

2024

Essential Messages from ESC Guidelines

Clinical Practice
Guidelines Committee

Guidelines for the management of
Atrial Fibrillation

Essential Messages

2024 ESC Guidelines for the management of atrial fibrillation

Developed by the task force for the management of atrial fibrillation of the European Society of Cardiology (ESC). In collaboration with the European Association for Cardio-Thoracic Surgery (EACTS). 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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Councils: Council for Cardiology Practice, Council of Cardio-Oncology, Council on Cardiovascular Genomics, Council on Stroke.

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Patient Forum

Adapted from the 2024 ESC Guidelines for the management of atrial fibrillation

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ESSENTIAL MESSAGES FROM THE 2024 ESC GUIDELINES FOR THE MANAGEMENT OF ATRIAL FIBRILLATION

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Key messages

1. General management: optimal treatment according to the AF-CARE pathway, which includes: [C] Comorbidity and risk factor management; [A] Avoid stroke and thromboembolism; [R] Reduce symptoms by rate and rhythm control; and [E] Evaluation and dynamic reassessment.
2. Shared care: patient-centred AF management with joint decision-making and a multidisciplinary team.
3. Equal care: avoid health inequalities based on gender, ethnicity, disability, and socioeconomic factors.
4. Education: for patients, family members, caregivers, and healthcare professionals to aid shared decision-making.
5. Diagnosis: clinical AF requires confirmation on an ECG device to initiate risk stratification and AF management.
6. Initial evaluation: medical history, assessment of symptoms and their impact, blood tests, echocardiography/other imaging, patient-reported outcome measures, and risk factors for thromboembolism and bleeding.
7. Comorbidities and risk factors: thorough evaluation and management critical to all aspects of care for patients with AF to avoid recurrence and progression of AF, improve success of AF treatments, and prevent AF-related adverse outcomes.
8. Focus on conditions associated with AF: including hypertension, heart failure, diabetes mellitus, obesity, obstructive sleep apnoea, physical inactivity, and high alcohol intake.
9. Assessing the risk of thromboembolism: use locally validated risk tools or the CHA₂DS₂-VA score and assessment of other risk factors, with reassessment at periodic intervals to assist in decisions on anticoagulant prescription.
10. Oral anticoagulants: recommended for all eligible patients, except those at low risk of incident stroke or thromboembolism (CHA₂DS₂-VA = 1 anticoagulation should be considered; CHA₂DS₂-VA ≥2 anticoagulation recommended).
11. Choice of anticoagulant: DOACs (apixaban, dabigatran, edoxaban, and rivaroxaban) are preferred over VKAs (warfarin and others), except in patients with mechanical heart valves and mitral stenosis.
12. Dose/range of anticoagulant: use full standard doses for DOACs unless the patient meets specific dose-reduction criteria; for VKAs, keep INR generally 2.0-3.0, and in range for >70% of the time.

Key messages

13. Switching anticoagulants: switch from a VKA to DOAC if risk of intracranial haemorrhage or poor control of INR levels.
14. Bleeding risk: modifiable bleeding risk factors should be managed to improve safety; bleeding risk scores should not be used to decide on starting or withdrawing anticoagulants
15. Antiplatelet therapy: avoid combining anticoagulants and antiplatelet agents, unless the patient has an acute vascular event or needs interim treatment for procedures.
16. Rate control therapy: use beta-blockers (any ejection fraction), digoxin (any ejection fraction), or diltiazem/verapamil (LVEF >40%) as initial therapy in the acute setting, an adjunct to rhythm control therapies, or as a sole treatment strategy to control heart rate and symptoms.
17. Rhythm control: consider in all suitable AF patients, explicitly discussing with patients all potential benefits and risks of cardioversion, antiarrhythmic drugs, and catheter or surgical ablation to reduce symptoms and morbidity.
18. Safety first: keep safety and anticoagulation in mind when considering rhythm control; e.g. delay cardioversion and provide at least 3 weeks of anticoagulation beforehand if AF duration >24 h, and consider toxicity and drug interactions for antiarrhythmic therapy.
19. Cardioversion: use electrical cardioversion in cases of haemodynamic instability; otherwise choose electrical or pharmacological cardioversion based on patient characteristics and preferences.
20. Indication for long-term rhythm control: the primary indication should be reduction in AF-related symptoms and improvement in quality of life; for selected patient groups, sinus rhythm maintenance can be pursued to reduce morbidity and mortality.
21. Success or failure of rhythm control: continue anticoagulation according to the patient's individual risk of thromboembolism, irrespective of whether they are in AF or sinus rhythm.
22. Catheter ablation: consider as second-line option if antiarrhythmic drugs fail to control AF, or first-line option in patients with paroxysmal AF.
23. Endoscopic or hybrid ablation: consider if catheter ablation fails, or an alternative to catheter ablation in persistent AF despite antiarrhythmic drugs.
24. Atrial fibrillation ablation during cardiac surgery: perform in centres with experienced teams, especially for patients undergoing mitral valve surgery.
25. Dynamic evaluation: periodically reassess therapy and give attention to new modifiable risk factors that could slow/reverse the progression of AF, increase quality of life, and prevent adverse outcomes.

