CONDITION

Ectopic heartbeat

An ectopic heartbeat is an early heartbeat that can feel like a skip, flutter, or thump.

WHAT IT IS
An early heartbeat arising outside the heart's usual pacemaker

BODY SYSTEM
Heart and circulation

MAIN SYMPTOMS
Skipped beat, fluttering, pounding, brief pause

WHAT CAUSES IT
Early electrical signals, often without a clear cause

HOW IT IS DIAGNOSED
ECG or ambulatory heart rhythm monitoring

MAIN TREATMENT
Reassurance, trigger management, medicines, or catheter ablation

CAN IT BE CURED?
Sometimes - triggers or targeted treatment can stop them

IS IT AN EMERGENCY?
Sometimes - fainting, chest pain, or severe breathlessness

LONG-TERM OUTLOOK
Usually harmless; frequent beats may need monitoring

Overview

An ectopic heartbeat is a heartbeat that happens earlier than expected. It begins outside the heart's natural pacemaker, called the sinus node. A short pause may follow, making the next normal beat feel stronger. This can feel like the heart skipped, briefly stopped, or gave a sudden thump.

There are two main types:

Ectopic beats are common and are usually harmless when occasional and occurring in a heart without structural disease. Some people have no symptoms and discover them during a heart test.

They may need assessment when they are frequent, cause troublesome symptoms, or occur alongside another heart problem. An ectopic beat is usually a single early beat, although

several can occur close together. It is different from a sustained abnormal heart rhythm.

- Premature atrial contractions (PACs) begin in the upper chambers of the heart
- Premature ventricular contractions (PVCs) begin in the lower pumping chambers

Symptoms

You may feel an ectopic beat in your chest, throat, or neck. Common descriptions include:

The stronger thump often comes after the early beat. During the pause, the heart has more time to fill with blood, so the next contraction may feel more forceful.

Ectopic beats can happen individually or in repeating patterns. They may be more noticeable while lying down, resting quietly, feeling stressed, or paying close attention to your heartbeat.

Some people report brief light-headedness, breathlessness, chest awareness, or anxiety. These symptoms have many possible causes and should not automatically be attributed to ectopic beats.

You can have frequent ectopic beats without noticing them, while occasional beats may feel dramatic. How strongly you feel them does not reliably indicate how medically important they are.

- A skipped or missed heartbeat
- A sudden thump or pounding beat
- Fluttering or flip-flopping
- A brief pause
- A momentarily irregular rhythm

Causes and risk factors

An ectopic beat occurs when a group of heart cells produces an electrical signal before the next signal from the sinus node is due. There is often no clear cause, and occasional ectopic beats can occur at any age without indicating heart damage.

Possible triggers or contributing factors include:

Do not stop prescribed medicine because you think it is contributing. A healthcare professional should review its benefits, risks, and possible alternatives.

PVCs may be more significant in people with structural heart disease, such as previous heart

muscle damage, heart failure, valve disease, reduced blood supply, or inflammation of the heart muscle.

Frequent PACs are associated with a greater chance of developing atrial fibrillation, an ongoing irregular rhythm in the upper chambers. This does not mean that occasional PACs will cause atrial fibrillation.

- Stress, anxiety, or adrenaline
- Lack of sleep or exhaustion
- Caffeine, alcohol, nicotine, or recreational stimulants
- Fever, dehydration, or recent illness
- Some cold remedies, asthma medicines, or stimulant medicines
- Abnormal potassium, magnesium, or other body salt levels
- An overactive thyroid gland
- Pregnancy or other hormonal changes

Diagnosis

A clinician will ask what the sensation feels like, how long it lasts, when it occurs, and whether there are related symptoms. Information about medicines, caffeine, alcohol, sleep, illnesses, and personal or family heart history can guide testing.

An electrocardiogram , or ECG , records the heart's electrical activity. It can identify a PAC, PVC, or another rhythm, but a short ECG may be normal if no ectopic beat occurs during the test.

Ambulatory monitoring records the rhythm during daily life. Depending on how often symptoms occur, this may include:

Record the time, activity, and symptoms during an episode so they can be compared with the rhythm recording. Some symptoms occur during a normal rhythm, while some recorded ectopic beats cause no symptoms.

Blood tests may check thyroid function, anaemia, or body salt levels. An echocardiogram uses ultrasound to assess the heart's structure and pumping function. These tests are more likely when ectopic beats are frequent, symptoms suggest another problem, or heart disease is already known.

An exercise ECG may be used when symptoms occur during activity. Complex or frequent ectopic beats may require referral to a heart rhythm specialist.

- A continuous monitor worn for a day or longer
- A patch monitor worn for several days
- An event monitor activated during symptoms
- Longer-term monitoring for uncommon but concerning episodes

Treatment and management

Many occasional ectopic beats need no treatment. If testing shows a reassuring rhythm and a structurally normal heart, explanation and routine follow-up may be sufficient.

Reducing a consistent trigger may help. Measures include improving sleep, staying hydrated, reducing alcohol, stopping nicotine, and adjusting caffeine intake. Complete caffeine avoidance is not always necessary because sensitivity varies.

Treatment may address an underlying condition such as an overactive thyroid, anaemia, or abnormal body salt levels. Make medicine changes only with professional guidance.

If symptoms remain difficult, a clinician may consider medicines that slow or steady the heart's response. Beta blockers like metoprolol or propranolol are sometimes used. Other heart rhythm medicines are prescribed more selectively because their risks and benefits vary.

Catheter ablation may be considered when ectopic beats remain troublesome or frequent PVCs weaken the heart. Thin tubes are passed through a blood vessel to the heart, where the area producing the signals is located and treated.

