CONDITION

Cold sores

Learn what causes cold sores, how they spread, which treatments may help, and when sores or related symptoms need medical care.

WHAT IT IS
Recurrent viral blisters on or around the lips

BODY SYSTEM
Skin and mouth

MAIN SYMPTOMS
Tingling, painful blisters, shallow sores, crusting

WHAT CAUSES IT
HSV-1 or HSV-2 infection

HOW IT IS DIAGNOSED
Sore swab with PCR or viral culture

MAIN TREATMENT
Antiviral medicines

CAN IT BE CURED?
No, virus remains in the body

IS IT AN EMERGENCY?
Sometimes, eye pain or neurologic symptoms

LONG-TERM OUTLOOK
Usually heals within two weeks but may recur

Overview

Cold sores are small, painful blisters that usually develop on or around the lips. They are also called fever blisters or herpes labialis. Most are caused by herpes simplex virus type 1, known as HSV-1. Less often, herpes simplex virus type 2, or HSV-2, can cause sores around the mouth.

After a person is infected, the virus stays inactive inside nearby nerves. It can become active again later, causing another outbreak. Some people have frequent outbreaks, while others have only one or never notice symptoms.

Cold sores usually heal without scarring in about one to two weeks. Treatment cannot remove HSV from the body, but antiviral medicines may shorten an outbreak or reduce how often sores return.

The virus can spread through direct contact with a sore, saliva, or skin around the mouth. It may also spread when no sore is visible, although transmission is more likely when symptoms are present. Oral HSV can be passed to another person's genitals through oral sex.

Cold sores are usually manageable, but the infection can be more serious if it affects the eye, spreads across damaged skin, or occurs in a newborn or someone with a weakened immune system.

Symptoms

An outbreak may begin with a warning stage called a prodrome. A person may notice tingling, itching, burning, tenderness, or tightness in one area of the lip or surrounding skin. These sensations can begin several hours to a day or two before a blister appears.

One or more fluid-filled blisters may then form. The blisters can break open, release fluid, and leave shallow sores. A crust or scab develops as the area heals. Cracking and minor bleeding may occur, especially when the sore is near the corner of the mouth.

Other possible symptoms include:

A first HSV infection may cause more symptoms than later outbreaks. However, many first infections are mild or cause no recognized symptoms.

Recurrent cold sores usually appear near the place where earlier outbreaks occurred. The warning sensations and sores tend to be limited to a smaller area.

Not every lip sore is a cold sore. Canker sores, for example, usually occur inside the mouth and are not caused by HSV. Cracks at the corners of the mouth, allergic reactions, bacterial infections, and other skin conditions can also look similar.

- Pain or sensitivity around the sore
- Swelling of the lip
- Swollen or tender lymph nodes, sometimes called glands
- Fever, sore throat, headache, or body aches, especially during a first infection
- Painful sores inside the mouth or on the gums during some first infections
- Difficulty eating or drinking if mouth pain is significant

Causes and risk factors

Cold sores are caused by infection with HSV-1 or, less commonly, HSV-2. The virus enters

through small breaks in the skin or through moist surfaces such as the lips, mouth, eyes, or genital area.

HSV can spread through kissing and other close skin-to-skin contact. Contact with saliva or an active sore can also spread it. Sharing lip products, razors, eating utensils, or other items that have recently touched a sore may create an opportunity for transmission, so these items should not be shared during an outbreak.

Touching a cold sore and then touching the eye or another area may move the virus to that location. Handwashing is especially important after applying medicine or otherwise touching the affected area.

Once HSV is in the body, it remains in nerve tissue. A recurrent outbreak does not mean that a person has been infected again. It means the existing virus has become active.

Possible outbreak triggers vary from person to person. They may include:

These factors may trigger symptoms, but they are not the underlying cause. Some outbreaks occur without an obvious trigger.

Anyone exposed to HSV can become infected. People with eczema or another condition that weakens the skin barrier may be at risk for a more widespread infection. People whose immune systems are weakened by illness or medical treatment can also have longer-lasting, more severe, or unusual outbreaks.

- Another illness or fever
- Strong sunlight
- Emotional or physical stress
- Tiredness or poor sleep
- Menstrual periods or other hormonal changes
- Injury, irritation, or a procedure involving the lips or face
- A weakened immune system

Diagnosis

A healthcare professional can often recognize a cold sore by its appearance, location, and pattern of symptoms. They may ask about tingling before the blister, previous outbreaks, possible exposures, and how long the sore has been present.

Testing is not always needed for a typical recurrent cold sore. A test may be useful when the diagnosis is uncertain, the sore is unusual or severe, treatment is not working as expected, or

the person has a weakened immune system.

