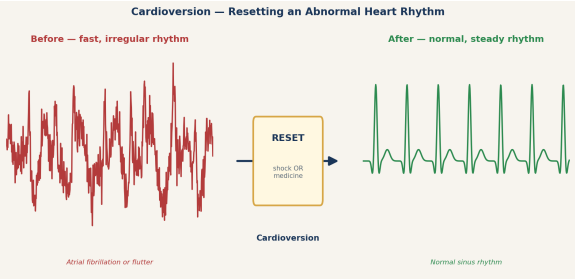
Understanding Your Cardioversion

Cardioversion — A Planned Procedure to Reset a Fast or Irregular Heart Rhythm Back to Normal

A short, planned procedure that resets an abnormal rhythm — most often atrial fibrillation or flutter — back to a normal heartbeat. It can be a brief shock under light sedation, or medicine that converts the rhythm.



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

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Names & Terms You Will Hear

Term	Meaning
Cardioversion	A planned procedure to reset a fast or irregular heart rhythm back to normal. It can use a brief shock or medicine.
Electrical cardioversion (DC cardioversion)	A quick, timed shock through pads on the chest. You are asleep under light sedation, so you do not feel it. It works right away in most people.
Chemical cardioversion (pharmacologic cardioversion)	Medicine — by IV or pill — that converts the rhythm. No shock and no sedation. It works more slowly and a bit less often than a shock.
Synchronized shock	The machine times the shock to a safe point in the heartbeat. This 'sync' is what makes cardioversion different from a defibrillator shock.
Atrial fibrillation (AF) and atrial flutter	The two rhythms most often reset by cardioversion. Both make the upper heart chambers beat fast and out of step.
Transesophageal echo (TEE)	A close-up ultrasound from a probe in the food pipe. It checks the heart for a clot before cardioversion if blood thinners have not been in place long enough.
Normal sinus rhythm (NSR)	The heart's normal, steady beat. Getting back to NSR is the goal of cardioversion.
Antiarrhythmic drug	A rhythm medicine (such as amiodarone, flecainide, sotalol, or dofetilide) often started to help hold the normal rhythm after cardioversion.

Two types, one goal. ELECTRICAL cardioversion uses a brief, timed *shock* while you sleep under light sedation. CHEMICAL cardioversion uses *medicine* instead of a shock. Both aim to reset the rhythm to normal — and both need the same blood-thinner or TEE safety step first.

What Is Your Cardioversion?

- Cardioversion is a planned way to reset an abnormal fast or irregular rhythm — most often atrial fibrillation (AF) or atrial flutter — back to normal.
- There are two types. ELECTRICAL cardioversion uses a brief, timed shock through pads while you sleep under light sedation. CHEMICAL cardioversion uses medicine (IV or pill) instead of a shock.
- The shock or medicine briefly stops the chaotic signals. This lets the heart's natural pacemaker take over again and restart a normal, steady beat.
- Before any cardioversion, a stroke-risk safety step comes first: usually 3 or more weeks of a blood thinner, OR a TEE ultrasound to rule out a clot. Converting with a clot present can knock it loose and cause a stroke.
- Electrical cardioversion is quick — done in a procedure room or hospital, and most people go home the same day. The whole visit is usually 1 to 2 hours.
- Cardioversion resets the rhythm. It does NOT cure the cause. The abnormal rhythm can come back, sometimes within days, weeks, or months.

