

Laser surgery does not appear to have long-term effects on corneal cells

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Laser eye surgery to correct vision problems does not appear to be associated with lasting changes to cells lining the inside of the cornea at nine years after the procedure, according to a report in the November issue of *Archives of Ophthalmology*.

Two types of laser surgery—photorefractive keratectomy (PRK) and laser in situ keratomileusis (LASIK)—are often used to correct refractive errors such as nearsightedness, according to background information in the article. Little is known about how these procedures affect the cornea, the transparent membrane covering the eye, on the cellular level over the long term.

Sanjay V. Patel, M.D., and William M. Bourne, M.D., of Mayo Clinic, Rochester, Minn., studied 29 eyes of 16 patients who had undergone LASIK or PRK. Photographs of the cells lining the cornea (endothelial cells) were taken and analyzed before and nine years after surgery. The annual rate of corneal endothelial cell loss in the eyes of patients who had had surgery was compared with those of 42 eyes that had not undergone either procedure.

Nine years after surgery, the density of cells lining the cornea had decreased by 5.3 percent from their preoperative state. However, the average annual rate of cell loss (0.6 percent) was the same in corneas of eyes that were operated on and those that were not.

"Our results support the findings of numerous short-term studies that

found no significant endothelial cell loss after LASIK and PRK," the authors write.

"The importance of the findings in our study relates to using corneas that have undergone LASIK or PRK as donor tissue," they conclude. "Our findings of no difference in endothelial cell loss after keratorefractive surgery compared with normal eyes suggests that [corneas](#) after keratorefractive [surgery](#) should be suitable for posterior lamellar keratoplasty," a surgical treatment for corneal dysfunction that involves donor tissue.

More information: Arch Ophthalmol. 2009;127[11]:1423-1427.

Source: JAMA and Archives Journals ([news](#) : [web](#))

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