

Contact Lenses

Over 24 million people choose contact lenses to correct vision. When used with care and proper supervision, contacts are a safe and effective alternative to eyeglasses. And with today's new lens technology, many people who wear eyeglasses can also successfully wear contacts.

Contacts are thin, clear discs that float on the tear film that coats the cornea, the curved front surface of the eye. Contacts correct the same refractive conditions eyeglasses correct: myopia (nearsightedness), hyperopia (farsightedness) and astigmatism (an oval- rather than round-shaped cornea).

Contact lenses can be made from a number of different plastics. The main distinction among them is whether they are hard or soft. Most contact lens wearers in the United States wear soft lenses. These may be daily wear soft lenses, extended wear lenses or frequent replacement. Toric soft lenses provide a soft lens alternative for people with slight to moderate astigmatism.

Rigid gas permeable lenses are usually not as comfortable as soft lenses and are not as widely used. However, rigid gas permeable lenses provide sharper vision for people with higher refractive errors or larger degrees of astigmatism.

The majority of people can tolerate contact lenses, but there are some exceptions. Conditions that might prevent an individual from successfully wearing contact lenses include dry eye, severe allergies, frequent eye infections, or a dusty and dirty work environment.

Individuals who wear any type of contact lens overnight have a greater chance of developing infections in the cornea. These infections are often due to poor cleaning and lens care.

There are two (2) types of contact lenses

1. Soft
2. Rigid Gas Permeable (RGP) – semi hard contact lenses



Soft Contact Lenses

Contact lenses can be used to correct

- Shortsightedness (myopia)
- Longsightedness (hyperopia)
- Astigmatism
- Therapeutic
- Cosmetic
- Prosthetic
- Bandage

There are different types of soft contact lenses vis.

- Spherical-daily wear
- Spherical-extended wear
- Toric-daily wear
- Toric-extended wear
- Cosmetic tint
- Disposable
- Planned replacement



Semi Hard - RGP

Rigid Gas Permeable (RGP) can be used to correct people with higher astigmatism. There are specialty RGP contact lenses which can be used to correct

- keratoconus
- post corneal graft
- multifocal

RGP contact lenses are available for people with reading difficulties.

Contact lenses have the following advantages and disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none"> • Wider field of view • Better for large difference in power between the two eyes • Normal image size • Avoid surface reflections • Cosmetically superior • Practical for sport • No problem with fogging up • Better vision 	<ul style="list-style-type: none"> • Expensive • Maintenance cost • Time consuming during adaptation period • Disinfecting is a must • Limited wearing time • Problem with foreign bodies • Eye infection • Allergies • Lenses may be lost or damaged • Regular visits to your practitioner • Ill fitting lenses by unqualified practitioner

Extended-Wear Contact Lenses

Some people do not consider wearing contact lenses because they think the required cleaning, disinfecting, storing, and inserting are too much trouble. They may also want the option of occasionally napping or sleeping with their contacts in their eyes.

Extended-wear contacts are designed to appeal to these people. They require less maintenance than daily wear lenses and because they are thinner and allow more oxygen to reach the eyes, they may be left in the eye overnight.

To use extended-wear contact lenses, you must be free of external eye disease, have normal tear

function, and be motivated to take care of them.

Infection is the most significant complication of extended-wear contact lens use. They must be removed at least once a week and thoroughly cleaned and disinfected. Many studies show the cornea is put at increased risk of infection by wearing contact lenses overnight. The risk of developing an infection in the cornea is 10-15 times greater for those who wear extended-wear contacts overnight than for those who use daily wear soft lenses. This risk increases with the number of consecutive days the contacts are worn overnight. Infections may range from simple conjunctivitis to blinding endophthalmitis, which is a serious infection that travels through all layers of the eye.

The decision to accept the risks and benefits of extended-wear contacts requires a process of evaluation between you and your doctor. Once you are carefully fit for your contact lenses, follow-up exams with your ophthalmologist to ensure continuing eye health is important. As with any contact lens, extended-wear contacts should be removed at the first sign of redness or discomfort.

How to Care for Contact Lenses

The key to avoiding the irritation and infection sometimes associated with contact lens wear is proper cleaning.

There are two main types of lens care systems: heat and chemical disinfection. The appropriate choice depends on the lens type, duration of lens wear and an individual's own biochemistry. Regardless of the type of disinfection system you choose there are a number of common steps that must be followed.

