CONDITION

Epidermoid cyst

An epidermoid cyst is a usually harmless, keratin-filled lump that forms beneath the skin.

WHAT IT IS
Keratin-filled cyst beneath the skin

BODY SYSTEM
Skin

MAIN SYMPTOMS
Round lump, central opening, tenderness, thick discharge

WHAT CAUSES IT
Trapped skin cells, sometimes skin injury

HOW IT IS DIAGNOSED
Skin examination, sometimes laboratory examination after removal

MAIN TREATMENT
Monitoring, drainage, or complete surgical removal

CAN IT BE CURED?
Yes, when the whole cyst is removed

IS IT AN EMERGENCY?
Sometimes, with spreading infection or severe illness

LONG-TERM OUTLOOK
Usually harmless, but untreated cysts may persist or recur

Overview

An epidermoid cyst is a closed sac beneath the skin. Its wall contains cells similar to those in the outer layer of skin. These cells produce keratin, the protein found in skin, hair, and nails, which collects inside the sac as a thick material.

Epidermoid cysts are often called "sebaceous cysts," but this is not medically accurate. They do not usually develop from the sebaceous glands that produce skin oil.

Most are harmless, grow slowly, and may remain unchanged for years. Common locations include the face, neck, scalp, chest, upper back, and genital area, although they can develop almost anywhere.

If a cyst ruptures, its keratin can irritate nearby tissue and cause redness, swelling, and pain. This can resemble an infection even when bacteria are not responsible.

Do not assume that every new or changing lump is a cyst. A healthcare professional can examine it and decide whether testing is needed.

Symptoms

An epidermoid cyst usually appears as a round or dome-shaped lump beneath the skin. It may move slightly when pressed and often has a smooth, skin-coloured surface.

Typical features include:

An inflamed or ruptured cyst may quickly become larger, red, warm, swollen, and tender. An infected cyst may cause increasing pain, pus, or redness spreading beyond the lump. Fever or feeling generally unwell may indicate a spreading infection.

Rapid ongoing growth, bleeding, ulceration, fixation to deeper tissue, or repeated recurrence after treatment are less typical and should be assessed.

- A small central opening or dark spot, called a punctum
- Slow growth over months or years
- Little or no pain while the cyst is calm
- Thick, white or yellow material if it drains
- An unpleasant smell from released keratin

Causes and risk factors

An epidermoid cyst forms when skin cells become trapped beneath the surface instead of being shed. They continue producing keratin, which gradually fills the cyst.

Many cysts have no clear cause. Others develop after a hair follicle becomes blocked or damaged. Skin injury may also push surface cells into deeper tissue, so cysts can occasionally form after a cut, puncture, surgery, or other trauma.

Factors associated with epidermoid cysts include:

Most people with one or a few cysts do not have an inherited condition. Numerous cysts beginning at a young age, particularly with unusual health findings or a strong family history, may need further assessment.

Epidermoid cysts are not caused by poor hygiene and are not contagious.

- Acne or inflammation around hair follicles

- Skin injury or surgery
- Certain medicines that affect skin growth
- Rare inherited conditions that cause multiple cysts

Diagnosis

A healthcare professional can usually diagnose an epidermoid cyst by examining and feeling the lump. Its shape, movement, central punctum, location, and history of slow growth can support the diagnosis.

You may be asked when it appeared, how it has changed, whether it has drained or become painful, and whether the area was previously injured or operated on.

Tests are not always needed. Ultrasound may help if a lump is deep, unusually large, or difficult to identify. Other imaging is rarely necessary unless the examination raises a specific concern.

Examining removed tissue under a microscope, called histology, can confirm the diagnosis. Tissue may be sent to a laboratory if the cyst looks unusual or the diagnosis is uncertain.

Other lumps that can resemble an epidermoid cyst include a fatty lump called a lipoma, a scalp pilar cyst, and an abscess containing pus.

Treatment and management

A small, painless cyst that is not changing may only need monitoring. It can remain present because its wall continues producing keratin.

Do not squeeze, pierce, or cut a cyst yourself. This can rupture its wall, introduce bacteria, worsen inflammation, cause scarring, and make later removal more difficult.

A warm compress may ease mild discomfort or encourage an already-draining cyst to empty. It does not remove the cyst wall and is not a cure.

Treatment depends on whether the cyst is calm, inflamed, infected, or repeatedly troublesome.

Complete surgical removal removes the contents and cyst wall, offering the best chance of preventing recurrence in the same place. It is usually a minor procedure performed with local anaesthetic. A small scar is expected.

Removal may be difficult while the cyst is inflamed because its wall can become fragile and stick to nearby tissue. Planned surgery is often delayed until inflammation settles.

Incision and drainage releases the contents and may relieve a very swollen or painful cyst. Because the wall remains, the cyst can refill.

