

Psst!

Plan to Stay in Shape Today

A large, stylized graphic of an eye. The iris is a teal circle with radiating lines. The pupil is a black circle containing the text 'HEALTHY EYES' in white, bold, sans-serif font. Two white circles of different sizes are positioned above the pupil, representing highlights. The eye is framed by thick, curved orange and teal bands.

**HEALTHY
EYES**

 **familiprix**

“

HEALTHY EYES

CLEAR VISION AT A GLANCE!

The human body has five amazing senses we rely on for our everyday life and development: hearing, taste, touch, smell, and sight. Our eyes, whether they're blue, brown, or green, make it possible for us to appreciate and enjoy all life's little memorable moments day after day. Just the thought of losing the ability to see is enough to make us realize the importance of taking good care of these extraordinary tools.

This informative guide was developed to educate you about your eyes and highlight the importance of consulting a healthcare professional in certain situations.

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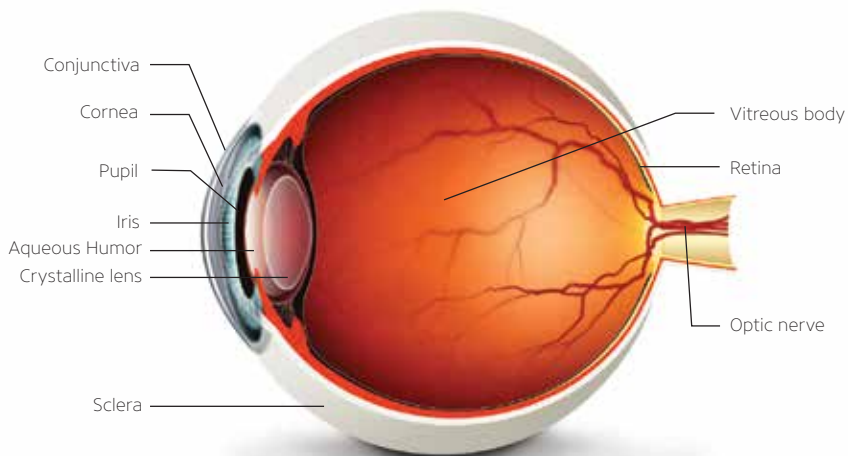
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THE EYE AND ITS STRUCTURE

Like a camera, the main role of the eye **is to capture light**. Vision is a complex process made possible by the eye's various structures. These structures transform the light captured by our eyes into nerve impulses. This information is then transmitted to the brain, which transforms these signals into an **image**.

Which structures make it possible for you to see?

ANATOMY OF THE EYE



- **CONJUNCTIVA**

Thin membrane that covers and protects the cornea.

- **CORNEA**

Thin, convex, transparent membrane that covers the pupil and iris. It is the main lens of the eye and concentrates rays of light on the **retina** at the back of the eye.

- **PUPIL**

The opening in the center of the **iris** whose size varies with light levels. It helps you see at night and avoid being blinded in the daytime.

- **IRIS**

A muscle that contracts or dilates based on the intensity of the light it's exposed to. It controls the amount of light being transmitted to the **retina**. It is the coloured part of the eye.

- **AQUEOUS HUMOR**

A transparent liquid that is continuously secreted and filtered in the space between the **cornea** and the **crystalline lens**. It plays an important role in maintaining eye pressure and the round shape of the eye.

- **CRYSTALLINE LENS**

A transparent lens that acts like the adjustable lens of a camera. It changes shape and helps you see clearly by keeping objects that are close up or far away in focus.

- **SCLERA (OR SCLEROTIC)**

Protective cover, the white of the eye.

- **VITREOUS BODY**

A gel that fills the eye cavity behind the **crystalline lens** and accounts for most of the eye's volume. It gives the eye consistency (rigidity) and helps keep the **retina** in place at the back of the eye.

- **RETINA**

A thin, light-sensitive tissue lining the back of the eye. It consists primarily of two types of specialized cells: rods, which allow us to see in dim light and at night, and cones, which interpret colour and image sharpness.

- **OPTIC NERVE**

Like a phone cable, it transmits visual information perceived by the eyes to the brain as nerve impulses.

- **MACULA**

Small light-sensitive circle at the center of the **retina** that reacts based on the amount of light it receives and is responsible for ensuring crisp, clear vision.

When light reaches our eyes, it traverses first the cornea, then the pupil, where the iris adjusts the amount of light that enters. Next, light passes through the crystalline lens, which focuses the light rays onto the retina. The retina transforms the light into a message that is transmitted through the optic nerve to the brain, where it is decoded so you can see!



Did you know?

- The colour of our eyes is genetic.
- The eyes of Caucasian babies are usually blue at birth and assume their permanent colour at around six months.
- People with light eyes (blue, green) are usually more sensitive to bright light because they have low iris pigmentation, which allows more sunlight to penetrate.



COLOUR BLINDNESS

For most people, it's easy to tell the difference between the bright colours of the rainbow. However, for some people, the rainbow isn't as magnificent as it is for everyone else. Colour blindness is a hereditary condition that affects the ability to see colours. Most people who are colour blind find it difficult to distinguish between colours like green, orange, brown, and light red, which they will usually perceive as different shades of grey-brown-yellow that are difficult to differentiate from one another. It's estimated that nearly 8% of white men are colour blind, while that figure is less than 1% among women.



Normal vision



Colour blindness

DO YOU SUFFER FROM A VISION TROUBLE?

Maybe you have trouble reading the newspaper in the morning or difficulty seeing when you drive at night, or maybe far away objects are getting increasingly blurry. Are your eyes letting you down? To demystify the vision problems you might face, you should first understand how our eyes work.

The eyeball is generally round and the two lenses at the front of the eye, the **crystalline** and the **cornea**, focus the rays of light directly on the **retina**, allowing our brain to create a clear image (see Diagram 1). However, the clarity of this image can vary depending on the person. There are several reasons for this.

