



UV and Eye Protection

Background

Ultraviolet (UV) radiation is invisible high-energy light just beyond the blue end of the visible spectrum. The majority of UV radiation comes from sunlight. Most UV radiation is absorbed by the anterior structures of the eye, although some of it reaches the light-sensitive retina where it can cause damage¹. Children are particularly susceptible to UV radiation because of the physiology of their eyes¹. UV absorption by or around the eye may contribute to:

- photokeratitis^{1,2,3,4}
- photoretinitis^{2,3}
- cataract^{1,2,3,4,5}
- age-related macular degeneration (AMD)^{1,2}
- dry eye disease^{1,6}
- pterygium^{1,2,3,4}
- climatic droplet keratopathy (CDK)^{2,3,4}
- and cancer of the eye and eyelid^{2,3,4}

Protecting the eyes from UV radiation is important and public awareness is critical. Despite the importance of protecting eyes from UV radiation, a significant number of Canadians do not wear sunglasses consistently while outside. Thirty-three percent of Canadian adults report that they wear sunglasses always or regularly while outside⁷. Only 16% of Canadian parents report that their children wear sunglasses always or regularly while outside⁷.

Policy Issue

It is not possible to tell how much UV protection a pair of sunglasses will provide by looking at the price tag, colour, or darkness of the lenses⁸. Health Canada's Consumer and Clinical Radiation Protection Bureau recommends consumers ensure their sunglass lenses are dark enough to keep their eyes comfortable, but not so dark that they reduce vision⁸. The Bureau also recommends close-fitting wrap-around eyewear, scratch-resistant coating on plastic lenses, as well as checking lenses for distortion⁸.



Policy Position

The Canadian Association of Optometrists recommends that sunglasses should limit UV-A and UV-B rays. Consumers should look for “UV400” or “100% UV” protection on the label. The degree of UV protection is not necessarily related to price. Sunglasses should be stable when worn and large enough to provide adequate eye coverage. Adults and children should wear sunglasses or UV-protective prescription eyeglasses year-round to protect their eyes against UV radiation. Children’s sunglass lenses should be made of plastic or polycarbonate rather than glass for added impact protection. All distance prescription spectacles for children should incorporate UV protection within the lens material or as a UV-protective coating. Brimmed hats can also help protect the eyes from UV rays.

References

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