CONDITION

Chemosis

Learn what chemosis is, what can cause swelling of the eye's conjunctiva, how it is evaluated and treated, and when eye symptoms need urgent care.

WHAT IT IS
Swelling of the eye's conjunctiva

BODY SYSTEM
Eyes and vision

MAIN SYMPTOMS
Conjunctival swelling, redness, itching, watery eyes

WHAT CAUSES IT
Immune reactions, infection, irritation, injury

HOW IT IS DIAGNOSED
Eye examination, slit-lamp examination

MAIN TREATMENT
Underlying-cause treatment and eye-surface protection

CAN IT BE CURED?
Sometimes - often resolves after cause treatment

IS IT AN EMERGENCY?
Sometimes - vision changes or significant pain

LONG-TERM OUTLOOK
Usually resolves without lasting harm, with deeper infection threatening vision

Overview

Chemosis is swelling of the conjunctiva, the thin, clear membrane that covers the white part of the eye and lines the inside of the eyelids. Fluid collects within this tissue, making it look raised, blister-like, or jelly-like. The swollen area may be clear, pale, or slightly yellow.

Chemosis is a physical sign rather than a disease by itself. It can happen with allergies, infections, irritation, injury, eye surgery, or conditions that affect how blood and fluid drain from tissues around the eye. It may affect one or both eyes.

Mild chemosis often improves when the underlying irritation or allergy is treated. More severe swelling can prevent the eyelids from closing completely. This may allow the cornea-the clear surface at the front of the eye-to dry out and become damaged.

Most cases are not emergencies. However, chemosis accompanied by vision changes, significant eye pain, fever, a bulging eye, or difficulty moving the eye needs prompt medical evaluation. Sudden eye swelling with trouble breathing or swelling of the lips, tongue, or throat may be a severe allergic reaction and requires emergency care.

Symptoms

The main symptom is a swollen, raised area over the white of the eye. Some people describe it as a bubble or layer of jelly. The swelling may shift slightly when the eyelid moves.

Other symptoms depend on the cause and may include:

Itching in both eyes often occurs with an allergic cause, especially when there is sneezing or a runny nose. Thick discharge and eyelids that stick together can occur with conjunctivitis, although discharge alone cannot reliably identify whether an infection is bacterial or viral.

Marked pain, reduced vision, severe light sensitivity, or pain when moving the eye is not typical of uncomplicated chemosis. These symptoms can point to a problem involving the cornea, the tissues within the eye socket, or another part of the eye.

- Redness, itching, or burning
- Watery eyes or increased tearing
- A gritty feeling, as if something is in the eye
- Eyelid swelling
- Clear, mucus-like, or pus-like discharge
- Sensitivity to light
- Trouble closing the eyelids fully
- Blurred vision that clears after blinking or wiping away tears

Causes and risk factors

Allergic conjunctivitis is a common cause of chemosis. The immune system reacts to a trigger such as pollen, animal dander, dust mites, or mold. Both eyes are often affected, and itching is usually prominent. Cosmetics, eye drops, contact lens solutions, and other substances placed near the eye can also cause an allergic or irritating reaction.

Conjunctivitis, sometimes called pink eye, may cause chemosis. Viral conjunctivitis often produces watery discharge and may occur with a cold or other respiratory infection. Bacterial

conjunctivitis can cause thicker discharge. Symptoms overlap, so appearance alone may not reveal the cause.

Rubbing the eyes can worsen swelling, regardless of what started it. Smoke, chemicals, wind, dry air, and foreign material may also irritate the conjunctiva. Contact lens wear can increase irritation and can raise concern for corneal infection when pain, light sensitivity, or reduced vision is present.

Chemosis can occur after an eye injury or surgery, including eyelid or eye-socket procedures. Swelling may result from normal inflammation, but persistent or increasing swelling should be assessed by the surgical team. A tight dressing, impaired eyelid closure, or changes in fluid drainage may contribute.

Other possible causes include:

Risk is higher after recent eye surgery or injury and in people who cannot close their eyelids fully. Contact lens use, known allergies, exposure to an infected person, and conditions that weaken the immune system may also affect the likely cause and the need for testing.

- Angioedema, which is sudden swelling in deeper layers of the skin and may affect the eyelids, lips, or throat
- Thyroid eye disease, which can cause inflammation, bulging eyes, and poor eyelid closure
- Problems with blood or lymphatic drainage from the eye socket
- Severe fluid retention from an underlying medical condition
- Preseptal cellulitis, an infection of the eyelid and surrounding skin
- Orbital cellulitis, a more serious infection behind the tissues that separate the eyelid from the eye socket
- Rarely, a growth, abnormal blood vessel, or other structural problem around the eye

Diagnosis

A clinician begins by asking when the swelling started, whether one or both eyes are involved, and whether there is itching, discharge, pain, fever, or a change in vision. Important details include allergies, contact lens use, recent illness, new medicines or eye products, chemical exposure, injury, and recent eye surgery.

