

Calculating risk in use of disposable contact lenses

Amanda Vaughn has a bad habit. At least, her husband thinks so. Her mother occasionally hounds her about it, too. Add her optometrist to the list, and that makes three people who aren't thrilled with Vaughn's tendency to wear disposable contact lenses for months on end. After all, aren't the contacts only good for two weeks?

"Allegedly," says Vaughn, who lives in Chicago, Illinois.

Instead of throwing them away after two weeks and putting in a new pair, as the packaging suggests, Vaughn generally wears a pair of contacts for four, five, even six months — 24 hours a day, seven days a week, never removing them for cleaning. She confessed to her optometrist, receiving a lecture on eye health in response, but is reluctant to change her ways. It feels wasteful to ditch lenses after a couple of weeks, she says, especially when they still work fine, feel comfortable and appear to be doing her eyes no harm.

"I've never had a problem, besides my conscience telling me it was probably a bad idea," says Vaughn. "Every time I go to my eye doctor, everything looks fine and healthy."

Lens manufacturers market various types of disposables: dailies, monthlies and the kind Vaughn wears, which have a suggested lifespan of two weeks. Eye care professionals refer to how well people follow recommended wear schedules as replacement compliance, and suggest that improper use can lead to serious problems, including sight-threatening infections.

Though Vaughn may be an extreme example of a noncompliant lens wearer, she is hardly the only one. Some people do it to save money, others because they don't keep track of when they inserted their contacts.

In a thread on the website Ask MetaFilter, one person asked if it was OK to wear daily disposables for a week (<http://ask.metafilter.com/82508/Wearing-daily-contact-lenses-for-one>



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As many people are abandoning the use of contact lenses each year as trying them for the first time.

-week-not-considered-harmful). Some people replied that they wear them even longer, for two or even three weeks. In another forum, someone posed the question "Disposable Contact Lenses — how long do you REALLY use them?" (<http://forum.purseblog.com/health-and-fitness/disposable-contact-lenses-how-long-do-you-really-254414.html>). Again, many people confessed to wearing them for much longer than manufacturers suggest.

One person, echoing a sentiment commonly expressed in these online discussions, claimed that replacement compliance was really about profits, not health. It would be the equivalent of an oil change company "telling you to get an oil change every 3,000 miles vs. the owner's manual saying every 7,000 — the manufacturer has an agenda to make more money, and the faster you go through the lenses the more money they make!"

But taking advice that can affect your eye health from anonymous Internet comments might be a bad idea, says Sheila Hickson-Curran, director of medical affairs for Vistakon, a division

of Johnson & Johnson Vision Care that makes disposable contact lenses. "I think what you are seeing on these websites is bravado," says Hickson-Curran. "Playing chicken with your eyes? I don't know about that."

Hickson-Curran acknowledges, however, that there is little difference in the materials used in the various types of disposable contacts lenses. But if a lens is marketed as a two-week product, it will only be tested to ensure it is safe to use for two weeks, not longer. Furthermore, says Hickson-Curran, it is true that some people can wear contacts for longer than recommended without problems, but it is impossible for eye care professionals to know who those people are going to be.

Some people can barely stand to put a contact lens in their eye at all, finding them too uncomfortable. In fact, the whole industry is something of a "leaky bucket," says Hickson-Curran, with as many people giving up contacts each year as trying them for the first time. People who wish to wear contacts rather than glasses throughout their lives would be wise to use disposables

and to replace them regularly, she says, because the main reasons people run into problems are improper cleaning and other mistakes, such as sleeping without removing their lenses.”

“This is why we think of daily disposables as being a good solution,” says Hickson-Curran. “If you make it as simple as possible and ask patients to do less, they are more likely to comply with that. With daily disposables, you are taking away any need to clean.”

For all their convenience, however, daily disposables are not that popular in North America — at least not compared to their popularity in places such as Japan and Europe.

“When I left the UK [United Kingdom] in 1998, about 60% of contact lenses wearers were fitted for dailies. In Canada, it was about 3% to 4%. It was a huge, huge difference,” says Lyndon Jones, director of the Centre for Contact Lens Research at the University of Waterloo in Ontario. “Part of it is the mindset of the practitioners. The dailies cost a bit

more and might be higher than they would like for their patients. In Europe, they recommend what is best for you, and dailies are the best, safest and easiest.”

A recent study led by Jones’ colleague, Kathy Dumbleton, a senior clinical scientist at the centre, found that there was a correlation between eye problems and noncompliance with optometrist’s recommended replacement frequency (*Cont Lens Anterior Eye* 2011; 34:216–22).

Overall, two-thirds of 501 survey respondents reported replacement intervals that weren’t compliant with manufacturers’ recommendations, with non-compliance higher among wearers of two-week disposables than those who wear monthlies. Just under a quarter of people reported a serious problem — such as conjunctivitis or corneal infection. “Although a lower rate was observed in the compliant group, this difference was not statistically significant ($p = 0.112$.)” But when it came to optometrist’s recommended replace-

ment frequency (ORFF), “a statistically significant difference ($p = 0.028$) was found between those patients who were compliant with the ORRF (18%, 95% CI: 13–24%) and those who were not compliant with the ORRF (26%; 95% CI: 21–31%).”

The take-home message, say Jones and Dumbleton, is that replacing lenses on a frequent basis is better for your eyes. It is also not wise to push the limits of your contact lenses until you experience a problem, because that first problem could be a major one.

“You could end up with a sight-threatening corneal infection the first time you do something wrong,” says Dumbleton. “You might sleep in your lenses just one time. It might be just one misuse. It isn’t necessarily a build-up over time, though the more times you misuse them, the more likely something is going to happen.” — Roger Collier, *CMAJ*

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