

The results* of the last survey

1. Where do you think the organisms come from which cause post-phaco endophthalmitis?

32.7% ■ From the ocular surface during the procedure

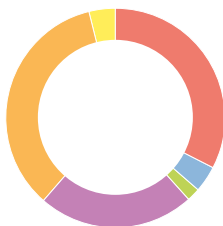
3.85% ■ Due to contamination of the surgical instruments

1.9% ■ From the theatre environment

23.1% ■ From the ocular surface through the cornea sections in the postoperative period due to patient factors (rubbing eyes, touching eye with drop bottle)

34.6% ■ From the ocular surface through the cornea sections in the postoperative period due to fish-mouthing or insecurity of the corneal sections

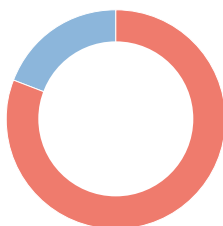
3.85% ■ Endogenous



2. Should the independent sector manage their own cases of endophthalmitis?

81% ■ Yes

19% ■ No



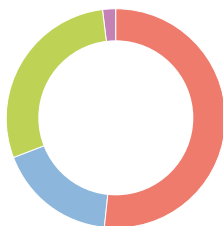
3. When faced with a patient who is four days after cataract surgery with increasing pain and photophobia with cells in the anterior chamber and the anterior vitreous but no hypopyon, how would you manage it?

51.92% ■ Intravitreal sample and injection of antibiotic

17.31% ■ Admit for intensive steroids and observation

28.85% ■ Increased steroid drops and observation next day

1.92% ■ Increased steroid drops and observation in one week



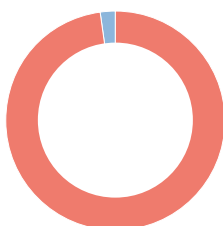
4. Do you use intracameral cefuroxime at the end of your cataract procedure?

98% ■ Yes

2% ■ No, but I give a different intracameral antibiotic

0% ■ No, I use subconjunctival antibiotics

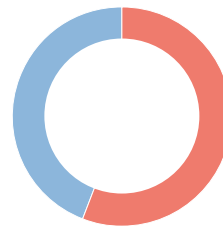
0% ■ No



5. A patient develops infective endophthalmitis and loses their eye. It transpires that intracameral cefuroxime was not used at the end of the procedure and instead a subconjunctival injection of antibiotic was given. Is there a breach of duty?

56% ■ Yes

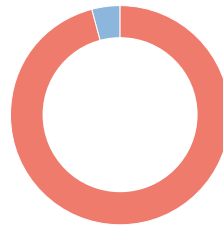
44% ■ No



6. If you were having cataract surgery, would you insist upon an intracameral injection of cefuroxime at the end of your procedure?

96% ■ Yes

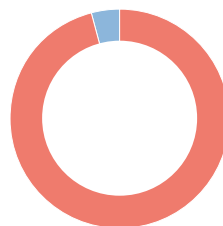
4% ■ No



7. In a patient with a penicillin allergy having cataract surgery, would you give intracameral cefuroxime at the end of the procedure?

96% ■ Yes

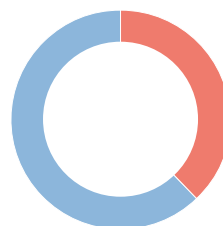
4% ■ No



8. In a patient with penicillin anaphylaxis having cataract surgery, would you give intracameral cefuroxime at the end of the procedure?

38% ■ Yes

62% ■ No

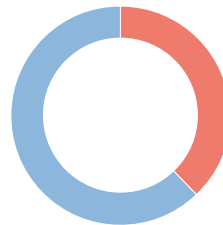


9. I routinely give a drop of preservative-free chloramphenicol at the end of my procedure as well as intracameral cefuroxime. I have no evidence base for this practice. Up until this month I have never had an infection in my 15,000+ cases (an endophthalmitis rate of 0.00007%). Should I stop doing it?

46.2% ■ No, if it isn't broken don't try to fix it

9.6% ■ Yes, you have no evidence for the practice.

