

ESC AF guidelines 2020: Detecting, Protecting, Correcting, and Perfecting AF in tertiary care

In collaboration with the [European Association of Cardio-Thoracic Surgery](#) (EACTS), the [European Society of Cardiology](#) (ESC) have revised their 2016 guidelines for the diagnosis and management of atrial fibrillation (AF). The 2020 guidelines were presented at the virtual [ESC Congress 2020](#) (29 August – 2 September) and published in the [European Heart Journal](#).¹

ESC categories of recommendations	
Class	Level of Evidence
I = Is recommended or is indicated	A = Data derived from multiple randomised clinical trials or meta-analyses
IIa = Should be considered	B = Data derived from a single randomised clinical trial or large non-randomised studies
IIb = May be considered	C = Consensus of opinion of the experts and/or small studies, retrospective studies, registries

Table 1

According to the new guidelines, integrated management of AF is vital and requires “a coordinated and agreed patient-individualised care pathway to deliver optimised treatment by an interdisciplinary team”. To facilitate this integrated management, the guidelines outline a new “atrial fibrillation care (ABC) approach” — with “A” standing for “Anticoagulation/Avoid stroke”, “B” for “Better symptom control”, and “C” for “Cardiovascular and Comorbidity Optimisation”. This is like the [AF Association’s](#) “Detect, Protect, Correct, and Perfect” strategy. This report summarises the ESC recommendations in the context of the AF Association’s strategy, focusing on the recommendations for tertiary care.



DETECT

AF with a simple Pulse Check



PROTECT

against AF-related stroke using anti-coagulation therapy (not aspirin)



CORRECT

the irregular rhythm with access to appropriate treatment



PERFECT

the patient care pathway



Prevent — Cardiovascular risk factors and Concomitant disease detection and management

The “C” of the guidelines’ new ABC approach refers to “Cardiovascular risk factors and Concomitant disease detection and management”. AF Association recognises that, prior to Detect, Protect, Correct, and Perfect, there is the need to Prevent. The ESC guidelines report that the “continuum of unhealthy lifestyle, risk factors, and cardiovascular disease can contribute to atrial remodelling/cardiomyopathy and development of AF that commonly results from a combined effect of multiple interacting factors”. They also state that among patients with AF, management of risk factors and cardiovascular disease “complements stroke prevention and reduces AF burden and symptom severity”. Of note, according to the guidelines, the specific cardiovascular risk factors for AF are hypertension, heart failure, coronary artery disease, diabetes, and sleep apnoea. Thus, the new guidelines provide recommendations on the identification and management of concomitant diseases, cardiovascular risk factors, and unhealthy lifestyle factors. They also provide advice on screening (see Detect section) for AF in patients with certain risk factors.

Key Prevent recommendations

- Identification and management of risk factors and concomitant diseases is recommended as an integral part of treatment in AF patients (Class I, Level of Evidence B).
- Consider advice and management on excess alcohol intake for AF prevention and in those being considered for oral anticoagulation (Class IIa, Level of Evidence B).
- Consider advice on physical activity for preventing AF incidence and recurrence (Class IIa, Level of Evidence B).
- Modification of unhealthy lifestyle and targeted therapy of intercurrent conditions is recommended to reduce AF burden and symptom severity (Class I, Level of Evidence B).
- Attention to good BP control is recommended in AF patients with hypertension to reduce AF recurrences and risk of stroke and bleeding (Class I, Level of Evidence B).
- In obese patients with AF, weight loss together with management of risk factors should be considered to reduce AF incidence, AF progression, AF recurrence and symptoms (Class IIa, Level of Evidence B).



Detect — screening

In terms of screening, the guidelines acknowledge that “mobile health technologies are rapidly developing for AF detection and other purposes (>100,000 mHealth apps and ≥400 wearable activity monitors are currently available)”. They add that, in the future, machine learning and artificial intelligence may be capable of “identifying individuals with previous AF episodes from a sinus rhythm ECG recording, which would be a major breakthrough in AF detection”.

