CONDITION

# Eosinophilic fasciitis

Eosinophilic fasciitis is a rare condition causing inflammation and hardening of tissue beneath the skin.

**WHAT IT IS**
Rare inflammation and scarring of fascia beneath the skin

**BODY SYSTEM**
Skin, connective tissue, muscles, and joints

**MAIN SYMPTOMS**
Limb swelling, painful stiffness, skin hardening, joint restriction

**WHAT CAUSES IT**
Immune-driven inflammation; exact trigger usually unknown

**HOW IT IS DIAGNOSED**
Deep fascia biopsy, supported by MRI and blood tests

**MAIN TREATMENT**
Corticosteroids, immune-modifying medicines, and physical therapy

**CAN IT BE CURED?**
Sometimes - inflammation resolves; stiffness may persist

**IS IT AN EMERGENCY?**
Sometimes - new breathing or swallowing difficulty

**LONG-TERM OUTLOOK**
Many improve with treatment; contractures can remain

## Overview

Eosinophilic fasciitis is a rare condition in which the fascia becomes inflamed and thickened. Fascia is the strong layer of connective tissue that surrounds muscles and lies beneath the skin.

The condition usually affects both sides of the body. It most often involves the arms and legs, especially the forearms and lower legs. Swelling may appear first. Over time, the skin and tissue beneath it can become firm, tight, or dimpled.

"Eosinophilic" refers to eosinophils, a type of white blood cell involved in immune reactions. The number of eosinophils in the blood may rise early in the condition, but it can later return to normal. A normal result therefore does not rule out eosinophilic fasciitis.

Early recognition matters because treatment can control inflammation and help preserve movement. Once thick scar-like tissue has formed, some stiffness may be harder to reverse.

## Symptoms

Symptoms may develop over days or weeks, although the pattern is not the same for everyone. They often begin with painful swelling of the arms or legs.

Common features include:

As swelling settles, the affected skin may look shiny or feel bound to the tissue underneath. Veins can appear to sit in grooves when a limb is raised. This is called the groove sign .

The hands, fingers, and face are usually less affected than the forearms, upper arms, thighs, or lower legs. Raynaud's phenomenon-fingers changing colour in response to cold-is uncommon. These features can help distinguish eosinophilic fasciitis from systemic sclerosis, also called scleroderma.

Tight fascia can limit movement at the elbows, wrists, knees, ankles, or shoulders. A joint that becomes fixed in a bent or restricted position is called a contracture .

Fever, weight loss, or severe internal-organ symptoms are not typical and need separate assessment.

- Symmetrical swelling, aching, or tenderness in the limbs
- Skin that becomes firm, thick, tight, or difficult to pinch
- An orange-peel or dimpled skin texture
- Reduced movement in nearby joints
- Tiredness, muscle discomfort, or weakness

## Causes and risk factors

The exact cause is usually unknown. Evidence suggests that the immune system becomes overactive and causes inflammation in the fascia. This may lead to thickening and fibrosis, meaning the formation of firm scar-like tissue.

Some people report unusually strenuous physical activity shortly before symptoms begin. Infections and certain medicines have also been reported before individual cases. These links do not prove that any one activity, infection, or medicine caused the condition.

Eosinophilic fasciitis can occur at any age, including in children, but it is more often identified in

adults. It does not appear to follow a simple inherited pattern, and it is not contagious.

The condition has sometimes occurred alongside other immune-related conditions. It is also associated in a minority of people with blood disorders, including problems affecting blood-cell production. This is one reason blood counts may be checked during diagnosis and follow-up.

## Diagnosis

There is no single simple blood test that confirms eosinophilic fasciitis. Diagnosis is based on your symptoms, an examination, blood tests, imaging, and often a biopsy.

Blood tests may show:

These findings support the diagnosis but are not specific. Eosinophil levels may be normal by the time testing takes place.

A deep incisional biopsy is the traditional confirmatory test. Unlike a routine skin biopsy, it takes a sample extending from the skin through the tissue beneath it and into the fascia, sometimes including a small amount of muscle. The sample is examined for thickening and inflammation.

Magnetic resonance imaging, or MRI, can show inflamed or thickened fascia. It may help identify the best area to biopsy and can sometimes support diagnosis when biopsy is not practical. Ultrasound may also show fascial changes, but its role is less established.

Several other conditions can produce tight skin, swelling, or high eosinophil levels. Assessment may need to distinguish eosinophilic fasciitis from systemic sclerosis, localized scleroderma, eosinophilic blood conditions, medication reactions, thyroid problems, and other causes of limb swelling.

- Increased eosinophils, especially early in the condition
- Raised markers of inflammation
- Increased levels of certain immune proteins
- Changes in other blood-cell counts

## Treatment and management

Treatment aims to stop inflammation before permanent tightening develops, reduce pain and swelling, and maintain joint movement.

Systemic corticosteroids are usually the first treatment. These medicines reduce immune

activity throughout the body. Improvement in pain, swelling, and blood-test results may occur before hardened tissue begins to soften.

An immune-modifying medicine is often added, particularly when the condition is extensive, corticosteroid doses need to be reduced, or the response is incomplete. Methotrexate is commonly used. Other immune-suppressing or immune-modifying treatments may be considered when standard treatment has not worked or cannot be tolerated. Evidence for these options mainly comes from case series and specialist experience because the condition is rare.