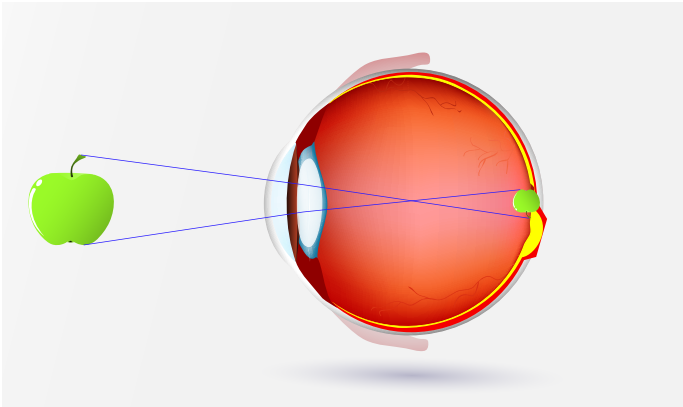


DIAGRAM 1 A healthy eye



Nearsightedness (Myopia)

Description

A nearsighted person's eyeball is longer than normal, which alters how both of the eye's lenses function. As a result, the image is formed **in front of the retina**.

How is vision impaired?

Nearsightedness affects a person's ability to see **at a distance**. Their near vision is unaffected.

Age of onset

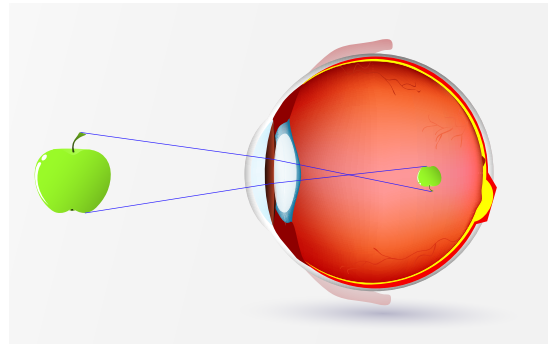
Nearsightedness generally appears in **childhood** (children or teens) and evolves into adulthood when it tends to stabilize, but, for some people, it can continue to progress throughout their entire lives.

Symptoms

- Frequent headaches
- Gradual decline in distance vision
- Squinting to see better
- Approaching objects to see them more clearly

Treatments

- Glasses
- Contact lenses
- Corrective laser surgery



Farsightedness (Hyperopia)

Description

A farsighted person's eyeball is either too short, too small, or has a cornea that is too flat. The image is formed **behind the retina**.

How is vision impaired?

Farsightedness affects a person's ability to see **up close**. Their distance vision is generally unaffected.

Age of onset

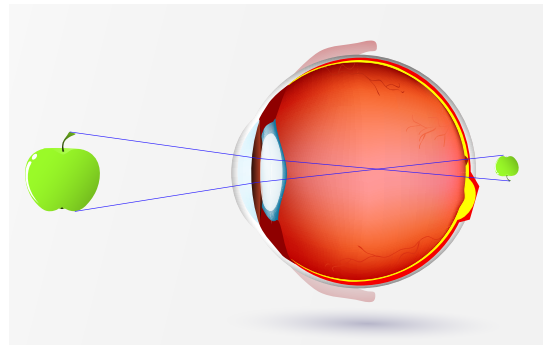
Affects people **of all ages**.

Symptoms

- Frequent headaches
- Difficulty making out close objects
- Visual fatigue from looking at objects up close

Treatments

- Glasses
- Contact lenses
- Corrective laser surgery

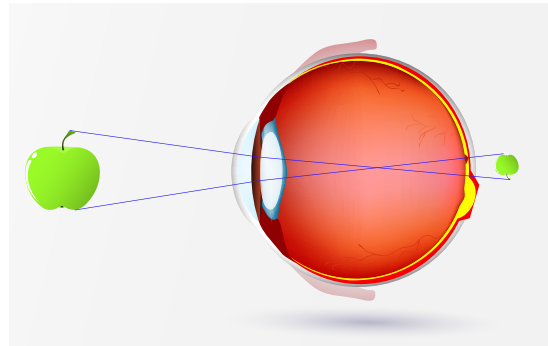


Farsightedness and age-related farsightedness both affect a person's ability to see up close. However, farsightedness is a result of a refractive error or a misshapen eye, while age-related farsightedness is caused by aging.

Age-related farsightedness (presbyopia)

Description

Over time, the crystalline lens becomes thicker and harder. This reduces the eye's ability to adjust between near and distance vision. As a result, light is not directed to the right part of the retina. The image is formed **behind the retina**.



How is vision impaired?

Age-related farsightedness affects a person's ability to see objects **up close**. Distance vision is unaffected.

Age of onset

Symptoms generally appear **after the age of 40** and tend to stabilize at around the age of 65.

Symptoms

- Frequent headaches
- Difficulty seeing close objects clearly
- Visual fatigue from looking at objects up close
- Need to hold reading material at a distance

Treatments

- Glasses
- Contact lenses
- Corrective laser surgery

Astigmatism

Description

A person with astigmatism has an irregular-shaped cornea. Instead of being round, the cornea is ovalular like a football. As a result, the image is formed at **different points on the retina**.

How is vision impaired?

Peripheral vision is affected; the eye is able to make out an object, but everything around it is **blurry**.

Age of onset

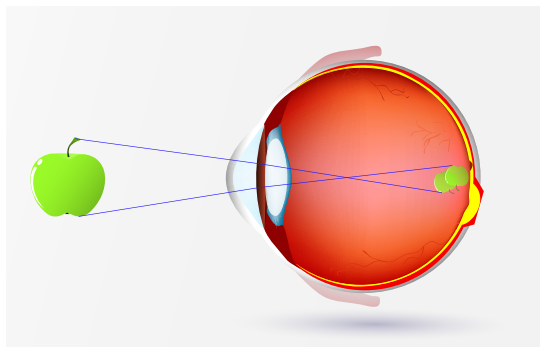
Varies depending on the cause.

