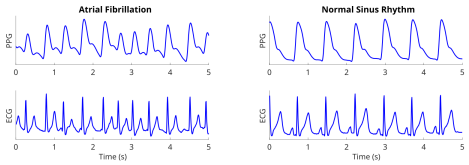
Understanding Atrial Fibrillation

Heart Rhythm, Stroke Risk, and Treatment

Know Your Rhythm. Lower Your Stroke Risk. Live Well.



Online: https://go.riasalimd.com/afib-guide

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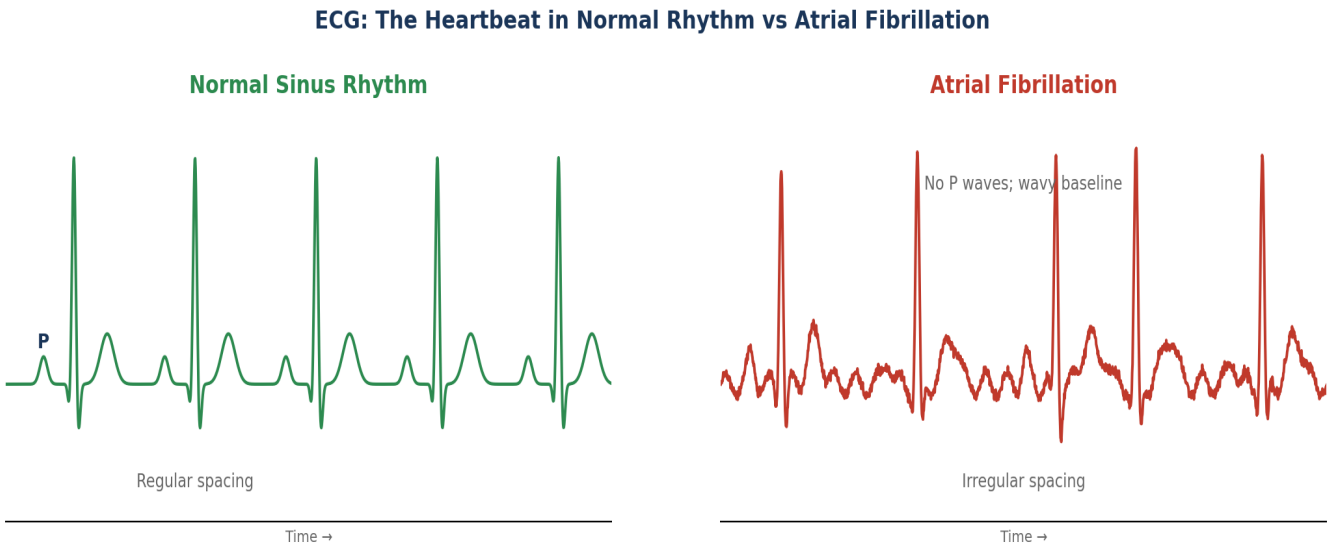
Names & Terms You Will Hear

Term	Meaning
Atrial Fibrillation	The medical name we use in your chart.
AFib / AF / A-fib	Common short forms you will see and hear.
Irregular heartbeat	What most people feel.
Atrial flutter (AFl)	A related but distinct rhythm; often grouped with AFib.
Paroxysmal AFib	Comes and goes within a week.
Persistent AFib	Lasts longer than a week.
Long-standing persistent	More than a year, but rhythm control is still on the table.
Permanent AFib	Rhythm control is no longer the goal.

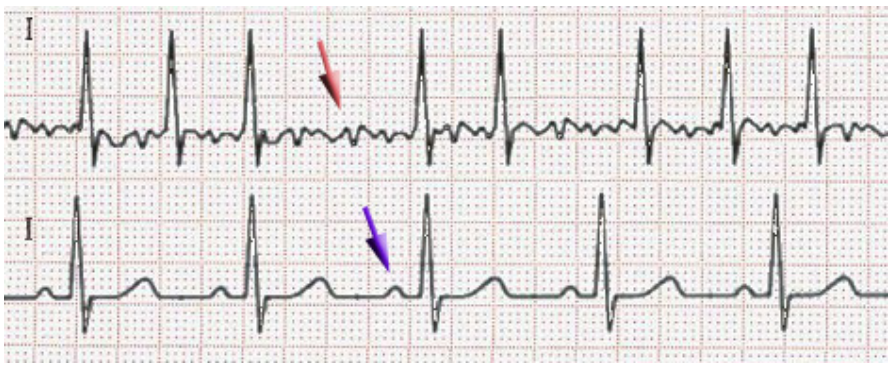
When AFib is an emergency: If your heart is racing (a rapid ventricular response, or RVR) AND you have chest pain, severe shortness of breath, fainting, or feel like you might pass out — **call 911**. An unstable fast rhythm can need an urgent reset (cardioversion) in the ER.

