CONDITION

Xanthoma

A xanthoma is a noncancerous deposit of fat that forms in the skin or tendons.

WHAT IT IS
Localised fatty deposits in skin or tendons

BODY SYSTEM
Skin, tendons, and blood fats

MAIN SYMPTOMS
Yellow bumps or plaques, tendon lumps, occasional itching

WHAT CAUSES IT
Lipid buildup from inherited or acquired disorders

HOW IT IS DIAGNOSED
Examination, blood lipid tests, sometimes skin biopsy

MAIN TREATMENT
Treating abnormal blood fats and optional lesion removal

CAN IT BE CURED?
Sometimes - deposits removable, underlying cause may persist

IS IT AN EMERGENCY?
Sometimes - severe abdominal pain may signal pancreatitis

LONG-TERM OUTLOOK
Usually good when underlying lipid disorders are managed

Overview

A xanthoma is a collection of fat, mainly cholesterol or triglycerides, within the skin or a tendon. It may appear as a yellow patch, a group of small bumps, or a firm lump beneath the skin. Xanthomas are not cancerous and usually do not spread from one person to another.

A xanthoma is a condition rather than a single disease. It can be a visible sign that levels of cholesterol or triglycerides are too high. Some people have an inherited condition that affects how the body handles these fats. Others develop abnormal blood fat levels because of another health condition or a medicine.

Not every xanthoma is linked to an abnormal blood test. For example, yellow plaques around the eyelids, called xanthelasma , can occur even when cholesterol levels are within the expected range.

The deposit itself is often harmless. Its importance comes from identifying and managing any underlying cause. Very high cholesterol can raise the long-term risk of heart and blood vessel disease. Very high triglycerides can sometimes cause inflammation of the pancreas, known as pancreatitis.

Symptoms

The appearance and location depend on the type of xanthoma. Most do not hurt, but some may itch, feel tender, or interfere with movement.

Common patterns include:

Eruptive xanthomas can be itchy or tender. They are particularly important because they may appear when triglyceride levels are extremely high.

Tendon xanthomas may grow slowly. If they become large, they can cause stiffness, discomfort, or difficulty using the affected joint. Eyelid xanthomas usually affect appearance rather than eyesight, although very large plaques can occasionally affect eyelid movement.

- Xanthelasma: soft, flat or slightly raised yellow plaques near the inner corners of the eyelids
- Eruptive xanthomas: sudden crops of small yellow, red, or skin-coloured bumps, often on the buttocks, thighs, arms, or elbows
- Tendon xanthomas: firm swellings within tendons, especially the Achilles tendons at the back of the ankles or tendons over the knuckles
- Tuberous xanthomas: larger, firm yellow or reddish nodules over pressure areas such as the elbows or knees
- Plane xanthomas: flat yellow or orange areas that may develop in skin folds or on the palms

Causes and risk factors

Xanthomas form when certain immune cells take up fats and collect in tissue. Under a microscope, these cells have a foamy appearance because they are filled with lipid, another word for fat.

One possible cause is dyslipidaemia , meaning unhealthy levels of cholesterol, triglycerides, or related particles in the blood. This can result from an inherited condition such as familial hypercholesterolaemia, which causes high low-density lipoprotein cholesterol from birth.

Other inherited disorders can affect triglycerides or the way different cholesterol particles are cleared from the blood. Tendon xanthomas are an important clue to familial hypercholesterolaemia, particularly when there is also a family history of early heart disease.

Acquired causes of abnormal blood fats include:

Some less common xanthomas are associated with conditions involving immune cells or abnormal blood proteins rather than ordinary cholesterol disorders. This is one reason the pattern and location of the deposits matter.

Having a xanthoma does not by itself show how high your cardiovascular risk is. That assessment also considers your blood test results, age, blood pressure, smoking history, diabetes, family history, and any existing heart or blood vessel disease.

- Poorly controlled diabetes
- An underactive thyroid
- Some kidney or liver conditions
- Heavy alcohol use
- Certain medicines
- Diet, body weight, and other metabolic factors

Diagnosis

A healthcare professional will usually begin by examining the area and asking when it appeared, whether it has changed, and whether relatives have similar lumps or early heart disease. The location and appearance may strongly suggest a particular type of xanthoma.

Blood tests usually measure:

Depending on the results and your medical history, further tests may look for diabetes or problems involving the thyroid, liver, or kidneys. A repeat fasting blood test may be needed in some situations, particularly when triglycerides are high.

If the diagnosis is uncertain, a small sample of the lesion may be removed for a biopsy . A laboratory examines the tissue under a microscope. Biopsy can help distinguish a xanthoma from other skin growths that look similar.

If an inherited cholesterol disorder is suspected, assessment may include a detailed family history and, in selected cases, genetic testing. A negative genetic test does not always rule out inherited high cholesterol.

- Total cholesterol
- Low-density lipoprotein, or LDL, cholesterol
- High-density lipoprotein, or HDL, cholesterol
- Triglycerides

Treatment and management

Treatment has two aims: managing any underlying cause and deciding whether the deposit itself needs treatment.

If blood fats are abnormal, management may include changes to diet, physical activity, alcohol intake, weight, and smoking. The most useful changes depend on whether LDL cholesterol, triglycerides, or both are raised.

Medicines that lower cholesterol or triglycerides may be recommended. Statins like atorvastatin or simvastatin are commonly used to lower LDL cholesterol. Other categories of lipid-lowering medicine may be added when needed. Treatment is chosen according to the blood fat pattern, other health conditions, inherited risk, and response to earlier treatment.

Treating an underactive thyroid, diabetes, kidney disease, or another contributing condition may also improve blood fat levels. A medicine that contributes to the problem should not be stopped without medical advice; an alternative may be available.

