CONDITION

Pterygium

A pterygium is a noncancerous growth of surface tissue that extends onto the clear front of the eye.

WHAT IT IS
Noncancerous surface tissue growing onto the cornea

BODY SYSTEM
Eyes and vision

MAIN SYMPTOMS
Redness, irritation, dryness, blurred vision

WHAT CAUSES IT
Ultraviolet light and long-term surface irritation

HOW IT IS DIAGNOSED
Eye examination, usually with a slit lamp

MAIN TREATMENT
Lubricating drops, inflammation control, or surgery

CAN IT BE CURED?
Sometimes - surgery removes the growth

IS IT AN EMERGENCY?
No, but sudden vision loss needs emergency assessment

LONG-TERM OUTLOOK
Usually manageable, though growth can recur after surgery

Overview

A pterygium is a raised, wedge-shaped growth on the surface of the eye. It starts in the conjunctiva, the thin clear tissue covering the white of the eye, and extends onto the cornea. The cornea is the clear front window of the eye.

The growth contains connective tissue and small blood vessels. It is noncancerous and often grows slowly. It usually develops on the side of the eye nearest the nose, although it can occur on the outer side or in both eyes.

A small pterygium may cause no problems beyond a visible patch. As it becomes thicker or inflamed, it can cause redness, dryness, burning, or the feeling that something is in the eye. A larger growth can change the cornea's shape or extend toward the pupil, affecting vision.

A pterygium is different from a pinguecula. A pinguecula is a yellowish raised spot that stays on the white part of the eye. A pterygium crosses onto the cornea.

Symptoms

Some pterygia are found during a routine eye examination before they cause symptoms. When symptoms occur, they may come and go, especially after exposure to sun, wind, dust, smoke, air conditioning, or dry air.

Possible symptoms include:

Blurred vision can develop if the growth pulls on the cornea and causes astigmatism. Astigmatism means the cornea is no longer evenly curved, so light does not focus clearly. A large pterygium may also block part of the pupil, although this is less common.

Symptoms alone cannot confirm that a surface growth is a pterygium. Other eye conditions can look similar, so a new or changing growth should be examined.

- A triangular or wing-shaped growth on the eye
- Redness or visible blood vessels
- Dryness, burning, itching, or watering
- A gritty feeling, as though something is in the eye
- Sensitivity to wind or bright light
- Difficulty wearing contact lenses comfortably
- Blurred or distorted vision

Causes and risk factors

The exact process that starts a pterygium is not fully understood. Long-term exposure to ultraviolet, or UV, light is the strongest recognised environmental factor. UV light comes mainly from sunlight and can damage tissues on the eye's surface over time.

Repeated irritation from dry, dusty, sandy, smoky, or windy conditions may also contribute. These exposures can promote ongoing surface inflammation and tissue changes.

Factors associated with a higher chance of developing a pterygium include:

A pterygium is not an infection and cannot spread from one person to another. It is not caused by reading, using screens, or looking at something too closely. Screen use may make dry or irritated eyes feel worse, but it does not make tissue grow across the cornea.

- Spending substantial time outdoors
- Living or working in a sunny climate
- Regular exposure to wind, dust, sand, or dry air
- Not wearing effective UV eye protection
- Increasing years of accumulated exposure
- Having close relatives with the condition

Diagnosis

An optometrist or ophthalmologist can usually diagnose a pterygium by examining the eye. An ophthalmologist is a medical doctor specialising in eye care.

The examination may include checking your vision and looking at the eye through a slit lamp. A slit lamp is a microscope with a bright, narrow light that gives a magnified view of the cornea, conjunctiva, and other eye structures.

The clinician may record the growth's size, location, thickness, and distance from the pupil. Photographs can help show whether it changes over time. A vision test and refraction may identify astigmatism or another change in focusing.

Corneal topography may be used when vision is affected or surgery is being considered. This painless test maps the shape and curve of the cornea.

Most pterygia do not need a biopsy. If a growth has an unusual appearance, grows unexpectedly quickly, bleeds without a clear reason, or does not have the typical shape, a specialist may remove or sample tissue. A laboratory can then check for another type of surface growth.

Treatment and management

Treatment depends on discomfort, inflammation, changes in vision, growth toward the pupil, and how much the appearance bothers you. A small, stable pterygium may only need observation.

Lubricating eye drops or gels can reduce dryness and the gritty feeling. Preservative-free products may be more comfortable when drops are needed often. These treatments ease symptoms but do not shrink or remove the growth.

If the pterygium becomes inflamed, an eye professional may prescribe anti-inflammatory

drops for a limited period. Some prescription eye drops can cause problems if used too long or without monitoring, so they should be used as directed.

Surgery may be considered when the pterygium:

During surgery, the abnormal tissue is removed. The exposed area is commonly covered with a thin piece of your own conjunctiva, called a conjunctival autograft. Tissue from the placenta's innermost membrane, called an amniotic membrane, is another option in selected cases. Tissue glue or small stitches may hold the covering in place.

Surgery is usually performed as an outpatient procedure with local anaesthetic. The eye may be sore, red, watery, or sensitive to light while it heals. Prescription drops are often used afterward to control inflammation and reduce infection risk.

A pterygium can return after surgery. Surgical technique, healing, UV exposure, inflammation, and individual tissue response can affect this risk. Specialists may use additional treatments in selected cases to reduce recurrence, but these treatments also have potential complications.