What Is Atrial Fibrillation?

- AFib is a fast, disorganized rhythm in the top chambers of your heart (the atria).
- Instead of one steady beat, the atria quiver. The bottom chambers (ventricles) follow at an uneven pace.
- Most people feel a fluttering, racing, or skipping pulse. About 1 in 3 feel nothing at all.
- AFib is the most common heart rhythm problem in adults. About 1 in 4 adults will have it at some point in life.
- Common symptoms: palpitations, shortness of breath, fatigue, dizziness, chest discomfort, or less stamina.



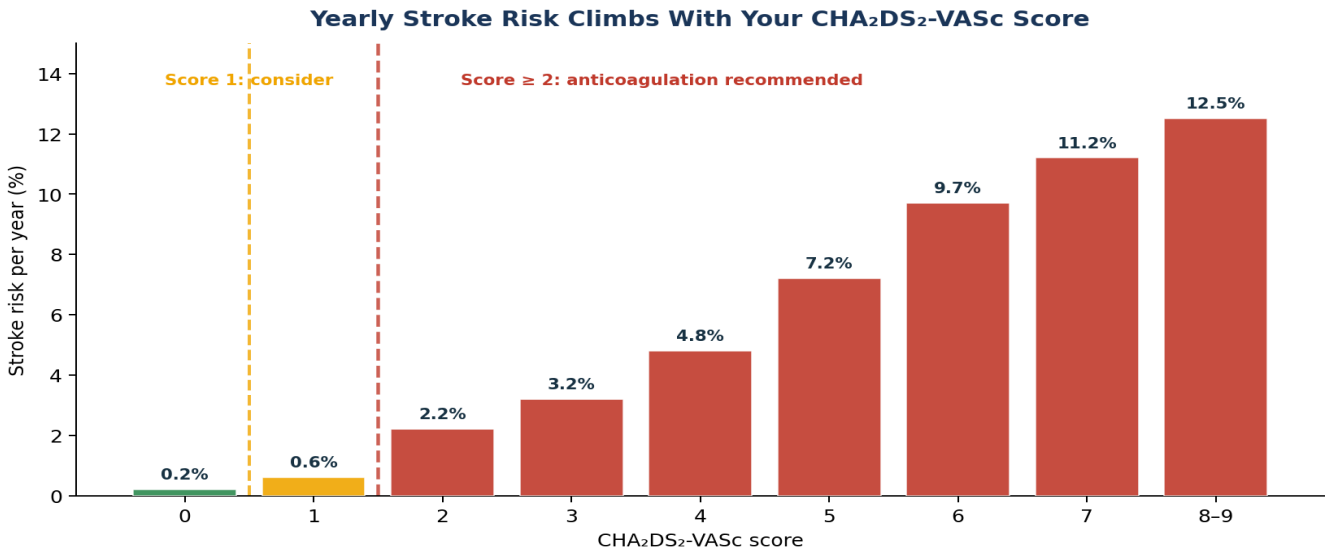
In a normal rhythm the beats are evenly spaced with a small P wave before each one. In AFib the baseline is wavy, there are no P waves, and the beats are irregular.



A real patient ECG showing AFib — irregularly irregular beats with no clear P waves, the same pattern as the schematic above. Image: J. Heuser, Wikimedia Commons (CC BY-SA 3.0).

Why It Matters

- Stroke risk is about 5 times higher with AFib than without it. Most AFib strokes are large.
- AFib can weaken the heart over time and lead to heart failure if the rate stays too high.
- AFib raises the risk of memory loss and vascular dementia, even without a stroke.
- AFib often hides behind other symptoms like fatigue, breathlessness, or dizziness — not just a racing pulse.
- The good news: anticoagulation (a blood thinner) cuts the stroke risk by 60–70%.



Yearly stroke risk rises with your CHA_2DS_2-VASc score. At a score of 1 we consider a blood thinner; at 2 or more we recommend one.