Electrical vs Chemical — Which One and Why

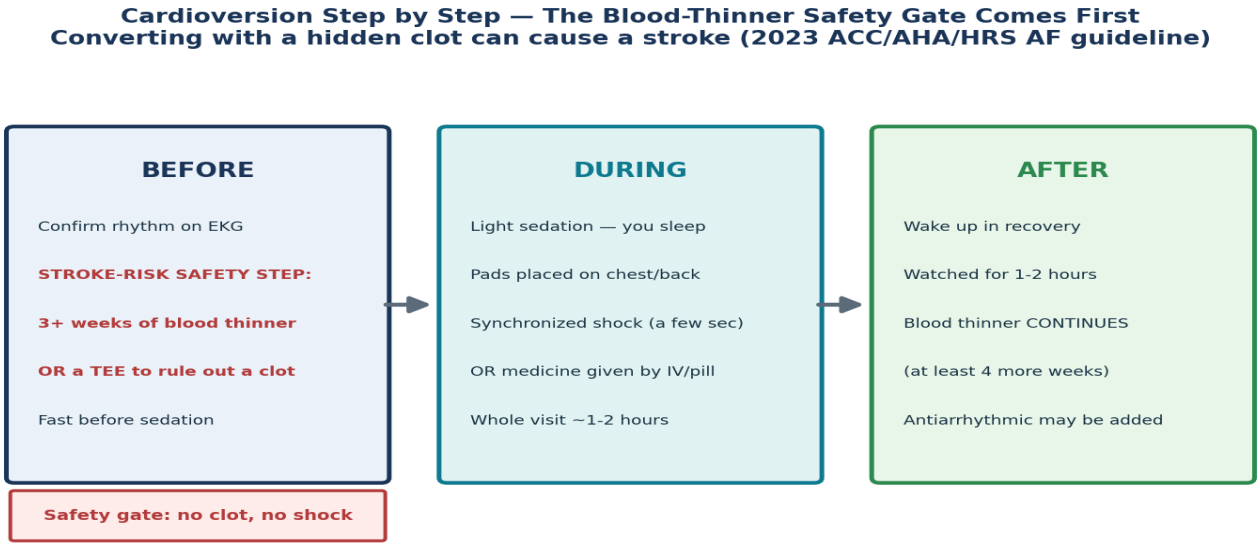
- Electrical cardioversion is a brief, synchronized shock through pads on the chest and back. You are asleep under light sedation, so you feel nothing. It works right away in about 90% of attempts.
- Chemical cardioversion uses a rhythm medicine — by IV or pill — instead of a shock. No sedation is needed, but it works more slowly and less often.
- Doctors often choose ELECTRICAL when the rhythm needs to reset quickly or reliably, or when medicine has not worked.
- CHEMICAL may be tried first for recent-onset AF in the right patient, or when someone prefers to avoid sedation. Some people can later use a 'pill-in-the-pocket' at home once it is proven safe in the hospital.
- Either way, the goal is the same — back to a normal, steady rhythm — and the same stroke-risk safety step applies to both.

Before the Procedure — The Anticoagulation Safety Step

- AF and flutter let blood pool in a small heart pouch (the left atrial appendage), where a clot can quietly form. Resetting the rhythm can squeeze that clot loose and send it to the brain — a stroke.
- To prevent this, one of two safety paths is always done first: (1) at least 3 weeks of a steady blood thinner, OR (2) a TEE ultrasound to look directly for a clot just before the procedure.
- The TEE path lets cardioversion happen sooner. The ACUTE trial (NEJM 2001, over 1,200 patients) showed a TEE-guided plan is as safe as the 3-week wait, with very low stroke rates either way.
- If a clot IS found on TEE, the cardioversion is postponed and blood thinner is continued for several weeks before trying again.
- After the reset, the blood thinner CONTINUES for at least 4 weeks — and often long-term, based on your stroke-risk score (CHA2DS2-VASc), not on whether the rhythm held. This is the single most important rule to follow.

Why It Matters

- A fast or irregular rhythm can cause palpitations, tiredness, shortness of breath, and lightheadedness. Resetting it can quickly relieve these symptoms.
- Staying in AF or flutter for a long time can weaken the heart muscle over time. Getting back to a normal rhythm can help the heart pump better.
- Cardioversion often works right away — electrical cardioversion restores normal rhythm in about 90% of attempts. Chemical cardioversion works less often.
- The blood-thinner safety step matters most. AF and flutter can let a clot form in the heart. A cardioversion done without proper protection can dislodge it and cause a stroke — so this step is never skipped in a planned procedure.
- If you are unstable — very low blood pressure, chest pain, or heart failure from the rhythm — emergency (urgent) cardioversion may be done right away to save the heart, even without the usual 3-week wait.
- Cardioversion is one rhythm-control choice among several. Knowing the alternatives — rate control, ablation, and ongoing rhythm medicine — helps you and your doctor pick the best plan.



Cardioversion step by step. The blood-thinner stroke-risk safety gate comes first — usually 3 or more weeks of a blood thinner, or a TEE to rule out a clot. Then the brief shock or medicine resets the rhythm, and the blood thinner continues for at least 4 weeks afterward. Source: 2023 ACC/AHA/ACCP/HRS AF guideline.

