

Making a case for replacing contact lens cases frequently.*

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An often neglected aspect of contact lens hygiene is lens case replacement.

One of the most overlooked components of good contact lens care — and essential for maintaining good corneal health — is a clean contact lens case. Even the most conscientious hand-washing, rubbing and rinsing can't combat the pathogens that can grow in a dirty contact lens case.

In this article, I'll discuss what can happen when a contact lens case isn't cleaned and replaced regularly. I'll also review an easy, five-step process you can teach your patients.

What's Growing In There?

In a 1997 study of 141 new soft contact lens wearers, Lakkis and colleagues¹ reported 70% of contact lens cases were contaminated by bacteria, fungi, yeasts or amoebae. As you might expect, shorter lens wearing times and longer lens storage times did reduce the percentage of contaminated cases. Meanwhile, in a separate study, Caroline and Andre² discovered that 42% of contact lens cases cultured positively for bacteria alone.

The bacteria that adhere to contact lens cases undergo a series of transformations, one of which involves releasing an exopolysaccharide glycoalyx biofilm that protects the bacteria and allows them to live off of one another. This in turn creates a strain more resistant to lens disinfection products.

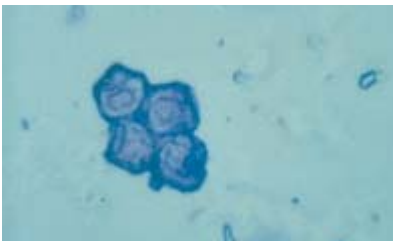
Little-known Facts

Using a fresh, new lens case is a surefire way to eliminate the risk of microbial biofilms, which begin to develop within 1 week of the life of the case.³ However, there's another little-known issue with brand new cases.

New plastics actually absorb the preservatives in disinfecting solutions, which hampers disinfection during the first few days of the life of the case. The amount of lost disinfection depends on the solution and the case. The plastic reaches a saturation point after about 7 days, and it's highly unlikely disinfection rates ever dip below FDA-approved levels. Interestingly, because of this absorption, the FDA regulates the types of plastics that can be used for solution bottles but not for contact lens storage cases.

In general, lower density or softer plastic absorbs more. Therefore, the effect is most pronounced with flat-pack cases — the ones we buy in bulk and hand out free to our patients. The phenomenon is so recognized throughout the eyecare industry that some companies even pre-cycle their cases before performing solution studies.

Some plastics also can absorb the color in custom-tinted lenses. In fact, Crystal Reflections Inc. specifically warns against storing its red or black-tinted lenses in flat-pack cases, as the flat-pack cases tend to draw out some of the color. This warning does not apply to printed process lenses, such as CIBA Vision's dot matrix lens, because the color becomes part of the monomer and will not fade or leach.



Acanthamoebae are more prevalent when patients do not adhere to lens care and storage instructions.

Five Steps to Cleaner Cases

You and your staff should reinforce your lens care instructions to patients at each visit. Emphasize the following habits:

1. Always wash your hands before applying or removing your contact lenses, including when you open or close the lens storage case.
2. Discard used solution immediately after

Lens case should be replaced at least every 3-months and many doctors recommend monthly replacement.

removing your lenses from the case each day.

3. Rinse your lens case thoroughly, including the underside of the lids, with either hot tap water or a disinfecting solution.

4. Air dry your case with the lids open.

5. Replace your lens case at least four times a year. (Monthly replacement is recommended)

As a practitioner, you may have concerns about case contamination. I've found the best way to monitor this is to ask your patient to bring his lens case with him when he comes in for an examination so you can see firsthand what the case looks like.

Take-home Message

Never overlook the value of a clean contact lens case to limit pathogenic growth and reduce the chance of microbial keratitis.

Just as you educate your patients on proper contact lens replacement and disinfection, it's equally important to educate them about proper care of their contact lens case.

Dr. Gromacki has served as a faculty member at the University of Michigan Department of Ophthalmology and Visual Sciences.

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*The headline of this article was changed from the original version.**