Symptoms

- Vision is blurred, distorted, doubled, and unclear
- Frequent headaches
- Eye tension

Treatments

- Glasses
- Contact lenses
- Corrective laser surgery



How can I fix my vision trouble?

An optometrist can assess your vision with an eye exam. The frequency of these exams varies depending on your age and condition. Talk to your vision specialist for more information!

There are many options available to correct vision troubles, including glasses. **Glasses** have frames and corrective lenses with a precise curve that redirects light rays onto the retina. As a result, glasses can correct nearsightedness, farsightedness, astigmatism, and age-related farsightedness.

Contact lenses

Over 125 million people worldwide wear contact lenses. They correct a number of vision problems and can be a useful tool for certain eye diseases.

Contact lenses are small curved discs that cover the **cornea** (the transparent membrane covering the eye) and part of the **sclera** (the white of the eye). There are different types of contact lenses—hard or soft, dailies or monthlies—and the choice varies from person to person. A thorough eye exam will help you choose the contacts that are right for you.



Like glasses, contact lenses have a precise curve that redirects light rays onto the retina, correcting vision.

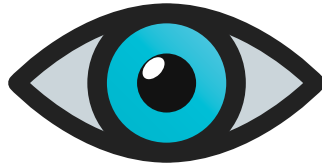
It's important to remember that contact lenses are a **foreign object** in your eyes. If they are not properly adjusted or taken care of, they can lead to serious eye problems. Contact lens wearers sometimes experience:

- Tears (watery eyes)
- An uncomfortable or burning sensation
- Sensitivity to light
- Dry eyes
- Blurry or distorted vision



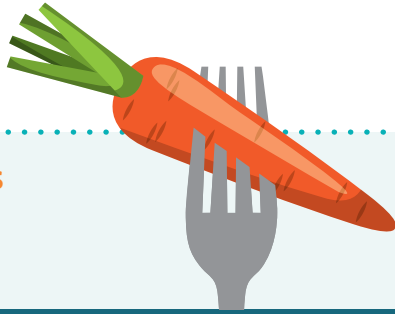
Did you know?

Certain medications can cause dry eye syndrome, making it uncomfortable to wear contact lenses.



Contact lenses are delicate and require special care. **Proper maintenance is essential** because they are in direct contact with your eyes. To avoid premature deterioration or the risk of eye infections, contact lenses need to be carefully cleaned. Here are some rules to follow:

- 1 Always wash your hands before handling your contacts.
- 2 Check the expiration date and condition of your contacts.
- 3 For details on the specifics of each product, consult the manufacturer or a vision specialist.
- 4 Don't use tap water to clean your contacts. Instead, use a commercial contact lens solution since tap water may contain microorganisms that could contaminate your lenses and cause an eye infection.
- 5 Respect the maximum daily wear time for contact lenses.
- 6 Clean your contact lens case after each use and replace it often.



Does eating **carrots** really help improve my vision?

There's a link between carrot consumption and vision. Carrots contain a substantial amount of a nutrient called **beta-carotene**. Once digested by the body, beta-carotene transforms into **vitamin A**. Vitamin A improves **night vision** by helping our eyes adapt to darkness and better distinguish shapes and colours.

It's also true that carrots can potentially delay the onset of certain eye diseases, such as age-related macular degeneration, cataracts, or glaucoma, but they unfortunately can't fix problems like nearsightedness or astigmatism. They'll certainly never replace glasses or contact lenses!

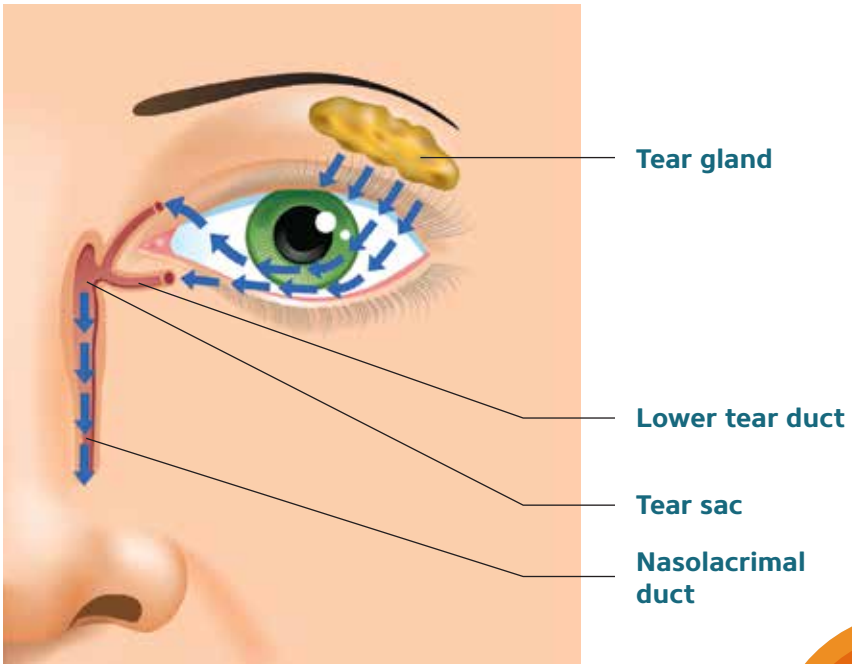
Laser surgery

Do you dream of never having to wear your glasses or contacts again? There are several procedures available to correct the above-mentioned vision disorders. The most common and well-known procedure, particularly among young adults with nearsightedness, is LASIK corrective surgery (**L**aser-**a**ssisted **I**n-**S**itu **K**eratomeileusis). This surgery uses a laser to correct the cornea so that it redirects light correctly onto the retina, resulting in almost perfect vision. Laser surgery is costly and irreversible. It's important to be well informed before undergoing this operation. Many surgeons are specialized in this type of procedure. Visit a specialized clinic for more information.