Elective vs Emergency — When the Rules Change

- Most cardioversions are ELECTIVE — planned ahead, with the full 3-week blood thinner step or a TEE done first.
- But if the fast rhythm is making someone UNSTABLE — dangerously low blood pressure, chest pain, fainting, or sudden heart failure — there may be no time to wait.
- In that emergency, the team performs an URGENT (emergent) cardioversion right away. The danger of the rhythm outweighs the clot risk in that moment.
- Blood thinner is then started as soon as it is safe and continued afterward, the same as with a planned procedure.
- Knowing this difference helps you understand why a sudden, severe episode may be treated faster than the usual planned schedule.

Unstable rhythm = emergency cardioversion. If a fast rhythm is causing very low blood pressure, chest pain, fainting, or sudden heart failure, the team may perform an **urgent (emergent) cardioversion right away** — without the usual 3-week wait — because the danger of the rhythm outweighs the clot risk. This is different from the planned, elective procedure most patients have.

Three Things That Happen Around Every Cardioversion

1. Safety Step First	2. The Reset	3. Keep It Going
• 3+ weeks of blood thinner	• Electrical: brief timed shock	• Blood thinner 4+ weeks after
• OR a TEE to rule out a clot	• OR Chemical: medicine	• Antiarrhythmic may be added
• Never skipped (planned)	• Light sedation if shock	• Watch for the rhythm returning
• Prevents stroke from a clot	• Whole visit ~1-2 hours	• Treat triggers to help it last

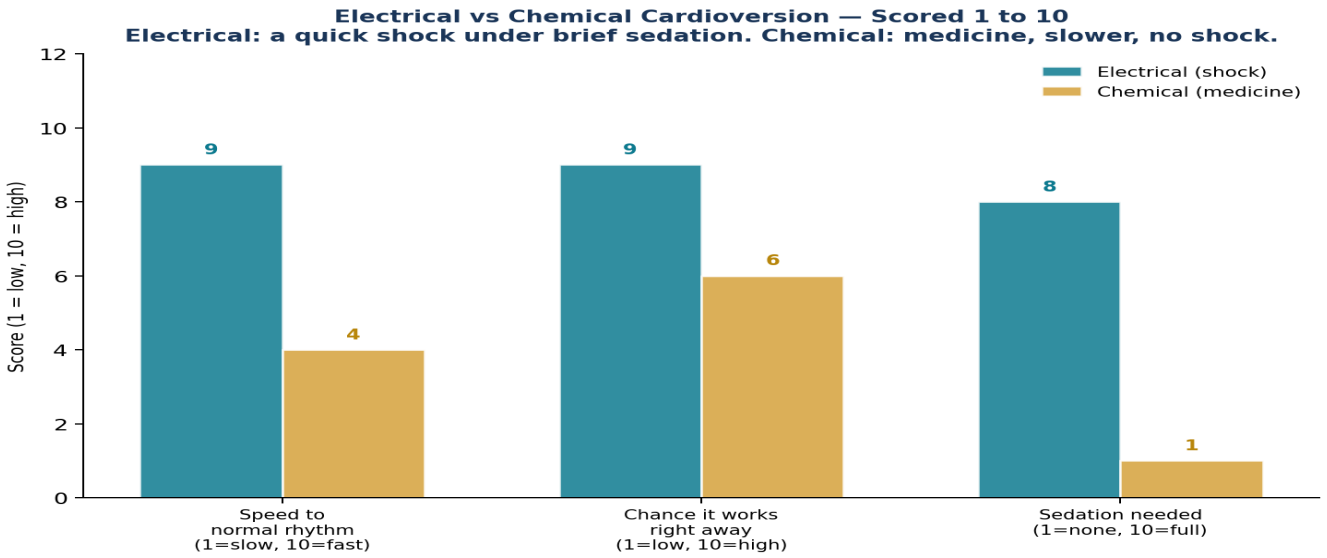
Risk Factors

Some patients are more likely to develop this condition. Knowing your risk helps your care team take extra precautions.

Risk Factor	Why It Increases Risk
AF or flutter for a long time	The longer the heart has been out of rhythm, the more likely it is to slip back after cardioversion. Long-standing AF is harder to keep in normal rhythm.
Enlarged left atrium	A bigger upper chamber holds more changed tissue. This lowers the chance the normal rhythm will hold after a successful reset.
Skipped or missed blood thinner doses	Missing blood thinner doses in the weeks before cardioversion raises the stroke risk. The procedure may have to be delayed, or a TEE added, for safety.
Untreated sleep apnea	Sleep apnea stresses the upper chambers all night. Untreated, it makes AF much more likely to come back soon after cardioversion.
Overactive thyroid, alcohol, or other triggers	An untreated cause keeps driving the abnormal rhythm. Fixing the cause first improves the odds the rhythm stays normal.
Heart failure or valve disease	Underlying heart problems make AF return more likely. Cardioversion can still help, but the rhythm may need an antiarrhythmic drug or ablation to hold.