Gaps in evidence

The following bullet list gives the most important gaps in evidence where new clinical trials could substantially aid the patient pathway:

Definition and clinical impact of AF

- Paroxysmal AF is not one entity, and patterns of AF progression and regression are highly variable. It is uncertain what the relevance is for treatment strategies and management decisions.
- Thirty seconds as definition for clinical AF needs validation and evaluation whether it is related to AF-related outcomes.
- Definition, clinical features, diagnosis, and implementation for treatment choices of atrial cardiomyopathy in patients with AF is unsettled.
- Diversity in AF presentation, underlying pathophysiological mechanisms, and associated comorbidities is incompletely understood with regard to differences in sex, gender, race/ethnicity, socioeconomic state, education, and differences between low-, moderate-, and high-income countries.
- Personalized risk prediction for AF incidence, AF progression, and associated outcomes remains challenging.
- Insights into psychosocial and environmental factors and risk of AF and adverse outcomes in AF are understudied.

Patient-centred, multidisciplinary AF management

- The benefit of additional education directed to patients, to family members, and to healthcare professionals in order to optimize shared decision-making still needs to be proved.
- Access to patient-centred management according to the AF-CARE principles to ensure equality in healthcare provision and improve outcomes warrants evidence.
- The place of remote monitoring and telemedicine for identification and follow-up of patients with AF, or its subgroups is non-established, though widely applied.

[C] Comorbidity and risk factor management

- Methods to achieve consistent and reproducible weight loss in patients with AF requires substantial improvement. Despite some evidence demonstrating the benefits of weight loss, widespread adoption has been limited by the need for reproducible strategies.
- The importance of sleep apnoea syndrome and its treatment on AF-related outcomes remains to be elucidated.

Gaps in evidence

[A] Avoid stroke and thromboembolism

- Data are lacking on how to treat patients with low risk of stroke (with a CHA₂DS₂-VA score of 0 or 1), as these patients were excluded from large RCTs.
- Not enough evidence is available for OAC in elderly patients, frail polypharmacy patients, those with cognitive impairment/dementia, recent bleeding, previous ICH, severe end-stage renal failure, liver impairment, cancer, or severe obesity.
- In elderly patients, routinely switching VKAs to DOACs is associated with increased bleeding risk; however, the reasons why this happens are unclear.
- The selection of which patients with asymptomatic device-detected subclinical AF benefit from OAC therapy needs to be defined.
- There is a lack of evidence whether and when to (re)start anticoagulation after intracranial haemorrhage.
- There is lack of evidence about optimal anticoagulation in patients with ischaemic stroke or left atrial thrombus while being treated with OAC.
- • There is uncertainty about the place of LAA closure and how to manage antithrombotic post-procedural management when LAAO is performed.
- Balance of thromboembolism and bleeding is unclear in patients with AF and incidental cerebral artery aneurysms identified on brain MRI.

