

HKSH Ophthalmology Centre

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Service Hours

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Closed on Sundays and Public Holidays
Consultation by Appointment

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For enquiries and appointments,
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Contact Lenses



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Types of Contact Lenses

There are two major types of contact lenses available in the market. They are:

Soft Lenses

Soft contact lenses are made of soft, flexible plastics which are easier to adapt to and are more comfortable than rigid gas permeable lenses. Some soft lenses are made of silicone hydrogel, allowing more oxygen to pass through to the cornea.

There are several types of soft contact lenses:

- Disposable lenses are replaced daily, bi-weekly, monthly or quarterly and are removed prior to sleeping. These lenses are more expensive, but the chance of developing an eye infection or contact lens complication is less. However, if the lenses are overworn or not properly cleaned and disinfected, some risks are still present
- Extended-wear lenses are designed for overnight wearing, typically for 6 consecutive nights or more. Length of continuous wear depends on the lens type and your eye care professional's evaluation on your tolerance for overnight wearing
- Conventional lenses are long-term lenses that are usually worn for about one year before being replaced. This type of lens should be cleaned regularly and disinfected

Rigid Gas Permeable (RGP) Lenses

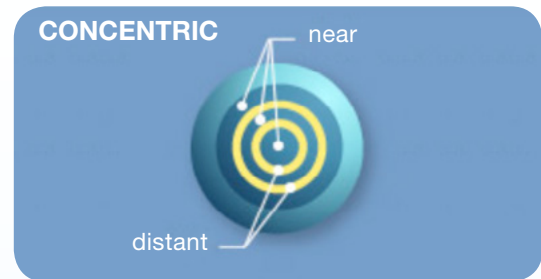
RGP lenses are made of rigid gas permeable materials such as silicone or fluoroperm, allowing good oxygen permeability to the eyes. They are easier to handle, more durable and more resistant to deposit build-up. They generally give clearer vision, especially for patients with high astigmatism and are more suitable for patients with dry and sensitive eyes. However, they are not as comfortable initially as soft contact lenses, and it may take a few weeks to get used to wearing RGPs while only several days are needed for soft contact lenses.

Functions of Contact Lenses

1. Correct refractive errors and improve vision

Most commonly, contact lenses are designed to improve vision for patients with refractive errors such as nearsightedness and farsightedness. Nowadays, toric and multifocal contact lenses are also available in the market to correct astigmatism and presbyopia as well.

There are several designs for multifocal contact lenses. The most commonly used design is the concentric bifocal pattern. In this design the near prescription is in the centre and the far prescription is at the peripheral, but they can be reversed. Multifocal contact lenses give you acceptable vision for most of your daily activities but you may still need glasses for specific tasks like driving at night or reading small print.



2. Keratoconus contact lenses improve vision by creating a smooth, regular optical surface on cornea

Keratoconus (ectatic corneal dystrophy) is a progressive, debilitating eye disease characterised by degenerative thinning and protrusion of the central cornea. Keratoconus results in photophobia, visual distortion, halos around lights, ghosting and glare, decreased vision, and monocular diplopia (double-vision). Those suffer from decreased vision because of keratoconus cannot be corrected with spectacles or soft contact lenses. However, most can achieve functional vision with therapeutic RGP contact lenses or a combination of RGP lens riding on a soft lens. These specialty contact lenses improve vision by masking the distorted and cone-shaped cornea to create a smooth and regular anterior surface.

3. Orthokeratology (Ortho-K, OK lens) lenses can temporarily correct low degree of nearsightedness during daytime by wearing them overnight

Orthokeratology lenses are specially designed RGP contact lenses which alter the shape of the cornea to correct low degrees of myopia. These lenses are worn overnight during sleep to deliberately flatten and reshape the cornea to improve vision, leaving the eye free of contact lenses or glasses correction during the day. However, the cornea will bounce back after stop wearing these orthokeratology lenses for a few days, leading to the recurrence of refractive error.

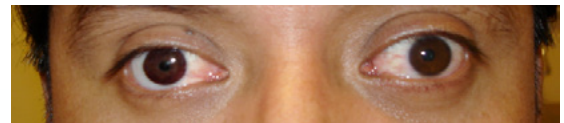
Using this type of lenses is more prone to having contact lens-related problems, such as corneal epithelial abrasion due to trapped foreign bodies under the lenses, contact lens dislocation on rubbing of eyes, corneal edema, allergic to contact lens solution, eye infection or even corneal ulceration. Due to overnight-wearing, the risk of complication is higher than daytime-wear contact lenses.

4. Prosthetic contact lenses enhance the cosmetic appearance in some eye diseases or scarred cornea

Special prosthetic contact lenses are designed to help patients who have significant ocular disfigurement due to trauma or disease. The lenses can mask disfigured or scarred cornea to improve cosmetic appearance.



Without prosthetic contact lens



With prosthetic contact lens

The prosthetic contact lenses can also be used in cases of aniridia or absence of iris pigmentation in albinism to reduce light sensitivity.

5. Therapeutic bandage lenses aid in the healing of injured or diseased cornea

Therapeutic bandage lenses are a type of extended-wear contact lenses. They are used as bandages for various eye conditions that cause eye pain.

They are used in the treatment of conditions such as corneal abrasion after injury, recurrent erosion, bullous keratopathy, or post-corneal surgeries like phototherapeutic keratectomy, etc. These lenses promote cornea healing, serve as a protective barrier, and reduce discomfort in eyes from the friction created by blinking during the recovery phase.

Bandage lenses are mostly made of silicone hydrogel, which has high oxygen permeability to facilitate healing of the cornea. Unlike other protective options such as pressure patching, bandage contact lenses allow easy eye medication instillation.

Contact Lens Complications

There are risks associated with the wearing of contact lenses. The corneal surface may be damaged by contact lenses, especially when the cornea is very dry, which can result in corneal abrasion, infection and ulcer. Prolonged wearing of contact lenses may lead to corneal edema or neovascularisation due to the lack of oxygen supply to the cornea. Vision may be impaired in these situations.

Another common complication, more often associated with soft contact lenses, is giant papillary conjunctivitis. It is an allergic reaction to lens protein deposits, contact lens material or solution. It will cause redness, itchiness, increased mucus secretion, blurry vision and contact lens intolerance.

To prevent the above situations, you should undergo regular eye check-ups. It is advisable to see an ophthalmologist if your eyes are itchy, red, irritated, tearing or painful.

Choose a Suitable Type of Contact Lens

Due to differences in individual needs and eye conditions, you should consult your ophthalmologist or optometrist before using contact lenses.