PROCEDURE

Cardiac ablation procedures

Cardiac ablation uses targeted energy or surgery to block heart tissue causing an abnormal rhythm.

PURPOSE
Destroy small heart areas causing abnormal electrical signals

PROCEDURE TYPE
Therapeutic, usually minimally invasive catheter-based treatment

WHERE IT IS DONE
Hospital electrophysiology laboratory or operating theatre

ANAESTHESIA
Local with sedation, deep sedation, or general anaesthesia

HOW LONG IT TAKES
Two to six hours; surgical procedures may take longer

PREPARATION
Fast beforehand and follow individual medication instructions

RECOVERY
Same day or overnight; no driving for at least 24 hours

MAIN RISKS
Bleeding, blood-vessel injury, heart perforation, stroke

RESULTS
Initial findings immediately; rhythm outcome becomes clearer over months

Overview

Cardiac ablation treats abnormal heart rhythms, called arrhythmias. It creates tiny areas of scar tissue that block or isolate unwanted electrical signals.

Most ablations use thin, flexible tubes called catheters, passed through a blood vessel into the heart. Radiofrequency energy uses heat, cryoablation uses freezing, and pulsed field ablation uses short electrical pulses.

Some ablations are performed through small surgical cuts or during open-heart surgery. Surgical or combined "hybrid" procedures may be considered when catheter treatment is unsuitable, has not worked, or another heart operation is planned.

Why the procedure is performed

Ablation may be offered when an abnormal rhythm causes troublesome symptoms, affects heart function, carries health risks, or is not controlled with medicine.

Rhythms treated include:

The aim may be to stop or reduce episodes, improve quality of life, or reduce shocks from an implanted defibrillator. Success and the chance of needing another procedure depend on the rhythm, heart condition, and technique.

- Supraventricular tachycardia, or SVT
- Atrial flutter
- Atrial fibrillation, or AF
- Extra electrical pathways, including Wolff-Parkinson-White syndrome
- Some ventricular tachycardias
- Frequent extra beats in selected cases

Who should and should not have it

Ablation may be appropriate if medicines have not controlled your rhythm, cause difficult side effects, or are not your preferred long-term option. It may be offered early for some forms of SVT or atrial flutter.

The procedure may be delayed if you have an active infection, uncontrolled bleeding, or another serious medical problem. A clot inside the heart usually prevents left-sided or atrial fibrillation ablation until treated.

Some procedures require blood-thinning medicine before and after treatment. Ablation may not be suitable if this cannot be taken safely. Elective treatment may also be postponed during pregnancy, especially if X-ray imaging is required.

Previous surgery, advanced heart or lung disease, kidney problems, or an implanted heart device may change the approach and risks but do not automatically rule out ablation.

How to prepare

Follow your treating facility's instructions because preparation differs by rhythm, anaesthetic, and procedure type.

You will be told when to stop eating and drinking. Ask specifically about blood thinners like warfarin or apixaban , heart-rhythm medicines, diabetes medicines, and supplements. Do not stop a blood thinner unless your treating team tells you to. Some ablations require uninterrupted treatment.

You may have blood tests, an electrocardiogram, heart imaging, or a scan to check for clots. Tell the team about allergies, bleeding problems, kidney disease, implanted devices, and any possibility of pregnancy.

Arrange for an adult to take you home. You may also need someone to stay with you for the first night.

What happens during the procedure

An intravenous line is placed, and monitors track your heart rhythm, blood pressure, and oxygen level.

For catheter ablation, the access site is cleaned and numbed. You may receive sedation or general anaesthesia. The clinician guides catheters through a vein or artery into your heart using imaging and electrical mapping.

An electrophysiology study records electrical signals and may briefly trigger the abnormal rhythm to locate its source. Energy is delivered to treat the tissue. The team tests whether the unwanted signal has stopped before removing the catheters and applying pressure or a closure device.

Surgical ablation uses chest incisions or an open surgical approach, requires general anaesthesia, and has a longer recovery.

Recovery and what to expect afterward

Mild groin soreness, bruising, chest discomfort, or awareness of your heartbeat can occur after catheter ablation. Ask which pain medicines are safe. Severe or worsening pain is not expected.

