Atrial Fibrillation — Rate, Rhythm, and Anticoagulation

The Three Decisions Every APP Must Make

Every patient with AF requires three decisions — in this order: **anticoagulate or not, control the rate, then decide about rhythm.** The order matters. Stroke prevention comes first.

Part 1 — Rate Control vs. Rhythm Control

Rate control is first-line for most patients. Rhythm control is added when symptoms persist despite rate control, or when early rhythm control is preferred (recent-onset AF, tachycardia-induced cardiomyopathy, younger patients with few comorbidities).

	Rate Control	Rhythm Control
Goal	Resting HR <100–110 bpm (lenient); <80 bpm if symptomatic or tachycardia-mediated cardiomyopathy	Restore and maintain sinus rhythm
Preferred for	Asymptomatic or mildly symptomatic AF; permanent AF; older patients with multiple comorbidities	Persistent symptoms on rate control; new HFrEF + AF; younger patients; recent-onset AF
First-line drugs	Beta blockers (metoprolol, carvedilol); nondihydropyridine CCBs (diltiazem, verapamil) if LVEF ≥40%	Cardioversion; antiarrhythmic drugs (see Part 2)
Adjunct	Digoxin (target level <1.2 ng/mL) — add-on only	Catheter ablation (PVI) for refractory or preferred first-line in selected patients

> **Diltiazem and verapamil are Class III Harm in LVEF <40%.** Use beta blockers for rate control in HFrEF. **Flecainide and propafenone are Class III Harm in prior MI or structural heart disease (LVEF ≤40%).** Amiodarone or dofetilide are the safe AADs in HFrEF.

Part 2 — Cardioversion and Antiarrhythmic Drugs

Cardioversion Scenario	Required Steps
AF <48 hours	Anticoagulate at time of cardioversion + ≥4 weeks after. Can cardiovert without pre-procedure anticoagulation if hemodynamically stable.
AF ≥48 hours or unknown duration	**Option A:** 3 weeks therapeutic anticoagulation before cardioversion, then ≥4 weeks after. **Option B:** TEE to exclude LAA thrombus, then cardiovert, then ≥4 weeks anticoagulation.
Hemodynamically unstable	Immediate synchronized cardioversion regardless of anticoagulation status (Class I).

Antiarrhythmic Drug Selection (guided by LV function and comorbidities):

Patient Profile	Preferred Drugs	Avoid
Normal LV, no prior MI, no structural disease	Flecainide, propafenone, dronedarone, dofetilide	—
Prior MI or structural heart disease (HFrEF ≤40%)	Amiodarone, dofetilide	**Flecainide, propafenone (Class III Harm)**
NYHA III–IV HF or decompensated HF within 4 weeks	Amiodarone, dofetilide	**Dronedarone (Class III Harm)**

Dofetilide requires ≥3-day inpatient initiation with continuous monitoring and renal-adjusted dosing (Class I). Amiodarone requires annual TFTs, LFTs, CXR, and ophthalmology.

Part 3 — CHA_2DS_2-VASc: When to Anticoagulate

Risk Factor	Points
C — Congestive heart failure or LVEF ≤40%	1
H — Hypertension	1
A_2 — Age ≥75 years	2
D — Diabetes mellitus	1
S_2 — Stroke, TIA, or systemic thromboembolism (history)	2
V — Vascular disease (prior MI, PAD, or aortic plaque)	1
A — Age 65–74 years	1
S_c — Sex category female	1

Score	Decision	Guideline
0 (male) / 1 (female)	Anticoagulation not recommended	Class III Harm (LOE B-R)
1 (male) / 2 (female)	Reasonable — shared decision-making	Class IIa (LOE A)
≥2 (male) / ≥3 (female)	**Anticoagulate**	**Class I (LOE A)**

DOAC Selection and Key Considerations:

Drug	Standard Dose	Key Point
Apixaban	5 mg BID	Reduce to 2.5 mg BID if ≥2 of: age ≥80, weight ≤60 kg, SCr ≥1.5 mg/dL. Lowest GI bleed risk vs. warfarin.
Rivaroxaban	20 mg QD with evening meal	Must take with food — absorption drops 30–40% without it. Reduce to 15 mg QD if CrCl 15–50 mL/min.
Dabigatran	150 mg BID	Reduce to 75 mg BID if CrCl 15–30 mL/min. Highest GI bleed rate. Reversal: idarucizumab.
Edoxaban	60 mg QD	**Contraindicated if CrCl >95 mL/min** (paradoxically reduced efficacy at high CrCl). Reduce to 30 mg QD if CrCl 15–50 mL/min.
Warfarin	Adjust to INR 2.0–3.0	Required for mechanical heart valves and moderate-to-severe mitral stenosis. DOACs are **Class III Harm** in these two conditions.

AF burden and stroke risk: Higher AF burden (persistent or permanent vs. paroxysmal), LA enlargement (diameter ≥4.7 cm), obesity (BMI ≥30), and CKD (eGFR <45 mL/min) all increase stroke risk beyond what CHA_2DS_2-VASc captures. These are not scoring factors but are recognized risk modifiers in the 2023 guideline. **Anticoagulation decisions should not be based on bleeding risk scores alone** — HAS-BLED identifies modifiable bleeding risk factors, not anticoagulation eligibility.

CLINICAL RULE

In most patients with AF: anticoagulate first, rate control second, rhythm control third. CHA_2DS_2-VASc ≥2 (men) or ≥3 (women) → anticoagulate. DOACs are preferred over warfarin unless the patient has a mechanical heart valve or severe mitral stenosis — those two indications require warfarin. Bleeding risk scores identify what to fix, not who to exclude from anticoagulation.

APP Specialist Academy Free Resource Series. Source: 2023 ACC/AHA/ACCP/HRS Guideline for the Diagnosis and Management of Atrial Fibrillation (Joglar et al. JACC. 2024;83:109–279).