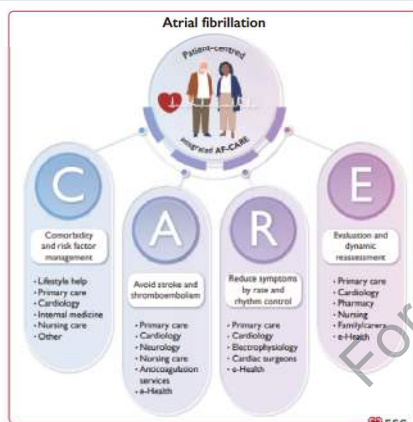
Dong XJ, et al., *Europace* 2023;25(3):793-803; Savarese G, et al. *Cardiovasc Res* 2023; 118(17):3272-3287; Joglar J, et al. *Circulation* 2024;149 (1):e1-e156; Yan T, et al., *JAHA* 2023; 12(6): e027852



Chung M, et al. *Circulation* 2020;141 (16):e750-e772.

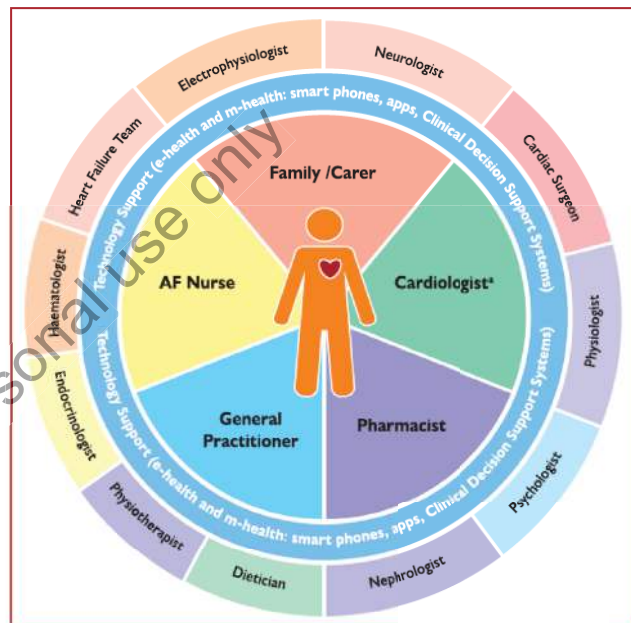
Joglar J, et al. *Circulation* 2024;149 (1):e1-e156.

Management Plan for Patients with AF



Van Gelder I, et al., *European Heart Journal* 2024; 45:3314-3414.

Integrated Care of the Patient with AF



Hindricks G, et al., *European Heart Journal* 2020; 42:373-498.



European Heart Journal (2012) 33, 2692–2699
doi:10.1093/eurheartj/ehs071

CLINICAL RESEARCH
Arrhythmia/electrophysiology

Nurse-led care vs. usual care for patients with atrial fibrillation: results of a randomized trial of integrated chronic care vs. routine clinical care in ambulatory patients with atrial fibrillation

