disinfection/sterilization.[2–4] Medline search revealed the abstract of a study[2] (no authors listed) evaluating the efficacy of liquid disinfecting flexible endoscope reprocessors primarily for high-level disinfection. The authors noted that although the evaluated liquid disinfecting units provided detergent-flushing, postdetergent water-rinse, and postdetergent water-rinse-removal phases, manual cleaning of endoscopes before automatic reprocessing was essential in order to effect adequate sterilization.

The potential for contamination of single-use biopsy forceps at various stages of colonoscope reprocessing was prospectively evaluated by Kinney *et al*.[3] The authors concluded that proper endoscope reprocessing may be the most important factor in preventing biopsy forceps-related interpatient infection and that passage of even a sterile forceps through the accessory channel of the endoscope may lead to contamination if the endoscope has been inadequately processed (inefficient or no manual cleaning prior to disinfection).

Chaufour *et al*,[4] evaluated the efficacy of disinfection and sterilization of reusable angioscopes to prevent transmission of Duck Hepatitis B virus (DHBV) with the duck hepatitis B model. It was found that there was no disease transmission after reuse of disposable angioscopes that were adequately cleaned before disinfection or sterilization. However, if the angioscopes were inadequately cleaned, DHBV was found to survive despite glutaraldehyde disinfection or ethylene oxide sterilization. The authors postulated that the presence of a narrow lumen or residual protein shielding within the lumen might compromise effective inactivation of hepadnaviruses on angioscopes, with the potential risk for patient-to-patient transmission.

It seems therefore reasonable to conclude that perhaps the most important step to prevent debris-related endophthalmitis following phacoemulsification is the preparatory cleaning and flushing of the handpiece prior to sterilization.

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Sir,

Residual debris as a potential cause of postphacoemulsification endophthalmitis

After reading this excellent article (Eye 2003; 17: 506-512), it is quite clear that 'sterile endophthalmitis' could be due to these residual debris, but it is not clear that the high incidence of postsurgical endophthalmitis (PE) in 1999 is only due to residual debris.

If the sterilising procedures were correct and the rate of phacoemulsification surgeries were similar in 1998 and 1999 (although having different PE annual incidence), the proven infectious PE of 1999 could be due, for instance, to an insufficient surgical prophylaxis (data about the hospitals' prophylaxis protocols are not provided), or to an accumulation of patients with a higher risk of a bad outcome[1], or/and to some specific factor associated with the end of 1999.

On the other hand, it is difficult to keep on accepting as 'current PE incidence' that given in 1991 for Kattan[2] and Javitt et al[3] for the following reasons:

(1) Their PE incidences refer to cataract surgery using extracapsular technique.
(2) The Kattan et al incidence excludes those PE cases not proven by culture. However, 5 years later the Endophthalmitis Vitrectomy Study[4] described 69% of PE cases proven by culture among their 420 intraocular biopsies.

(3) The Javitt et al incidence excluded those patients younger than 65 years; those having diabetic retinopathy; those who underwent cataract extraction combined with corneal, retina, and glaucoma procedures; and those having a secondary implant.
(4) The Kattan and Javitt et al studies were retrospective, while a prospective national study [5]was published in 1991, which described a 0.31% PE incidence in France; and, another prospective national study [6] gave a 0.3% PE incidence in England, in 1993. Years later, much higher PE incidences were published.[7–10]

There seems to be enough information for considering a redefining of the 'normal PE incidence in cataract surgery', especially, taking into account the knowledge achieved since 1991 about PE risk factors.

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Sir,

Postphacoemulsification endophthalmitis — role of residual debris in the handsets used for surgery

We read with great interest the article by Leslie *et al*,[1] since we have also been dealing with a cluster of endophthalmitis at our tertiary care centre in South India. In all, 10 patients (0.18% of 5706 procedures) developed culture-proven postphacoemulsification endophthalmitis between January and August 2003, following surgery by seven surgeons, at three dedicated eye operation theatre complexes. No breach of our sterilization protocols was noted. Since the rate of infection in nonphacoemulsification cataract surgeries during the same time period was 0.02% (1 of 4335 surgeries), suspicion was directed at the phacoemulsifiers and associated equipment. We hence performed the following experiments.

After routine scrubbing and gloving, sterile Ringers lactate solution (Sri Krishna Keshav Laboratories, Gujarat, India) was flushed through the irrigation and aspiration lines of the autoclaved phacoemulsification and IA handsets. The washings were sent for microbiological analysis, and were centrifuged (Remi Laboratory Centrifuge, India) for deposits. In the seven pairs of phacoemulsification and IA handsets studied, only the irrigation tubes were flushed in two sets, thus providing 24 samples. Although fluid samples taken directly from the bottle were sterile, the flushings were culture positive in 16 instances (*Alkaligenes fecalis* in one and *Acinetobacter calcoaceticus* in the rest). Similar organisms were isolated in 10 eyes with postphacoemulsification endophthalmitis (*A. fecalis* in five and *A. calcoaceticus* in two, *pseudomonas stutzeri* in two and *pseudomonas aeruginosa* in one eye). The sediments from the washings revealed the presence of deposits, 5–40 μm in size, which were needle shaped and suggestive of lens matter. To further confirm the presence of such debris in the handsets, we procured a flexible