



[Home](#) → [Medical Encyclopedia](#) → Corneal ulcers and infections

URL of this page: [//medlineplus.gov/ency/article/001032.htm](https://medlineplus.gov/ency/article/001032.htm)

Corneal ulcers and infections

The cornea is the clear tissue at the front of the eye. A corneal ulcer is an open sore in the outer layer of the cornea. It is often caused by infection. At first, a corneal ulcer may seem like conjunctivitis, or pink eye.

Causes

Corneal ulcers are most commonly caused by an infection with bacteria, viruses, fungi, or a parasite.

- Acanthamoeba keratitis occurs in contact lens users. It is more likely to happen in people who make their own homemade cleaning solutions.
- Fungal keratitis can occur after a corneal injury involving plant material. It may also occur in people with a suppressed immune system.
- Herpes simplex virus keratitis is a serious viral infection. It may cause repeated attacks that are triggered by stress, exposure to sunlight, or any condition that lowers the immune response.

Corneal ulcers or infections may also be caused by:

- Eyelids that do not close all the way, such as with Bell palsy
- Foreign bodies in the eye
- Scratches (abrasions) on the eye surface
- Severely dry eyes
- Severe allergic eye disease
- Various inflammatory disorders

Wearing contact lenses, especially soft contacts that are left in overnight, may cause a corneal ulcer.



Watch this video about:
Corneal injury

Symptoms

Symptoms of infections or ulcers of the cornea include:

- Blurry or hazy vision

- Eye that appears red or bloodshot
- Itching and discharge
- Sensitivity to light (photophobia)
- Very painful and watery eyes
- White patch on the cornea

Exams and Tests

Your health care provider or eye doctor may do the following tests:

- Exam of scrapings from the ulcer
- Fluorescein stain of the cornea
- Keratometry (measuring the curve of the cornea)
- Pupillary reflex response
- Refraction test
- Slit-lamp examination
- Tests for dry eye
- Visual acuity

Blood tests to check for inflammatory disorders may also be needed.

Using newer information systems to evaluate photos of corneal ulcers may allow earlier diagnosis and treatment.

Treatment

Treatment for corneal ulcers and infections depends on the cause. Treatment should be started as soon as possible to prevent scarring of the cornea.

If the exact cause is not known, you may be given antibiotic drops that work against many kinds of bacteria.

Once the exact cause is known, you may be given drops that treat bacteria, herpes simplex virus, other viruses, or a fungus. Severe ulcers sometimes require a corneal transplant.

Corticosteroid eye drops may be used to reduce swelling and inflammation in certain conditions.

Your provider may also recommend that you:

- Avoid eye makeup.
- Do not wear contact lenses at all, especially while asleep.
- Take pain medicines.
- Wear protective glasses.

Outlook (Prognosis)

Many people recover completely and have only a minor change in vision. However, a corneal ulcer or infection can cause long-term damage and affect vision.

Possible Complications

Untreated corneal ulcers and infections may lead to:

- Loss of the eye (rare)
- Severe vision loss
- Scars on the cornea

When to Contact a Medical Professional

Contact your provider if:

- You have symptoms of corneal ulcers or an infection.
- You have been diagnosed with this condition and your symptoms become worse after treatment.
- Your vision is affected.
- You develop eye pain that is severe or becoming worse.
- Your eyelids or the skin around your eyes becomes swollen or red.
- You have a headache in addition to your other symptoms.

Prevention

Things you can do to prevent the condition include:

- Wash your hands well when handling your contact lenses.
- Avoid wearing contact lenses overnight.
- Get prompt treatment for an eye infection to prevent ulcers from forming.

Alternative Names

Bacterial keratitis; Fungal keratitis; Acanthamoeba keratitis; Herpes simplex keratitis

References

Azar DT, Hallak J, Barnes SD, Giri P, Pavan-Langston D. Microbial keratitis. In: Bennett JE, Dolin R, Blaser MJ, eds. *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases*. 9th ed. Philadelphia, PA: Elsevier; 2020:chap 113.

Cioffi GA, Liebmann JM. Diseases of the visual system. In: Goldman L, Cooney KA, eds. *Goldman-Cecil Medicine*. 27th ed. Philadelphia, PA: Elsevier; 2024:chap 391.

Efron N. Corneal staining. In: Efron N, ed. *Contact Lens Complications*. 4th ed. Philadelphia, PA: Elsevier; 2019:chap 18.

Keenan JD, McLeod SD. Bacterial keratitis. In: Yanoff M, Duker JS, eds. *Ophthalmology*. 6th ed. Philadelphia, PA: Elsevier; 2023:chap 4.12.

Tuli SS, Steigleman WA. Herpes simplex keratitis. In: Yanoff M, Duker JS, eds. *Ophthalmology*. 6th ed. Philadelphia, PA: Elsevier; 2023:chap 4.15.

Review Date 7/9/2024

Updated by: Audrey Tai, DO, MS, Athena Eye Care, Mission Viejo, CA. Also reviewed by David C. Dugdale, MD, Medical Director, Brenda Conaway, Editorial Director, and the A.D.A.M. Editorial team.

[Learn how to cite this page](#)



Health Content
Provider
06/01/2028

A.D.A.M., Inc. is accredited by [URAC](#), for Health Content Provider ([www.urac.org](#)). URAC's [accreditation program](#) is an independent audit to verify that A.D.A.M. follows rigorous standards of quality and accountability. A.D.A.M. is among the first to achieve this important distinction for online health information and services. Learn more about A.D.A.M.'s [editorial policy](#), [editorial process](#), and [privacy policy](#).

The information provided herein should not be used during any medical emergency or for the diagnosis or treatment of any medical condition. A licensed medical professional should be consulted for diagnosis and treatment of any and all medical conditions. Links to other sites are provided for information only – they do not constitute endorsements of those other sites. No warranty of any kind, either expressed or implied, is made as to the accuracy, reliability, timeliness, or correctness of any translations made by a third-party service of the information provided herein into any other language. © 1997-2025 A.D.A.M., a business unit of Ebix, Inc. Any duplication or distribution of the information contained herein is strictly prohibited.



National Library of Medicine 8600 Rockville Pike, Bethesda, MD 20894 U.S. Department of Health and Human Services
National Institutes of Health