SUFFERING FROM DRY EYE SYNDROME?

Our eyes are constantly lubricated by our tears and eyelids. Our tears are produced by the tear glands around the eye (see illustration). They protect our eyes from infection, eliminate debris on the eye surface, and provide lubrication. The tear film is renewed every time we blink.

HOW TEAR GLANDS WORK



What causes dry eye syndrome?

Dry eye syndrome is generally linked to improper eye lubrication. Eyes usually become dry for three reasons:

- 1 Reduced tear production
- 2 Excessive evaporation of tears
- 3 Abnormal tear composition

Dry eye syndrome affects between 5 and 30% of people. It is caused by a number of factors, but becomes more common with age, especially in women, because of hormonal changes. The other main factors that can cause dry eye syndrome are:

- Aging (particularly after age 40)
- Hormonal changes (after menopause)
- Contact lenses
- Prolonged work in front of a computer
- Exposure to smoke or a dry environment
- Certain illnesses (e.g., diabetes)
- Certain drugs including over-the-counter medications (antihistamines, sleeping pills, etc.)

Did you know?

The scientific term for blinking is **nictation**?



Did you know?

The number of times we blink per minute varies greatly depending on our age and what we're doing. The average number of blinks per minute for:

- A baby: 2
- An adult at rest: 15
- An adult in a stressful situation: 50
- An adult reading or looking at a screen: 7.5



How do you know if you suffer from dry eye syndrome?

Most people will have a prickly (slightly burning) sensation or the feeling of having sand in their eyes. Itchiness is also common, and there is a tendency to blink more often.



Did you know?

- It may seem strange, but people with dry eye syndrome caused by abnormal tear composition can have watery eyes. This is because “poor quality” tears do not adequately lubricate the eye, leading to an overproduction of tears.
- Staring at a screen for prolonged periods of time, especially when it’s a small screen like a cellphone, can reduce the number of times you blink. Blinking less leads to reduced hydration and dry eye syndrome.



What can I do to relieve my dry eyes?

Treatments for dry eye syndrome vary depending on the cause. Here are some helpful “household” tips:

- Use a humidifier at home
- Avoid smoke and air conditioning
- Stop smoking
- Take frequent breaks when working at a computer
- Drink plenty of water
- Apply warm, wet compresses on closed eyelids twice a day for 5–10 minutes
- Don’t forget to blink when you’re doing activities likely to reduce the frequency of your blinking

Artificial tears

If these tips don't reduce the symptoms of dry eye syndrome, over-the-counter **artificial tears** can be an alternative. There are a lot of products out there, but finding the right one can be a challenge.



Artificial tears contain many ingredients and have different characteristics. The **viscosity** of artificial tears and the **preservatives** in them can have a big effect on your comfort once you've applied them.

1 TEAR VISCOSITY

The more viscous the tear is, the more it will hydrate your eyes and reduce long-term dryness. A lubricating gel will be more hydrating than a drop. However, lubricating gels can blur your vision for a few minutes after application. It's important to wait until you can see properly again before driving or doing any other activity requiring clear vision.



CAUTION!

No matter what product you use, it's recommended that you replace a bottle of eye drops **one month after opening** it because the preservative loses its effectiveness. The expiry date on the bottle is only valid for unopened products. For occasional use, it's better to buy small bottles to avoid waste.

2 PRESERVATIVES

Preservatives stop bacteria from contaminating your container. There are different types of preservatives and some are more irritating to the eyes than others. If you find that traditional artificial tears are too irritating, there are artificial tears sold in single dose form. These products are preservative-free, which makes them less likely to irritate your eyes. However, they are quite expensive. Talk to your healthcare professional to find the best product for your eyes.



CAUTION!

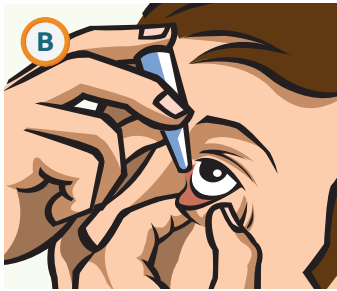
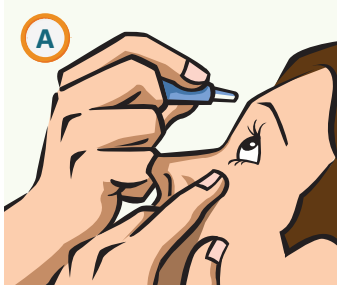
Not all preservatives used in artificial tears are compatible with contact lenses. Some of them can damage your lenses, which is why it's important to refer to the manufacturer's recommendations. When in doubt, check with your healthcare professional!

Techniques for administering eye drops and/or ophthalmic ointments

STEP BY STEP

When administering eye drops, there are some basic rules to follow in order to use the product to its full potential and avoid contamination. Here are some steps for properly applying a drop or ointment.

CONVENTIONAL METHOD



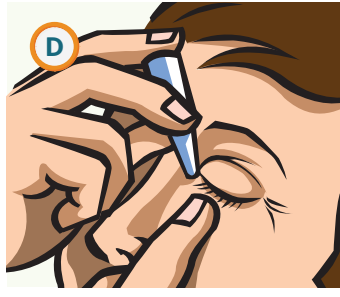
1. Wash your hands thoroughly with soap and water.
2. Tilt your head back gently and look up (Figure A).
3. With your thumb and index finger, form a little pocket with your lower lid (Figure B).
4. Place one drop or about 1 cm of ointment into this pocket.
To avoid contaminating the drops or ointment, make sure that the tip of the applicator doesn't touch the eyelid.
5. Gently close your eye and, if applying drops, place the tip of your finger over the corner of your eye (near your nose) for 1 to 2 minutes to help keep the medication in contact with the eye longer (Figure C).
6. **Wait 5–10 minutes before applying a second drop, if necessary.**

Note: Vision may remain cloudy for 10–20 minutes after ointment is applied.