Ablation is not normally needed for occasional harmless beats. Its benefits, likelihood of success, and risks depend on where the signals begin and whether other heart disease is present.

Complications

Most occasional ectopic beats cause no complications.

Very frequent PVCs can sometimes reduce the heart's pumping strength over time, causing PVC-induced cardiomyopathy. Pumping function often improves when the PVCs are successfully reduced, although outcomes vary.

Frequent PACs may indicate an increased risk of atrial fibrillation, but they do not prove that it is present and are not the same condition.

Repeated thumps or flutters can disturb sleep, concentration, exercise, or confidence. Anxiety

may also increase awareness of the heartbeat.

In people with significant structural heart disease, ventricular ectopic beats may need closer assessment because they can occur alongside more serious rhythm problems. Risk depends mainly on the underlying heart condition, not how dramatic a beat feels.

Prevention

Ectopic beats cannot always be prevented because they often occur without a clear trigger.

If you identify a repeatable trigger, reducing it may help. Regular sleep, adequate fluids, moderate alcohol use, and avoiding nicotine and recreational stimulants support heart health but cannot guarantee the beats will stop.

Do not take potassium, magnesium, or other supplements for palpitations unless a healthcare professional identifies a need. Excess amounts of some minerals can also disturb heart rhythm.

Managing heart disease, thyroid disease, and other contributing conditions may reduce risks. Attend planned reviews and take prescribed treatments as directed.

Living with it and what to expect

Ectopic beats may come and go over months or years. They may become more noticeable during stress, illness, poor sleep, or hormonal changes, with symptom-free periods in between.

Occasional ectopic beats in a healthy heart usually do not limit work, travel, sex, or ordinary exercise. If they occur mainly during exercise, cause faintness, or are new and persistent, arrange an assessment before assuming activity is safe.

Symptoms do not always match the number of recorded beats. Reassuring test results may make them less noticeable, while a small increase can sometimes feel intrusive.

Follow-up for frequent PVCs may include repeat rhythm monitoring or an echocardiogram to check whether their frequency is changing and whether the heart's pumping function remains normal. This is planned follow-up, not an emergency.

If episodes change, keep a simple record of when they happen, how long they last, related symptoms, and possible triggers. Avoid repeatedly checking your pulse if this increases anxiety without providing useful information.

Most people with occasional ectopic beats continue their usual lives. Frequent beats or underlying heart disease may require longer-term monitoring or treatment.

When to get medical help

Arrange a routine appointment if the sensations are new, keep returning, become more frequent, last longer than before, or interfere with sleep or activity. Seek assessment if you have known heart disease.

Prompt assessment is especially important if you have fainted during exercise or have a family history of unexplained sudden death at a young age or inherited heart rhythm disease.

Seek emergency help if palpitations or irregular beats occur with:

Urgent medical advice may still be needed if these symptoms have stopped. Do not drive yourself for emergency care if you feel faint or severely unwell.

An isolated thump or skipped sensation without concerning symptoms is not usually an emergency. A routine assessment can identify the rhythm if symptoms continue to worry you.

- Chest pain or pressure
- Fainting or near-fainting
- Severe or rapidly worsening breathlessness
- New one-sided weakness, facial drooping, or difficulty speaking
- A sustained very fast heartbeat with marked dizziness or collapse

Common questions

Is an ectopic heartbeat dangerous?

Occasional PACs or PVCs are usually harmless in an otherwise healthy heart. Risk is more relevant when beats are very frequent, occur with fainting or exertion, or are associated with structural heart disease.

Why does it feel as if my heart stops?

An early beat is often followed by a short pause, after which the next normal beat may feel stronger. This can feel like a stop or skipped beat even though electrical activity has continued.

Can anxiety cause ectopic beats?

Stress and anxiety can increase adrenaline, making ectopic beats more likely or noticeable. New or persistent palpitations should not automatically be assumed to be anxiety.

Should I stop drinking coffee?

If symptoms reliably follow coffee or energy drinks, reducing them may help. Complete

avoidance may not be necessary if there is no clear connection.

Can ectopic beats damage my heart?

Occasional beats generally do not. A high number of PVCs over a long period can sometimes weaken the heart muscle, so frequent PVCs may require monitoring or treatment.

Can ectopic beats turn into atrial fibrillation?

Frequent PACs are associated with a higher chance of atrial fibrillation, but they are not the same rhythm and do not mean it will develop. Rhythm monitoring can distinguish them.

Sources

- NHS: Heart palpitations - symptoms, common triggers, and guidance on urgent care
- British Heart Foundation: Ectopic beats - patient information on causes, testing, and management
- Marcus GM. Evaluation and Management of Premature Ventricular Complexes. Circulation . 2020;141(17):1404-1418. doi:10.1161/CIRCULATIONAHA.119.042434
- Zeppenfeld K, Tfelt-Hansen J, de Riva M, et al. 2022 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death. European Heart Journal . 2022;43(40):3997-4126. doi:10.1093/eurheartj/ehac262
- Steinberg JS, Varma N, Cygankiewicz I, et al. 2017 ISHNE-HRS expert consensus statement on ambulatory ECG and external cardiac monitoring. Heart Rhythm . 2017;14(7):e55-e96. doi:10.1016/j.hrthm.2017.03.038
- Himmelreich JCL, Lucassen WAM, Heugen M, et al. Frequent premature atrial contractions are associated with atrial fibrillation, brain ischaemia, and mortality: a systematic review and meta-analysis. Europace . 2019;21(5):698-707. doi:10.1093/europace/euy276