

## Eye infection (herpes simplex)

Herpes simplex is a virus that causes [cold sores](#) and [genital herpes](#). However, it can also cause eye infections. This is because the virus lives inside the nerves in your face and can travel down the nerves to your eye if you are unwell or stressed. It can be much more serious than just a cold sore: damaging your eye and causing permanent eyesight problems. If you have had cold sores and then get an achy, red, sore eye it is important to see a doctor as soon as possible.

### Herpes simplex virus

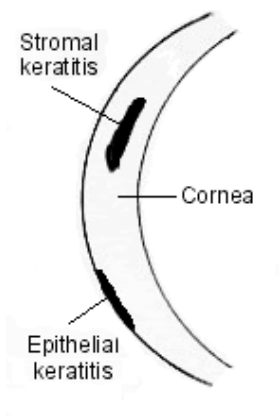
There are two types of herpes simplex virus. Type 1 is the usual cause of [cold sores](#) around the mouth and of herpes simplex infection in the eye. Type 2 is the usual cause of [genital herpes](#). It rarely causes cold sores or eye infections. This leaflet is about herpes simplex eye infections.

### How does herpes simplex virus affect my eye?

The common situation is for the transparent front part of the eye (the cornea) to become infected. Infection of the cornea is called keratitis.

In most cases, the infection is just in the top (superficial) layer of the cornea. This is called epithelial keratitis. Sometimes deeper layers of the cornea are involved. This is called stromal keratitis. This is more serious, as it is more likely to cause scarring of the cornea.

### Detail of cornea showing patches of inflammation



Other parts of the eye are sometimes affected. Often at the same time as the cornea is infected, a minor and temporary inflammation may occur with active infection of:

- The thin lining of the eyelid (the conjunctiva), called [conjunctivitis](#).
- The eyelids, called [blepharitis](#).
- Sometimes, deeper structures, such as the retina or the iris. The retina is a layer of the eyeball, found on its back wall. The iris is the coloured part of the eye.

## Who gets herpes simplex infections of the eye?

- People who have had cold sores before.
- It usually affects adults in their 30s or 40s.
- Overall it affects about 1 in 500 people in the western world.

## Symptoms of herpes simplex eye infection

Most episodes of active infection are due to a reactivation of the virus at some point, often years after a primary infection. Symptoms include:

- Redness of the eye - mainly around the transparent front part of the eye (the cornea).
- Ache or pain in the eye.
- Discomfort when opening the eyes in bright light.
- Watering of the eye.

- Blurring of vision.

You may also notice a blistery skin rash around the eyelids (but not in all cases). It is usually one eye that is affected.

This photo shows someone with herpes simplex eye infection:



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## How is herpes simplex eye infection diagnosed?

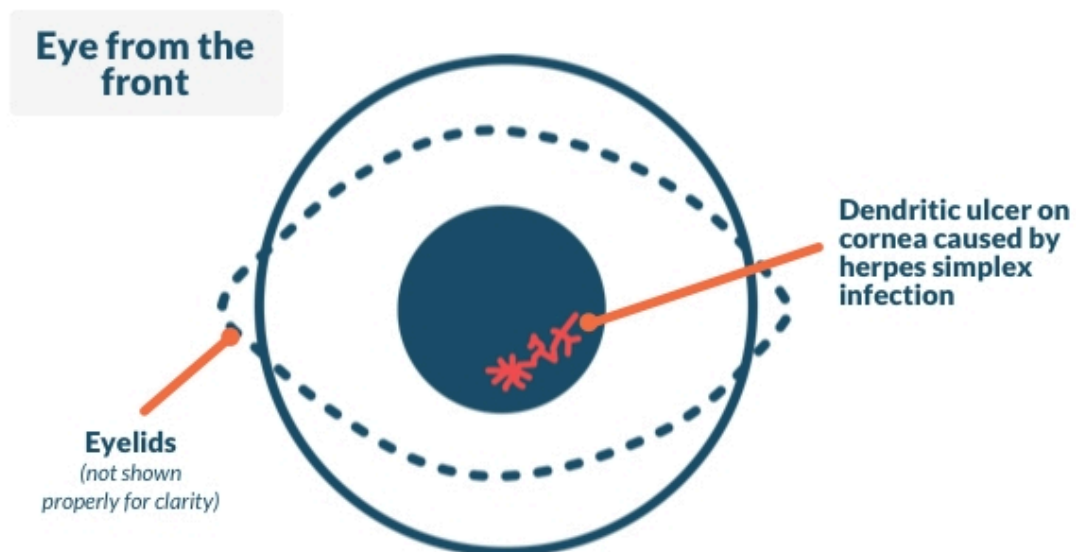
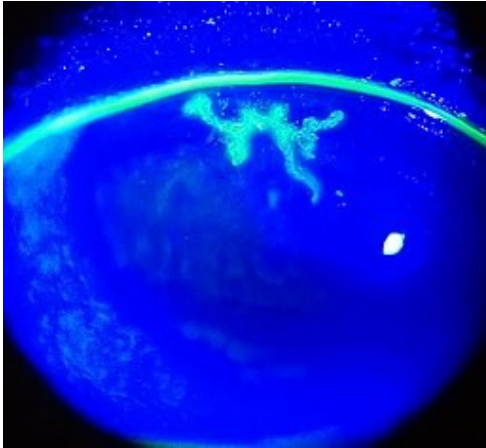