A clinician may rub a swab over a fresh blister or open sore. A polymerase chain reaction, or PCR, test looks for HSV genetic material and can identify the type of virus. A viral culture may also be used, although it is less likely to detect the virus once a lesion has started healing.

Blood tests can detect antibodies made in response to HSV. However, a blood test generally cannot show where the infection is located or whether a current lip sore is caused by HSV. Test results also require careful interpretation because HSV-1 is common and may have been acquired years earlier.

Persistent, unusual, or repeatedly crusted lip lesions may need evaluation for other causes. Depending on the findings, a clinician may consider bacterial infection, inflammatory skin conditions, medication reactions, or other oral and skin disorders.

Treatment and management

Most cold sores heal on their own. Treatment focuses on easing discomfort, supporting healing, and limiting spread.

Simple care may include a cool, damp compress and a thin layer of plain petroleum jelly to reduce cracking. Keeping the area clean and avoiding picking at the blister or scab can help protect the skin. A lip balm with sun protection may be useful for people whose outbreaks seem related to sunlight.

Nonprescription pain relievers may help with discomfort. Because these medicines are not safe for everyone, follow the label and ask a pharmacist or clinician if you have medical conditions, take other medicines, are pregnant, or are treating a child.

Antiviral medicines slow the virus's ability to multiply. Oral options include acyclovir, valacyclovir, and famciclovir. They tend to work best when started during the tingling stage or soon after a sore appears. The appropriate medicine depends on factors such as age, kidney function, pregnancy, other medications, and the pattern of outbreaks.

Some antiviral like acyclovir or oseltamivir creams are available by prescription or over the counter, depending on the country. Topical treatment may provide a modest benefit and often needs to be applied repeatedly. A pharmacist or clinician can explain what products are available and how to use them safely.

People with frequent, painful, or disruptive outbreaks can discuss preventive antiviral treatment with a clinician. This may involve taking medicine every day for a period of time or having a plan to begin treatment at the first warning symptom. Treatment decisions should reflect the person's health, outbreak pattern, preferences, and medicine risks.

During an active outbreak:

Extra care is needed around newborn babies. A person with an active cold sore should not kiss a newborn and should follow the baby's healthcare team's instructions about contact and hygiene.

- Avoid kissing and direct contact between the sore and another person's skin.
- Avoid oral sex until the area has completely healed.
- Do not share lip products, razors, towels, or utensils that touch the mouth.
- Wash your hands after touching the area or applying treatment.
- Avoid touching your eyes.
- Do not pick, squeeze, or deliberately break the blisters.

Complications

Complications are uncommon in otherwise healthy adults, but they can occur.

HSV infection of the eye can affect the cornea, the clear front surface of the eye. This is called herpes keratitis. Without prompt treatment, it can damage vision. Eye pain, redness, light sensitivity, blurred vision, or sores near the eye need urgent medical assessment.

People with eczema can rarely develop eczema herpeticum, in which HSV spreads over areas of damaged skin. It may cause clusters of painful blisters or punched-out sores, fever, and feeling unwell. This requires urgent medical care.

The virus can spread to a finger through broken skin, causing a painful infection called herpetic whitlow. Secondary bacterial infection of a cold sore is also possible. Increasing redness, warmth, swelling, pus, or worsening pain should be assessed.

HSV infection in a newborn can become severe and affect multiple organs. A newborn who may have been exposed to an active cold sore, or who develops blisters, fever, poor feeding, unusual sleepiness, or irritability, needs immediate medical advice.

Very rarely, HSV can affect the brain or its surrounding tissues. Confusion, a seizure, severe headache, unusual drowsiness, weakness, or a stiff neck are emergency symptoms.

Follow up

Routine medical follow-up may be helpful if cold sores are frequent, painful, slow to heal, or interfering with eating, work, sleep, or daily life. A clinician can confirm the diagnosis, look for

contributing health issues, and discuss an early-treatment or prevention plan.

Arrange medical assessment if a sore is not improving after about two weeks, repeatedly returns, spreads beyond its usual area, or looks different from earlier outbreaks. People who are pregnant, have eczema, or have a weakened immune system should seek advice earlier when symptoms develop.

Seek urgent care for:

Call emergency services for confusion, seizures, severe drowsiness, weakness, a severe headache with a stiff neck, or other sudden neurologic symptoms.

Keeping a simple record of outbreaks may help identify patterns. Note when tingling began, possible triggers, how long the sore lasted, and whether treatment seemed helpful. Bring this information to a routine appointment.

- Eye pain, eye redness, light sensitivity, blurred vision, or a sore close to the eye
- Widespread painful blisters, especially on skin affected by eczema
- Significant trouble eating or drinking, reduced urination, or other signs of dehydration
- Rapidly worsening swelling, redness, pain, or drainage
- Possible exposure of a newborn to an active cold sore

Sources

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