CHA_2DS_2-VASc — Add Up Your Stroke-Risk Points

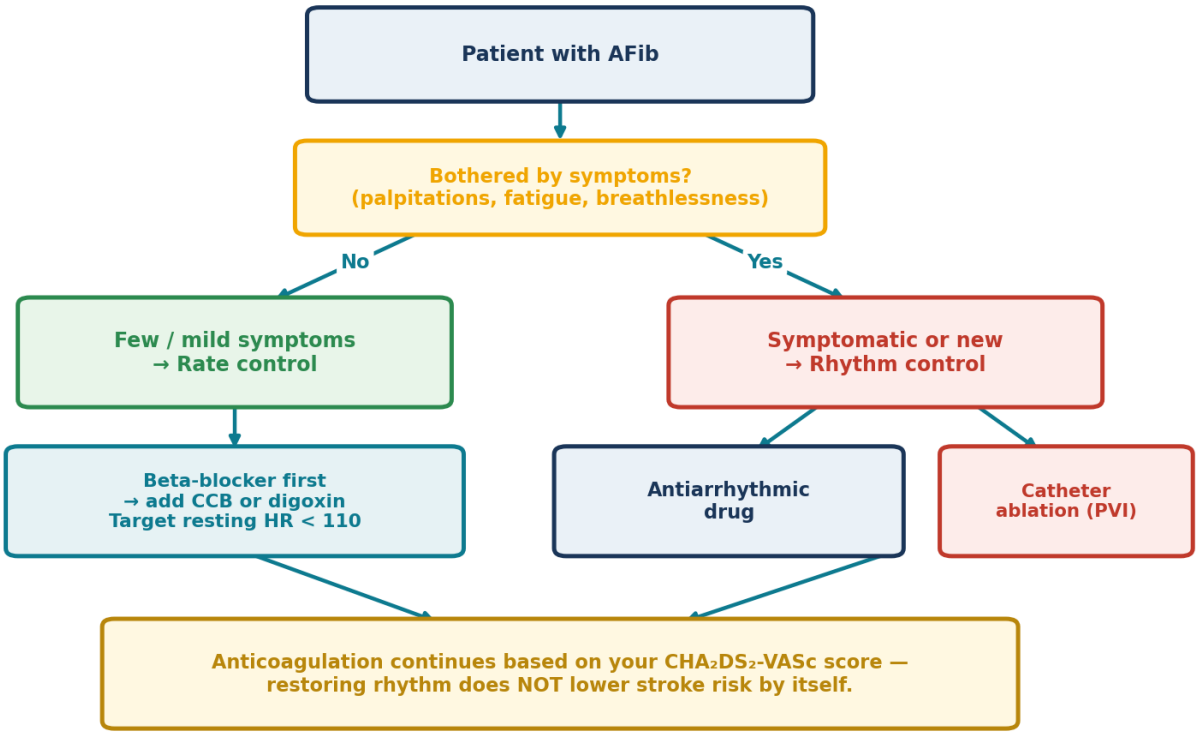
Risk factor	Points
C — Congestive heart failure (history)	1
H — High blood pressure (treated or not)	1
A_2 — Age 75 or older	2
D — Diabetes	1
S_2 — Stroke, TIA, or clot in the past	2
V — Vascular disease (heart attack, leg-artery disease, aortic plaque)	1
A — Age 65 to 74	1
Sc — Female sex (counts only with at least 1 other risk factor)	1

What Your Total Score Means

Total score	Yearly stroke risk	What we recommend
0 (men) / 1 (women, sex only)	Very low (< 1%)	No blood thinner.
1 (men)	Low (about 1%)	Consider a blood thinner — let's discuss.
2+ (men) / 3+ (women)	Moderate to high (2–15%+)	Blood thinner strongly recommended.

Treatment Options

- AFib care has three goals: prevent stroke, control the heart rate or rhythm, and treat the causes.
- **Prevent stroke** with a blood thinner if your CHA_2DS_2-VASc score calls for it. This is the most important step.
- **Rate control** keeps your heart rate down even if AFib continues. A beta-blocker is usually first.
- **Rhythm control** aims to restore a normal beat — with medicine, a cardioversion (a reset), or ablation.
- **Catheter ablation** (pulmonary vein isolation) has the best success rate, especially for paroxysmal AFib.
- We first confirm AFib on a recording. We use the lightest monitor that fits your story (see the list below).



