

# seeing eye to eye with your contact lenses

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**Approximately 36 million people in the U.S. wear contact lenses** - those little clear disks that individuals put in their eyes to correct eyesight problems such as nearsightedness, farsightedness, astigmatism, and presbyopia. There are many types of contact lenses, each with pros, cons, and required maintenance. Take a look at the many options for contact lenses and see which one might be right for you, or find out how to take care of the ones you are currently using:



## Soft lenses

These lenses are typically made of flexible, soft hydrophilic plastic and water. The water helps oxygen pass through the contact and into the eye, maintaining comfort and eye health. Silicone-based soft contacts are especially breathable, allowing oxygen to get to the eye. **These contacts are known to be more comfortable, require less cleaning, have less of a chance of causing infection, and can even have UV protection.** However, soft lenses are also more fragile and can absorb pollutants more easily. Soft lenses can come in several types:

- > **Daily-wear lenses** are removed and cleaned at night and then worn again in the morning and throughout the day. A new pair must be purchased every year.
- > **Extended-wear lenses** can be worn during the day and night and for up to a week. However, wearing contacts for an extended amount of time can cause discomfort and increase risk of damaging the eye.
- > **Disposable lenses (daily and extended-wear)** are disposed of after daily or extended use.

## Hard (rigid) lenses

> **Conventional hard (polymethyl methacrylate) lenses** are made of hard plastic. While they are durable and can provide sharp vision, they are the least comfortable type of contact lens.

> **Rigid gas-permeable lenses**, which provide sharp vision, are typically more comfortable than conventional hard lenses and much more durable than soft lenses. Gas-permeable lenses thus tend to last longer and therefore be less expensive than other lens types. Furthermore, some can be extended-wear and can be worn overnight and/or for up to a week. Rigid gas permeable contact lenses are known to be the best for correcting severe nearsightedness, farsightedness, and astigmatism. However, while they are more comfortable than rigid lenses, gas-permeable lenses can take longer to get used to than soft lenses.

## Other types of lenses

**Bifocal lenses**, like bifocal glasses are meant for individuals who are nearsighted *and* have presbyopia. Bifocal lenses are great for solving the two vision problems at once and they can come as soft lenses or rigid-gas permeable lenses.

**Monovision** involves wearing a different contact for each eye, correcting each eye's vision individually. However, this can make binocular vision difficult and therefore disrupt depth perception. Modified monovision consists of wearing a contact lens only in one eye, which can make driving easier.

**Toric lenses** are specifically for people with astigmatism and can also correct nearsightedness or farsightedness. They can come in soft, rigid-gas permeable, extended-wear, and even tinted types.

**Ortho-k lenses**, short for orthokeratology lenses, reshape the cornea to improve vision. Ortho- lenses are worn at night or every other night and allow the user to see clearly during the day without any corrective lenses. Ortho-k lenses are most effective for mild nearsightedness. However, these contact lenses are not suitable for people over the age of 40 and are not incredibly popular because laser vision correction can fix the same vision problem in less time.

**Colored and/or decorative contact lenses** have been very popular recently as they can change the color of the eyes (or make them look like cat's eyes). However, it is incredibly important to obtain and purchase these lenses properly. It is imperative that one gets decorative contact lenses like they would get other types of contact lenses: one should get an eye exam by a licensed professional, get a valid prescription, and purchase the contacts from a legitimate vendor that requires a valid prescription. Also, it is important to clean and take care of the lenses appropriately. If non-prescribed decorative contacts are used, it can cause complications that include vision impairment, corneal abrasions, and even blindness.

## Contact lenses are good for those who:

- > Have trouble seeing distant objects.
- > Need vision correction all the time.
- > Will be able to take care of the lenses carefully and properly.

## Contact lenses may not be suitable for those who:

- > Only need vision correction for part of the time.
- > Are physically unable to take care of the lenses and put them in properly.
- > Cannot commit to taking good and adequate care of the lenses.
- > Have uncontrolled conditions such as diabetes, hyperthyroidism, asthma, or allergies.
- > Have chronic dry eye or cornea problems.

## vision problems:

The problems listed below are all refractive errors, where the eye fails to properly direct light onto the retina. This occurs when the eye has an irregular shape or curvature.

- > **Nearsightedness** (myopia) causes difficulty in seeing distant objects, but allows one to clearly see objects that are near.
- > **Farsightedness** (hyperopia) causes difficulty in seeing nearby objects and sometimes even distant objects as well.
- > **Astigmatism** is defined as an asymmetry in the cornea. This asymmetry causes blurry vision.
- > **Presbyopia** usually begins to affect individuals around the age of 40 as a normal part of aging. It causes one to have difficulty focusing on nearby objects. Presbyopia is not the same as hyperopia, as presbyopia typically eventually affects everyone, but only certain people have hyperopia. Also, presbyopia is caused by the lens becoming less flexible, whereas hyperopia occurs due to the shape of the eyeball causing light rays to focus incorrectly.

## risks of wearing contact lenses:

Dry eye, deposits in the lenses (rare in rigid lenses), allergic reactions to the lens solution, eye and eyelid inflammation, irritation and redness, corneal problems such as hazy vision, scratches, and swelling. The likelihood of these risks, however, can be reduced with proper care and cleaning of the lenses. If you experience these complications and/or any sign of infection, stop using the contact lenses and see your doctor immediately.

## at what age can one start wearing contact lenses?

Infants and children don't usually wear contact lenses except to treat certain medical conditions. Many teenagers wear contact lenses, but they must frequently change lenses as their eyes continue to grow until they are in their late teens or early 20's.

## contact lens care

A 2011 study in *Contact Lens and Anterior Eye: The Journal of the British Contact Lens Association* showed that complete compliance in properly taking care of contact lenses is rare, although slightly higher (15%) in those who wear daily disposable contact lenses. The compliance was lowest in hand-washing, case-cleaning, rubbing and rinsing, and correct lens replacement. Here are the steps to properly caring for your contacts:

**1.** Wash hands with a non-cosmetic mild soap before handling the contacts and dry them with a clean lint-free towel.



**2.** Use hairspray *before* putting in contact lenses, because hairspray residues in the air can adhere to the contacts and cause discomfort and/or infection.



**3.** Keep nails short and smooth to avoid scratching the eye or damaging the lenses.



**4.** Put on makeup carefully once the contacts are in your eyes and take the contacts out before removing makeup. This will prevent makeup from getting onto the lenses.



**5.** Use the appropriate eye drops, solutions, etc. recommended by the doctor for the lenses.



**6.** Never run tap water directly on the contact lenses or put the lenses in your mouth to clean them. Tap water and saliva have germs that can cause infection.



**7.** Clean the contacts by lightly rubbing your index finger in the lens in the palm of the other hand. This will get rid of buildup on the lens.



**8.** Clean the contact lenses with every use and replace their storage case every three months.



## how to wear your contacts safely

- > Do not wear the contacts longer than recommended by a doctor and longer than the lens type allows.
- > Never share contacts with someone else.
- > Contacts can make your eyes more sensitive to the sun, so when in sunlight, wear sunglasses with UV protection.
- > Keep your eyes lubricated with the proper method (such as eye drops or even nutritional supplements) recommended by a doctor.
- > Do not let the tip of the solution bottles touch other surfaces like hands, eyes, and contact lenses.