ALTERNATIVE METHOD

When administering eye drops to children or people whose blink reflex makes it difficult to keep their eyes open.

1. Wash your hands thoroughly with soap and water.
2. Cleanse the eyelid with a damp washcloth (use boiled water that has cooled down).
3. Have the child or person lie on their back.
4. Close the eyelid and apply the product to the corner of the eye (near the nose) (Figure D).
5. Partially open the lid so the drop flows into the eye.
6. **Wait 5–10 minutes before applying a second drop, if necessary.**



Tools to make things easier

If you prefer the conventional method but find it hard to align the tip of the bottle with your eyelid, or you can't control your tendency to blink and consequently lose a large portion of the drops, you can use an over-the-counter eye drop guide. Insert the bottle and place the guide over the eyelid. Once perfectly positioned, all you need to do is squeeze gently so the eye drop falls directly into your eye. Talk to your healthcare professional for more information.

FOREIGN BODY IN THE EYE

Whether it's a liquid, solid, or gas, a foreign body is defined as any substance or object in your eye that shouldn't be there. When you get something in your eye, it's important to take the situation seriously because the health of your eyes depends on it. You should always consult an eye specialist if the foreign body won't go away or if it causes an injury. However, if you find yourself in one of the following situations, see a doctor as soon as possible because it's a medical emergency.

- The foreign body was projected into your eye (e.g., a splinter of metal or wood).
- Your vision becomes blurry or you experience sharp pain in your eye.
- The foreign body is stuck or embedded in your eyeball.
- You have a visible wound in your eye.




THE MOST COMMON EYE INFECTIONS

Millions of viruses and bacteria come into contact with our eyes every day. Normally, we can rely on our immune systems to fight off these intruders and stop us from developing an infection. But every once in a while, our defence mechanisms slip up and allow an infection to develop. We'll demistify the most common eye infections!

Conjunctivitis

Conjunctivitis is a common eye trouble defined as the swelling of the conjunctiva, the thin membrane lining the inner eyelid and the white of the eye. There are many causes of conjunctivitis. The three main ones are bacterial infections, viral infections, and allergies.

TYPES OF CONJUNCTIVITIS

	Bacterial	Viral	Allergic
			
Cause	Redness of the eye, edema, pus Bacteria	Redness of the eye, lacrimation Viruses	Redness of the eye, edema, lacrimation, itch Allergens (e.g., pollen)
Presence	Normally only one eye is affected, but it can affect both	Normally both eyes are affected	Normally both eyes are affected
Secretion	Sticky discharge (pus) that varies in colour from white to yellow.	Abundant and clear watery discharge	Clear and watery discharge may be present
Associated symptoms	Redness of the white of the eye Feeling of having sand in your eyes (irritation) Watery eyes		
	<ul style="list-style-type: none"> ■ Eye may be stuck together in the morning ■ Crusting on the eyelids 	<ul style="list-style-type: none"> ■ Itchy eyes ■ Possible sore throat 	<ul style="list-style-type: none"> ■ Swelling around the eyes ■ Runny nose ■ Itchy eyes ■ Sneezing ■ Generally seasonal
Treatment	<ul style="list-style-type: none"> ■ Basic treatment consists of wiping eye secretions with a warm, damp compress for a few minutes several times a day. ■ Applying artificial tears may help ease the feeling of irritation and provide a certain degree of comfort. 		
	Antibiotic eye drops or ointment, if necessary	Relieving symptoms	Eye drops or anti-allergy medication, if necessary
It's important to throw out your container of eye drops four weeks after opening to avoid contamination.			



CAUTION!

Eye drops for relieving redness **should not be used for more than three consecutive days** because of the risk of “rebound effect.” Rebound effect is a form of product dependence; people who use these products for more than three days in a row may experience redness again once they discontinue the drops. The more you use these drops, the more your eyes will feel the need for them to relieve irritation.



Did you know?

- **Bacterial** and **viral** conjunctivitis are **highly contagious**.
- They can be spread through direct contact or through objects that have been touched by an infected person.
- If only one of your eyes is affected, it can be transmitted to the other one simply by rubbing your eyes.



Remember!

To limit the spread of infection, it's important that you wash your hands frequently in hot, soapy water and wash towels and washcloths in hot water. Toys shared by a number of children should also be cleaned regularly.

TIPS AND TRICKS

- **It's best to avoid wearing contact lenses and eye makeup while treating conjunctivitis** until the redness, irritation, and secretions are gone.
- Once the infection has been treated, ask your healthcare professional whether it's best to use a new pair of contact lenses or simply clean your old ones. **The best option depends on the type of contact lenses you have.**

When should I be concerned?

Although conjunctivitis may seem harmless, a medical consultation may be necessary if you have one or more of the following signs and symptoms:

- Sore eyes
- Blurry vision
- Hypersensitivity to light
- Worsening of the condition or no improvement after two days of treatment
- Presence of an underlying illness, such as diabetes
- Recurrence of the infection

The following three infections generally affect the area around the eye and the eyelids:

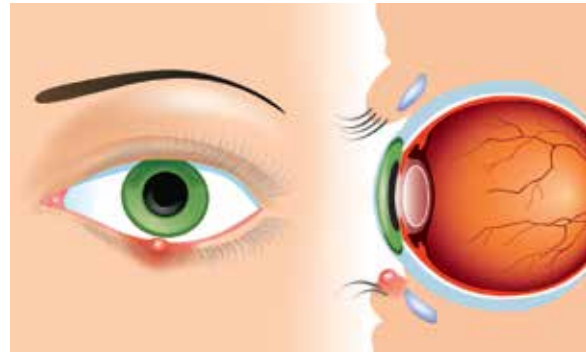
Stye

Definition and causes

Styes are caused by bacteria lodged in an eyelash follicle or in a gland around the eyelid.