Anti-inflammatory treatment may reduce swelling in a cyst that is inflamed but not infected and can make later removal easier.

Antibiotics like amoxicillin or doxycycline are not needed for every red or tender cyst. Inflammation caused by leaked keratin is different from bacterial infection. Antibiotics may be used when there are signs of infection in the cyst or surrounding skin.

After a procedure, follow all wound-care instructions. Contact the treating service if pain or swelling worsens, the wound opens, or you have persistent bleeding or pus.

Complications

Possible complications include inflammation, rupture, infection, scarring, and recurrence.

Leaked keratin can trigger a strong inflammatory reaction, causing sudden swelling, redness, and pain. Rupture may also break the cyst wall into pieces and make complete removal harder.

Bacterial infection can lead to an abscess or cellulitis. Cellulitis spreads through deeper skin layers and causes expanding redness, warmth, and tenderness.

A cyst can return after drainage or incomplete removal because remaining wall cells continue making keratin. Surgery also carries small risks, including bleeding, infection, wound separation, altered skin sensation, and scarring.

Cancer arising in an epidermoid cyst is very uncommon. A lump that grows rapidly, repeatedly breaks down, bleeds, becomes ulcerated, or feels firmly attached should be assessed rather than assumed to be a routine cyst.

Prevention

Most epidermoid cysts cannot be reliably prevented, and no skin-care routine is proven to stop them.

Avoid squeezing or repeatedly picking at a cyst. This may reduce the risk of rupture, inflammation, infection, and scarring.

Protecting the skin from avoidable injury may reduce injury-related cysts. Treating acne or frequently inflamed hair follicles may help limit blockage, but it cannot guarantee prevention.

Cysts associated with a rare inherited condition cannot be prevented through lifestyle changes. Medical assessment can help identify and manage the underlying condition.

Living with it and what to expect

Many epidermoid cysts remain small, painless, and stable. Others slowly enlarge or become inflamed from time to time.

An untreated cyst usually remains beneath the skin. It may become smaller after releasing some contents, but it can refill because the wall remains. It may also rupture and become temporarily painful.

Larger cysts may catch on clothing, interfere with shaving, hurt under pressure, or cause cosmetic concerns. Cysts on the scalp or back can be difficult to monitor without help.

A cyst usually does not return in the same place after complete removal. Recurrence is more likely if the wall cannot be fully removed, especially after rupture or severe inflammation. Removal does not prevent new cysts elsewhere.

Surgical removal leaves a scar. It often fades over time but does not disappear completely. Discuss the likely scar before treatment, particularly for a large cyst or one in a visible area.

Arrange routine follow-up if a cyst is growing, repeatedly inflamed, uncomfortable, or affecting daily activities.

When to get medical help

Make a routine appointment for any new lump that has not been examined. Also seek advice if a known cyst grows, repeatedly drains, becomes uncomfortable, or causes concern because of its location or appearance.

Seek prompt medical advice for:

Seek urgent same-day help if redness is spreading quickly, pain is severe, or you develop a fever and feel unwell. An infection near the eye or another sensitive area also requires prompt assessment.

Call emergency services for signs of severe illness, including confusion, fainting, severe weakness, difficulty breathing, or cold and blotchy skin. These are not typical of an uncomplicated cyst but can occur with a serious spreading infection.

- Increasing pain, warmth, or swelling
- Pus or persistent drainage
- Redness spreading away from the lump
- Rapid growth or a new change in texture

- Bleeding, ulceration, or repeated skin breakdown
- Recurrence after previous removal

Common questions

Will an epidermoid cyst go away on its own?

It may shrink after draining, but the wall usually remains and can fill again. Complete removal of the wall is the most reliable way to prevent recurrence in the same place.

Can I pop an epidermoid cyst?

No. Squeezing or puncturing it may rupture the wall beneath the skin, causing inflammation, infection, scarring, and more difficult removal later.

Is an epidermoid cyst cancer?

An ordinary epidermoid cyst is not cancer, and cancer developing within one is very uncommon. However, a new, rapidly changing, bleeding, ulcerated, or fixed lump should be examined.

Why does my cyst smell?

Released keratin can have a strong, unpleasant smell. Odour alone does not prove infection. Increasing pain, warmth, pus, spreading redness, fever, or feeling unwell are more concerning.

What is the difference between a cyst and an abscess?

An epidermoid cyst is a keratin-filled sac lined with skin-like cells. An abscess is a pocket of pus, usually caused by infection. A ruptured or infected cyst can resemble an abscess.

Will an epidermoid cyst come back after removal?

It can return if part of the wall remains. Recurrence is more likely after drainage or when inflammation prevents complete removal. Complete surgical removal offers the best chance of preventing it.

Sources

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