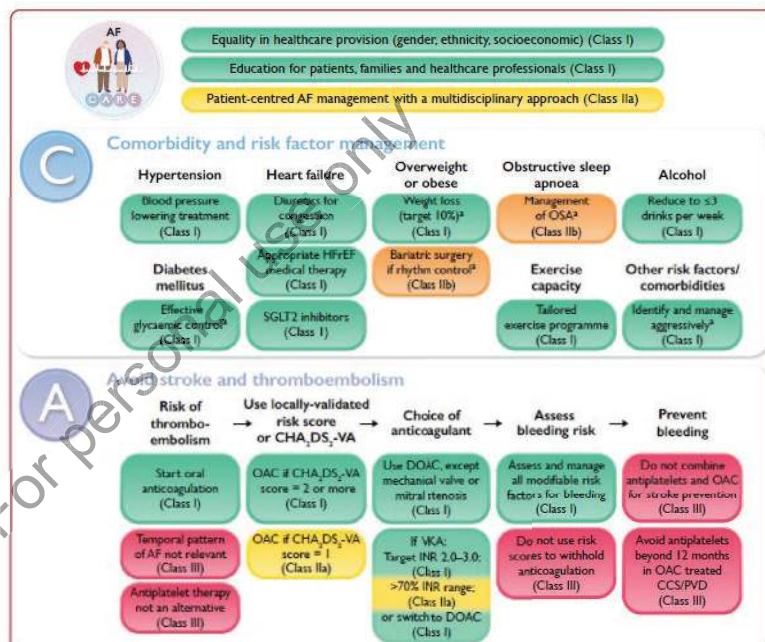
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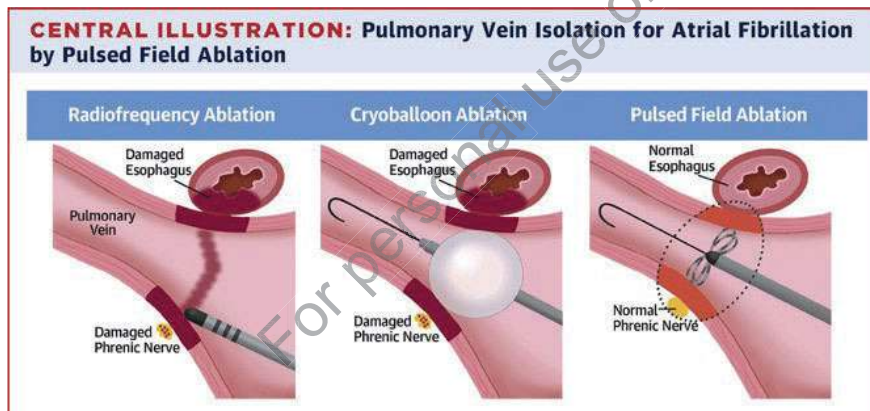
Management of the Patient with AF



Van Gelder I, et al., *European Heart Journal* 2024; 45:3314-3414.

Pulsed Field Ablation (PFA)

PFA uses electrical pulses in short intervals as energy source instead of radiofrequency or cryo-energy



Reddy V, et al., JACC 2019;74(3):315-326.

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Early Rhythm-Control Therapy in Patients with Atrial Fibrillation

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ABSTRACT

BACKGROUND
Despite improvements in the management of atrial fibrillation, patients with this condition remain at increased risk for cardiovascular complications. It is unclear whether early rhythm-control therapy can reduce this risk.

METHODS
In this international, investigator-initiated, parallel-group, open, blinded-outcome-assessment trial, we randomly assigned patients who had early atrial fibrillation

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U.S. and European Guidelines for AF

ESC European Society of Cardiology
European Heart Journal (2021) 42, 3191-3199

ESC GUIDELINES

2024 ESC Guidelines for the management of atrial fibrillation developed in collaboration with the European Association for Cardio-Thoracic Surgery (EACTS)

Developed by the task force for the management of atrial fibrillation of the European Society of Cardiology (ESC), with the special contribution of the European Heart Rhythm Association (EHRA) of the ESC.
Endorsed by the European Stroke Organisation (ESO)

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Circulation

CLINICAL PRACTICE GUIDELINES

2023 ACC/AHA/ACCP/HRS Guideline for the Diagnosis and Management of Atrial Fibrillation: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines

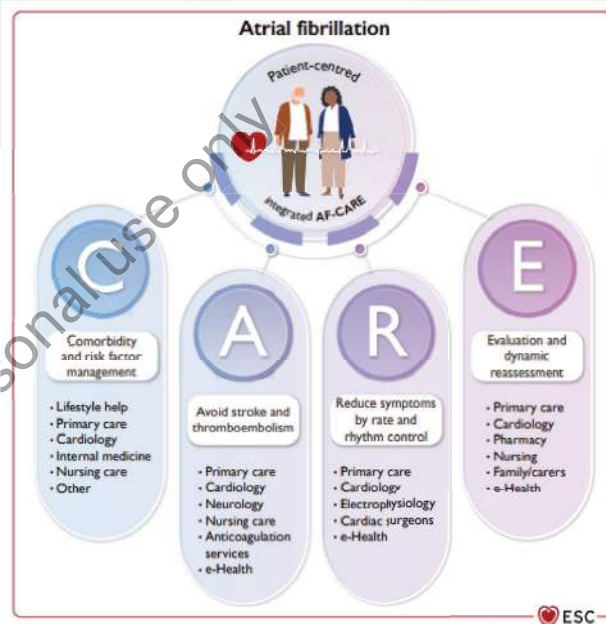
Developed in Collaboration With and Endorsed by the American College of Clinical Pharmacy and the Heart Rhythm Society

Writing Committee Members*

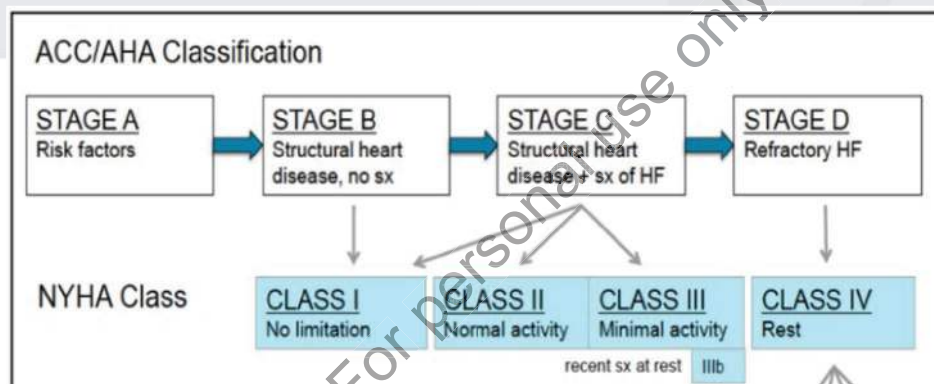
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Management Plan for AF

Van Gelder I, et al., *European Heart Journal* 2024; 45:3314-3414.



Heart Failure Classification



Care of Patients with HF

CENTRAL ILLUSTRATION Contemporary American and European Guidelines for Heart Failure Management: Key Similarities, Differences, and Strengths

	ACC/AHA/HFSA	ESC	
HFREF	<ul style="list-style-type: none"> ARNI preferred over ACEI ↑ COR for H+ISDN in self-identified Black patients Adjunctive PUA & K⁺ binders ↓ QRSd threshold for CRT 	<ul style="list-style-type: none"> Similar diagnostic tools ARNI/ACEI/ARB + BB + MRA + SGLT2i Rapid GDMT initiation and optimization ICD in ICM/HFREF ≤35% 	<ul style="list-style-type: none"> ACEI or ARNI preferred ↑ COR for intravenous iron supplementation ↓ threshold for MV TEER ↓ COR for ICD in nICM
HFimpEF & HFimpEF	<ul style="list-style-type: none"> HFimpEF explicitly included as HF subtype 	<ul style="list-style-type: none"> ARNI/ACEI/ARB + BB + MRA + SGLT2i GDMT should be continued in HFimpEF 	<ul style="list-style-type: none"> HFimpEF implicitly included as HF subtype
HFpEF	<ul style="list-style-type: none"> ARNI/ARB and MRA selectively recommended in addition to SGLT2i 	<ul style="list-style-type: none"> Simplified diagnostic approaches SGLT2i as foundational therapy Focus on comorbidity management 	<ul style="list-style-type: none"> No other pharmacotherapies recommended
Key Strengths	<ul style="list-style-type: none"> Formal cost-value statements Emphasis on HF trajectory Explicit attention to equity & healthcare disparities Pledge for continuous & dynamic guideline updates 	<ul style="list-style-type: none"> Patient-centered recommendations Multistakeholder representation Simplified treatment algorithms Focus on special populations and HF prevention 	<ul style="list-style-type: none"> Patient-centered deliverables High-yield practical guidance for GDMT use Focus on CKD as risk factor Explicit guidance to facilitate patients' self-care goals

Ostrominski JW, et al. *J Am Coll Cardiol HF*. 2024;12(5):810-825.