Treatment Options

- Before: Take your blood thinner exactly as told for at least 3 weeks — do NOT skip doses. If that has not been possible, your doctor may order a TEE to rule out a clot first. Do not eat or drink after midnight before the procedure.
- During (electrical): You get IV sedation and fall asleep. Pads are placed on your chest and back. The machine gives one synchronized shock that lasts a fraction of a second. More than one shock is sometimes needed. You do not feel it.
- During (chemical): Instead of a shock, you get a rhythm medicine by IV or pill (such as ibutilide, flecainide, propafenone, or amiodarone). You are watched on a heart monitor while it works, which can take minutes to hours.
- After: You wake up in recovery and are watched for 1 to 2 hours. Most people go home the same day. Do not drive, sign legal papers, or make big decisions for 24 hours because of the sedation.
- Blood thinner continues: Keep taking your blood thinner for at least 4 weeks after — and often long-term, based on your stroke-risk score. The heart can still throw a clot in the weeks right after the rhythm resets.
- An antiarrhythmic drug may be added to help hold the normal rhythm. Follow-up checks the rhythm and adjusts the plan if AF or flutter comes back.



Electrical vs chemical cardioversion, scored 1 (low) to 10 (high). Electrical is faster and more reliable (works right away in about 90% of attempts) but needs brief sedation. Chemical uses medicine with no shock and no sedation, but works more slowly and less often. Sources: AHA, Cleveland Clinic, Mayo Clinic, AAFP.

Related guides: Have atrial fibrillation or atrial flutter? See those guides for the full rate-vs-rhythm decision. Considering ablation if the rhythm keeps coming back? See the EP study & ablation guide. On a blood thinner? See our warfarin / INR and anticoagulation bridging guides.

Comfort Measures at Home (No Medication Needed)

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

- Bring a list of your medicines and the exact times you took your blood thinner — the team will confirm it has been steady before they proceed.
- Arrange a ride home and a quiet day after. The sedation wears off slowly.
- Mild skin redness where the pads were is common — a plain moisturizer helps. It usually fades in a few days.
- Treat the triggers you can: limit alcohol, use your CPAP for sleep apnea, manage thyroid and blood pressure. This helps the normal rhythm hold longer.
- Keep a simple symptom diary (date, how you felt, your pulse). It helps your doctor see early if the rhythm has come back.

Risks, Benefits, and Alternatives

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

Option	Risks	Benefits	Alternatives
Electrical cardioversion (synchronized shock)	Mild skin redness or irritation where the pads were (common, fades in days). Sedation risks (rare). Brief slow heartbeat or other rhythm right after the shock (uncommon, watched closely). Stroke risk is very low when blood thinner or a TEE is done first — and much higher if that step is skipped.	Works right away in about 90% of attempts. Quick — the shock lasts a fraction of a second and the whole visit is 1 to 2 hours. Done under light sedation, so you feel nothing. Most people go home the same day.	Chemical (drug) cardioversion. Rate control alone (no reset). Catheter ablation. Ongoing antiarrhythmic medicine. Sometimes watchful waiting if symptoms are mild.
Chemical (pharmacologic) cardioversion	Each rhythm drug has its own risks. Ibutilide and dofetilide can cause a dangerous fast rhythm (so they are given in a monitored setting). Flecainide and propafenone are avoided in people with weak or scarred hearts. The same stroke-risk safety step (blood thinner or TEE) still applies.	No shock and no sedation needed. Can be a good first try for recent-onset AF in the right patient. Some pills (a 'pill-in-the-pocket') can be taken at home once proven safe in the hospital.	Electrical cardioversion (faster, more reliable). Rate control. Ablation. Continued rhythm medicine for prevention.

