CONDITION

Recurrent pericarditis

Recurrent pericarditis is repeated inflammation of the protective sac surrounding the heart.

WHAT IT IS
Repeated inflammation of the sac around the heart

BODY SYSTEM
Heart and circulation

MAIN SYMPTOMS
Chest pain, shortness of breath, fatigue, fever

WHAT CAUSES IT
Usually immune-driven; sometimes infection, injury, or systemic illness

HOW IT IS DIAGNOSED
Symptoms, examination, blood tests, ECG, and heart imaging

MAIN TREATMENT
Anti-inflammatory medicines and targeted immune treatment

CAN IT BE CURED?
Sometimes - episodes can stop for good

IS IT AN EMERGENCY?
Sometimes - fainting or severe breathlessness may signal heart compression

LONG-TERM OUTLOOK
Most recover, though relapses may continue for months or years

Overview

The pericardium is a thin, flexible sac with two layers that surrounds the heart. A small amount of fluid between the layers allows them to move smoothly. Pericarditis means that this sac is inflamed.

Recurrent pericarditis is inflammation that returns after an earlier episode has improved and there has been a symptom-free period, usually at least four to six weeks. If symptoms continue without a clear break, the condition may instead be described as persistent or incessant pericarditis.

Inflammation can cause sharp chest pain and sometimes extra fluid around the heart, called a pericardial effusion. Repeated episodes can disrupt work, exercise, sleep, and family life. However, the heart muscle usually continues to pump normally, and many people eventually

stop having recurrences.

Chest pain from pericarditis can resemble pain from a heart attack, a blood clot in the lungs, or other serious problems. New or unexplained chest pain therefore needs medical assessment rather than being assumed to be another recurrence.

Symptoms

The main symptom is usually chest pain. It is often sharp, stabbing, or burning and may be felt behind the breastbone or on the left side of the chest. It can spread to the shoulders, neck, back, or upper abdomen.

Pericarditis pain often becomes worse with a deep breath, coughing, swallowing, or lying flat. Sitting up or leaning forward may ease it. Not every episode follows this pattern, and later recurrences may feel different from the first.

Other symptoms can include:

Some people have inflammation shown on blood tests or imaging even when symptoms are less typical. Others have significant pain without a large fluid collection.

Symptoms alone cannot show whether the heart is being compressed or whether another condition is causing the pain. Seek assessment if symptoms are new, severe, or different from previous episodes.

- Shortness of breath, especially when lying down
- Tiredness or reduced ability to exercise
- A mild fever or feeling generally unwell
- A fast or noticeable heartbeat
- Cough, particularly if fluid has collected around the heart

Causes and risk factors

In many cases, no single cause is found. An initial episode may follow a viral illness, but repeated attacks are often driven by an overactive inflammatory response rather than an ongoing infection. This is sometimes called an autoinflammatory process: the body's first-line immune system continues to trigger inflammation when it is not needed.

Less commonly, recurrent pericarditis is linked to:

The likely cause differs by region, medical history, and immune health. Tuberculosis, for

example, is an important cause in some parts of the world but less common in others.

Recurrence is more likely when the first episode is difficult to control or when inflammation remains active. Corticosteroid treatment, especially at higher doses or when reduced too quickly, has also been associated with further relapses. This does not mean that a recurrence is your fault or that corticosteroids like prednisone or hydrocortisone should never be used.

- An autoimmune condition, such as lupus or rheumatoid arthritis
- Heart surgery, a heart procedure, or injury to the chest
- A heart attack
- Tuberculosis or another infection
- Cancer involving the pericardium
- Kidney failure or another medical condition that causes inflammation

Diagnosis

There is no single test that confirms every case. Diagnosis is based on your symptom pattern, previous episode, examination, blood tests, and heart imaging. The assessment also checks for other causes of chest pain.

An electrocardiogram, or ECG, records the heart's electrical activity. It may show changes caused by pericarditis, although the ECG can be normal during a recurrence.

Blood tests may measure C-reactive protein and the erythrocyte sedimentation rate. These are markers of inflammation. Troponin may also be checked. Troponin can rise if inflammation has affected the heart muscle as well as the pericardium, a condition called myopericarditis.

