

Contact Lens Safety

Contact lenses provide an excellent alternative to glasses and can have offer other benefits to the wearer as well. ***But contact lens use is not without risk, and the potential for vision-threatening problems is present, especially in those who abuse the use of contacts.***

Contact lens complications: Oxygen

First, it's important to understand that wearing contact lenses is very safe...assuming the wearer is educated in proper wear and care and follows the instructions. When you think of contact lens-related complications, you must think in terms of oxygen.

Simply stated, even the best fitting contact lens causes a compromise of the oxygen supply to the cornea. When a contact lens is in the eye, not as much atmospheric oxygen gets through to the cornea as compared to when there is no contact lens on the eye. Over a long period, too little oxygen can cause complications.

What can happen?

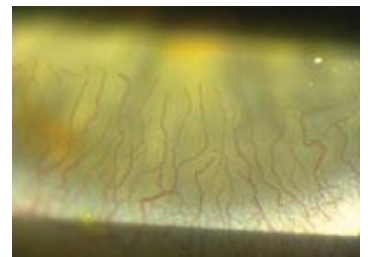
Over-wearing your contact lenses, whether it's too many hours in a day, or too many weeks before discarding, may *not* cause you to experience any immediate symptoms. But here lies the danger. If the cornea doesn't receive enough oxygen it actually becomes somewhat anesthetized, being less able to experience pain or discomfort, which are your body's indicators that there is a problem or potential injury.

Another way to look at it...You wouldn't continue using a disposable razor. Eventually the dulled blade would nick your skin. Disposable razors are meant to be thrown away after a period of time. It's similar with disposable contact lenses – they are meant to be discarded after a designated period of time.

Several things can happen when the cornea is deprived of enough oxygen. By deprived, we mean a subtle reduction in oxygen supply *over a long period of time* – think slow starvation, if you will. All eye doctors have seen patients with various degrees of contact lens-related corneal abrasions from contact lens over-wear, often without any symptoms mentioned or noticed by the patient.

Abnormal blood vessel growth: Corneal Neovascularization

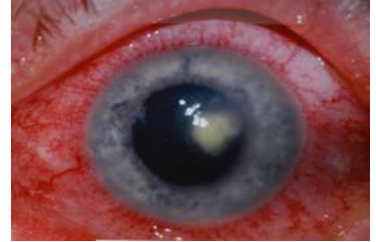
In the normal eye, the cornea is perfectly transparent tissue, with no blood vessels. If the cornea is deprived of enough oxygen over time, blood vessels from the surrounding tissues can grow into the cornea. This is the response of the cornea "calling out" for oxygen; it's the body's natural reaction to send in blood vessels. The new blood vessels deliver fresh oxygen to the starved corneal tissue. However, if left untreated, they can continue to grow into the cornea and interfere with vision. Incidentally, these vessels are permanent and remain even if contact lens wear is discontinued. So, prevention of their growth is key.



Surface cell problems: Abrasions or Corneal Ulcer

The single layer of cells on the surface of the cornea, epithelial cells, are very sensitive to reduced oxygen supply. Over time, they can swell and become loosened from their firm attachment to the cornea creating openings in the cornea's protective surface.

These openings in the surface are opportunities for bacteria to bind to the epithelial cells and to cause infection. Infection can cause the epithelial cells to slough off, and if too many slough off, an abrasion, or worse, a **corneal ulcer** (pictured right), can form.



Prevention

All these complications are preventable through proper wear, care and frankly, common sense. **Don't wear your contact lenses all the time.** It's important to give your corneas a regular "oxygen break" – avoid wearing them all waking hours. If you are just hanging around the house, it's an opportunity to give your eyes a rest by wearing your glasses.

Disposing of your lenses

The reason to dispose of your contact lenses after a designated wearing period, whether it's daily, two weeks or one month, has to do with oxygen. When a new lens is placed on the cornea, the level of oxygen getting through to the cornea is at its peak. Over time, as the lens is worn it becomes layered with tear proteins, as well as other debris and makeup, which diminishes the corneal oxygen levels. Unfortunately, some patients continue to wear their lenses far beyond the safety point since they often have no symptoms – warning signs (as described above) – and they mistakenly believe that nothing is wrong. Don't be deceived into this way of thinking. Your contacts are "prescribed" for you and like any other prescription, come with instructions based on your vision health and the lens materials. A fresh lens will ensure your corneas receive the oxygen they need.

The big picture

Think in terms of the long haul when wearing contact lenses and maintaining optimal corneal health throughout your life. You're not doing yourself any favors by wearing lenses too many hours each day, or wearing your lenses past their designated life span. Any perceived costs savings will be lost when treating the resulting corneal damage or injury. Remember, the key is to keep as much oxygen flowing to the cornea as possible.

Stay in close touch with your doctor

Your doctor will examine your corneas to make sure none of the problems we've talked about are taking place. Adhere to the lens replacement and appointment schedule you are given by your doctor. **If you suspect that you do have a problem, if your eye gets red, or if your vision is blurred or painful, stop wearing your contact lenses and call your doctor's office as soon as possible.**

C H A T T A N O O G A
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Giving your eyes a reasonable daily oxygen break, replacing your lenses as prescribed will ensure that your corneas remain healthy and that you have many years of problem-free, clear vision with your contact lenses.

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