Option	Risks	Benefits	Alternatives
Doing the stroke-risk safety step (blood thinner OR TEE)	A TEE is an extra test — a probe down the food pipe under sedation, with a small sore-throat risk. Three-plus weeks of blood thinner means a small bleeding risk and waiting before the reset.	This step prevents the most serious cardioversion complication — a stroke from a dislodged clot. The ACUTE trial showed a TEE-guided path is as safe as the 3-week wait, and lets the reset happen sooner.	The two safety paths are the alternatives to each other: 3+ weeks of blood thinner, or a TEE to rule out a clot now. Skipping the step is not a safe option for a planned cardioversion.

Electrical vs Chemical Cardioversion — How They Compare

Feature	Electrical (shock)	Chemical (medicine)
How it works	One timed, synchronized shock through chest pads	Rhythm medicine by IV or pill
Speed	Works right away (seconds)	Minutes to hours
Works the first try	About 90% of attempts	Lower — varies by drug
Sedation	Yes — light sedation, you sleep	No sedation needed
Setting	Procedure room or hospital	Monitored bed or sometimes home*
Safety step (blood thinner / TEE)	Always required	Always required

Cardioversion vs the Alternatives — and When Each Is Chosen

Option	What it does	Often chosen when
Cardioversion	Resets the rhythm to normal now	Symptoms are bad, rhythm is recent, or a rhythm-control plan is wanted
Rate control	Slows the heart but leaves AF in place	Symptoms are mild, AF is long-standing, or patient is older
Catheter ablation	Scars the trigger tissue to prevent AF/flutter	AF keeps coming back, or to avoid long-term rhythm drugs
Antiarrhythmic drug	Daily medicine to hold normal rhythm	To help a cardioversion last, or instead of ablation

Common Misconceptions

Myth	Reality
Cardioversion cures my atrial fibrillation.	It does not. Cardioversion RESETS the rhythm but does not fix the cause. AF or flutter can come back — sometimes within days. Many people need rhythm medicine, repeat cardioversion, or ablation to keep the normal rhythm.
The shock will hurt — I will feel it.	You will not. Electrical cardioversion is done under brief sedation, so you are asleep for the shock. Most people remember nothing about it and wake up feeling fine.
Cardioversion is the same as a defibrillator shock.	Not quite. Cardioversion is a SYNCHRONIZED shock, timed to a safe point in the heartbeat for a planned rhythm reset. A defibrillator gives an unsynchronized shock for a life-threatening arrest. They are different on purpose.
I can stop my blood thinner once the rhythm is normal.	Usually not. The heart can still throw a clot for weeks after the reset, and AF can return without symptoms. Blood thinner is continued at least 4 weeks — and often long-term, based on your stroke-risk score, not on whether the reset worked.
If the first shock does not work, cardioversion has failed for good.	No. The team can try a higher energy, a different pad position, or add a rhythm drug and try again. Even if it does not hold, other options — ablation or ongoing medicine — are still on the table.
Chemical cardioversion skips the stroke-risk safety step.	It does not. The clot risk comes from the abnormal rhythm itself, not from the shock. The same blood-thinner-or-TEE safety step applies whether the rhythm is reset by a shock or by medicine.

Possible Complications

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

Where / What	What Can Happen
Skin irritation or redness	The most common issue — mild redness or a sunburn-like mark where the pads sat. It fades in a few days. A plain moisturizer helps. Burns are rare with modern pads.
Stroke from a dislodged clot	The most serious risk, and the reason for the safety step. A clot hiding in the heart can break loose when the rhythm resets. Proper blood thinner or a normal TEE first makes this very unlikely. Skipping that step is what makes it dangerous.
Sedation side effects	Brief low blood pressure, slow breathing, or nausea from the IV sedation (uncommon). The team watches your breathing and oxygen the whole time and treats it quickly.
A slow or different rhythm right after the shock	Sometimes the heartbeat is briefly slow, or another rhythm appears, just after the reset (uncommon). The team is monitoring and ready. It usually settles on its own.
The rhythm comes back (recurrence)	Not a complication of the procedure itself, but expected: AF or flutter returns in a large share of people over weeks to months. An antiarrhythmic drug, repeat cardioversion, or ablation may be the next step.

Points to Know

If you remember nothing else, remember these key points.