44.2% ■ Yes, you have no evidence for the practice and you may be contributing to bacterial resistance



* Please be aware that this data does not form part of a peer reviewed research study. The information therein should not be relied upon for clinical purposes but instead used as a guide for clinical practice and reflection. The sample size for the February 2025 survey was: 52 respondents.

Postoperative endophthalmitis is arguably the worse possible complication of cataract surgery. We are a victim of our own success as the procedure has such an amazing safety profile that when things go wrong patients are bound to feel aggrieved and upset. Everyone they know had no problems with their surgery and yet they have potentially ended up losing their eye because of infection. Recently, I experienced my first ever case of endophthalmitis over my entire career with a poor outcome. It is

heartbreaking. We investigated and went through our safety processes to ensure there was no flaw in our systems – a valuable exercise in itself – and found nothing of concern. While this is welcome, it leaves me with the uncomfortable feeling that there is nothing more I can do to protect my patients from this horrible complication in the future.

Bacterial endophthalmitis is an intraocular infection that can have devastating consequences, leading to irreversible blindness if not promptly

recognised. The sterile environment of the eye can be breached by penetrating trauma, surgery, endogenous sources via bacteria in the patient's circulatory system, or fungi invading and multiplying in the vitreous. Notably, bacteraemia or fungaemia might be transient, leading to presentations devoid of systemic infection symptoms, sadly the likely situation in my patient.

This is a medical emergency and patients need their intravitreal antibiotics as soon as possible, and potentially surgery depending on the circumstances.

The causative pathogen influences the prognostic trajectory; for example, endophthalmitis caused by coagulase-negative staphylococci typically has a better prognosis than streptococcal endophthalmitis.

I question myself as to where the bacteria which infected my poor patient's eye came from. My operation is only about six minutes long. Our asepsis is sound and there were no other cases of it on that list or any other list of mine, so where did the bacteria come from?

I asked you this question and deliberately allowed only one answer as I wanted to force a choice when we all know it could be any of the responses. A third of you felt that the infective organism was introduced at the time of the procedure, while a further third felt they entered the eye from the ocular surface through the corneal wound in the postoperative period. One fifth of you felt that patient factors, such as patients rubbing their eyes, were at play.

Bacteria are not present in a healthy eye, but seeding into the eye can occur from an exogenous or endogenous source. Exogenous seeding is the most common cause of bacterial endophthalmitis and depends on host factors, pathogen factors, and inoculum size. Bacteria such as coagulase-negative staphylococci typically colonise the conjunctiva and can be introduced to the inner ocular cavity during surgery, injections or trauma.

After cataract surgeries, research reveals that one-third of patients' aqueous humour are positive for coagulase-negative staphylococci. However, only 1/500 to 1/1000 cataract surgeries result in bacterial endophthalmitis. These numbers highlight how host factors, such as the immune response, can clear the small inoculum of bacteria. Inoculum size has also been shown to overload the immune system and lead to infection [1-3].

The next question addresses a source of angst and conflict in our profession. The expansion of independent providers of cataract surgery has not been completely welcomed with issues around training and pulling routine cataract surgeries out of the acute trusts. When asked whether these independent sector providers should look after their own endophthalmitis cases the answer seems to be a resounding yes from you. In principle, I completely agree that providers have a duty of care to look after their patients and that duty applies for the procedure and any ensuing complications. I think that this should go further in that if complications occur, the operating surgeon should be the one who cares for the patient and this should not be delegated to others.

However, patient safety trumps all political considerations. Patients with endophthalmitis need urgent intravitreal injections. We know that the drugs required are not off the shelf and they require preparation. We also know that they cannot be administered by anyone except for an ophthalmologist. Furthermore, the vitreous samples need to be sent off for gram staining and culture. The logistics of organising an intravitreal injection in the independent sector would introduce unacceptable delays to both the injection and the culture of the sample. The acute trusts are the only places where this care can be delivered without undue delay. Whether the patient has their cataract procedure in Australia and then returns home to the UK a few days later, or if they had their surgery by an independent provider, or indeed another NHS hospital at the other end of the country, they are entitled to the best NHS care for their ocular infection, and that is provided in the acute trust.