Appearance

A small red bump around the eyelid that feels sore and fills with pus after a few days. It looks a bit like an acne blemish.



Treatment

Use a warm, damp compress (soaked in water that has been boiled then cooled) on closed eyelids for 5–10 minutes up to four times a day. Use a clean compress each time and wash your hands before and after touching the affected eye.

Styes are not contagious!

Most styes do not require a medical consultation and can be treated at home.

Caution! Don't try to squeeze the pus out of the stye, this is not recommended as it may worsen the infection. In most cases, the white head of the stye will open naturally after five to seven days, then finish healing on its own.

In some cases, your healthcare professional may recommend using an ophthalmic antibiotic ointment.

Special care

- Avoid applying cosmetics to the area around the affected eyelid while the stye is present.
- If the stye is a recurring problem, it's best to avoid wearing contact lenses until the problem has been resolved for several months.

You can find an over-the-counter solution designed specifically for cleaning eyelids or even use baby shampoo as an alternative. **Simply dilute a small amount of shampoo in one cup of warm water that has been boiled then cooled and use on eyelids with a compress.**

When should I consult a healthcare professional?

- If you see no improvement after a few days (generally two days) even after using warm, damp compresses and an antibiotic ointment (if necessary for treatment).
- If the area around the eye is red and swollen.
- If styes frequently reappear in the same place.
- If you experience continued redness and irritation of the eyelids.
- If you have crusting on your eyelids.
- If you're suffering from pain, vision problems, or hypersensitivity to light.

Chalazion

Definition and causes

A chalazion is not an infection, but rather an accumulation of secretions caused by a blocked meibomian gland (the gland at the rim of the eyelids that secrete the oils contained in tears).

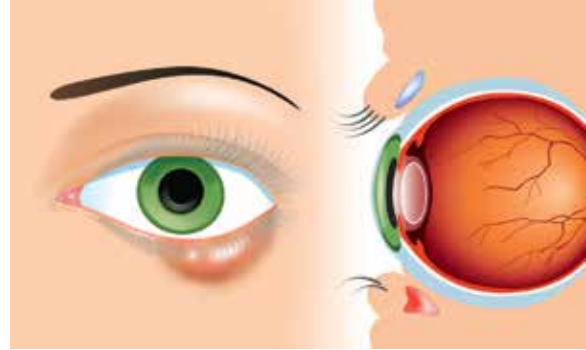
Appearance

Generally the eyelid swells and there's a bump larger than a sty. The eyelid can become red and sore.

Treatment

Use a warm, damp compress (soaked in water that has been boiled then cooled) on closed eyelids for 5–10 minutes up to four times a day. Use a clean compress each time and wash your hands before and after touching the affected eye.

Warm, damp compresses are the best initial treatment for a few days, but may not be enough. In this case you may require medical attention.



Prevention

Keeping your eyelids clean is the best way to prevent a chalazion.

Just like for styes, you can find an over-the-counter solution designed specifically for cleaning eyelids or use baby shampoo as an alternative.

Simply dilute a small amount of shampoo in one cup of warm water that has been boiled then cooled and use on eyelids with a compress.

When should I consult a healthcare professional?

The main conditions requiring a medical consultation are the same as for styes. You should consult a healthcare professional if:

- You see no improvement after a few days (generally two days) even after using warm, damp compresses and an antibiotic ointment (if necessary).
- The area around the eye is red and swollen.
- Frequent reappearance of a chalazion in the same place.
- Continued redness and irritation of the eyelids.
- Crusting on the eyelids.
- Pain, vision problems, or hypersensitivity to light.

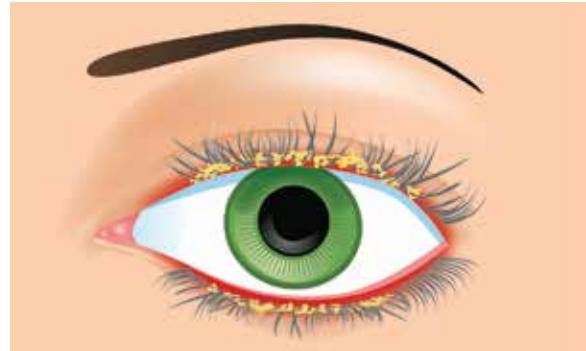
Since a chalazion
is due to the
accumulation of sebum
inside a gland,
**it's harder to treat
than a sty.**

Blepharitis

Definition and causes

Blepharitis causes inflammation around the eyelids and is caused by:

- A bacterial or viral infection
- Allergies
- A toxin



Appearance

This condition generally affects both eyes. Skin becomes flaky and crusts form around the eyelashes. Some people feel like they have something in their eye or a burning sensation on the edges of the eyelids. The eyelids can also become red and irritated.

Treatment

Use a warm, damp compress (soaked in water that has been boiled then cooled) on closed eyelids for 5–10 minutes up to four times a day. Use a clean compress each time and wash your hands before and after touching the affected eye.

To remove the crust from your eyelashes (once softened with warm, damp compresses), keep your eyes closed and gently clean the base of the eyelashes. Once the crust is removed, rinse the eyelids well.

If blepharitis is not treated properly, the glands on the edge of the eyelid can become blocked and infected, leading to recurrent styes or other problems.

In some cases, an antibiotic ointment should be applied after cleaning the eyelids.