- Cardioversion resets the rhythm — it does not cure the cause. The rhythm can come back.
- Two types: ELECTRICAL (a quick, timed shock under light sedation) and CHEMICAL (medicine that converts the rhythm, no shock).
- The stroke-risk safety step comes first: 3+ weeks of blood thinner OR a TEE to rule out a clot. This is never skipped in a planned cardioversion.
- Keep taking your blood thinner — before AND for at least 4 weeks after, often long-term.
- You are asleep for an electrical shock and feel nothing. The whole visit is 1 to 2 hours.
- If you are unstable from the rhythm, emergency cardioversion may be done right away.
- An antiarrhythmic drug may be added afterward to help hold the normal rhythm.
- Treat the triggers — sleep apnea, alcohol, thyroid, blood pressure — to help it last.

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.

- Arm or leg weakness, face droop, slurred speech, sudden bad headache, or trouble seeing — call 911 now. These can be stroke signs.
- Fainting, chest pain, or severe shortness of breath — call 911.
- Your heart is racing or pounding again, or your pulse feels fast and irregular — call us. The rhythm may have come back and we may need to act.
- A burn, blister, or open skin where the pads were, or redness that spreads — call us.
- Any question about whether to keep taking your blood thinner — always call before stopping it. Stopping early is the main avoidable cause of a stroke after cardioversion.
- Fever, new leg swelling, or feeling generally unwell in the days after — call us today.

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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 — Cardioversion - AHA patient overview of electrical cardioversion for atrial fibrillation and flutter.
- Cleveland Clinic — Cardioversion - Plain-language walkthrough of electrical vs chemical cardioversion, sedation, and recovery.
- Mayo Clinic — Cardioversion - Risks, why a TEE may be needed first, and the role of blood thinners around the procedure.
- MedlinePlus — Cardioversion - NIH/NLM consumer reference on cardioversion — indications, preparation, and aftercare.
- AHA — Treatment and Prevention of Atrial Fibrillation - Where cardioversion fits among rate control, rhythm drugs, and ablation.

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.

- American Heart Association — Cardioversion *[Patient Education]*
  Plain-language overview of electrical cardioversion for atrial fibrillation and flutter — what it is, how it resets the rhythm, and what to expect.
- Cleveland Clinic — Cardioversion *[Patient Education]*
  Patient-facing walkthrough of electrical vs chemical cardioversion, sedation, pre-procedure anticoagulation, and recovery.
- Mayo Clinic — Cardioversion *[Patient Education]*
  Risks (stroke, skin burns, dislodged clots), why a TEE may be needed first, and the role of blood thinners around the procedure.
- 2023 ACC/AHA/ACCP/HRS Guideline for Diagnosis and Management of Atrial Fibrillation *[Guideline]*
  Authoritative basis for anticoagulation timing around cardioversion (3-week pre / 4-week post, or TEE-guided) and rhythm-control strategy.
- ACUTE Trial — TEE-guided vs Conventional Cardioversion (NEJM 2001) *[Trial]*
  Landmark randomized trial (n=1222) showing a TEE-guided strategy lets cardioversion happen sooner with embolic-event rates as low as the standard 3-week anticoagulation approach (~0.8%).
- MedlinePlus — Cardioversion *[Patient Education]*
  NIH/NLM consumer reference on electrical cardioversion — indications, preparation, and aftercare in plain language.
- AHA — Treatment and Prevention of Atrial Fibrillation *[Patient Education]*
  Frames where cardioversion fits among the alternatives — rate control, antiarrhythmic drugs, and ablation.
- Cleveland Clinic — Transesophageal Echocardiogram (TEE) *[Patient Education]*
  Explains the TEE used to rule out a left-atrial-appendage clot before cardioversion when anticoagulation has not been in place for 3 weeks.
- AAFP — Pharmacologic Cardioversion of Atrial Fibrillation *[Clinical Reference]*
  Review of chemical (drug) cardioversion agents (flecainide, propafenone, ibutilide, amiodarone) and when chemical is chosen over electrical.
- Mayo Clinic — Atrial Fibrillation: Diagnosis and Treatment *[Patient Education]*
  Patient framing for recurrence after cardioversion and the role of antiarrhythmic drugs to help hold normal rhythm.

About This Guide

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Reviewer note: Reviewed against AHA, Cleveland Clinic, and Mayo Clinic cardioversion pages. Ours adds: a before-during-after timeline that puts the blood-thinner stroke-risk safety gate first; an electrical-vs-chemical scored comparison; the ACUTE-trial basis for the TEE-vs-3-week anticoagulation choice; honest recurrence framing (it resets the rhythm but does not cure the cause); and the elective-vs-emergency distinction.

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