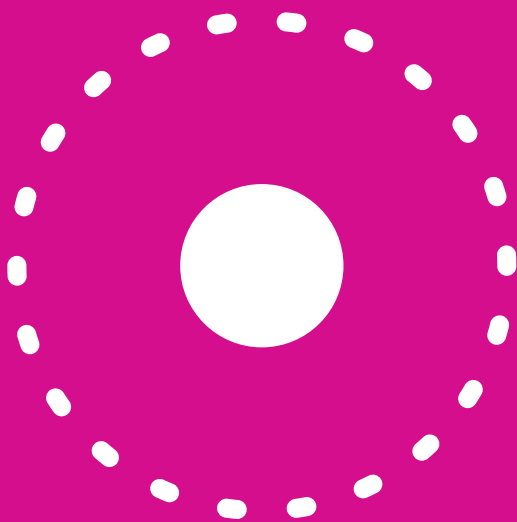

GENERAL INFORMATION

CORNEAL CONDITIONS



WHAT ARE CORNEAL CONDITIONS?

The cornea is the clear outer layer of the eye. Shaped like a dome, it helps to protect the eye from foreign bodies and also plays an important role in vision by refracting (bending) light entering the eye to help focus it on the light-sensitive tissue at the back of the eye (retina).

A range of diseases and disorders can affect the cornea. Even seemingly minor eye irritations have the potential to lead to scarring and ulcers, so it's important to seek prompt medical advice.

1 CORNEA

2 IRIS

3 LENS

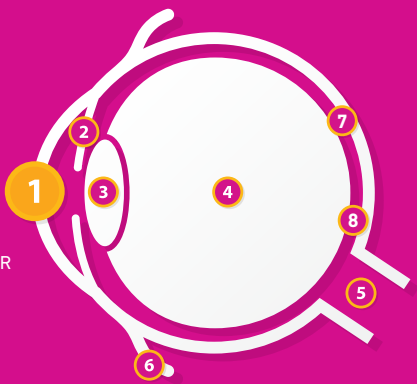
4 VITREOUS HUMOUR

5 OPTIC NERVE

6 MUSCLE

7 RETINA

8 MACULA





The main conditions that affect the cornea are:

Corneal abrasion: a scratch caused by physical trauma to the cornea, including the presence of a foreign body.

Corneal dystrophy: a group of genetic eye disorders, in which part(s) of the cornea lose clarity because of a build-up of fat or cholesterol deposits. The disorder usually occurs before the age of 30 and affects men and women equally. You need to see an ophthalmologist for an accurate diagnosis.

Recurrent corneal erosion: a disorder that occurs when the top layer of the cornea fails to adhere to the tissue (Bowman's layer) directly underneath it. It can be caused by trauma, disease or diabetes and affects vision.

Corneal ulcer: an open wound on the cornea that is the result of a bacterial infection or, less commonly, a viral or fungal infection. Early treatment is essential because a corneal ulcer can lead to loss of vision.

Keratitis: an inflammation of the cornea caused by infection, injury or leaving contact lenses in too long. Keratitis can be painful and temporarily affect your vision or, in rare cases, damage your sight.

Ocular herpes: a type of keratitis caused by the herpes simplex virus (HSV). There is no specific cure, but an ophthalmologist can help you manage the infection and control further outbreaks.

WHAT ARE THE SYMPTOMS OF A CORNEAL CONDITION?



Depending on the specific corneal condition involved, symptoms may include:

- Sensation of having a foreign body in the eye
- Pain
- Watering of the eye
- Redness
- Blurred vision.

CORNEAL SCARS RESULTING FROM DISEASE, INFECTION OR INJURY CAN AFFECT YOUR VISION.



HOW ARE CORNEAL CONDITIONS DIAGNOSED?

If you have pain, redness or swelling in your eye, your ophthalmologist will conduct a comprehensive eye examination. Some tests specifically highlight problems with the cornea. Other tests may help to rule in or rule out non-corneal causes.

Slit lamp

A microscope with a bright, intense light allows the ophthalmologist to study the cells lining your cornea (endothelial cells) and detect irregular bumps that might indicate Fuchs' dystrophy.

Fluorescein eye stain

A test that uses fluorescent orange dye and a blue light to detect damage to the cornea. This is necessary to accurately diagnose a corneal abrasion or ulcer.

Conjunctival scraping or biopsy

A sample of cells is taken from the conjunctiva to test for serious bacterial infections, such as trachoma, which is the world's leading infectious cause of blindness.



Corneal topography

This is a computer-assisted diagnostic tool that creates a 3D map of the surface curvature of the cornea. It helps diagnose corneal abrasions, deformities and irregular conditions that are not visible with conventional testing.

Eye pressure test

After numbing your eyes with drops, your doctor will briefly touch your eyes with a special instrument that measures the pressure inside your eye. This test can help distinguish between a disease that increases pressure in your eye (glaucoma) and a corneal condition such as Fuchs' dystrophy.