To reduce AF & HF risk factors, focus on the following aspects of Life's Essential 8:

1. Strategies for lowering BP
2. Weight management
3. Physical activity
4. Sleep disordered breathing



Lloyd-Jones DM, et al., *Circulation*. 2022;146 (5): e18-e43;
Chung M., et al., *Circulation*. 2020;141(16):e750-e772.

Lifestyle Modification Summary

- Obesity and higher BMI are associated with ↑ in AF burden, including progression from paroxysmal to permanent AF.
- Weight loss of ≥ 10% of body weight ↓ AF burden and ↓ number of AF episodes.
- Regular aerobic exercise is effective in reducing AF burden and improving AF-related symptoms and quality of life.
- Encourage increased moderate physical activity for prevention/treatment of AF.
- Moderate exercise at doses recommended by the 2018 Physical Activity Guidelines Advisory Committee (150 min/week of moderate-intensity exercise) does not increase the risk of AF.
- Adults should get 2 ½ hours of moderate exercise or 75 minutes of vigorous physical activity per week.

Chung M, et al., *Circulation*. 2020;141:e750-e772.



Patient Education Websites



Conclusions

- “Are you aware of the published evidence about weight loss and decreasing AF episodes?” Counseling obese patients with AF to lose at least 10% of their weight is a critical component of treatment
- Studies suggest that engaging in regular, moderate physical activity reduces AF burden
- CPAP mask associated with significant reduction in AF recurrence, and sleep apnea screening and/or reinforcement of CPAP use is important before starting any AF treatment
- “New research has come out recently linking increased alcohol use to increased AF episodes and I wanted to make you aware of that.” Remind patients of link between ↑ alcohol use and ↑ AF burden
- Providers’ advice and counseling for lifestyle modification to manage AF is foundational to behavior change



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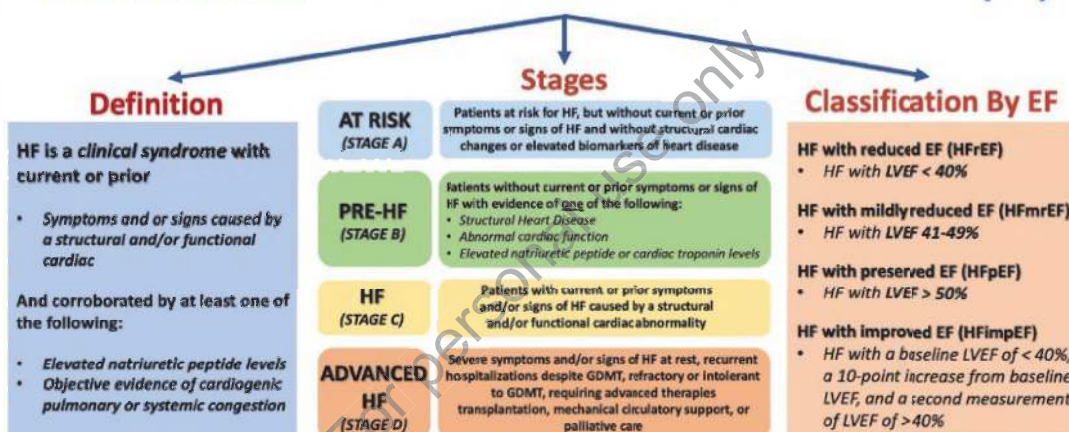
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Universal Definition and Classification of Heart Failure (HF)



Language matters! The new universal definition offers opportunities for more precise communication and description with terms including **persistent HF** instead of “stable HF,” and **HF in remission** rather than “recovered HF.”

ABLATION FOR ATRIAL FLUTTER