An echocardiogram uses sound waves to examine the heart. It can detect fluid around the heart and show whether that fluid is affecting pumping or filling. A normal echocardiogram does not rule out pericarditis.

Cardiac magnetic resonance imaging, usually called cardiac MRI, can show swelling and active inflammation in the pericardium. CT scanning may show thickening, fluid, or calcium around the heart. These scans can be helpful when symptoms or routine tests do not give a clear answer.

Further tests may look for infection, autoimmune illness, cancer, or another cause. Extensive testing is not required in every uncomplicated recurrence; it is guided by the clinical picture and any unusual features.

Treatment and management

Treatment aims to settle inflammation, relieve symptoms, prevent further episodes, and address any underlying cause.

Aspirin or a nonsteroidal anti-inflammatory drug like ibuprofen or naproxen , known as an NSAID, is commonly used for active inflammation. The choice is influenced by kidney function, stomach problems, bleeding risk, heart history, and other medicines. Stomach-protecting treatment may be used when appropriate.

Colchicine is often added because it lowers the risk of another recurrence. It is usually continued for months rather than stopped as soon as pain improves. Diarrhoea and stomach upset are common side effects. Colchicine is not suitable for everyone, particularly when certain kidney, liver, or medicine-interaction concerns are present.

Corticosteroids reduce inflammation but can make future relapses more likely, particularly if they are stopped quickly. They may still be appropriate when standard anti-inflammatory medicines cannot be used, when they have not worked, or when another condition specifically requires steroids. If used, they are generally reduced gradually under medical supervision.

Medicines that block interleukin-1, an immune signal involved in inflammation, may be considered for repeated inflammatory attacks that do not respond to usual treatment or that return during steroid reduction. These include anakinra and rilonacept. They require screening and monitoring because they alter immune activity. Rilonacept is approved in the United States for recurrent pericarditis in adults and children aged 12 years and older.

Physical activity can worsen inflammation while an episode is active. A temporary break from strenuous exercise and competitive sport is usually advised until symptoms and signs of inflammation have settled. Return to activity should be gradual and guided by follow-up findings.

Procedures are not needed for most people. Fluid may need to be drained if it is compressing the heart or if testing the fluid could identify a serious cause. Surgery to remove the pericardium is reserved for uncommon, severe cases that remain uncontrolled or cause constriction.

Complications

A pericardial effusion is a collection of extra fluid around the heart. Small amounts may cause no problem and can be monitored. If fluid collects quickly or becomes large, it can press on the heart and prevent it from filling normally. This is called cardiac tamponade and requires emergency treatment.

Long-lasting inflammation can rarely cause the pericardium to become thick and stiff. This is called constrictive pericarditis. It can lead to leg or abdominal swelling, breathlessness, and reduced exercise ability. The risk is low when recurrent pericarditis has no bacterial or other serious underlying cause.

Inflammation may sometimes involve the heart muscle. Most people with limited involvement recover, but more extensive myocarditis needs closer monitoring.

Treatment can also cause problems, including stomach bleeding or kidney injury from anti-inflammatory medicines, steroid-related effects, and increased infection risk from immune-targeting treatment. Planned blood tests and follow-up help identify these concerns.

Prevention

There is no reliable way to prevent the first episode, and not every recurrence can be prevented. This is especially true when the initial trigger is unknown.

The chance of another episode may be reduced by completing treatment for the recommended period, avoiding sudden changes to medicines, and allowing inflammation to settle before returning to strenuous activity. Do not stop colchicine, corticosteroids, or an immune-targeting medicine suddenly unless you have been told to do so because of a serious reaction.

If pericarditis has a specific cause, treating that cause may reduce further attacks. Examples include controlling an autoimmune condition or treating a confirmed infection. General heart-healthy habits are valuable for overall health, but they cannot by themselves prevent immune-driven pericarditis.

Living with it and what to expect

Recurrent pericarditis often follows a pattern of attacks separated by weeks or months of feeling well. Some people have only one recurrence. Others experience several attacks or symptoms that return whenever medicine is reduced.

Episodes often become less frequent over time, but it is not possible to predict exactly when they will stop. Recovery may take months or years. Between episodes, many people have normal heart function and return to usual work, study, family activities, and exercise.