How we choose between rate control and rhythm control. Either way, the blood thinner decision is driven by your CHA_2DS_2-VASc score — not by whether the rhythm is reset.

Blood Thinners for Stroke Prevention: DOACs vs Warfarin

Drug	Typical dose	Schedule	Good to know
Apixaban (Eliquis)	5 mg twice daily	Twice daily	Lowest bleeding in trials. It has a reversal medicine.
Rivaroxaban (Xarelto)	20 mg once daily	Once daily, with food	Take it with your largest meal. It has a reversal medicine.
Dabigatran (Pradaxa)	150 mg twice daily	Twice daily	Do not open the capsule. It has a reversal medicine. More stomach upset.
Edoxaban (Savaysa)	60 mg once daily	Once daily	We do not use it if your kidneys clear it too fast (CrCl > 95).
Warfarin (Coumadin)	Varies	Daily, INR-guided	Cheapest. Many food and drug interactions. Needs a monthly INR blood test.

How We Confirm AFib

- ECG — the gold standard. It catches AFib if you are in it during the test.
- Holter monitor — a small patch you wear for 1 to 2 days. It catches longer spells.
- Event monitor — you wear it 2 to 4 weeks and press a button when you feel a spell.
- Loop recorder — a tiny chip under the skin. We use it when spells are rare.
- Smartwatch or at-home ECG — helpful, but we confirm it with a real ECG.
- Echo (an ultrasound of the heart) — looks for causes like a leaky valve or a weak pump.
- Blood tests — we check the thyroid, the kidneys, salts, and blood count.

Rate Control — Slow the Beat

- The goal: keep your heart rate down even if AFib continues. A resting target under 110 is safe for most stable patients (RACE-II).
- Metoprolol or carvedilol (beta-blockers) are first for most patients, especially with heart failure or after a heart attack.
- Diltiazem or verapamil (calcium channel blockers) are options when the pump is normal — we avoid them if the pump is weak.
- Digoxin is an add-on, especially in heart failure or for less active patients.

Rhythm Control — Restore a Normal Beat

- Flecainide or propafenone — only if your heart is built normally and you have not had a heart attack.
- Sotalol — we watch your heart tracing (the QT) and your kidneys.
- Dofetilide — by guideline, we start it in the hospital and watch the QT.
- Amiodarone — the strongest drug, but over years it can affect the lungs, liver, and thyroid.
- Cardioversion (a shock reset) — a quick reset under brief sedation. We often do a TEE first if the timing is unclear.
- EAST-AFNET 4 showed that starting rhythm control early reduces heart problems in newly diagnosed AFib.

Catheter Ablation (Pulmonary Vein Isolation)

- PVI makes a ring of scar around the veins where most AFib starts. We do it through thin wires in the groin while you are sedated.
- Who it is for: AFib that bothers you and comes and goes. It can be a first choice or used after a drug fails. It also helps some people with a weak heart (the CASTLE-AF trial showed fewer deaths and hospital stays).
- What to expect: 60 to 80% of paroxysmal patients are free of AFib at 1 year after one procedure. About 10 to 20% need a touch-up.
- We can use heat, cold (a cryoballoon), or the newer pulsed-field method. Pulsed-field is gentler on nearby tissue.
- Risks are low: fluid around the heart under 1%, stroke 0.3 to 0.5%, groin bleeding 1 to 2%. A serious link to the food pipe is very rare (under 0.1%).
- Your blood thinner continues for at least 2 to 3 months after ablation. Long-term, it is based on your CHA_2DS_2-VASc score. A normal rhythm does not lower stroke risk on its own.

The ABC pathway — a simple way to organize your AFib care. Heart doctors group good AFib care into three letters, so nothing important gets missed:
A — Avoid stroke (Anticoagulation). We check your stroke risk and start a blood thinner when it is needed. This is the step that saves the most lives.
B — Better symptom control. We ease your symptoms by slowing the rate or restoring the rhythm — whichever fits you best.
C — Cardiovascular & Comorbidity care. We treat the things that feed AFib: high blood pressure, sleep apnea, extra weight, alcohol, diabetes, and staying active.
The 2024 European (ESC) guideline updated this into a fuller plan called **AF-CARE** that also adds regular re-checks over time — but the same A-B-C idea is at its heart.