The next question related to a patient who is four days post-cataract surgery with increasing pain and photophobia with cells in the anterior chamber and the anterior vitreous but no hypopyon. The obvious concern here is that this is the start of endophthalmitis but the other possibility is an inflammatory uveitis. This patient needs to be handled carefully. More than half of you would inject immediately and I think that that is sensible, indeed if this is infection you could save their sight. Another half of you would increase steroids and review next day with or without admission. Again, I think this is reasonable but there should be a low threshold for escalating to injection. Follow-up in a week would be a breach of duty.

I was delighted to see that everyone used intracameral antibiotics at the end of their procedure. I asked this same question almost two years ago and there were still surgeons not using it. It is accepted practice and regardless of the criticism of the methodology used in the ESCRS study, it should be done. In view of the universal response to the intracameral antibiotic question, I was surprised to see that almost half of you felt that if it was not used and the patient developed endophthalmitis, it would not be a breach of duty. Effectively we have a Bolam test that shows that all surgeons use intravitreal antibiotics and so by definition it would be a breach of duty not to. The next question shows that almost all of you would insist upon it and so why would we not ensure every patient gets it.

The Royal College of Ophthalmologists published a Concise Practice Point on intraoperative antimicrobial prophylaxis in elective cataract surgery patients with penicillin allergy. They confirmed that

there is a lack of evidence for significant cross-reactivity of intracameral cefuroxime in penicillin-allergic patients. The recommendation is that if there is a history of penicillin allergy, a history should be taken to determine if there were any features consistent with anaphylaxis. If there are not then intracameral cefuroxime should be given. If there is a history of anaphylaxis then consideration of another intracameral antibiotic should be given. We need to balance up the theoretical and small risk of allergy with the real risk of sight-threatening endophthalmitis. Most of you use cefuroxime even in penicillin allergy and, like me, one third of you still use it even if there is a history of anaphylaxis. I always ensure that the patient stays under observation for longer than the standard patient just in case of adverse reaction.

The last question relates to my personal practice of a drop of chloramphenicol at the end of my procedure. My rationale is that I have given an antibiotic into the eye so the anterior chamber is protected however if there is a risk of ingress via the corneal wound in the early postoperative phase, it makes sense to give an antibiotic to address the ocular surface. I acknowledge that we have already sterilised the ocular surface with our betadine prep however I quite like the 'belt and braces' approach. There is no evidence for this and indeed studies including a systematic review [4], a retrospective study of 15,000 eyes [5], and a review of the Swedish National Cataract Registry [6] supported the notion of eliminating antibiotic drops after cataract surgery. Almost half of you feel that, like me, if it isn't broken I should not try and fix it, so I will carry on using my chloramphenicol and accept the derisory looks from the other half of you.

References

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declared.

Complete the next survey online here:
www.eyenews.uk.com/survey
Deadline 1 May 2025



1. Do you routinely check blood glucose in a diabetic patient having cataract surgery on the day of surgery?
☐ Yes
☐ No
2. Do you routinely check blood pressure on a patient having cataract surgery on the day of surgery?
☐ Yes
☐ No
3. In a patient having cataract surgery on warfarin, do you check their INR?
☐ On the day
☐ At pre-assessment
☐ A week before
☐ Do not check it
4. Do you have any restrictions on timings to vaccinations either before or after cataract surgery?
☐ Yes
☐ No
5. In a patient on immunosuppressive therapy undergoing cataract surgery, would you:
☐ Temporarily stop it prior to the procedure
☐ Liaise with their GP about stopping the drug
☐ Liaise with their physician about stopping the drug
6. In a patient with a haematological disorder undergoing cataract surgery, would you:
☐ Proceed with cataract surgery without an issue
☐ Liaise with their haematology consultant about the procedure
7. In a patient who has had a splenectomy due to undergo cataract surgery, would you give prophylactic systemic antibiotics?
☐ Yes
☐ No