Follow-up commonly includes a review of symptoms, examination, and inflammation blood tests. ECG, echocardiography, or cardiac MRI may be repeated when symptoms persist, treatment changes, or there is concern about fluid or ongoing inflammation. Routine follow-up

remains important even when symptoms are improving because medicine may need to be reduced slowly.

Repeated pain and uncertainty can affect sleep, mood, and confidence in physical activity. Keeping a brief record of pain, fever, activity, medicines, and test results can help you describe patterns without monitoring every sensation. Psychological support may also be useful if fear of recurrence is limiting daily life.

When to get medical help

Arrange prompt medical advice if chest pain returns, even if it resembles an earlier episode. An assessment may be needed to confirm active inflammation, check for fluid, and rule out a different cause. Also seek advice if symptoms are gradually worsening, fever persists, or medicine side effects develop.

Get urgent or emergency help for:

These features can occur when fluid is compressing the heart or when another serious heart or lung condition is present. Do not drive yourself if you feel faint, severely breathless, or seriously unwell.

Routine follow-up is appropriate for stable symptoms that are already improving under an agreed plan. New, severe, or clearly different symptoms should not wait for a routine appointment.

- Severe, persistent, or crushing chest pain
- Chest pain with sweating, nausea, or pain spreading to the arm or jaw
- Fainting, near-fainting, confusion, or marked weakness
- Severe or rapidly worsening shortness of breath
- Blue or grey lips, very pale or clammy skin, or difficulty staying awake
- A very fast heartbeat with dizziness or breathing difficulty

Common questions

Is recurrent pericarditis a heart disease?

It is an inflammatory condition affecting the sac around the heart, rather than the heart's arteries or valves. The heart muscle usually pumps normally. If the muscle is also inflamed, the condition may be called myopericarditis or perimyocarditis.

Can recurrent pericarditis go away permanently?

Yes. Many people eventually stop having episodes, although there is no set timeline. Some need treatment for months or longer to keep inflammation controlled. A smaller group has repeated relapses that require specialist immune-targeting treatment.

Does recurrent pericarditis damage the heart?

It usually does not permanently damage the heart muscle. Important complications, such as cardiac tamponade or constrictive pericarditis, can occur but are uncommon in otherwise uncomplicated immune-driven cases. Follow-up helps identify these problems early.

Why does my chest pain keep returning?

Pain may return because inflammation has become active again, sometimes while medicine is being reduced. Chest pain can also come from muscles, the food pipe, lungs, or heart arteries. Testing may be needed rather than assuming that every episode is pericarditis.

Can I exercise with recurrent pericarditis?

Strenuous exercise is generally avoided during active inflammation because it may worsen symptoms or prolong the episode. Light daily movement may be possible if it does not increase symptoms. Return to more demanding activity is usually gradual after symptoms and inflammation have settled.

Is recurrent pericarditis contagious?

The recurrent condition itself is not contagious. An initial episode can occasionally follow a contagious infection, but later immune-driven attacks do not spread from person to person.

Sources

- Adler Y, Charron P, Imazio M, et al. 2015 ESC Guidelines for the diagnosis and management of pericardial diseases . European Heart Journal . 2015;36(42):2921-2964.
- Chiabrando JG, Bonaventura A, Vecchié A, et al. Management of acute and recurrent pericarditis: JACC state-of-the-art review . Journal of the American College of Cardiology . 2020;75(1):76-92.
- Klein AL, Imazio M, Cremer P, et al. Phase 3 trial of interleukin-1 trap rilonacept in recurrent pericarditis . New England Journal of Medicine . 2021;384:31-41.
- Brucato A, Imazio M, Gattorno M, et al. Effect of anakinra on recurrent pericarditis among patients with colchicine resistance and corticosteroid dependence . JAMA . 2016;316(18):1906-1912.

- U.S. Food and Drug Administration. Arcalyst prescribing information . Rilonacept product label, 2021.
- Cremer PC, Kumar A, Kontzias A, et al. Complicated pericarditis: understanding risk factors and pathophysiology to inform imaging and treatment . Journal of the American College of Cardiology . 2016;68(21):2311-2328.