Aspirin is not a substitute. For AFib stroke prevention, aspirin does not work well enough. The guideline calls for a DOAC or warfarin. **Watchman (LAA closure)** is a one-time procedure that seals off the heart pouch where AFib clots usually form — we consider it when a lifelong blood thinner is not safe or tolerated.

Comfort Measures at Home (No Medication Needed)

These simple steps support healing and ease symptoms. Use them alongside any medication your doctor prescribes.

- Alcohol — each daily drink raises AFib risk by about 8%. Cutting back lowers how often AFib strikes.
- Sleep apnea — untreated apnea makes AFib much harder to control. Get tested if you snore, feel sleepy, or have pauses in breathing.
- Weight — losing 10% of your body weight cuts AFib episodes by about half.
- Exercise — aim for 30 minutes most days. Avoid extreme endurance training, which can raise AFib risk.
- Caffeine — 1–3 cups of coffee a day is usually fine. Energy drinks are not.
- Stress — better sleep, meditation, and mood care lower how often AFib is triggered.
- Thyroid — an overactive thyroid drives AFib. It is worth checking each year.

Risks, Benefits, and Alternatives

Every choice has trade-offs. Use this table to start the shared decision conversation.

Option	Risks	Benefits	Alternatives
Anticoagulation (DOAC)	Bleeding (stomach, brain), bruising, drug interactions, cost.	Cuts stroke risk by 60–70%. Once- or twice-daily pill. No INR blood draws.	Warfarin (cheaper, needs INR draws), or left atrial appendage closure (Watchman) for bleed-prone patients.
Catheter ablation	Groin bleeding, stroke (~0.5%), fluid around the heart (~1%), vein narrowing. A serious food-pipe injury is very rare.	More than 70% are rhythm-free at 1 year for paroxysmal AFib. Better quality of life. Fewer hospital stays.	Rhythm drugs, rate control plus a blood thinner, or surgery (the Maze procedure).
Cardioversion	Skin burn, brief sedation risk, and stroke if a clot is present. A TEE or 3+ weeks of blood thinner first lowers that risk.	A quick rhythm reset. Useful for a first episode or a flare with symptoms.	Drugs to reset the rhythm, or a wait-and-see plan if you feel fine.
Watchman / LAA closure	Procedure risks, a clot on the device, and a leak around it. You take an antiplatelet pill for about 6 months.	Stroke prevention without a lifelong blood thinner. Trials show it works about as well as warfarin.	Stay on a DOAC. Rarely, no blood thinner if Watchman is not an option.

HAS-BLED — Balancing Bleeding Risk

- HAS-BLED helps us decide how cautious to be with a blood thinner. A high score does NOT mean we stop it — it means we watch closely and fix what we can.
- H — uncontrolled high blood pressure. A — abnormal kidney or liver function.
- S — stroke history. B — bleeding history or tendency.
- L — unstable INRs (only if on warfarin). E — age over 65.
- D — drugs (NSAIDs, antiplatelets) or alcohol use.
- The fixable items — blood pressure, NSAIDs, alcohol — are where we focus first.

GARFIELD-AF — A Fuller Picture of Your Personal Risk

- Your CHA_2DS_2-VASc score is quick. It tells us mainly about stroke risk. GARFIELD-AF is a newer tool. It gives a fuller, more personal picture. It is most useful when AFib is new.
- It looks at more of your details. It then estimates your risk over the next 1 and 2 years. It does this for three things at once: death, a stroke or a traveling clot, and major bleeding.
- So it shows more than stroke risk alone. It also weighs bleeding and survival. This helps us balance the good a blood thinner does against its bleeding risk.
- It was built from a worldwide record of more than 52,000 people with new AFib. It can compare your likely path with no blood thinner, with warfarin, or with a DOAC.
- The numbers are personal to you. So we do not print a one-size-fits-all percentage here. Ask your doctor to run your own GARFIELD-AF numbers with you. The free tool is in the resources list.