Pachymetry

This is a simple, painless test using a small instrument about the size of a digital thermometer to measure the thickness of your cornea. The test takes less than 30 seconds per eye.



IMPROPER USE OF CONTACT LENSES ARE A COMMON CAUSE OF CORNEAL PROBLEMS.

HOW ARE CORNEAL CONDITIONS TREATED?

There are different treatment options for the range of corneal conditions. Your ophthalmologist will recommend a particular treatment depending on the type and severity of your condition.

CORNEAL ABRASION

If you suffer from a scratch or an injury to the surface of your eye, don't rub your eye or touch your cornea.

If a foreign object is embedded in your cornea, do not attempt to remove it. Go directly to the nearest emergency department or see an ophthalmologist. It's important to seek prompt treatment to avoid potentially serious complications, such as an infection, a corneal ulcer or corneal erosion.

Tarsorrhaphy is a surgical procedure that is sometimes performed on patients with corneal exposure or abrasions. The eyelids are partially sewn together to narrow the opening and protect the cornea until healing is complete.



RECURRENT CORNEAL EROSION

Treatment may include:

- **Topical lubricant:** to help your epithelial cells heal and regenerate properly
- **Antibiotic drops:** together with short-term use of a 'bandage' contact lens (see below)
- **'Bandage' contact lens:** soft, therapeutic lenses that provide oxygen to the cornea to reduce the risk of corneal hypoxia (insufficient supply of oxygen) and oedema (fluid accumulation). They can also decrease pain and help with the administration of eye drops
- **Alcohol delamination:** involves gentle removal of the loose surface epithelium of the cornea to allow new cells to grow and bond with the surface layer
- **Phototherapeutic keratectomy (PTK):** surface laser treatment that may be recommended if your episodes worsen or become more frequent.

CORNEAL DYSTROPHY

Treatment may include:

- **Lubricating eye drops and ointments:** if symptoms are mild
- **Glaucoma eye drops:** to reduce the pressure inside the eye (intraocular pressure)
- **Temporary eye patch or 'bandage' contact lenses:** to protect the cornea, increase comfort and facilitate healing
- **Excimer laser therapy:** to remove abnormalities from the cornea's surface if symptoms persist
- **Corneal transplantation:** only in the most severe cases that don't respond to other treatment.



CORNEAL ULCER

Treatment usually involves antibiotic eye drops or ointment in the first instance. If the ulceration is in the centre of your eye, it may take longer to recover. An anti-fungal agent may be necessary if the ulcer was caused by a tree branch or dirt.

Corneal transplantation is reserved for severe cases that have failed to respond to other treatments.

KERATITIS

Infectious keratitis requires urgent attention. Depending on the cause, your ophthalmologist will typically prescribe antibacterial, antifungal or antiviral eye drops or ointments to treat the infection.

Prescription eye medication, oral medication or, in some cases, intravenous therapy may be used for more severe cases.



OCULAR HERPES

While it's not possible to cure ocular herpes, there are a number of treatments which may help manage or control the condition. Treatment may include:

- **Ointments:** used to treat superficial infections. If you wear contact lenses, you will need to stop using them during treatment
- **Debridement:** involves the removal of infected corneal epithelial cells using a cotton swab or corneal spatula
- **Steroid eye drops:** to lessen scarring and inflammation if the infection is deeper in the corneal layers. Steroid drops must be prescribed by an ophthalmologist because the eye's natural immune system can be compromised
- **Surgery:** may be recommended for a persistent infection, which can lead to serious scarring if left unresolved.



FAQs

How do I take care of my cornea?

Corneal abrasions (scratches) are the most common type of eye injury. No matter how minor the injury seems, it's important to see your doctor or optometrist to make sure it doesn't develop into a bigger problem.

Always wear eye protection when working with hand tools to prevent a foreign object scratching or penetrating the cornea.

How do contact lenses contribute to corneal problems?

If contact lenses are left in too long, there is a risk of corneal abrasion and infection. Poor hygiene can leave your cornea vulnerable to bacteria, fungi or parasites. This includes reusing the contact lens solution and/or not cleaning the lenses or lens case properly.

You should always check the manufacturer's guidelines or follow your optometrist's advice regarding how to use and look after your contact lenses.

If you experience pain or inflammation, get your eye checked immediately. Always have your contact lenses reviewed regularly by an optometrist.

What if I have a family history of corneal dystrophies?

Corneal dystrophies are mostly asymptomatic in the early stages. Anyone with a genetic predisposition should have their eyes regularly checked by an optometrist, who can refer you to an ophthalmologist if necessary.



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CORNEAL CONDITIONS		NERVE-RELATED VISION PROBLEMS	
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GENERAL EYE HEALTH			

OUR CORNEAL CLINICS

For more information or to find a Vision Eye Institute clinic that treats corneal conditions, visit:

visioneyeinstitute.com.au/services/corneal-conditions

This information is general in nature. All medical and surgical procedures have potential benefits and risks. Consult your ophthalmologist for specific medical advice.



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