

CONTACT LENSES

Contact lenses

Millions of people around the world wear contact lenses—more than 24 million in the United States alone. Depending on your lifestyle, your motivation, and the health of your eyes, contact lenses may provide a safe and effective alternative to eyeglasses.

What are contact lenses?

Contacts are thin, clear disks of plastic that float on the tear film that coats the cornea (the curved front surface of the eye). A healthy cornea and a normal tear film are necessary to safely and comfortably wear contacts. Contact lenses are used to correct the same conditions that eye glasses correct:

- myopia (nearsightedness);
- hyperopia (farsightedness);
- astigmatism;
- presbyopia.

What are the different types of contact lenses?

Many different plastics are used in the manufacture of contact lenses, but basically there are two general types of lenses: hard (rigid gas-permeable) and soft.

Today, when we talk about hard contact lenses we are really talking about **rigid gas permeable (RGP)** contact lenses. The old hard lenses, made of a plastic called PMMA, were developed in the 1960s and are rarely used today. RGP contacts combine plastics with other materials such as silicone or fluoropolymers to produce a lens that holds its shape yet allows the free flow of oxygen through the lens. These lenses are more “wettable,” easier to adjust to, and more comfortable to wear than the old PMMA hard lenses. RGP lenses may be the best choice when the cornea has too much astigmatism (is shaped like an egg instead of an orange) for a soft lens to provide sharp vision. They may also be preferable when a person has allergies or tends to form protein deposits on his or her contacts.

Soft lenses are the choice of most contact lens wearers. They are comfortable and offer a number of options. These options include:

- **Daily wear** - These lenses are removed nightly and are replaced on an individualized schedule.
- **Extended wear** - These lenses are worn overnight but are removed at least weekly for thorough cleaning and disinfection. They are being recommended less frequently, since there is a greater risk of corneal infection with any overnight wear of contact lenses.
- **Disposable wear** - These lenses are convenient and are generally the lenses of choice. They are removed nightly and replaced on a daily, weekly or monthly basis. Disposable lenses are also recommended for people with allergies and for those who tend to form deposits on their lenses. Colored and toric lenses can be disposable as well.
- **Colored contacts** - These lenses can change the appearance of your eye color to varying degrees.
- **Toric contacts** - These lenses can correct astigmatism, although sometimes not as well as RGP lenses. They may cost a little more than other contact lenses.

As one ages, a correction for near vision is usually necessary because the lens of the eye doesn't change shape as easily as it once did. This condition, called **presbyopia**, can be corrected in one of three ways:

1. Wear your distance correction in the contacts, and wear reading glasses when needed;
2. Wear one contact for distance vision, and one for near vision. This option is called "**monovision**", and it works well for many people. You may need a trial period to decide if monovision is for you;
3. Wear bifocal contacts, which are designed to allow both distance and near vision. These lenses are somewhat more expensive to fit and may not provide satisfactory vision.

Special uses for contact lenses include "bandage" lenses, to cover the corneal surface and provide comfort after injury or surgery; RGP lenses for people with very irregular corneas due to injury or disease, and painted contact lenses to change appearance or reduce glare after eye trauma.

What are the risks of wearing contact lenses?

Lenses that are not properly cleaned and disinfected increase the risk of eye infection. Lenses that are old or not properly fitted may scratch the eye or induce blood vessels to grow into the cornea. Because a lens can warp over time, and the cornea can change shape, the fit and power of the contact lens should be re-evaluated on a regular basis. Your return visits will be scheduled depending on the condition of your eyes and your visual needs. Eyedrops can interact with all types of contact lenses. It is best to avoid the use of eyedrops while wearing contacts, except for wetting drops recommended by your eye doctor.

What is proper care of contact lenses?

Any lens that is removed from the eye needs to be cleaned and disinfected before it is reinserted. Your doctor will discuss the best type of cleansing system for you. This depends on the type of lens you use, any allergies you might have, and whether or not your eye tends to form protein deposits. Care of contact lenses includes cleaning their case, since it is a potential source of infection. The case should be rinsed with water, wiped and allowed to dry. Homemade saline (salt water) solutions have been linked to serious corneal infections and should not be used.

Who should not wear contact lenses?

You may not be a good candidate for contacts if you have:

- frequent eye infections;
- severe allergies;
- dry eyes that are resistant to treatment;
- a very dusty work environment;
- an inability to handle and care for the contact lenses.