[R] Reduce symptoms by rate and rhythm control

- In some patients, AF can be benign in terms of symptoms and outcomes. In which patients rhythm control is not needed warrants investigation.
- Application of antiarrhythmic drugs has been hampered by poor effectiveness and side effects; however, new antiarrhythmic drugs are needed to increase the therapeutic arsenal for AF patients.
- The amount of AF reduction obtained by rhythm control to improve outcomes is unknown.
- Large catheter ablation studies showed no improved outcome of patients with AF. Some small studies in specific subpopulations have observed an improved outcome. This warrants further investigation to provide each patient with AF with personalized treatment goals.
- Uncertainty exists on the time of duration of AF and risk of stroke when performing a cardioversion.

Gaps in evidence

- The value of diagnostic cardioversion for persistent AF in steering management of AF is unknown.
- Decisions on continuation of OAC are completely based on stroke risk scores and irrespective of having (episodes) of AF; whether this holds for patients undergoing successful catheter ablation is uncertain.
- Large variability in ablation strategies and techniques exist for patients with persistent AF, or after first failed catheter ablation for paroxysmal AF. The optimal catheter ablation strategy and techniques, however, are unknown.
- Sham-controlled intervention studies are lacking to determine the effects on AF symptoms, quality of life, and PROMS, accounting for the placebo effect that is associated with interventions.

The AF-CARE pathway in specific clinical settings

- The optimal duration of triple therapy in patients with AF at high risk of recurrent coronary events after acute coronary syndrome is unclear.
- The role of the coronary vessel involved and whether this should impact on the duration of combined OAC and antiplatelet treatment needs further study.
- The role of antiplatelet therapy in patients with AF and peripheral artery disease on OAC is uncertain.
- The use of DOACs in patients with congenital heart disease, particularly in patients with complex corrected congenital defects, is poorly studied.
- Improved risk stratification for stroke in patients with AF and cancer, or with post-operative or trigger-induced AF is needed to inform on OAC treatment decisions.

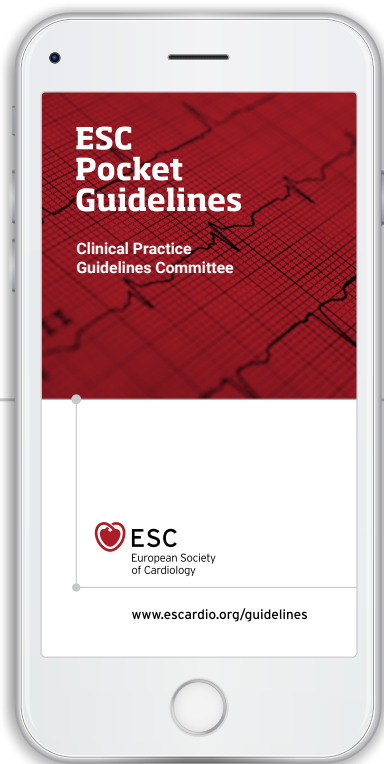
Gaps in evidence

Screening and prevention of AF

- There are a lack of adequately powered randomized controlled studies on ischaemic stroke rate in patients screened for AF, both in the primary prevention setting and in secondary prevention (poststroke), and its cost-effectiveness.
- Population selection that might benefit the most from screening, the optimal duration of screening, and the burden of AF that might increase the risk for patients with screening-detected AF are uncertain.
- Evaluation of strategies to support longer-term use of technologies for AF detection are awaited.
- The role of photoplethysmography technology for AF screening in an effort to assess AF burden and reduce stroke is still unclear.
- How new consumer devices and wearable technology can be used for diagnostic and monitoring purposes in routine clinical practice needs to be clarified. Improved risk stratification for stroke in patients with AF and cancer, or with post-operative or trigger-induced AF is needed to inform on OAC treatment decisions.

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The following material was adapted from the 2024 ESC Guidelines for the management of atrial fibrillation (European Heart Journal; doi:10.1093/eurheartj/ehae196) as published on 30 August 2024.

Post-publication corrections and updates are available at: www.escardio.org/guidelines

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