You can usually eat and drink once awake. You may need to lie flat for several hours to reduce bleeding from the catheter site.

Keep activity light at first. Avoid heavy lifting, strenuous exercise, and soaking the wound until your team says these are safe. Surgical ablation requires a longer recovery.

Do not drive yourself home. Avoid driving for at least 24 hours after sedation or anaesthesia, or

longer if instructed. Many people return to desk-based work within several days after uncomplicated catheter ablation. Physical jobs and surgical procedures require more recovery time.

Risks and possible complications

Risk depends on the rhythm treated, the area involved, and your general health. Possible complications include:

Atrial fibrillation ablation has additional risks, including narrowing of veins between the lungs and heart. Injury to the swallowing tube, called the oesophagus, is uncommon but serious. Surgical ablation also carries chest-surgery risks, including bleeding and infection.

Your electrophysiology team should explain the risks that apply to your procedure.

- Bleeding, infection, bruising, or blood-vessel injury
- A clot causing a stroke or damage elsewhere
- Heart perforation and blood collecting around the heart
- Damage to the normal electrical system, sometimes requiring a pacemaker
- New or worsening abnormal rhythms
- Reactions to anaesthesia, contrast dye, or medicines
- Damage to a heart valve, nerve, blood vessel, or nearby structure

Results and follow up

The team can usually describe what was treated soon afterward, but the long-term result may not be clear for several weeks or months.

Brief palpitations or rhythm episodes can occur while the heart heals and do not always mean the procedure failed. Your rhythm may be checked with an electrocardiogram, wearable monitor, implanted device, or symptom record.

Continue all prescribed medicines until your team changes them. Successful ablation does not automatically mean blood thinners can be stopped. For atrial fibrillation, this decision is usually based on stroke risk rather than symptoms alone.

Some people need repeat ablation because treated tissue reconnects or another rhythm source is found.

Alternatives

Alternatives depend on the rhythm and treatment goal:

Ask how each option affects your likely benefits, risks, and need for long-term medicine.

- Observation: Avoids a procedure but may leave symptoms or rhythm-related risks unchanged.
- Medicines to slow the heart: Control heart rate without removing the rhythm source and may cause side effects.
- Antiarrhythmic medicines: May reduce episodes but often require ongoing treatment and monitoring.
- Electrical cardioversion: Restores a normal rhythm quickly, but the abnormal rhythm may return.
- Pacemaker with AV-node ablation: Controls the lower heart rate when other treatments fail but causes pacemaker dependence and does not eliminate atrial fibrillation.
- Surgical or hybrid ablation: May treat complex atrial fibrillation more extensively but involves larger incisions and longer recovery.

When to call your healthcare team

Contact your healthcare team promptly for increasing redness, swelling, drainage, or pain at the access site; fever; a growing groin lump; persistent palpitations; worsening shortness of breath; or difficulty or pain when swallowing.

Seek emergency help for:

Attend routine follow-up even if you feel well so your wound, rhythm, medicines, and monitoring needs can be reviewed.

- Severe or worsening chest pain, especially with sweating or breathlessness
- Fainting or severe difficulty breathing
- Face drooping, arm weakness, speech trouble, or other possible stroke signs
- Bleeding that does not stop with firm pressure
- A suddenly cold, pale, painful, or numb arm or leg

Common questions

Will I be asleep?

You may receive moderate or deep sedation, or general anaesthesia. The choice depends on the rhythm, procedure length, and facility.

Can I drive home?

No. Arrange for another adult to take you home. Do not drive for at least 24 hours, or longer if instructed.

How painful is cardiac ablation?

You may feel pressure during catheter insertion and mild soreness afterward. Sedation or anaesthesia limits discomfort. Tell the team if you have pain.

When will I know if it worked?

The immediate result is discussed after the procedure. The longer-term outcome becomes clearer over the following weeks or months.

Are palpitations afterward normal?

Short episodes can occur during healing. Record them and report persistent, prolonged, or worsening episodes.

Will I still need heart or blood-thinning medicine?

Possibly. Do not stop either type without instructions. Blood-thinner decisions are based mainly on stroke risk, not only whether your rhythm feels normal.

Sources

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