



CONTACT LENSES

The Issue

Contact lenses are medical devices which, like drugs, provide benefits while posing certain risks. If you wear contact lenses, you should take steps to minimize these risks and protect your vision.

Background

Many people wear contact lenses to correct their vision. The reasons for choosing contacts over glasses or refractive eye surgery (which corrects the shape of the cornea) include lifestyle, sports and appearance.

Contact lenses are tiny saucer-shaped pieces of plastic. They are placed on the cornea of the eye, and float on a thin layer of tear fluid. In some cases, contact lenses may offer improved vision correction when compared to glasses because they correct the refractive error closer to the eye. Several types of contact lenses are available.

Hard lenses are made of a firm polymer plastic material. They are easier to keep clean because they are less likely to absorb foreign material from the eye or environment. You must remove hard lenses before you go to sleep because they restrict the flow of oxygen to the cornea, which needs oxygen to stay healthy.

Soft lenses are less durable, but are more comfortable because they are made of a softer plastic called hydrogel. Because they contain a higher percentage of water, they permit a better flow of oxygen to the cornea. However, the material is also more porous, so there is an increased risk of eye irritation and infection due to contamination by bacteria, dust and protein. Usually soft contact lenses are removed from the eye at the end of each day.

Extended-wear lenses are soft contacts that have been licenced for continuous wear for up to 30 days and nights without being removed.

Rigid gas permeable lenses combine the features of hard and soft contacts. They permit the passage of more oxygen to the cornea than hard lenses do, and are more effective for people with astigmatism.

Cosmetic contact lenses are tinted lenses that are used purely for cosmetic reasons to change the colour of the eye.

Corneal reshaping or refractive lenses are rigid gas permeable contacts that are custom-fitted by an eye care professional. They are worn overnight, and are intended to reshape the cornea to correct minor degrees of nearsightedness and astigmatism in adults. These lenses do not correct vision while they are worn. Instead, vision is corrected for several hours after wear, because the cornea has been temporarily reshaped during sleep. The procedure is called orthokeratology, and the results are variable. This type of contact lens should be fitted only by an eye care professional with specialized training.

Potential Adverse Health Effects

The most common eye problems encountered by contact lens users are excess tearing, itching, burning, sensitivity to light, dryness, and occasional blurred or distorted vision. These conditions may be worsened by improper care or cleaning of contact lenses and increase the risk of developing an eye infection.

Clinical studies suggest that the extended use of contact lenses, particularly overnight,



seriously increases the risk of developing corneal ulcers. This condition is called ulcerative keratitis. An ulcer can perforate or scar the cornea in a day or two, leading to permanent scarring of the cornea or even blindness. Many eye doctors advise their patients not to use extended-wear contact lenses.

Lifestyle Considerations

Smokers are eight times more likely to develop corneal ulcers than non-smokers, no matter which type of contact lenses they wear.

Anything that causes dry eyes, including antihistamines, birth control pills, alcohol and air travel, can make contact lenses uncomfortable, and can increase the risk of an eye infection. In addition, environmental contaminants, such as dust, smoke, sprays and pollen, can irritate the eyes when you wear contacts.

Minimizing Your Risk

The most important step you can take is to have your contact lenses prescribed and fitted by a qualified eye care professional. You should also participate fully in the follow-up care that is recommended, and:

- Read all of the patient information pamphlets that come with your contact lenses.
- Clean and care for your contacts as recommended by your eye care professional.
- Wash your hands thoroughly before handling your contacts.
- Do not use tap water or saliva to clean contacts.
- Preservatives used in contact lens solutions may become irritating. If this happens, consult your eye care professional. Do not switch brands of contact lens solutions on your own, as this

may lead to more toxic reactions or irritation.

- Do not wear your lenses for a longer period of time than recommended by your eye care professional.
- Bear in mind that overnight wear of contact lenses, including extended-wear contacts, is associated with an increased risk of serious eye infection.
- Never share your contact lenses with anyone else.
- Avoid using temporary lenses that are included with costumes and are not approved by a doctor.
- Carry "artificial tears," a wetting solution, or glasses with you when you are likely to get dry, irritated eyes.
- Remember that contact lenses do not offer any eye protection. Use appropriate protective eyewear when playing sports, especially hockey or squash.

In summary, if you experience blurred or hazy vision, or develop a pain in your eye while wearing contact lenses, remove them immediately. If the pain or blurred vision does not go away within a few hours, or if it gets worse, contact your eye care professional or go to the nearest emergency department.

Health Canada's Role

Medical devices, including corrective contact lenses, must be licenced by Health Canada before they can be imported and sold in Canada. The Medical Devices Regulations require that the medical devices imported and sold in Canada are safe, effective, and of quality manufacture. This is achieved by a combination of a pre-market review prior to licencing, and post-market surveillance of adverse events.

Non-corrective colour contact lenses or cosmetic contact lenses are not considered to be medical devices in Canada as they do not correct or modify a body function or structure. Therefore, you do not need a prescription to buy them. Non-corrective colour contact lenses are currently managed by the Cosmetics Division. Manufacturers and importers must notify Health Canada that they intend to market the product, and are required to provide safety data.

Need More Info?

To report problems with contact lenses or any other medical device, call Health Canada's Medical Devices Hotline, 1-800-267-9675 (toll-free in Canada).

For more information on medical devices, visit:
<http://www.hc-sc.gc.ca/hpfb-dgpsa/tpd-dpt/>

For more information on contact lenses go to the Canadian Health Network at:
<http://www.canadian-health-network.ca/>
and search for "*contact lenses*"

For more information about eye conditions, disorders and treatments, visit the Canadian Ophthalmologist Society's Web site at:
<http://eyesite.ca/english/public-information/eye-conditions/index.htm>

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