CONDITION

Hyphema

Hyphema is bleeding into the clear front chamber of the eye.

WHAT IT IS
Blood collecting in the front chamber of the eye

BODY SYSTEM
Eyes and vision

MAIN SYMPTOMS
Blurred vision, eye pain, light sensitivity, visible blood

WHAT CAUSES IT
Eye trauma, surgery, abnormal vessels, or bleeding disorders

HOW IT IS DIAGNOSED
Eye examination, slit-lamp examination, and pressure measurement

MAIN TREATMENT
Eye protection, activity limits, medicines, and sometimes surgery

CAN IT BE CURED?
Sometimes - blood clears, but eye damage may persist

IS IT AN EMERGENCY?
Yes, urgent assessment after injury or sudden bleeding

LONG-TERM OUTLOOK
Often good with prompt care and careful follow-up

Overview

Hyphema means that blood has entered the anterior chamber, the clear fluid-filled space between the cornea and the colored part of the eye. The cornea is the clear front surface. The colored part is called the iris.

The amount of blood can range from scattered red blood cells seen only during an eye examination to a visible layer covering part or all of the iris. The blood may shift when you change position.

Most hyphemas follow a blow or other injury to the eye. They can also happen after eye surgery or, less commonly, because of abnormal blood vessels, blood disorders, or medicines that affect clotting.

A hyphema needs urgent assessment by an eye professional. Blood can block the eye's normal

fluid drainage and increase pressure inside the eye. Prompt treatment helps protect the cornea, optic nerve, and vision.

A red patch on the white of the eye is usually not a hyphema. That is called a subconjunctival hemorrhage. A hyphema is deeper inside the eye and may not always be visible without examination.

Symptoms

Symptoms usually begin soon after an eye injury, although bleeding can sometimes appear or worsen later.

Possible symptoms include:

Small hyphemas may cause few symptoms. Larger ones can block vision more noticeably. Pain, headache, nausea, or vomiting may occur if pressure inside the eye rises.

Do not judge the seriousness of an injury by how much blood you can see. A small hyphema can still be linked to other damage, such as injury to the lens, retina, or drainage structures of the eye.

- Blurred, hazy, or reduced vision
- Eye pain or a feeling of pressure
- Sensitivity to light
- Visible blood or a dark fluid level inside the eye

Causes and risk factors

Blunt trauma is the most common cause. A ball, fist, toy, tool, or other object can compress the eye and tear small blood vessels in the iris or nearby tissues. Penetrating injuries can also cause bleeding and may damage the wall of the eye.

Hyphema may occur during or after eye surgery. This is usually recognized and monitored by the surgical team, but new bleeding, pain, or worsening vision still needs prompt review.

A hyphema that happens without an obvious injury is called a spontaneous hyphema. Possible causes include:

Sickle cell disease and sickle cell trait are especially important. Red blood cells can change shape within the anterior chamber and obstruct fluid drainage. This may cause harmful pressure even when the hyphema appears small.

Children can develop hyphema from sports injuries, falls, or objects such as elastic cords and projectile toys. In a child, unexplained bleeding may require a broader medical assessment to understand how the injury happened and whether an underlying condition is present.

- Abnormal new blood vessels on the iris
- Eye tumors or severe inflammation
- Blood-clotting disorders
- Medicines that reduce blood clotting
- Certain blood vessel or blood cell conditions

Diagnosis

An eye professional examines the eye and asks about injuries, operations, medicines, and medical conditions. If trauma occurred, they may also assess the eyelids, bones around the eye, lens, retina, and optic nerve.

A slit lamp is a microscope with a bright, narrow beam of light. It allows the examiner to see red blood cells or a layer of blood in the anterior chamber.

Pressure inside the eye is usually measured if it is safe to do so. Pressure testing is avoided when a rupture of the eye is suspected because touching or pressing the eye could make the injury worse.

Other testing may include an ultrasound or imaging scan when deeper structures cannot be seen or when an eye socket fracture or foreign object is possible. Ultrasound is not used if an open injury to the eyeball has not been ruled out.

Blood tests are not needed for every traumatic hyphema. They may be considered if the bleeding was spontaneous, seems unusual for the injury, or could be related to a clotting problem. Testing for sickle cell disease or trait may be discussed when a person's status is unknown and the result would change pressure management.

Treatment and management

Treatment aims to prevent further bleeding, control eye pressure, ease discomfort, and protect vision. Management depends on the amount of blood, eye pressure, associated injuries, and underlying cause.

Many people can recover at home with close eye-clinic follow-up. Others need hospital

observation, particularly when there is a serious associated injury, difficulty attending follow-up, high eye pressure, sickle cell disease or trait, or concern that treatment cannot be followed safely.

Common measures include:

An eye professional may prescribe drops to reduce inflammation, keep the iris from moving painfully, or lower eye pressure. These medicines require monitoring and are not suitable for every situation.

Aspirin and nonsteroidal anti-inflammatory drugs, such as ibuprofen, can increase bleeding risk. However, do not stop aspirin, anticoagulants like warfarin or apixaban , or other prescribed medicines on your own. The clinician managing the hyphema may need to coordinate any change with the person who prescribed them. Acetaminophen, also called paracetamol, is often considered for pain when medically appropriate.

