

# Cataract surgeons' opinions vary on reported increase in postoperative endophthalmitis



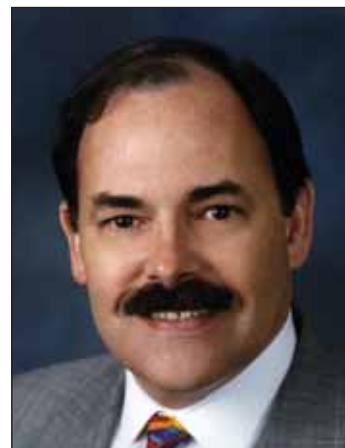
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## Devon Schuyler

IS the rate of endophthalmitis after cataract surgery going up? And if so, what's behind the increase? Surgeons contacted by *Euro Times* had a variety of responses, ranging from disbelief that the rate could be increasing to certainty that it is. As for the cause, some surgeons pointed to the rise of clear corneal incisions, while others cited other causes.

According to a recent review published by Mehran Taban MD and colleagues in the May 2005 issue of the *Archives of Ophthalmology*, the incidence of endophthalmitis associated with cataract surgery increased over the last decade. The authors stressed that this upward trend coincided with the rise in sutureless clear corneal incisions.

The review, which encompassed 215 studies and more than three million cataract extractions from more than 30 countries, revealed a 0.128% rate of endophthalmitis after cataract surgery from 1963 to 2003. But the risk increased from 0.109% in the years from 1963 to 1999 to 0.265% in the years from 2000 to 2003. This represents a nearly 2.5-fold increase in the incidence of endophthalmitis.

The authors wrote that they chose the year 2000 for their comparison because this is the year when approximately half of US cataract surgeons switched from limbal or scleral tunnel incisions to clear corneal incisions, according to an American Society of Cataract and Refractive Surgery (ASCRS) survey.

A variety of factors may explain the increase in endophthalmitis rates, the authors wrote. Some possibilities are a change from inpatient to outpatient surgery, a

move to freestanding ambulatory settings, changes in intraocular lens design or materials, and an increase in antibiotic resistance. But the authors argue that antibiotic resistance is unlikely to explain the change because a companion study they published in the same issue found a decrease in endophthalmitis with corneal transplant surgery over the same period.

They conclude that not only has the incidence of endophthalmitis been increasing, but "there is evidence" that the increase is associated with rising use of the self-sealing clear corneal incision technique.

### Most surgeons say they have seen no increase in endophthalmitis

Not everyone agrees with this assessment, however.

"I'm very sceptical that the rate of endophthalmitis is going up for the surgery we're talking about," said Monica L. Monica MD.

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**Monica L. Monica**

Dr Monica pointed out that she hasn't had a single case of endophthalmitis since she made the switch to clear corneal incision in 1993.

"If you went to 10 or 20 clear corneal cataract surgeons right now and asked them the last time they had endophthalmitis, they would give the same answer," she said.

She said she didn't understand where the rates of endophthalmitis might be coming from, and that a review of the literature would need to include information on the patient population and how the incision was performed in order to be useful.

Daniel A Long MD allowed that there might be an increase, and that the type of incision some people may be using in clear cataract surgery might be the cause. But like Dr Monica, he hasn't encountered any surgeons who have had problems with infections. He also agreed that studies need to include data on how the surgeries were performed.

"Instead of indicting clear corneal incisions overall, they should find out what kind of clear corneal incision was made, and break down the data based on that."

Terrence P. O'Brien MD of the Wilmer Eye Institute at Johns Hopkins University was less certain about the possibility of an increase in endophthalmitis, saying that it's "still somewhat controversial" whether there's been a rise.

In support of an increase, he pointed to a recent analysis of Medicare claims data by Emily West and colleagues in the June 2005 issue of *Ophthalmology* suggesting that the incidence of endophthalmitis after cataract surgery increased from 1994 to 2001. But he also stated that institutions such as Wilmer and the Bascom Palmer Eye Institute in Miami have found no increase.

Like Drs Monica and Long, he's

spoken to many surgeons who have failed to see an increase and are baffled by reports of one. However, he said that the scarceness of the complication could permit a significant rise in rates without the average surgeon experiencing an increase.

### Possible flaws in study

Dr O'Brien pointed out that the review article had several potential problems. Because endophthalmitis is a rare, acute condition, most studies must rely on retrospective evaluations. Culture results from microbial labs may be faulty. And he agreed with Drs. Monica and Long that a large flaw with this type of pooled analysis is that there are many variations in the surgical techniques.

If there has been an increase in endophthalmitis, Dr O'Brien said that the emergence of clear corneal incision may be a contributing factor because this type of incision must be carefully constructed in order to seal properly.

He advised against comparing infection rates from clear corneal incisions with those from corneal transplant surgeries because the procedures and the risk factors for infection are so different.

### Other explanations proposed

I. Howard Fine MD, Casey Eye Institute at Oregon Health and Sciences University, agreed that the rate of post-cataract endophthalmitis is increasing and the use of clear corneal incisions is increasing, but stated that "the two are not related."

His explanation for the increase in infections was threefold. First, many surgeons are in the learning curve with clear corneal incisions.

Second, many bacteria have become resistant to third-generation fluoroquinolones. And finally, surgeons are performing surgery faster than ever because of reduced reimbursement, leading to problems with sterility and surgical technique.

"We haven't had any trouble in our practice," he said.

He and his colleagues have performed more than 8,000 clear corneal incision cataract surgeries in the past nine years, with no infections. He attributes this to careful detail in preparation of the surgical field, incision location and architecture, the use of viscoelastics, surgical technique, IOL implantation, incision closure, and testing for leakage.

In a guest editorial in the *Journal of Cataract and Refractive Surgery*, Samuel Masket MD of Jules Stein Institute, UCLA School of Medicine, said that "there is no question that there was an increase in endophthalmitis" from 1993 to 2003. Few experienced surgeons with published data saw an increase, but postings to Internet discussion boards told a different story.

However, Dr Masket said he believes that "the tide has turned significantly" within the past two years, and that the rate is probably stabilising or decreasing. He attributed this improvement to better surgical technique and infection control, including the use of fourth-generation fluoroquinolones.

"With appropriate infections prophylaxis, very careful construction of the incision, and testing of the incision intra-operatively for leaks, the rates of infection don't have to be higher for clear corneal incisions," Dr Masket said.