The eye examination usually includes checking vision in each eye. The clinician may examine the pupils, eyelids, conjunctiva, cornea, and eye movements. A slit lamp, which is a microscope with a bright light, provides a magnified view of the eye's surface.

Fluorescein dye may be placed in the eye. The dye briefly stains areas where the corneal surface is scratched, infected, or drying out. Eye pressure may be measured when appropriate. Clinicians also look for bulging of the eye, restricted eye movement, incomplete eyelid closure, and signs that infection has spread beyond the conjunctiva.

Laboratory tests are not needed for many straightforward cases. A sample of eye discharge may be collected when symptoms are severe, recurrent, unusual, or not responding as expected. Testing may also be considered for newborns, people with weakened immune systems, or suspected infections that require specific treatment.

Imaging such as a CT or MRI scan may be needed if there are signs of orbital cellulitis, injury, an abnormal growth, or impaired drainage around the eye. Blood tests may be used when thyroid eye disease, widespread allergy, infection, or another systemic condition is suspected.

Treatment and management

Treatment focuses on the underlying cause and on protecting the surface of the eye. The best approach depends on the examination, particularly whether the cornea is affected and whether the eyelids can close.

For mild irritation or allergy-related swelling, supportive measures may include cool compresses and preservative-free lubricating eye drops, often called artificial tears. Avoid rubbing the eye, since rubbing can increase inflammation. A clinician or pharmacist can help determine whether an allergy medicine is appropriate.

Remove contact lenses when the eye is red, painful, swollen, or producing discharge. Do not restart them until symptoms have resolved and a clinician has advised that it is safe, especially if pain or light sensitivity occurred. Disposable lenses and cases used during an infection may need to be replaced.

Viral conjunctivitis usually improves without antibiotic treatment. Handwashing, avoiding shared towels, and not touching the eyes can reduce spread. Antibiotic eye drops do not treat viruses. When bacterial conjunctivitis is suspected, a clinician may prescribe an antibiotic like amoxicillin or doxycycline based on the person's age, symptoms, examination, and risk factors.

Steroid eye drops can reduce inflammation but may worsen certain infections, delay healing, or raise eye pressure. They should be used only under supervision from an eye-care professional. Numbing eye drops used during an examination are also not safe for repeated home use because they can damage the cornea.

If swelling prevents the eyelids from closing, the cornea needs protection from drying. An eye professional may recommend frequent lubrication, ointment, a moisture chamber, or another

method of covering and protecting the eye. Severe or persistent cases may require a procedure to improve eyelid closure or reduce trapped swelling.

Chemosis caused by angioedema, thyroid eye disease, an infection around the eye socket, or a problem with fluid drainage requires treatment directed at that condition. Orbital cellulitis generally needs hospital-based treatment. Postoperative chemosis should be discussed with the surgeon, particularly if it is worsening, painful, or affecting eyelid closure.

Avoid using leftover prescription drops or another person's medicine. Products marketed mainly to "get the red out" may temporarily narrow surface blood vessels without treating the cause, and redness can rebound after repeated use.

Complications

Chemosis itself often resolves without lasting harm. Complications are more likely when swelling is severe, prolonged, or linked to a deeper infection or another eye disorder.

If the eyelids cannot close, the exposed cornea may dry out. This is called exposure keratopathy. It can cause pain, light sensitivity, blurred vision, corneal abrasions, ulcers, or infection. Prompt surface protection helps lower this risk.

Untreated infection involving the eye socket can threaten vision and may spread to nearby structures. This is different from routine conjunctivitis and usually causes additional findings such as fever, significant pain, reduced eye movement, or a bulging eye.

Long-lasting chemosis can sometimes interfere with blinking, tear distribution, and recovery after eye surgery. The outlook depends mainly on identifying and treating the cause.

Follow up

Routine follow-up is appropriate when mild swelling is improving, vision is normal, and there is no significant pain. Contact a clinician if symptoms persist, keep returning, or do not improve as expected with the recommended care. People recovering from eye surgery should follow the schedule provided by their surgeon.

Seek urgent, same-day eye care for:

Call emergency services for sudden eye or facial swelling accompanied by difficulty breathing, faintness, wheezing, or swelling of the lips, tongue, or throat. These can be signs of a serious allergic reaction.

- New or worsening blurred or reduced vision

- Moderate or severe eye pain
- Marked sensitivity to light
- Inability to close the eyelids
- Increasing swelling after surgery or injury
- Contact lens use with pain, light sensitivity, or reduced vision
- Fever, a bulging eye, double vision, or pain or difficulty moving the eye
- Chemical exposure after immediately rinsing the eye with clean water

Sources

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