Treatment may continue for months or longer. Medicines should not be stopped suddenly or changed without medical guidance. Corticosteroids and other immune-modifying medicines can cause side effects, so follow-up may include blood tests and checks for infection, blood pressure, blood sugar, bone health, or other treatment-specific concerns.

Physical and occupational therapy are important parts of care. Guided stretching and movement can help preserve flexibility and reduce the risk of contractures. Splints or adaptations for daily activities may be useful when movement is already restricted. Forceful exercise during active inflammation may worsen pain, so activity usually needs to be gradual and matched to your abilities.

Surgery is not a routine treatment for active eosinophilic fasciitis. It may occasionally be considered for a severe, established contracture after inflammation has been controlled.

## Complications

The main long-term concern is persistent fibrosis. This can leave the skin and tissue beneath it firm even after active inflammation has settled.

Possible complications include:

Unlike systemic sclerosis, eosinophilic fasciitis usually does not cause progressive scarring of internal organs. Rare complications and associated blood disorders can occur, however. Regular blood counts and clinical follow-up help identify unexpected changes.

Treatment can also cause complications. The risks depend on which medicines are used, their duration, and your other health conditions.

- Contractures and reduced joint movement
- Ongoing pain or stiffness
- Muscle weakness from restricted movement

- Nerve compression, such as carpal tunnel syndrome
- Difficulty with work, exercise, or daily tasks

## Prevention

There is no proven way to prevent eosinophilic fasciitis because its underlying cause is not known. It is not generally considered an inherited condition, and it cannot spread from one person to another.

Strenuous exercise has sometimes preceded symptoms, but most people who exercise intensely do not develop the condition. This association is not strong enough to justify avoiding ordinary physical activity.

After diagnosis, following a gradual movement plan and attending follow-up can help reduce loss of flexibility. This manages the effects of the condition rather than preventing its original onset.

## Living with it and what to expect

The course is different for each person. Pain, swelling, and blood-test abnormalities may improve within weeks or months of treatment. Skin hardening and restricted movement usually improve more slowly.

Some people reach remission, meaning there are no clear signs of active inflammation. Treatment may then be reduced carefully. Others need longer-term medicine, and symptoms can return during or after treatment reduction.

Firm skin or joint restriction may remain even when inflammation is controlled. Early treatment and regular physical therapy may improve the chance of maintaining movement, but they cannot guarantee that all thickening will disappear.

Day-to-day activity may need adjustment during active symptoms. Pacing, gentle stretching, and occupational therapy can make dressing, work, and household activities easier. As inflammation settles, activity can often be increased gradually.

Follow-up over months or years may include examinations of the skin and joints, blood counts, inflammation tests, and checks for medicine side effects. New symptoms should not automatically be assumed to come from eosinophilic fasciitis.

## When to get medical help

Arrange a routine medical appointment if you develop unexplained, persistent swelling and painful tightening of both arms or legs, especially if the skin is becoming hard or joint movement is decreasing. These symptoms have several possible causes and need assessment rather than self-diagnosis.

If you already have eosinophilic fasciitis, contact your care team promptly if:

Seek urgent assessment for new difficulty swallowing or breathing. Call emergency services for severe breathlessness, chest pain, fainting, blue or grey lips, or rapidly worsening swelling. These are not typical features of eosinophilic fasciitis and may signal another serious problem.

- Skin tightness or swelling is clearly worsening
- A joint is losing movement
- Symptoms return while treatment is being reduced
- You develop fever or signs of infection while taking immune-suppressing medicine
- You notice unusual bruising, bleeding, marked tiredness, or frequent infections

## Common questions

Is eosinophilic fasciitis an autoimmune condition?

It is generally considered an immune-mediated condition. This means the immune system appears to drive inflammation in the fascia. The exact trigger and mechanism are not fully understood.

Is eosinophilic fasciitis the same as scleroderma?

No. Both can cause hard or tight skin, but they affect the body differently. Eosinophilic fasciitis mainly affects fascia in the limbs and usually spares the fingers and internal organs. Systemic sclerosis more often affects the fingers, blood vessels, and sometimes internal organs.

Does eosinophilic fasciitis go away?

Sometimes the active inflammation resolves and treatment can eventually be stopped. Some people continue to have hardened tissue, stiffness, or contractures. Relapses can occur, particularly when treatment is reduced.

Can exercise cause eosinophilic fasciitis?

Some cases have begun after unusually strenuous activity, but a direct cause has not been proven. Ordinary exercise is not known to cause the condition. If you have active symptoms, a gradual program guided by a physical therapist may be safer than intense exercise.

Can eosinophilic fasciitis affect internal organs?

Internal-organ involvement is uncommon. This is an important difference from systemic sclerosis. New breathing, swallowing, chest, or abdominal symptoms still need assessment because they may have another cause.

Is eosinophilic fasciitis cancer?

No. It is an inflammatory condition, not a cancer. It has occasionally been associated with blood disorders and blood cancers, so blood counts may be checked at diagnosis and during follow-up. Most people with eosinophilic fasciitis do not have cancer.

## Sources

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