- Threatens or affects vision
- Causes significant astigmatism
- Continues to grow toward the pupil
- Causes ongoing symptoms despite other measures
- Restricts eye movement
- Creates a cosmetic concern that matters to you

Complications

Most pterygia do not cause serious harm. Problems are more likely if the growth becomes large, repeatedly inflamed, or reaches farther across the cornea.

Possible complications include persistent irritation, corneal scarring, and astigmatism. An advanced growth can interfere with the pupil and reduce vision. Rarely, extensive tissue can restrict eye movement and cause double vision.

Surgery also carries risks. These include infection, bleeding, scarring, poor graft healing, continued redness, and recurrence. Rare complications include thinning of the eye's outer wall or damage to nearby muscles. Your surgeon can explain which risks apply to the planned procedure.

A typical pterygium is not cancer and does not turn into cancer. However, some uncommon growths on the eye's surface can resemble it. This is why an unusual or changing lesion should

not be assumed to be a pterygium without an eye examination.

Prevention

Not every pterygium can be prevented. Family tendency and years of past environmental exposure cannot be changed. Reducing UV light and surface irritation may lower the chance of developing one or may help limit irritation and further growth.

When outdoors, wear sunglasses labelled as blocking 99% to 100% of UVA and UVB radiation. Wraparound frames offer more protection from light entering at the sides. A broad-brimmed hat provides added shade.

Protective eyewear can reduce exposure to dust, sand, and wind during work or recreation. Lubricating drops may help if dry air regularly irritates your eyes, although they do not prevent all pterygia.

Avoiding tobacco smoke and directing fans or air-conditioning vents away from your face may reduce irritation. If you wear contact lenses, follow cleaning and replacement instructions and stop wearing them when the eye is notably inflamed.

These measures remain useful after surgery because UV exposure and irritation may contribute to recurrence.

Living with it and what to expect

A pterygium often changes slowly over months or years. Some stay small and stable for long periods. Others gradually become thicker or extend farther onto the cornea. It is not possible to predict the exact course from appearance alone.

Temporary redness does not always mean the growth is rapidly advancing. The tissue can look more prominent when the eye is dry, irritated, or inflamed. Taking dated photographs during eye visits may help distinguish temporary inflammation from true growth.

If your vision remains clear and symptoms are mild, routine eye examinations may be all that is needed. Follow-up is more important when the growth is near the centre of the cornea, vision is changing, or progression has already been documented.

Most people can continue their usual work, exercise, travel, and screen use. Outdoor eye protection and treatment for dryness may improve comfort. Contact lenses may become less comfortable if they rub against a raised growth; an eye professional can assess lens fit and discuss alternatives.

After surgery, healing takes time. Redness may remain visible after discomfort has improved. Recurrence is most likely to be noticed as new tissue growing from the surgical area back toward the cornea, and it can occur months or years later. Keeping follow-up appointments allows healing and any regrowth to be assessed.

When to get medical help

Arrange a routine eye examination if you notice a new growth on the eye, ongoing redness, repeated irritation, or gradual changes in vision. You should also arrange review if a known pterygium appears to be growing, affects contact lens wear, or no longer responds to your usual comfort measures.

Seek prompt assessment if the growth changes quickly, develops an unusual colour or shape, bleeds without injury, or causes increasing pain. These features do not prove that something serious is present, but they are not typical of a quiet, stable pterygium.

Get urgent or emergency eye care for:

These symptoms are not usual features of a pterygium and may have another cause that needs rapid assessment.

- Sudden loss or major reduction of vision
- Severe eye pain
- A chemical splash or penetrating injury
- New flashes, many floaters, or a curtain-like shadow
- Marked light sensitivity with headache, nausea, or vomiting

Common questions

Will a pterygium go away by itself?

No. Lubricating or anti-inflammatory drops may reduce redness and discomfort, but they do not remove the tissue. Surgery is the only way to remove a pterygium, and the growth can still return afterward.

Is a pterygium cancer?

A typical pterygium is noncancerous and does not usually become cancerous. Because other surface growths can sometimes look similar, a new, unusual, or changing lesion should be examined.

Can a pterygium make me blind?

Most do not cause severe sight loss. A larger growth can blur vision by changing the cornea's shape or covering part of the pupil. Early assessment and follow-up can identify these changes before they become advanced.

How can I stop it from getting bigger?

No method can guarantee that it will stop growing. Consistent UV-blocking sunglasses, a hat, protection from dust and wind, and treatment of surface dryness may reduce irritation and further environmental damage.

Does pterygium surgery hurt?

Local anaesthetic is used to numb the eye during surgery. You may notice pressure or movement rather than sharp pain. Soreness, watering, redness, and a gritty feeling are common during early healing and are managed with postoperative care.

What is the difference between a pterygium and a pinguecula?

Both affect the conjunctiva. A pinguecula is a raised yellowish area that remains on the white of the eye. A pterygium grows across the edge of the cornea and may affect its shape or clarity.

Sources

- American Academy of Ophthalmology EyeSmart: What Is a Pinguecula and a Pterygium?
- MedlinePlus Medical Encyclopedia: Pinguecula and pterygium
- MSD Manual Professional Edition: Pinguecula and Pterygium
- National Center for Biotechnology Information, StatPearls: Pterygium
- Clearfield E, Hawkins BS, Kuo IC. Conjunctival autograft versus amniotic membrane transplantation for treatment of pterygium. Cochrane Database of Systematic Reviews. 2016