Special care

To prevent the blepharitis from getting worse, it is preferable to use **water-based cosmetics** on the eyelashes and eyelids and to throw out products that have come in contact with squama and crusts.

You can find an over-the-counter solution designed specifically for cleaning eyelids or use baby shampoo as an alternative. **Simply dilute a small amount of shampoo in one cup of warm water that has been boiled then cooled and use on eyelids with a compress.**

When should I consult a healthcare professional?

Blepharitis sufferers should see their doctor if blepharitis signs and symptoms don't improve despite daily cleaning of the eyelids.

The basic treatment for blepharitis is **cleaning your eyelids daily, on a long term.**

THE MOST COMMON EYE DISEASES

Like all organs in the human body, your eyes may deteriorate with time. Your chances of developing eye diseases, some of which can significantly impact your quality of life, increase with time. Preventative measures can help reduce these risks, so it's essential to take good care of your eyes, even when you're young!

Cataracts

What's a cataract?

The eye has what is called a **crystalline lens**, which works like a camera lens to allow images to focus on the **retina**. When this **lens** loses its clarity, becoming cloudy or opaque, the eye is said to have a cataract. The cataract prevents light rays from focusing clearly, resulting in the loss of both close and distance vision.

Contrary to popular belief, a cataract is not a layer that has grown over the surface of the eye.

VISION WITHOUT A CATARACT



VISION WITH A CATARACT



People with cataracts generally have the following symptoms:

- Gradual loss of sight despite changing their eyeglass prescription
- The feeling of looking through a frosted glass
- Blurred or double vision in bright conditions
- Reduced night vision
- Appearance of halos around light
- Objects that seem darker and colours less bright

To find out if you have a cataract, have your eye specialist perform a comprehensive eye exam.

What causes cataracts?

Most cataracts are the result of **aging**. They generally appear around the age of 50 and it's estimated that half of people over the age of 75 are affected. However, frequent and prolonged exposure to ultraviolet light (if you work outdoors, sunbathe, spend time at the beach, etc.), heredity, an eye injury, certain medications, diabetes, and other diseases can all cause cataracts.

Unfortunately, age-related cataracts cannot be prevented. However, cataracts that result from eye injury or prolonged exposure to ultraviolet light can be prevented by using proper eye protection while working, playing sports, or enjoying the sun.

There are currently no drugs available to treat cataracts. Although not necessary in all cases, surgery is the only treatment available. During surgery, the surgeon replaces the damaged **crystalline lens** in the eye with a permanent transparent **artificial lens** appropriate for the patient's vision.

Glaucoma

Glaucoma is an eye disease that damages the **optic nerve**, resulting in a diminished field of vision. By field of vision, we mean everything the eye can detect when you look straight ahead. Glaucoma can affect one or both eyes.



Glaucoma usually occurs when pressure inside the eye (intraocular pressure) is too high. The eye is filled with a watery liquid called the **aqueous humor**, which plays a vital role in maintaining the eye's round shape and **interior pressure**. When this liquid is produced in excessive amounts or doesn't drain properly, pressure increases within the eye. The excess pressure gradually damages the **optic nerve**, whose function is to transport images from the eye to the brain.



It is important not to confuse blood pressure and intraocular pressure.



What causes glaucoma?

The exact cause of glaucoma is unclear. However, there are certain factors that increase your risk of developing it:

- Heredity (family history)
- Ethnicity (particularly if you're of African, Asian, or Hispanic descent)
- Severe nearsightedness
- Aging
- Diabetes, hypertension, and other blood vessel diseases
- Certain medications



CAUTION!

Even people with normal intraocular pressure can suffer from glaucoma!

There are two main types of glaucoma: acute angle-closure glaucoma and chronic open-angle glaucoma. Here are some characteristics that differentiate the two:

Specific characteristics of each type of glaucoma

	ACUTE ANGLE-CLOSURE GLAUCOMA	CHRONIC OPEN-ANGLE GLAUCOMA
Frequency	Least frequent	Most frequent (approximately 90% of cases)
Is it painful?	Extremely painful	Generally pain-free
Treatment	Requires emergency treatment	Usually requires long-term treatment with ophthalmic drops
Cause	Sudden increase in intraocular pressure	Gradual increase in intraocular pressure
Symptoms	<ul style="list-style-type: none"> ■ Suddenly blurred vision with the presence of coloured halos ■ Pain in and around the eye ■ Redness in the eye ■ Headache ■ Occasional nausea and vomiting 	<ul style="list-style-type: none"> ■ Gradual decline in field of vision. It's very difficult to detect and can sometimes go unnoticed!



Is there a way to prevent glaucoma and field of vision impairment?

Because it's usually symptomless, the best way to prevent field of vision impairment is to have regular eye exams as recommended by your vision specialist, including screening for glaucoma if appropriate.

Glaucoma is often treated with drops that reduce intraocular pressure. A good way to slow the development of the disease is to follow your prescribed treatment to the letter. Existing damage can't be undone, but properly following your treatment will reduce the risk of further impairing your field of vision.

Reviewing the way you administer eye drops can make treatment more effective and reduce the risk of undesirable side effects. See the section "Techniques for administering eye drops and/or ophthalmic ointments" on page 22.

WHAT ABOUT DIABETES?

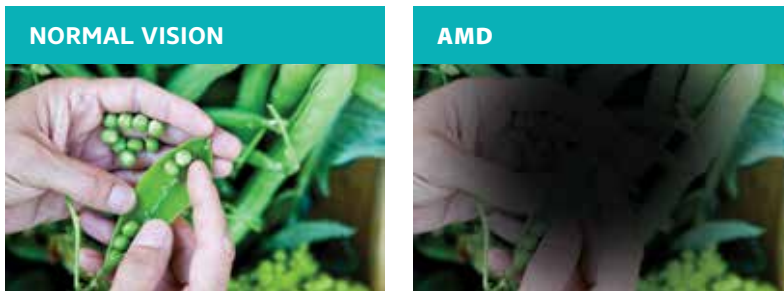
Diabetes occurs when your body has difficulty regulating glucose from the food you eat, which increases your blood sugar. **Sugar damages the lining of blood vessels** until they can no longer work properly. This usually occurs in the small blood vessels in the body, particularly those in the eyes.

