

Patients who suffer dry eyes find relief from wide-diameter contact lenses

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(Medical Xpress) -- Susan Loughman is among the tens of millions of Americans who suffer dry eyes. She has an especially bad condition, which makes it feel like there's sandpaper in her eyes.

she gets instant relief when she puts in a pair of wide-diameter contact lenses that were prescribed by optometrist Peter Russo, OD, director of the contact lens service of Loyola University Health System.

A conventional rigid contact lens is about 9 mm in diameter. It lies on the cornea, which covers the colored part of the eye. Loughman wears a special scleral contact lens. The dome-shaped lens vaults over the cornea and rests on the sclera, the white part of the eye. Underneath the dome, a reservoir of saline solution bathes the eye. Scleral [contact lenses](#) typically are 15 to 22 mm in diameter.

"They keep my eyes moist and are very comfortable to wear," Loughman said. "I don't know what I would do without them."

Scleral contacts have been available for decades, but major improvements in materials and design have sparked a resurgence in their use. "They are the hot topic in the [contact lens](#) field," Russo said.

"It's amazing to see the effect scleral lenses can make," Russo added. "When patients first come into the office, they have extremely irritated eyes and have to use eye drops every 30 to 60 minutes. Their vision is blurry and they are very dissatisfied with their quality of life. But once

we put in the scleral lenses, they feel instant relief."

While [dry eyes](#) can occur at any age, they are most common in the elderly. Nearly 5 million Americans age 50 and older (3 million women and 1.5 million men) have dry eyes, and tens of millions have less severe symptoms, according to the National Eye Institute.

Symptoms include stinging or burning, a feeling that something sandy or gritty is in the eye, pain and redness, episodes of blurred vision, heavy eyelids, eye fatigue and decreased tolerance of activities that require sustained [visual attention](#), such as reading or working on the computer.

Eye drops can help, but the relief often is temporary. Drugstores sell many over-the-counter brands of lubricating drops, but there is no conclusive evidence that any one product works best for all dry eye sufferers, Russo said.

Dry eyes can be due to many factors, including side effects of medications, skin disease around the eyelid, pregnancy, hormone-replacement therapy, LASIK surgery, allergies and immune system disorders such as Sjogren's syndrome, lupus and rheumatoid arthritis. (Loughman's dry eyes are caused by graft-versus-host disease, a complication of an earlier cancer treatment.)

Russo said scleral contacts, made of hard plastic, have improved dramatically in the past few years. Unlike earlier scleral contacts, the newer lenses are gas permeable, meaning they allow oxygen to permeate through the lens to provide oxygen to the surface of the eye. Each lens is custom-fit to the wearer's eyes; a computer-assisted lathe produces an extremely precise curve on the back of the lens.

"It is remarkable that lenses this large can be so comfortable," Russo said.

Russo said it takes a bit longer for patients to learn how to put in the contacts. The lenses also are more expensive than regular contacts. Russo said he works with patients to get insurance companies to pay for the lenses, since they treat a medical condition and are not simply cosmetic.

Provided by Loyola University Health System

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