

Contact Lenses

Contact lenses can be used as an alternative to spectacles and, with proper care, are a safe, effective and convenient way to correct refractive errors such as myopia (short-sightedness), hyperopia (long-sightedness), astigmatism and presbyopia (*lao hua*).

What are contact lenses and how do they work?

Contact lenses are thin, curved plastic discs designed to cover the cornea of the eye. They correct the way light enters the eye by improving the way it focuses on the retina. Surface tension allows contact lenses to cling onto the thin film of tears on the cornea.

Apart from vision correction, specially tinted contacts can be used to change the colour of the eyes for aesthetic purposes.

An advantage of contact lenses is that it provides for maximum peripheral vision, which is especially useful in sports and games. Contact lenses are also useful in correcting vision when the power of each eye differs greatly.

Most people who require vision correction can wear contact lenses. However, a small proportion with dry eyes, frequent eye infections or severe allergies may not be suitable for contact lenses.



Types of contact lenses

PMMA Lenses

PMMA lenses are rigid contacts that are made of PMMA plastic. The lenses do not allow oxygen to directly reach the cornea but as the lens moves when the eye blinks, tears bring dissolved oxygen to the cornea. They are very durable and long-lasting. They are no longer sold in the market.

Rigid Gas Permeable Lenses

(Semi-hard contact lenses)

Rigid gas permeable lenses are newer types of rigid plastic lenses that allow oxygen to pass directly through the lens into the eye. These lenses though less durable than PMMA lenses are more comfortable. Some gas permeable lenses can be worn for an extended period of time.

Compared with soft lenses, semi-hard contact lenses take some getting used to but are, however, less prone to deposit build-up. They offer good visual quality with lower risk of contact lens-related complications such as eye infections.

Soft Contact Lenses

The materials in soft contact lens incorporate water which makes them soft and flexible, and allows oxygen to reach the cornea in varying amounts.

There are currently 2 types of soft lens materials : hydrogel and silicone hydrogel. Hydrogel lenses in general have lower oxygen permeability than

rigid gas permeable lenses. Silicone hydrogel lenses have higher oxygen permeability than hydrogel lenses and some are comparable to rigid gas permeable lenses in terms of oxygen permeability. In general, if you are wearing contact lenses for long hours, use silicone hydrogel lenses as these lenses are less likely to induce problems in the cornea due to hypoxia (lack of oxygen).

Soft contact lenses are among the most popular lenses in Singapore as they are very convenient, comfortable and offer a high level of convenience. Some types of soft contact lenses may be worn for longer periods of time compared to hard lenses but it is not advisable to wear these lenses overnight as the risk of developing infections of the cornea increase.

Disposable Soft Contact Lenses

Disposable soft lenses that can be discarded and replaced daily, weekly or fortnightly are gaining in popularity because of added convenience and safety. By changing the lenses frequently, the likelihood of allergic reactions and deposit formation is reduced.

Toric Contact Lenses

Toric lenses correct astigmatism. They are available in both rigid and soft materials.

Who should not wear contact lenses?

Most people who require vision correction can wear contact lenses. However, there are certain conditions that might prevent you from wearing contact lenses. These include dry eyes, frequent eye infections, severe allergies, working in a very dusty environment and inability to handle and care for the lenses.

How do I care for my contact lenses?

It is important to remember that contact lenses are medical devices that need to be properly fitted by an eye care practitioner who can assess your vision correction needs according to your lifestyle or other conditions. Your work environment, prescription drugs and any eye condition such as dry eyes or allergies affect the choice of lenses suitable for you.

As contact lenses are in constant contact with the eye, proper cleaning and disinfecting of lenses is very important. Infections of the eye can occur due to poor hygiene and lens care.

Some important contact lens care instructions :

- Always wash your hands before handling your contact lenses.
- Always clean and disinfect contact lenses properly after each use.
- Clean and air-dry the contact lens case everyday. Wash and boil your lens case once a week and replace your lens cases regularly. Do not store lens cases and lens solution in the bathroom.
- Follow exactly the lens care instructions of your eye care professional.
- Do not reuse your contact lens solution. Discard used solutions immediately.
- Do not store contact lenses in non-sterile fluids such as distilled water or tap water.
- Do not wear an over-aged or damaged contact lens.
- Arrange for periodic eye examination (at least six months to yearly) by an eye care professional.
- Avoid wearing lenses overnight (even for extended wear lenses) as this increases the risk of corneal infections.
- Do not wear contact lenses when swimming as this can increase the risk of lens contamination by harmful microorganisms.
- If you have eye-redness, discharge or blurring of vision, stop wearing your contact lenses and consult your eye care practitioner or doctor.