Common Misconceptions

Myth	Reality
AFib is harmless because I feel fine.	About a third of people with AFib feel nothing — yet the stroke risk is the same. 'Silent' AFib is not safe.
If I had AFib, I would feel it.	Many people only learn they have AFib when a smartwatch flags it, or after a stroke they did not expect.
Aspirin is enough for AFib.	Aspirin does not prevent AFib strokes well. The current guideline recommends a DOAC or warfarin, not aspirin.
Once I'm in normal rhythm I can stop my blood thinner.	Stroke risk depends on your CHA_2DS_2-VASc score, not on whether you 'feel' regular today. Most people stay on the blood thinner.
Ablation cures AFib forever.	Ablation works well, but AFib can come back. Some people need a touch-up. The blood thinner often continues based on stroke risk.
If my pulse is regular today, I don't have AFib anymore.	AFib often comes and goes. A regular pulse for hours or days does not rule it out. We rely on monitors.
AFib means I cannot exercise.	Most people with AFib should exercise. Aerobic activity is part of treatment. Only true competitive endurance needs a sign-off first.
DOACs are dangerous because there's no antidote.	Reversal medicines do exist. There is one for apixaban and rivaroxaban, and one for dabigatran. And most bleeding is handled without them.

Possible Complications

Knowing what can go wrong helps you spot problems early. Most complications are uncommon, especially with treatment.

Where / What	What Can Happen
Brain (most common)	Ischemic stroke (most are large), vascular dementia, and silent brain injuries. Take your blood thinner as prescribed and treat blood pressure firmly.
Heart	A racing rhythm can weaken the pump (cardiomyopathy) and cause heart failure. Rate or rhythm control, blood-pressure care, and weight loss all help.
Body and limbs	A clot can travel to the kidney, the gut, or a leg artery. The same blood thinner that prevents stroke prevents this too.
Bleeding (from the blood thinner)	Stomach bleeding is most common; brain bleeding is rarest but most feared. Treat reflux and ulcers, avoid NSAIDs, limit alcohol, and lower fall risk.
Quality of life	Fatigue, less stamina, anxiety, and poor sleep. Rhythm control, sleep-apnea care, mood treatment, and cardiac rehab can help.

Points to Know

If you remember nothing else, remember these key points.

- Stroke risk in AFib is about 5 times higher. A blood thinner cuts it by 60–70%.
- CHA_2DS_2-VASc is a simple score that tells us if you need a blood thinner. Bring your score to every visit.
- Take your DOAC at the same time every day. Even a missed day raises stroke risk.
- AFib can be silent. Trust your monitor and your score, not just how you feel.
- Sleep apnea, alcohol, and weight are three of the strongest fixable drivers of AFib.
- Tell every dentist, surgeon, and ER doctor that you take a blood thinner before any procedure.
- Ablation works best in the first 12 months after diagnosis. Earlier action often means better results.
- Stop your DOAC only when we or your procedure team tell you to — never on your own.

When to Call Us - and When to Call 911

If you are not sure, call. We would rather hear from you twice than miss a real problem.

- Stroke signs — FACE drooping, ARM weakness, SPEECH change, TIME to call 911. Call 911 first, then us.
- Chest pain or pressure that does not ease with rest.
- Severe shortness of breath at rest.
- Fainting or passing out.
- A heart rate over 130 that lasts more than 15 minutes when you are calm.
- Bleeding that will not stop after 10 minutes of pressure, blood in stool or urine, vomiting blood, or a severe headache while on a blood thinner.
- A newly irregular pulse for the first time, especially with symptoms.
- A skipped or doubled dose of your blood thinner — before you decide what to do.

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Trusted Resources

The links below are the trusted resources Dr. Ali used to write this guide and that he recommends you visit for more information. Each is a clickable link in the digital version and a Short.io tracked URL on the printed version.

- American Heart Association — What is Atrial Fibrillation? - Plain-language overview from the AHA.
- CDC — Atrial Fibrillation - US prevalence and population data.
- StopAfib.org - Patient-led education and a support community.
- MyAFibExperience (Heart Rhythm Society) - Community plus a symptom tracker, run by the Heart Rhythm Society.
- GARFIELD-AF Risk Calculator - A free tool that estimates your 1- and 2-year risk of death, stroke/clot, and major bleeding. Best reviewed together with your doctor.
- Watchman / LAA closure — animated overview (Vimeo) - A short animation of the Watchman procedure for stroke-prevention alternatives to a blood thinner.
- Watchman / LAA closure — patient explainer (Vimeo) - A companion patient video on left atrial appendage closure.

Sources Used to Build This Guide

Every recommendation in this guide is grounded in one or more of the studies, guidelines, or trusted resources below. Short links are tracked so Dr. Ali can see which references patients are reading; nothing personally identifying is captured.

