

Polarized Sunglass UV Radiation Effect

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Introduction

Polarized sunglass

It is a glass feature made from polarized lenses; it can reduce glare and reflection of light from different surfaces and materials. Polarization results from horizontal light, the light reflects horizontally from a surface that is denser than light like snow, water and building. That surface produces glare and discomfort for the wearer. The filter in polarized sunglass contains a vertical line that allows just light to come vertically to pass thus glare disappears and the patient feels comfortable.

Polarized sunglass has been developed these days, so the wearer can practice football, fish, walk for long trip, driving cars, the best thing to develop these days is the glass should be made from flexible plastic and the lens should have resistance from scratch and light. For the safety of the eyewear glass with UV protection and polarized property, it is important especially in winter, because the sunlight reflected from snow is actually could cause sunburn. As we know the snow reflects about 80% of UV light for that we should be careful when we skate, exposure to ultraviolet for a long time could cause blindness.

Type of polarized lenses

- 0.75 mm: Thin lenses are good for the majority of sport.
- 1.1 mm: Thicker is more expensive and provides more resistance from scratch, but does not provide more protection from glare.

We use the polarized lens in sunglass for those who have no medical prescription for their glasses, that include a patient who has done new surgery on their eye and those who exposure to direct sunglass from the window.

A tip that we should know about sunglass:

- Darker sunglass does not mean provide more protection from UV light.
- Polarized lens protects from glare but did not block UV light.
- Only glasses with 100% UV protection provide a safe experience for your eye.

- Polarized lenses provide the best visual experience in certain tasks like boating; fishing and golfing.

When not using anti-glare sunglasses

There are a few tasks we do not recommend using antiglare sunglass like looking at LCD (Liquid Crystal Display) screen such as car dashboard control ATM cash machines, cell phones and some watches. There is some disease related to exposure to ultraviolet radiation and not protected by polarized sunglasses.

Description

Photo keratitis: It is caused by exposure to UV rays from sunlight, it causes by sun reflection from water, snow, sand and ice it also can happen if you stare at the sun, such as watching a solar eclipse directly without using a special device, a solar eclipse can also cause burn to the retina which is long lasting and more serious than temporary corneal damage. There are many man made sources of ultraviolet light including tanning lamps, tanning beds as well as arc welding. Photo keratitis is affecting the thin layer of the cornea, the clear front window of the eye and the conjunctiva.

Snow blinding: Is a form of photo keratitis that is caused by exposure to UV rays reflected from snow or ice, eye damage from UV rays is common in the south and North pole. For that, we should be careful during choosing sunglass we have to be sure the glass provides 100% ultraviolet protection taking into consideration that different activities need special property of safety.

Effect of UV light on the eye

Too much exposure to UV light can raise your risk of eye diseases and other problems:

- Cataracts and eye cancer can take years to develop each time you bask in sun without eye protection, you increase your risk of serious disease and baby and children need to wear hats and sunglass for this very reason.
- Growths on the eye such as pterygium.

Sunlight and your health

Healthy exposure to sunlight can have a positive effect, as long as you protect your eye from UV damage; you need a little natural light every day to help you sleep very well. Because the light sensitive cell in our eyes plays an important role in our body's natural wake-sleep cycle. Spending time outdoors in daylight can help prevent near sightedness in the kid.

Effect on the retina and choroid

Only a small amount of UV reaches the retina, in adults, it is only 1% of wave shorter than 340 nm and 2% of waves 340 nm-360 nm long. It suspected that retinal damage in the form of AMD can be connected with UV exposure, AMD degeneration of the macula, is the main cause of vision loss in people over 50 years old, the die effect in the macula the central part of the retina which is responsible for clear vision.

Conclusion

Animal studies suggest that exposure to strong sunlight can cause a lesion in the retinal pigment epithelium. It is stated that UV rays induce DNA and cellular damage, as a result of forming Reactive Oxygen Species (ROS). In the study, where RPE was exposed to UVC, UV induced apoptosis of retinal

cell occurred. In the study conducted in USA it was proved that developing depend in the amount of time spent outside, however, does not depend on ambient UVB level. Many eye diseases are related to UVR exposure, there is strong evidence that acute UVR exposure cause photokeratitis and

photoretinitis and chronic exposure climatic droplet keratopathy, cataract, pterygium, squamous cell carcinoma of cornea and conjunctiva and eyelid cancer.