Xanthomas can sometimes shrink after the underlying lipid disorder is controlled. Eruptive xanthomas may improve over weeks to months as triglycerides fall. Tendon deposits often change more slowly and may not disappear completely.

A deposit that is uncomfortable or affects appearance can sometimes be removed. Options may include surgical excision, laser treatment, freezing, electrosurgery, or chemical treatment. The suitable method depends on the type, size, depth, and location.

Removal does not treat the underlying cause. Deposits can return, especially if blood fat levels remain high. Procedures may also cause scarring, skin colour changes, or eyelid injury, so the possible benefits and risks should be discussed beforehand.

Complications

The deposits themselves are usually benign. Larger tendon xanthomas can cause pain, stiffness, or reduced movement. Xanthelasma may cause distress about appearance, and removed lesions may recur.

More serious complications are connected to the underlying condition. Long-term high LDL cholesterol can contribute to fatty deposits inside arteries, increasing the risk of heart attack, stroke, and circulation problems.

Extremely high triglycerides can lead to acute pancreatitis. This causes inflammation of the pancreas and usually needs urgent hospital care.

A procedure to remove a xanthoma can result in infection, bleeding, a scar, altered skin colour, or damage to nearby structures. These risks differ by treatment and location.

Prevention

Inherited disorders that cause xanthomas cannot be prevented. Having inherited high cholesterol is not the result of something you did.

Managing cholesterol, triglycerides, diabetes, thyroid disease, and other contributing conditions may reduce the chance of new deposits forming. It may also help existing xanthomas shrink, although this cannot be guaranteed.

If you have an inherited lipid disorder, relatives may be offered testing. This does not prevent the inherited change, but it can identify affected family members before complications develop.

Xanthelasma can occur despite normal blood fats, so there is no reliable way to prevent every case. Removing a lesion also does not guarantee that it will not return.

Living with it and what to expect

A xanthoma may remain stable, enlarge slowly, or improve when its cause is treated. The course depends on the type of deposit and the underlying condition.

Small, painless lesions may need no direct treatment. You may instead have periodic blood tests and follow-up to check cholesterol, triglycerides, and any related health condition. Inherited lipid disorders usually require long-term monitoring even if the visible deposits improve.

Eruptive xanthomas can fade after triglycerides are brought under control. Tendon xanthomas often take much longer to shrink and may remain noticeable for years. Eyelid lesions may stay unchanged or gradually grow.

Most people can continue their usual activities. Large tendon deposits may require adjustments if they cause discomfort with walking, exercise, or hand movements. Follow-up is

also a chance to discuss appearance-related concerns and whether removal is appropriate.

When to get medical help

Arrange a routine appointment if you notice a new yellow plaque, a crop of small yellow-red bumps, or a firm lump in a tendon. An assessment is especially important if the changes appeared suddenly or if close relatives have very high cholesterol or heart disease at a young age.

Seek prompt medical advice if:

Seek emergency care for severe or persistent upper abdominal pain, especially with vomiting, fever, or pain spreading to the back. These symptoms can occur with pancreatitis. A xanthoma does not confirm pancreatitis, but eruptive xanthomas and very high triglycerides can be associated with it.

Call emergency services for chest pressure, severe shortness of breath, sudden one-sided weakness, facial drooping, or difficulty speaking. These are possible signs of a heart attack or stroke, not symptoms caused directly by the skin deposit.

- Many small bumps appear over a short period
- A tendon lump becomes painful or affects movement
- A lesion bleeds, ulcerates, changes rapidly, or looks unlike your other lesions
- Previous blood tests showed very high cholesterol or triglycerides

Common questions

Is a xanthoma cancerous?

No. A xanthoma is a noncancerous collection of fat-containing cells. Some skin cancers and other growths can look similar, however, so an unfamiliar or changing lesion may need examination or biopsy.

Does a xanthoma mean my cholesterol is high?

Not always. Tendon, eruptive, and some other xanthomas are strongly associated with abnormal cholesterol or triglyceride levels. Xanthelasma around the eyelids can occur with normal results. A lipid blood test helps clarify whether there is an underlying problem.

Will a xanthoma go away on its own?

Some deposits improve when the underlying blood fat level is controlled. Eruptive xanthomas

may fade relatively quickly, while tendon xanthomas usually change slowly. Xanthelasma often remains unless it is treated directly.

Can I squeeze or remove a xanthoma at home?

No. A xanthoma is not a pimple and may extend deeper than it appears. Cutting, squeezing, or applying strong chemicals can cause infection, burns, bleeding, and scarring. Removal should be performed by a trained healthcare professional.

Are xanthomas hereditary?

The deposit itself is not passed down, but the condition causing it can be inherited. Familial hypercholesterolaemia and several rarer lipid disorders can run in families. Testing may be considered when tendon xanthomas, very high cholesterol, or early heart disease occurs in a family.

Do xanthomas come back after removal?

They can. Removal treats the visible deposit but not the reason it formed. Recurrence is possible even after a successful procedure, particularly if abnormal blood fats or another underlying condition remain active.

Sources

- DermNet New Zealand: Xanthoma
- National Institute for Health and Care Excellence: Familial hypercholesterolaemia-identification and management, Clinical Guideline CG71
- Mach F, Baigent C, Catapano AL, et al. 2019 ESC/EAS Guidelines for the management of dyslipidaemias. European Heart Journal. 2020;41:111-188
- Berberich AJ, Hegele RA. A modern approach to dyslipidemia. Endocrine Reviews. 2022;43:611-653
- Merck Manual Professional Edition: Dyslipidemia