If diabetes isn't properly managed, it can lead to a number of complications depending on the part of the eye that's affected. If you're diabetic, you should monitor your blood glucose levels and have your vision tested regularly to detect any eye abnormality early.

Age-related macular degeneration (AMD)

What is AMD?

The **retina** is a thin layer of nerve tissue lining the back of the eye. Its role is to transmit nerve impulses to the brain through the optic nerve to allow us to see. At the centre of the **retina** is the **macula**, which is responsible for ensuring crisp, clear vision. It plays a major role in activities like reading, driving a car, doing precision work, etc.



AMD is a chronic condition that mainly affects people **over the age of 55**. It's defined as the gradual destruction of the macula and leads to blurred eyesight, primarily in the centre of the field of vision. Some people afflicted with AMD also describe seeing spots or having an impression of looking through a dirty window. In some cases, AMD distorts straight lines, making them appear wavy.

AMD can only be detected through an examination of the back of the eye by an eyecare professional.

What causes AMD?

The name “age-related macular degeneration” suggests that **aging is the obvious main precursor for this condition**, but **heredity** and

gender—specifically, being female—are also linked with higher incidence of the disease. Unfortunately, we can't change these risk factors.

However, smoking, prolonged exposure to sunlight, hypertension, and a diet low in antioxidant vitamins and minerals are AMD risk factors that we can do something about. Knowing this can motivate people to change certain lifestyle habits to reduce the risk of developing macular degeneration.

“ Did you know? ”

Some over-the-counter antioxidant vitamin and mineral supplements could slow the progression of AMD, although lost sight can't be regained. Before you begin to take an antioxidant vitamin and mineral supplement, ask your healthcare professional to recommend the product that's right for you (suitability can vary greatly if you smoke, for example).

What are the treatments for AMD?

Treatments for AMD are very limited. A healthy lifestyle is the best way to prevent the disease. Quitting smoking, keeping your blood pressure within normal limits, protecting your eyes from the sun, and eating well (including lots of antioxidants), as well as getting regular eye exams at the frequency recommended by your eyecare professional are still the best ways to prevent or manage AMD.

DANGERS OF THE SUN TO YOUR EYES

UV rays aren't just harmful for our skin, they also damage our eyes. They play a role in the formation of cataracts, inflammation of connective tissue, inflammation of the cornea, and even the appearance of melanoma (cancer) of the eyelid. There is also another culprit: **blue light**. This is what causes glare when sunlight reflects off water and snow. Blue light can cause eyestrain and may be related to premature aging of the retina. That's why an ounce of prevention is worth a pound of cure when it comes to protecting our eyes! To limit damage from the sun as much as possible, you should:

- Wear sunglasses that provide complete UVA and UVB protection and are dark enough to reduce light intensity for the activities and environments you enjoy. Talk to your optometrist for advice on the right sunglasses for you.
- Make sure your sunglasses provide full coverage: the lenses should be curved and the frame should follow the shape of your face. You should also try to find a pair that protects the sides of your face.
- Wear your most stylish hats—just make sure they have a wide brim.
- Avoid sun exposure between 11 a.m. and 4 p.m. (when the sun's rays are strongest).
- Remember to wear your sunglasses in the car! Sunglasses with polarized lenses help reduce glare when you're driving. Talk to a specialist for more information!

CONCLUSION

It's important to take care of your eyes, whether that means using no-tear shampoo, hypoallergenic makeup remover, or sunglasses, or even cutting down on screen time.

The notion of cherishing something “like the apple of your eye” becomes all the more meaningful when you realize just how fragile, sensitive, and important your eyes are.

Like all organs in the human body, eyes age and deteriorate with time, but there are steps for prevention you can take in your everyday life.

Our eyes are constantly interacting with the outside world, whether for seeing, loving, communicating, or analyzing. As with so many diseases, a healthy lifestyle is one of the best ways to help protect the health of your eyes!

SOURCES AND USEFUL LINKS

- **Association des médecins ophtalmologistes du Québec (in French only)**
www.amoq.org
- **Association des optométristes du Québec (in French only)**
www.aoqnet.qc.ca
- **Canadian National Institute for the Blind (CNIB)**
<http://www.cnib.ca/>
- **Canadian Ophthalmological Society (COS)**
<http://www.diabete.qc.ca/en>
- **Diabetes Québec**
<http://www.diabete.qc.ca/en>
- **Familiprix**
<http://www.familiprix.com/en>
- **Government of Canada**
<http://healthycanadians.gc.ca/index-eng.php>
- **Lasik MD Vision**
<http://www.diabete.qc.ca/en>
- **Health Canada**
<http://www.hc-sc.gc.ca/>

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VISION TROUBLES

- Nearsightedness (Myopia)
- Farsightedness (Hyperopia)
- Age-related farsightedness (Presbyopia)
- Astigmatism

DRY EYE SYNDROME

- Artificial tears
- Techniques for administering eye drops and/or ophthalmic ointments

THE MOST COMMON INFECTIONS

- Conjunctivitis
- Styes
- Chalazion
- Blepharitis

THE MOST COMMON DISEASES

- Cataracts
- Glaucoma
- Age-related macular degeneration (AMD)

Only pharmacists are responsible for the professional activities of the pharmacy practice. They use various tools such as the Psst! (Plan to Stay in Shape Today) program.