Diagram created and reviewed by Patient.info

Your family doctor (GP) will usually examine your eye with a magnifier. They may also put some stain on the front of your eye. This is used to show up any irregular areas on the transparent front part of the eye. With a herpes simplex infection they will often see a small scratch on the cornea. The typical ulcer which develops is called a dendritic ulcer. Dendritic means branching. The ulcer is not round with a smooth edge but like a tree with many finger-like branches, as below:



By Imrankabirhossain, [CC BY-SA 4.0](#), via [Wikimedia Commons](#)

If your doctor suspects a herpes eye infection you will usually be referred urgently to an eye specialist (ophthalmologist). A specialist will do a detailed magnified examination of the eye. This is to confirm the diagnosis and to determine whether the infection is in the top layer of the cornea (epithelial keratitis), or if the deeper layers are involved (stromal keratitis).

## How to treat herpes simplex eye infections

The treatment depends on which part of the eye is affected.

Before you start to use any eye drops or ointment, your eye specialist (ophthalmologist) may make your eye numb and then gently scrape away some of the infected cells. This procedure is called debridement.

**If the top (superficial) layer of the cornea is affected - epithelial keratitis**

Treatment is with antiviral eye ointment or drops (such as [aciclovir ointment](#) or [ganciclovir gel](#)). These do not kill the virus but stop it from multiplying further until the infection clears. You should take the full course exactly as prescribed. This is often several times a day for up to two weeks. The aim is to prevent damage to the transparent front part of the eye (the cornea).

### **If the deeper layer of the cornea is affected – stromal keratitis**

Treatment is similar to epithelial keratitis (above). In addition to the antiviral eye ointment or drops, your specialist may add in some [steroid eye drops](#). This helps to reduce inflammation.

**Note:** steroid eye drops must only be used under close supervision of an eye specialist. He or she will prescribe the correct strength and dose in conjunction with antiviral treatment. If you use steroid eye drops wrongly they can make herpes simplex infections worse!

Antiviral tablets may be used in some cases.

### **If just the eyelids or the thin lining of the eyelid (conjunctiva) are affected**

These infections will usually settle on their own in 1-3 weeks. No treatment may be advised. You are likely to be kept under review, until the infection clears, to check that the cornea does not become infected.

**Note:** if you have herpes simplex eye infection, you should not wear contact lenses until 24 hours after your symptoms and the infection have completely gone away.

## **Can herpes simplex eye infection come back?**

Some people develop repeated (recurring) episodes of active infection. As mentioned above, these occur if the virus reactivates from time to time – similar to cold sores. A recurrent infection may occur any time between a few weeks and many years after the first active infection.

At least half of people who have one episode of active infection will have a recurrence within 10 years of the first. Recurrences occur more often in some people than others.

If recurrences are frequent or severe, your eye specialist may advise that you take antiviral tablets each day to prevent episodes of active infection. Studies have shown that, on average, the number of recurrences is roughly halved in people who take regular antiviral tablets.

Some people say that episodes of active herpes infection may be triggered by strong sunlight. So, wearing sunglasses *may* also help to prevent recurrences. It is also possible that active infection may be triggered if you are run down or unwell for another reason. However, the evidence for this is limited. Some women find that they get recurrences around the time of their period but again there is limited evidence to support this.

If a recurrence does occur, each episode is treated as described above.

## What is the outlook?

The main concern with corneal infection (keratitis) is that it can cause scarring of the transparent front part of the eye (the cornea). With scarring, the normally clear cornea can become like frosted glass. This may sometimes seriously affect vision.

- **Epithelial keratitis** tends to settle and go away within a few weeks. It has a good outlook and often causes little or no scarring.
- **Stromal keratitis** is more likely to result in corneal scarring and loss of vision.
- Recurring episodes of active infection can make any existing scarring worse.
- Prompt treatment with antiviral eye ointment or drops helps to minimise damage during each episode of active infection.

**Overall, good vision remains in about 9 in 10 eyes affected by herpes simplex infection** – that is, vision good enough to drive. However, severe and recurrent herpes simplex eye infections may lead to serious scarring, impaired vision and even severe sight impairment in some cases. If severe sight impairment does develop, a corneal transplant may be the only option to restore vision.

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## Further reading

- [Herpes Simplex Keratitis Eye Infection](#); The College of Optometrists
- [Herpes simplex - ocular](#); NICE CKS, October 2021 (UK access only)
- [Wilhelmus KR](#); Antiviral treatment and other therapeutic interventions for herpes simplex virus epithelial keratitis. Cochrane Database Syst Rev. 2015 Jan 9;1:CD002898. doi: 10.1002/14651858.CD002898.pub5.
- [Kanukollu VM, Patel BC](#); Herpes Simplex Ophthalmicus.

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