- 2023 ACC/AHA/ACCP/HRS Guideline for the Diagnosis and Management of Atrial Fibrillation (Joglar et al., JACC 2024) *[Guideline]*
  Primary reference for AF classification, rhythm vs. rate control strategy selection, and anticoagulation decision trees presented throughout the guide.
- EAST-AFNET 4 — Early Rhythm-Control Therapy in Patients with Atrial Fibrillation (Kirchhof et al., NEJM 2020; PMID 32865375) *[Clinical Trial]*
  Supports the guide's explanation of why early rhythm control reduces cardiovascular events compared with rate control alone in newly diagnosed AF.
- CABANA — Catheter Ablation vs Antiarrhythmic Drug Therapy for AF (Packer et al., JAMA 2019; PMID 30874766) *[Clinical Trial]*
  Basis for the guide's section comparing ablation versus drug therapy for symptom control and quality-of-life improvement in AF.
- RACE-II — Lenient versus Strict Rate Control in AF (Van Gelder et al., NEJM 2010; PMID 20231232) *[Clinical Trial]*
  Justifies the guide's explanation that a resting heart rate target below 110 bpm is acceptable in stable AF patients who are not pursuing rhythm control.
- ARISTOTLE — Apixaban vs Warfarin in AF (Granger et al., NEJM 2011; PMID 21870978) *[Clinical Trial]*
  Supports the guide's comparison table showing apixaban reduced stroke, major bleeding, and mortality versus warfarin in AF patients.
- ENGAGE AF-TIMI 48 — Edoxaban vs Warfarin in AF (Giugliano et al., NEJM 2013; PMID 24251359) *[Clinical Trial]*
  Supports the guide's DOAC selection section showing edoxaban non-inferior to warfarin for stroke prevention with lower bleeding risk.
- CHA2DS2-VASc Validation — Lip et al., Chest 2010 (PMID 19762550) *[Original Research]*
  Underpins the guide's stroke-risk scoring tool; the CHA■DS■-VASc score thresholds used in our anticoagulation decision aid derive from this validation study.
- 2024 ESC Guidelines for the Management of Atrial Fibrillation (Van Gelder et al., Eur Heart J 2024) *[Guideline]*
  Provides the updated ABC pathway framework (Avoid stroke, Better symptom management, Cardiovascular risk reduction) used to structure the guide's management overview.
- GARFIELD-AF Risk Calculator — Thrombosis Research Institute / GARFIELD-AF Registry *[Patient Education]*
  Cited as a complementary, fuller-picture risk tool alongside CHA■DS■-VASc; estimates 1- and 2-year risk of mortality, ischemic stroke/systemic embolism, and major bleeding in newly diagnosed AF, derived from the >52,000-patient GARFIELD-AF registry. Linked in the guide's resources for clinician-and-patient shared review; no fixed example percentages are printed because outputs are patient-specific.

- GARFIELD-AF risk score for mortality, stroke, and bleeding within 2 years in AF (Fox et al., Eur Heart J Qual Care Clin Outcomes 2022) *[Original Research]*
  Validation publication underpinning the GARFIELD-AF risk tool referenced in the guide; documents that the model simultaneously predicts all-cause mortality, ischemic stroke/systemic embolism, and major bleeding over up to 24 months and outperformed CHA■DS■-VASc for all-cause mortality.
- AHA — What Is Atrial Fibrillation? (heart.org) *[Patient Education]*
  Recommended as a take-home reading resource for patients who want a plain-language overview of AF symptoms and risks.
- CDC — Atrial Fibrillation (cdc.gov) *[Patient Education]*
  Cited in the guide's 'Learn More' section for US prevalence statistics and public-health context on AF burden.

About This Guide

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Reviewer note: Reviewed against the AHA Heart.org AFib page, the Mayo Clinic AFib page, and the CDC AFib page. This guide adds: a color-coded CHA_2DS_2-VASc score table and stroke-risk chart, a side-by-side DOAC-vs-warfarin table, a rate-vs-rhythm decision flowchart, organ-grouped complications, expanded misconceptions, the ESC ABC pathway, the GARFIELD-AF complementary risk tool, and clickable tracked sources.

Disclaimer

This guide is for educational purposes only and does not replace medical advice from your physician. Recommendations may not apply to every patient. Always follow the specific instructions of Dr. Ali and your care team. In an emergency call 911 or go to the nearest emergency department.

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