Further bleeding can occur after the original injury, often during the first several days. This is why activity limits and follow-up remain important even when vision starts improving.

Surgery may be needed to wash blood out of the anterior chamber. It is considered when eye pressure cannot be controlled, the cornea is at risk of staining, bleeding does not clear adequately, or the amount of blood threatens eye structures.

- Wearing a rigid eye shield to prevent accidental pressure or further injury
- Keeping the head raised, including during sleep
- Limiting strenuous activity, bending, and heavy lifting
- Avoiding rubbing or pressing on the eye
- Attending repeated checks of vision, bleeding, and eye pressure

Complications

Raised pressure inside the eye is an important complication. If it remains high, it can damage the optic nerve, which carries visual information to the brain. Lasting optic nerve damage is called glaucoma.

Other possible complications include:

In young children, prolonged blurred vision can interfere with normal visual development. This may lead to amblyopia, sometimes called lazy eye, in which the brain does not develop strong vision from the affected eye.

Some complications appear after the visible blood has cleared. Follow-up may include a later

examination of the drainage angle and periodic pressure checks.

- Rebleeding, which may be more severe than the initial bleeding
- Blood staining of the cornea
- Scar tissue or abnormal attachments inside the eye
- Damage to the lens, retina, or other structures from the original injury
- Long-term glaucoma after damage to the eye's drainage angle

Prevention

Not every hyphema can be prevented. Bleeding related to surgery, abnormal blood vessels, tumors, or inherited blood conditions may occur despite appropriate care.

Many traumatic hyphemas can be prevented with correctly fitted protective eyewear. Use eye protection designed for the activity when playing sports with fast-moving balls, working with tools or machinery, or handling objects that may snap back or produce flying fragments. Ordinary glasses do not provide the same protection as certified sports goggles or safety glasses.

Store projectile toys and elastic cords carefully, and follow age and safety guidance. After one hyphema, avoid returning to contact sports or high-risk activity until the eye professional says the eye has recovered enough.

If you take medicine that affects clotting, take it as prescribed. Do not change it solely to prevent eye bleeding without medical advice.

Living with it and what to expect

The visible blood often settles and gradually clears over days to weeks. Vision may improve as the blood is absorbed, but recovery also depends on whether the original injury damaged another part of the eye.

During early recovery, you may need several appointments close together. These visits are used to check whether the blood is clearing and whether pressure is rising. Missing follow-up can allow a treatable pressure problem to go unnoticed.

You may need time away from sports, heavy work, and activities with a risk of another eye injury. Reading and other quiet activities may be allowed, but follow the restrictions given after your examination.

Most uncomplicated hyphemas clear without surgery. A more severe injury, repeated bleeding, corneal staining, or optic nerve damage can lead to lasting changes in vision.

An injured drainage angle can cause glaucoma months or years later, even if the eye initially feels normal. Your eye professional may recommend long-term pressure checks. This is routine monitoring rather than a sign that glaucoma is certain to develop.

When to get medical help

Seek urgent same-day eye care if you notice blood inside the eye, especially after an injury. Sudden blurred vision, eye pain, or light sensitivity after a blow to the eye also needs urgent assessment, even if no blood is visible.

Go to an emergency department immediately if:

Do not remove an embedded object, press on the eye, or apply a tight patch. If possible, place a rigid shield loosely over the eye while getting help. Avoid food and drink until assessed if a serious injury may require a procedure.

During treatment, contact the eye clinic promptly if pain or vision worsens, fresh bleeding appears, or prescribed drops cause concerning symptoms. Keep routine follow-up appointments even when the eye looks clearer.

- An object has penetrated or remains stuck in the eye
- The eye looks misshapen, cut, or open
- Vision is suddenly lost or rapidly worsening
- Severe eye pain occurs with headache, nausea, or vomiting
- Blood appears to fill most or all of the front of the eye
- The injury also caused loss of consciousness or other serious head symptoms

Common questions

Will a hyphema go away on its own?

Many small traumatic hyphemas are gradually absorbed by the body. They still need urgent assessment and follow-up because eye pressure can rise and bleeding can recur. Some hyphemas require medicines or surgery.

How long does a hyphema take to clear?

The time ranges from several days to a few weeks. Larger bleeds and repeated bleeding may

take longer. Vision may remain affected if the original injury damaged another part of the eye.

Can I sleep normally with a hyphema?

You may be advised to sleep with your head raised so blood settles away from the center of vision and the eye's drainage area. A rigid shield may protect the eye while sleeping. Follow the positioning advice given after your examination.

Can I use ibuprofen for hyphema pain?

Ibuprofen and similar anti-inflammatory medicines can increase bleeding risk. Ask the clinician assessing the injury which pain relief is appropriate. Do not stop prescribed aspirin or blood-thinning medicine without guidance.

Can hyphema cause permanent vision loss?

It can, particularly when pressure stays high, the cornea becomes stained, or the original injury damages the retina, lens, or optic nerve. Prompt care and follow-up reduce the chance that treatable problems will cause lasting harm.

Can I play sports after a hyphema?

Not during early healing. Another impact could trigger further bleeding or worsen the injury. Return only after an eye professional has assessed healing, and use appropriate protective eyewear when you resume.

Sources

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