- 1 Always wash your hands prior to handling your contact lenses.
- 2 Remove one lens and place it in the palm of your hand. Apply a few drops of a contact soap, usually called cleaning solution. Rub the soap onto both sides of the lens surface to help remove deposits, debris, protein build-up, and any bacterial film. Removing surface deposits and other debris not only contributes to improved vision and comfort but also reduces the risk of infection and allergy. Soft extended-wear contacts may be the most likely to develop a protein build-up that can lead to lens-related allergies.
- 3 After thoroughly cleaning the lens, rinse it with commercially available sterile saline solution. Homemade saline solutions have been linked to serious eye infections and should never be used.
- 4 After cleaning and rinsing, lenses need to be disinfected. You and your ophthalmologist will pick the best system for you, but make sure you understand the instructions and follow them. Heat and chemical disinfection methods each require several hours of disinfection time.
- 5 After disinfecting, rinse the lens with sterile saline before putting it in your eye.
- 6 Your empty contact lens case should be thoroughly rinsed with warm water and allowed to air dry. All contact lens cases need to be cleaned frequently, including disposable lens cases.

Tinted Contacts

Many types of tinted contact lenses are available. They can enhance and even change the color of one's eyes for cosmetic purposes, for costumes, or provide special effects for the movie industry.

Tinted contacts can make light eyes more blue, green or hazel. They can alter the color of the eyes, such as making brown eyes blue.

Tinted lenses have been used in the movies since 1939. In the movie "Ghostbusters," actors playing gargoyles wore red contact lenses. Reptile lenses were crafted for the commander in "Star Trek" and white contact lenses were used for the Hulk in "The Incredible Hulk." Recently, these costume lenses have become available to the general public.

Tinted contacts may also be used to disguise or improve the appearance of an abnormal eye. They can be used to conceal corneal scars, irregular pupils and to hide shrunken, unsightly eyes. Sometimes tinting a lens can make the lens easier for a person with poor vision to handle. These tints are more subtle handling tints.

Contact lenses for the general public, including those with no correction, are considered medical devices. They must undergo clearance for safety by the Food and Drug Administration (FDA). Color additives used by the manufacturers of costume contact lenses must also be approved for use. Additives in unapproved lenses may be toxic.

Purchase only tinted contacts prescribed by an ophthalmologist, and never share lenses with someone else.

Giant Papillary Conjunctivitis (GPC)

Giant papillary conjunctivitis (GPC) is an inflammation of the inner surface of the eyelids, most frequently associated with contact lens wear. It can develop in people who wear either soft or rigid gas permeable contact lenses and can occur at any time, even if an individual has successfully worn contacts for a number of years. Although not vision threatening, GPC can be inconvenient and may require one to stop wearing contacts temporarily or even permanently.

The typical symptoms of GPC include red, irritated eyes, often with itching and mucus discharge. Blurred vision and light sensitivity can also occur. GPC is not an infection, but a hypersensitivity of the membrane covering the inner lids and the whites of the eyes. The inner lining of the eyelid becomes roughened and inflamed by constant blinking over a contact lens or other foreign body such as an artificial eye. Hard, flat elevations in a cobblestone pattern develop on the undersurface of the upper eyelid. Eventually the entire eye becomes irritated.

In most cases, treatment of GPC involves discontinuing the use of contact lenses to allow the eye to rest. Eyedrops are frequently prescribed to control inflammation. Many people find their symptoms are relieved when contact lens wear is discontinued. Unfortunately, the symptoms can return when lens wear is resumed.

Once GPC is under control, it may be helpful to consider changing to new contacts or disposable contacts. Changing lens care systems and cleansing solutions can also be helpful. After an episode of GPC, limit the amount of time lenses are worn, and increase the time slowly.

Once it develops, GPC may be an ongoing problem. Prolonged GPC may be more difficult to treat.

Contact lenses can be very safe alternative to spectacles, provided you follow a strict care regiment like do not

- handle with dirty hands
- use saliva or water
- store lenses dry
- use commercial eyedrops
- use expired solutions
- sleep wearing contact lenses
- overwear

Successful contact lenses wear is achieved through

- hygiene
- use only contact lenses solutions
- adhere to daily/weekly care regime
- follow your practitioner's instructions
- annual check-up
- don't overwear
- a pair of up-to-date spectacle
- leave your lenses out if you experience any discomfort