However, the guidelines do say that “caution is needed” because many of the available technologies are “not clinically validated”. Thus, they recommend whatever screening tool is used — including pulse checking and wearable devices — a single-lead ECG tracing of ≥30s or 12-lead ECG showing AF, analysed by a physician with expertise in ECG rhythm interpretation, is necessary to confirm the diagnosis of AF (Class I, Level of Evidence B). Once a diagnosis of AF has been made, according to the guidelines, a structured characterisation (including stroke risk, symptoms status, and burden of AF) should be considered.

Key Detect recommendations

- Opportunistic AF screening by pulse taking or ECG rhythm strip is recommended for patients aged ≥65 years (Class I, Level of Evidence B).
- Opportunistic screening for AF is recommended in hypertensive patients (Class I, level of Evidence B).
- Opportunistic screening for AF should be considered in patients with obstructive sleep apnoea (Class IIb, Level of Evidence C).
- Systematic ECG screening should be considered to detect AF in individuals aged ≥75 years or those at high risk of stroke (Class IIa, Level of Evidence B).
- When screening for AF, inform patients about the significance and treatment implications of detecting AF and ensure that there is a structured referral platform for physician-led clinical evaluation to confirm diagnosis of AF and provide optimal management (Class I, Level of Evidence B).
- A single-lead ECG tracing of ≥30s or 12-lead ECG showing AF, analysed by a physician with expertise in ECG rhythm interpretation, is necessary to confirm the diagnosis of AF (Class I, Level of Evidence B).
- Structured characterisation of AF to streamline the assessment of AF patients at different healthcare levels, inform treatment decision-making, and facilitate optimal management of AF patients (Class IIa, Level of Evidence C).



Protect — Anticoagulation/Avoid stroke

If an AF patient is eligible for oral anticoagulation and they do not have a prosthetic mechanical valve or mild-to-moderate mitral stenosis (if they do, they should receive warfarin), the CHA₂DS₂VASc score should be used to assess their risk of stroke. Stroke prevention strategies should be considered in any patient not at low risk of stroke (score 0 in males and 1 in females), with modifiable risk factors for bleeding addressed in all patients. The HAS-BLED score should be calculated and any patient with a score of ≥ 3 should undergo regular review and follow-up. However, the guidelines state “high bleeding scores should not be used as a reason to withhold oral anticoagulation”.

Regarding which oral anticoagulation therapies should be used, direct oral anticoagulants (DOACs) are preferred to warfarin (Class I, Level of Evidence A). For those patients who have contraindications to long-term oral anticoagulation, left atrial appendage (LAA) occlusion may be considered (Class IIb, Level of Evidence B).

Key Protect recommendations

- Oral anticoagulation is recommended for patients with CHA₂DS₂VASc score ≥ 2 in males and ≥ 3 in females (Class I, Level of Evidence A).
- Oral anticoagulation should be considered for patients with CHA₂DS₂VASc score 1 in males and ≥ 2 in females (Class IIa, Level of Evidence A).
- In patients eligible for oral anticoagulation, DOACs should be used in preference to warfarin (Class I, Level of Evidence A).
- Estimated bleeding risk, in the absence of absolute contraindications to oral anticoagulation, should not be used itself to guide treatment decisions to use oral anticoagulation (Class III, Level of Evidence A).
- For those patients who have contraindications to long-term oral anticoagulation, left atrial appendage (LAA) occlusion may be considered (Class IIb, Level of Evidence B).



Correct — Better symptom control

Correction of AF, or better symptom control using the ESC guideline terminology, incorporates both rate and rhythm control. The guidelines state that rate control is “an integral part of AF-related management” and is often enough to control symptoms. On the other hand, the primary indication for rhythm control, the guideline state, is to “reduce AF-related symptoms and improve quality of life”.

