

Contact lenses: Which type is better? ^[1]

Dear Alice,

I read that disposable contact lenses are actually worse for your eyes than the normal one-year ones because they allow less oxygen to go to your eyes, and the only advantage is that there are less cleansing problems. Also, it is claimed that inadequate oxygen to your eyes (possibly caused by prolonged wearing of contact lenses) leads to a condition when extra blood vessels sprout around the iris, which leads to sight problems at old age. Is that true?

I am very concerned because I normally wear (one-year) contact lenses from 8am to 8pm, and maybe to 12am during reading periods. I don't feel very comfortable with glasses because they give distorted visions and fatigue. I thought switching to disposable contact lenses would do my eyes good. My current lenses contain 38 percent water. Is this good enough?

Answer

Dear Reader,

As an alternative to prescription glasses, contact lenses not only correct vision, but also allow for peripheral vision, clear vision in the rain, fog-free vision in steamy places, and vision free of dirt splatters on a muddy bike ride. Contact lenses have evolved over 50 years, and now are commonly available and accessible at a fairly reasonable cost. In addition, many insurance companies cover contact lenses, as well as prescription glasses.

But contacts do have their drawbacks. They can dry out your eyes, reduce oxygen to your cornea, get cloudy from protein deposits, and make your eyes more prone to fungal and bacterial infection. The cornea is the only living tissue on the human body that gets its oxygen from the air rather than from your bloodstream. This means it also must release carbon dioxide without the aid of blood. You are correct: When the cornea cannot access enough oxygen from the air, it can go through a process of "neovascularization" in which it sprouts blood vessels to compensate for the lack of oxygen. And forming blood vessels over time impedes vision because the cornea loses some of its transparency if blood vessels are formed.

But don't panic yet. You ask if 38 percent water content is enough. The answer is not so cut and "dry" unfortunately, but 38 percent is probably fine if you haven't been experiencing any

discomfort or vision problems. Higher water content lenses are potentially beneficial because more water means more oxygen to the eye — high water content lenses allow more oxygen into the eye (and more release of carbon dioxide) because the water serves as a vehicle for the gases. But higher water content lenses tend to also be more fragile (because they have less plastic) so manufacturers tend to make them thicker than low water content lenses so that they won't rip as easily. Ironically, this thickening of the lens counteracts the benefit of more water!

Which type of lense is "better" also depends somewhat on the material of the lens. For example, evidence so far indicates that silicone hydrogel lenses (e.g. CIBA Vision Night and Day) are pretty healthy for the cornea, reducing the likelihood for infection and keeping the eye relatively moist and oxygenated (because silicone is permeable to oxygen). But everyone's eyes are different. For some people, 38 percent water content will be just fine and for others, it won't be sufficient. Some people can wear CIBA Vision Night and Day contacts overnight for 30 days while other people will never be able to sleep in contact lenses overnight without having problems (dry eye, infection, not enough oxygen, etc.).

You also ask about extended wear versus disposables. Currently, evidence doesn't seem to indicate that one is healthier than the other. But it is a good idea occasionally to change out your contact lens case, either way. In general, if you feel good, look good, and see well while wearing the lenses, then you're probably okay.

If all these conditions are met, you're probably okay. But it's good to remember that many studies testing the effects of lenses on the cornea and the eye as a whole are conducted by contact lens manufacturers and thus may be biased. So be sure to check with your health care provider about your lenses; when they ask, be honest about the length of time that you wear them. Ask about the type of soaking and rinsing solution(s) you are using to make sure the solution is okay to use with the chemistry of your particular lens. Have re-wetting drops on hand to use if your eyes feel dry or get cloudy. And remember that even if a manufacturer says you can wear your lenses for 12 hours, 24 hours, or 30 days without a problem, if your eyes are not happy, give them a break and wear glasses for a bit. Your eyes will thank you!

Alice!

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Published date:

Jul 12, 2002

Last reviewed on:

Jul 02, 2015

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