

# Know More About Contact Lenses



## What is Contact Lens?

Contact Lens is a specially designed, small and thin, curved plastic film; intended to be placed in front of the cornea to correct common vision disorders (e.g. Myopia, Hyperopia, Astigmatism, etc). Also, lens tinted with different colours can change the appearance of the iris and act as a fashion accessory. In some circumstances, contact lens can be used for treating diseases or injuries of the cornea.

You should seek advice from eye care professionals, such as ophthalmologists or registered optometrists before using contact lenses and follow their instructions for wearing and caring of these lenses.

### Classification of Contact Lenses 1: Types of Lenses

Types	Property	Contact lenses materials	Advantages	Disadvantages
<b>Hard Contact Lenses</b>	- Non-oxygen permeable	- Made up of acrylic film	<ul style="list-style-type: none"> <li>- Hard and durable: not easily deformed, smashed and worn out</li> <li>- Less likely to breed germs as compared with the other types of contact lenses</li> </ul>	<ul style="list-style-type: none"> <li>- Shorter wearing time as it is non-oxygen permeable</li> <li>- Foreign body sensation</li> <li>- Easily dislodged, causing discomfort and blurred vision</li> </ul>
<b>Rigid Gas Permeable Lenses</b>	- Oxygen permeable	- Made up of oxygen permeable plastics	<ul style="list-style-type: none"> <li>- Durable</li> <li>- Wearing time longer than that of hard contact lenses</li> <li>- Stay firmly on the cornea, less likely to dislodge and cause discomfort than hard contact lenses</li> </ul>	<ul style="list-style-type: none"> <li>- Comparatively more fragile than hard contact lenses</li> <li>- Foreign body sensation</li> <li>- More likely to accumulate dirt and worn out than hard contact lenses</li> </ul>
<b>Soft Contact Lenses</b>	- Oxygen permeable	<p>- Made up of water absorbent plastics (e.g. Hydroxyethyl methacrylate (HEMA), Hydrogel or silicone hydrogel)</p> <p>*Silicone hydrogel is more oxygen permeable and it can be worn for a longer period of time. However, effectiveness for some contact lens solutions is reduced when used on silicone hydrogel contact lenses</p>	<ul style="list-style-type: none"> <li>- Comfortable, easy to adapt</li> <li>- Longer wearing time</li> <li>- Less likely to dislodge and cause discomfort than hard contact lenses</li> </ul>	<ul style="list-style-type: none"> <li>- Not easy to detect cracks</li> <li>- Prone to tearing by nails</li> <li>- More likely to breed germs than hard contact lenses</li> <li>- Shorter life span</li> </ul>

## Classification of Contact Lenses 2: Replacement Schedule

Types	Property
<b>Conventional Contact Lenses</b>	<ul style="list-style-type: none"> <li>- Should remove daily and require cleaning as recommended by the manufacturer.</li> <li>- User should replace the lenses as scheduled (e.g. 6 months to 1 year for soft contact lenses).</li> </ul>
<b>Disposable Contact Lenses</b> (including 1-day, 2-week and 1-month)	<ul style="list-style-type: none"> <li>- Each pair of lenses will be discarded and replaced after wearing for one day or up to one month as scheduled.</li> <li>- User should not wear the contact lenses longer than the recommended period of time.</li> </ul>

## Classification of Contact Lenses 3: Wearing duration

Types	Wearing Duration	Characteristics of Lenses
<b>Daily-wear Contact Lenses</b>	- 10 to 12 hours per day	- Cannot be worn during sleeping
<b>Extended-wear Contact Lenses</b>	- 12 to 14 hours per day	- Cannot be worn during sleeping
<b>Continuous-wear Contact Lenses</b>	- Ranging from one day to continuous wearing for 7 days and even 1 month, depending on individual cases	- Higher oxygen permeability, can be worn during sleeping

## Contact Lenses with Special Function

### Orthokeratology (Ortho-K)

Contact lens for Orthokeratology is a type of rigid gas permeable lens used to change the curvature of the cornea, so that the vision of the user could temporarily be improved after removing the lens. However, the cornea will gradually resume the original curvature and vision will become blurred again. Therefore, user has to repeatedly apply the lens to maintain the desired curvature of the cornea.

