

ANTI-ULTRAVIOLET RADIATION EFFICACY OF SPECTACLE LENS, SOFT CONTACT LENS, AND INTRAOCULAR LENS

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Purpose: To evaluate the anti-ultraviolet(UV) efficacy of different kinds of spectacle lens, soft contact lens, and intraocular lens.

Methods: The spectral transmissions of spectacle lens, soft contact lens, and intraocular lens are analyzed to compare their anti-UV efficacy.

Results: For spectacle lens: UV CR-39 and polycarbonate lens provide better protection than clear CR-39 lens; glass lens perform worst. For soft contact lens, UV contact lens is better than clear contact lens, and among UV contact lens, Weicon Ultrabloc is the most effective. We also found that the kinds of

color and the base curve of the lenses are not related to their anti-UV efficacy. For intraocular lens, both hard and soft lenses from Alcon and Phamacia & Upjohn can block the UV radiation efficiently.

Conclusion: To prevent the damage from UV radiation, we suggest UV CR-39 and polycarbonate lens; as for soft contact lens, the one with UV-absorber is better; both hard and soft UV-intraocular lens perform equally good to human crystalline lens, therefore, they should be used regularly in modern cataract surgery.

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