Rate

The guidelines note that “very little robust evidence exists to inform the best type of rate control and treatment”. Therefore, the choice of rate-control drug depends on the characteristics of the patients. The target heart rate, according to the guidelines, is also unclear. Based on the findings of the RACE trial, the guidelines advise that a “lenient rate control” is acceptable as an initial strategy “unless symptoms call for stricter rate control”.

Key Correct (Rate) recommendations

- Beta-blockers, diltiazem, or verapamil are the first-line treatments for patients with left ventricular ejection fraction (LVEF) $\geq 40\%$ (both Class I, Level of Evidence B).
- Beta-blockers and/or digoxin are recommended as the first-line treatments for those with LVEF $\leq 40\%$ (both Class I, Level of Evidence B).
- A heart rate of < 110 bpm (i.e. lenient rate control) should be considered as the initial strategy (Class IIa, Level of Evidence B).
- Combining treatments, comprising different rate controlling drugs, should be considered if a single drug does not achieve the target heart rate (Class IIa, Level of Evidence B).

Rhythm

Under the guidelines, rhythm control ranges from cardioversion (both pharmacological and electrical) to catheter ablation. It is beyond the scope of this document to outline all the recommendations in this section in the guidelines; therefore, the recommendations below are the top line recommendations relating to interventional therapy.

Key Correct (Rhythm) recommendations

- Rhythm control therapy is recommended for symptom and quality of life improvement in symptomatic patients with AF (Class I, Level of Evidence B).
- Cardioversion of AF (electrical or pharmacological) is recommended in symptomatic patients with persistent AF as part of rhythm control therapy (Class I, Level of Evidence B).
- Catheter ablation for pulmonary vein isolation (PVI) is recommended for rhythm control after one or failed or intolerant Class I or III anti-arrhythmic drug to improve symptoms of AF recurrence in patients with paroxysmal AF (Class I, Level of Evidence A), persistent AF without major risk factors for AF recurrence (Class I, Level of Evidence A), or persistent AF with major risk factors for AF recurrence (Class I, Level of Evidence B).
- Catheter ablation for PVI should/may be considered in selected patients with symptomatic paroxysmal AF episodes (Class IIa, Level of Evidence B), persistent AF without major risk factors for AF recurrence (Class IIb, Level of Evidence C).
- Complete electrical isolation of the pulmonary veins is recommended during all ablation (Class I, Level of evidence A).
- Weight loss is recommended in obese patients with AF, particularly those who are being evaluated to undergo AF ablation (Class I, Level of evidence B).



Perfect — Patient involvement

The ESC guidelines consider the AF patient's, and/or their carers', values and preferences to be a key part of integrated management. They advise: "Exploring the patient's values, goals, and preferences should be the first step of shared decision making". Furthermore, the new guidelines recommend routinely collecting patient-reported outcomes (PROs) to measure treatment success and improve patient care (Class I, Level of Evidence C). They note: "Patients' experience of AF and its management is highly subjective; AF management has become increasingly complex, potentially resulting in significant treatment burden and poorer health-related quality of life".

Key Perfect recommendation

- Integrated management with a structured multidisciplinary approach including healthcare professionals, patients and their family/carers should be used in all AF patients to improve clinical outcomes (Class IIa, Level of Evidence B).
- Inform the patient about the advantages/limitations and benefits/risks associated with the treatment options being considered (Class I, Level of Evidence C).
- Discuss the potential burden of the treatment with the patient and include the patient's perception of treatment burden in the treatment decision (Class I, Level of Evidence C).
- It is recommended to routinely collect PROs to measure success and improve patient care (Class I, Level of Evidence C)

References

1. Hindricks G, Potpara T, Dagres N, *et al.* 2020 ESC [Guidelines for the diagnosis and management of atrial fibrillation developed in collaboration with the European Association of Cardio-Thoracic Surgery \(EACTS\)](#). *European Heart Journal* 2020. Epub.