housands of patients will keep their sight if Europe’s cataract surgeons adopt new endophthalmitis guidelines released by the ESCRS.

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These latest guidelines represent an update of guidelines first released at the XXIII Annual ESCRS Congress in Lisbon in 2005.

This second version of the guidelines has been updated specifically to take into account the final results of the ESCR S Study of Prophylaxis of Postoperative Endophthalmitis after Cataract Surgery.

They terminated the trial on January 13, 2006 with just under 16,000 patients, after finding that an intracameral injection of cefuroxime at the end of phacoemulsification cataract surgery reduced by five-fold the risk of contracting endophthalmitis.

The four editors of the ESCRS guidelines, Peter Barry FRCS, of St Vincent’s University Hospital and the Royal Victoria Eye & Ear Hospital, in Dublin, Ireland; Wolfgang Behrens-Baumann MD, of Universitäts-Augenklinik, in Magdeburg, Germany; Uwe Peyer MD, of Charité – Universitätsmedizin Berlin, Campus Virchow-Klinikum, in Berlin, Germany; and David Seal PhD, of the Applied Vision Research Centre at City University in London, UK, all played central roles in the ESCRS study.

Dr Barry, who chaired the endophthalmitis study, reported to the XXIV ESCRS Congress in London last year that ophthalmologists can significantly reduce the risk of endophthalmitis after cataract surgery if they used an intracameral injection of cefuroxime following each procedure.

The partially masked, randomised placebo-controlled study, which involved 24 clinical centres in nine European countries, began in September of 2003, with patients randomised into four treatment groups to receive:

- placebo drops perioperatively and no intracameral injection;
- placebo drops and an intracameral injection of 1.0mg of cefuroxime in 0.1ml saline at the end of surgery;
- levofloxacin eye drops but no intracameral injection;
- both perioperative levofloxacin eye drops and intracameral cefuroxime.

All groups received povidone iodine preoperatively and topical levofloxacin postoperatively for six days.

Although the study’s organisers had originally planned to include 35,000 patients in the trial, they terminated the trial on January 13, 2006 with just under 16,000 patients, after finding that an intracameral injection of cefuroxime at the end of phacoemulsification cataract surgery reduced by five-fold the risk of contracting endophthalmitis.

At that point, among the 8,244 patients in the two groups that did not receive intracameral cefuroxime there were five – or 0.06 per cent – presumed and three proven – or 0.038 per cent – cases of endophthalmitis.

In contrast, among the 7,997 patients in the two groups that had received intracameral cefuroxime there were five – or 0.06 per cent – presumed and three proven – or 0.038 per cent – cases of endophthalmitis.

Based on the background incidence of endophthalmitis after cataract surgery and the number of cataract operations performed in Europe each year, the introduction of the guidelines – and in particular, the use of intracameral cefuroxime – could arguably prevent thousands of cases of endophthalmitis each year in Europe alone.

Such a conclusion is based on the background incidence of endophthalmitis – which the ESCRS study found was between 0.05 per cent and 0.35 per cent when only povidone-iodine was administered perioperatively – and statistics from the government think tank, the Organisation of Economic Cooperation and Development (OECD). Extrapolating the latest statistics from the OECD, ophthalmologists are now carrying out more than three million cataract operations per year in the EU alone.

The updated guidelines, which run more than 40 pages, include numerous flow charts, refer to more than 200 sources, and list two dozen contributors.

The new ESCRS guidelines provide cataract surgeons with easy-to-follow, step-by-step procedures that they can readily adapt to their daily practice.

After an introduction and discussion of risk factors, causes, and incidence of endophthalmitis, the guidelines highlight the risk factors, causes, and incidence of endophthalmitis, the guidelines.

EU Matters

Revised ESCRS guidelines could save sight of thousands of cataract patients each year

by Paul McGinn

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At that point, among the 8,244 patients in the two groups that did not receive intracameral cefuroxime there were 23 – or 0.28 per cent – presumed and 16 – or 0.15 per cent – proven cases of endophthalmitis.

Such a conclusion is based on the background incidence of endophthalmitis – which the ESCRS study found was between 0.05 per cent and 0.35 per cent when only povidone-iodine was administered perioperatively – and statistics from the government think tank, the Organisation of Economic Cooperation and Development (OECD). Extrapolating the latest statistics from the OECD, ophthalmologists are now carrying out more than three million cataract operations per year in the EU alone.

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guidelines also recommend that surgeons consider the use of a topical quinolone one to two days before surgery, an hour before surgery, immediately after surgery, and four times daily for one to two weeks after surgery.

Of course, the guidelines highlight the central finding of the ESCRS study with a recommendation that surgeons apply 1mg cefuroxime in 0.1ml saline (0.9 per cent) by intracameral injection. Because this use of the drug is still unlicensed, the guidelines note that its use must be based on the surgeon’s discretion.

Common sense also pervades the guidelines in flow charts that remind surgeons not only about drug prophylaxis but also about such critical issues as the use of sterile – and where possible single-use – instruments, sufficient air flow, hand-washing, and use of sterile masks, gloves, and drapes.

The guidelines note that even in the best hands and after following the best practice, a patient can still develop endophthalmitis. When such cases arise the guidelines recommend that surgeons remember that endophthalmitis is a “medical emergency” that must be tackled quickly and expertly to reduce the risk of blindness or vision loss. Again, using flow charts, the guidelines set out the necessary and recommended steps for ophthalmic surgeons confronted by a patient with endophthalmitis, including the performance of an anterior chamber tap and investigation of the bacteria or fungi by polymerase chain reaction test.

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The guidelines also remind surgeons to prepare for endophthalmitis when it occurs.

"ALWAYS have a chosen empirical regime of antibiotics ready in advance for intravitreal use in a clinic or OT setting. Have instructions prepared for making-up correct dilutions and have necessary sterile equipment (bottles and syringes) available in an ‘endophthalmitis pack’ within the operating theatre," the guidelines read.

In treating endophthalmitis, the guidelines recommend three port pars plana vitrectomy by a vitreo-retinal surgeon but readily admit that such a course is a “gold standard” that may be impossible to meet because of the lack of a vitreoretinal surgeon or vitreoretinal operating room.

In such cases, the “silver standard” of the intravitreal injection of the antibiotics may be the best option after a vitreous biopsy. This SILVER STANDARD has the advantage of time over completeness," the guidelines note. "While it ignores the fundamental surgical principle of ‘Ubi pus, ibi evacuat’ (where there is pus, let it out) and it provides a smaller sample, it permits the earlier injection of intravitreal antibiotics and earlier microbiology. It also buys time pending the availability of a vitreoretinal surgeon and vitreoretinal operating room and the technique should be mandatory for all cataract surgeons.”