### Treatment of Corneal Injury

There is a type of soft contact lens specially designed to facilitate recovery in patients with corneal injury.



### Decorative/Coloured Contact Lens

Decorative/Coloured contact lens (including corrective and non-corrective lens) is tinted lens that can make the iris look apparently larger or change its colour. The major difference between colour and conventional contact lens is that the former uses colouring materials during the manufacturing process. The colouring materials will lower the oxygen permeability of the lens, which will shorten the optimal duration of wear.

Contact lens solutions with hydrogen peroxide are not suitable for some decorative/coloured contact lenses, because they will be bleached by the hydrogen peroxide. Therefore you should follow the instructions of eye care professionals or the contact lens manufacturer when using such products.

## How to Choose Contact Lenses

You need to consult an eye care professional to have your eyes checked before purchasing and using contact lenses, so as to ensure that the lenses you purchase are suitable for you.

1. You should be aware of the three principles: health, comfort and clear vision.
2. Choose daily-wear contact lenses if possible. If you choose extended-wear contact lenses, you should still remove them every day before sleeping. Wearing contact lenses continuously for a long period of time will have adverse impact on your eyes.
3. If you work irregular hours or need to wear contact lenses for 24 hours continuously, you can consider extended-wear or continuous-wear contact lenses. However, you should consult eye care professionals first and remove the lenses before sleeping if possible.
4. Use of disposable contact lenses can reduce the chance of getting eye infection, although the cost may be higher.
5. Soft contact lenses are more suitable for those who play sports. As the eyes are in quick motion during sports activity, rigid gas permeable lenses may easily dislodge. In addition, if a sports injury occurs, the trauma caused by soft contact lens to the eye is comparatively smaller.

## How to Take care of Your Contact Lenses

Both conventional and disposable contact lenses (including 2-week and 1-month disposals) should be cleansed, rinsed and disinfected as according to the manufacturer's instruction for use each time they are removed and before they are used again.



### 1. Cleansing

Different cleansers should be used for different types of lenses. Both sides of the lens should be rubbed with the cleanser. The purpose of rubbing the lenses is to facilitate the removal of debris.

### 2. Rinsing

The purpose of rinsing lenses is to thoroughly wash away the cleanser, which may cause harm to the eyes. Bottled sterile saline should be used for rinsing of contact lenses. Never use home-made saline or tap water. For rinsing, put the cleansed lens on your palm, add some sterile saline onto the lens and rub it with your middle finger to wash away the cleanser.

### 3. Disinfection

After cleansing, the lenses should be disinfected to reduce the chance of causing eye infections. Hard contact lenses or rigid gas permeable lenses can be disinfected by placing them in the storage solution. Soft contact lenses can be disinfected by heat disinfection, hydrogen peroxide disinfection or chemical disinfection.

Apart from cleansing, rinsing and disinfecting after each removal, soft contact lenses and rigid gas permeable lenses also require protein removal on a weekly basis.

### 4. Protein removal

The purpose of using protein remover is to remove the protein deposits from the lenses. This is particularly important for those who use heat disinfection, where the protein removal must be conducted weekly. The reason is that heat can denature the transparent protein deposited on the lenses, turning it into a white opaque deposit which may cause permanent damage to the lenses.

### Multipurpose Contact Lens Solution

Multipurpose contact lens solution has the function of cleansing, rinsing, disinfection, protein removal and lens storage. There are many different kinds of multipurpose contact lens solutions. As their function may be different, users should follow the instructions for use, for example: duration for soaking the contact lenses, whether it is necessary to use another type of contact lens solution for the complete set of lens care procedure etc.

## **Health Advice**

1. Regularly have your eyes checked by eye care professionals.
2. Remove the contact lens whenever you feel discomfort (e.g. redness, pain, tearing or blurred vision) and seek medical advice promptly if symptoms persist despite the contact lenses have been taken off.
3. Never share contact lenses.
4. When using contact lens solution, follow the manufacturer's instructions for use.
5. Keep all accessories used for cleansing and disinfecting contact lenses (e.g. contact lens storage case) clean and replace them regularly.

Medical Device Control Office

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