Comment. This interventional case series shows that sterile intraocular inflammation can also occur when BA is mostly removed. It asks whether BA is a cause or the only cause of sterile endophthalmitis. Other hypotheses should be taken into account. Hypothetical causes for sterile endophthalmitis other than BA include the formulation of TA itself and bacterial contaminants such as endotoxins potentially present in the vials. To support the latter hypothesis, Roth et al. reported 7 cases of sterile endophthalmitis after 104 intravitreal injections that were performed during a 14-month period. All of the observed cases of sterile endophthalmitis were clustered in a 5-week period, raising the suspicion that some toxin existed in the vials and caused an inflammatory reaction. The membrane-filter method was shown to provide a very high bacterial recovery efficiency. Isolating TA through back-flushing sterilizing filters (with small pores) actually does recover and concentrate hypothetical contaminants such as bacterial pyrogens. The true cause of sterile endophthalmitis after TA injection remains unknown. Reducing the BA concentration by approximately 90% does not eliminate sterile endophthalmitis after TA injection. Other methods for isolating TA that are better than filtering commercially available TA would be advisable.

José Lorenzo Carrero, MD, PhD
Miguel González Barcia, PhD
Ines Pérez Flores, MD

Correspondence: Dr. Lorenzo Carrero, Retina Unit, Departamento de Oftalmología, Hospital Povisa, C/Salamanca 5, Vigo 36211, Spain (jose.l carrero@yahoo.es).

Financial Disclosure: None reported.

sional ophthalmology community, are doing patients and families harm by exaggerating the risk and potential negative effect of amblyopia. This also applies to the issue of parents feeling frustrated with noncompliant ambylopic children and relatives feeling guilty for “causing” the condition. Fewer than half of children with strabismus have a family history of this disorder and most ambylopic subjects lack highly predictive and easily identifiable risk factors for the condition.6,7 It should be up to us as physicians to be able to explain to patients and parents that there is no simple hereditariness in amblyopia and no individual family member caused the amblyopia.

Today there is evidence that individuals with amblyopia of sufficient magnitude visiting an eye clinic should be treated (after a period of refractive adaptation). In these cases, treatment for amblyopia has been shown to be successful and cost-efficient. However, evidence for treatment of amblyopia cannot be directly translated into justification for preschool vision screening. A screening system needs to fulfill several criteria: the screening program must have an effect on a population basis; the conditions for which the individuals are screened must have a high prevalence in the population, be significantly disabling, and have a known natural history; and the conditions should have a presymptomatic phase. Moreover, there has to be an accessible treatment that is effective and acceptable to the participants. Arguments for treatment of ambylopic cases encountered in regular eye care and arguments for preschool vision screening of ambylopa are far too often confused and intermixed.

There is currently not enough evidence to demonstrate that preschool vision screening is worthwhile from the point of view of cost-effectiveness and utility. In a cost-utility analysis on screening for amblyopia (again using utility values not from ambylopes but from subjects with acquired unilateral visual loss), Köng and Barry8 concluded that merely the risk of losing the better eye does not justify vision screening from a cost-effective point of view. If, however, amblyopia is associated with loss in utility, vision screening would likely be justified presuming that amblyopia treatment restores utility. This last comment is an important one: presuming that amblyopia treatment restores utility. Cost-utility studies assume that successfully treated ambylopes have the same utility value as healthy subjects. This has not been shown. If future studies evince that ambylopa is related to some kind of disability or loss of utility, then it is important to establish whether successful treatment reduces this disability or utility loss.

Beauchamp claims that preschool vision screening virtually has eliminated amblyopia in Sweden, a statement that is not correct. The cited article9 shows that severe amblyopia (visual acuity ≤ 0.3 decimal) is 10 times less common in a Swedish screened population, but the prevalence of residual amblyopia (visual acuity ≤ 0.5 decimal) has been shown by these and several other investigators to be one-third to one-half that in an unscreened population.10 This must also be viewed in light of the very high participation rates for the Swedish preschool vision screening program,11 as more than 99% participate! Discussing the issue of participation rates, Beauchamp praises the project See by Three with a stated participation rate of 71% but fails to give any information on whether this program actually has an effect on a population basis. A previous study by Williams et al12 showed that a participation rate of 67% was not enough for effectiveness on a population point of view, which is required to justify a general screening program. In their study, Williams and colleagues compared the prevalence of amblyopia in 7½-year-old children with and without screening at 37 months. When comparing those who actually attended screening with those who were unscreened, there was a small but statistically significant difference in outcome. Comparing those who were offered screening (67% actually participated) with those who were not offered screening, this difference disappeared. This points to the need for very high attendance rates for a screening system to be effective and worthwhile from a population point of view.

Preschool vision screening might also get credit for detection of disorders that were found in other ways and most likely would have received treatment even without screening. A Swedish population-based study showed that only 22% of children diagnosed with strabismus and only 47% of children diagnosed with amblyopia are detected at screening.13 The remaining cases are found not only before but also after preschool vision screening.

Finally, I would like to draw attention to the fact that the most common (and perhaps most easily treated) “chronic” eye disorder that causes vision loss during the first 4 decades of life worldwide is not amblyopia but rather uncorrected refractive error.14

Josefin Nilsson, MD, PhD

Correspondence: Dr Nilsson, Department of Clinical Neurophysiology, Sahlgrenska University Hospital, 413 45 Göteborg, Sweden (josefin.nilsson@neuro.gu.se).

Financial Disclosure: None reported.

**Band-Aids and Amblyopia**

Beauchamp's editorial states that amblyopia is associated with a significant decrement in quality of life. However, adults with amblyopia did not regard themselves as 'disabled' and none of them attributed to amblyopia a problem they regarded as significant. Patching appeared to have been responsible for more disabling effects than amblyopia itself. Bullying and impaired social interactions related to patching are factors in reducing quality of life for children and in limited compliance.

A retrospective demographic investigation found the following:

No functionally or clinically significant differences existed between people with and without amblyopia in educational outcomes, behavioral difficulties or social maladjustment, participation in social activities, unintentional injuries (school, workplace, or road traffic accidents as driver), general or mental health, mortality, paid employment, or occupation-based social class trajectories.

This directly contradicts Beauchamp's essential premise and his utility calculations.

The optimistic cost-benefit approximations are challenged by limited outcomes in patients with poor initial vision as well as impaired reading ability and recidivism in about 50% of successfully treated patients. Strabismus and poor visual function are often concurrent with congenital disorders. Anisometropia may be attributed to unequal eye growth secondary to primary visual impairments.

Congenital esotropia is not present at birth but develops in early infancy. It is linked to maternal use of tobacco and alcohol as well as low birth weight. The declining occurrences of strabismus surgery might indicate increased awareness of the risks of alcohol and tobacco use during pregnancy. A paucity and disarray of nerve fibers may be the primary defect leading to poor vision and its secondary effects.

The association of amblyopia with low birth weight and other congenital defects indicates that improving the prenatal environment would be productive in reducing the incidence of amblyopia. Prevention, rather than using Band-Aids, is a cost-effective technique for managing vision problems.

Philip Lempert, MD

**Correspondence:** Dr Lempert, Park View Health Care Campus, 10 Brentwood Dr, Ste A, Ithaca, NY 14850 (eyechartplus@aol.com).

**Financial Disclosure:** None reported.


**In reply**

We should continue to explore together the notions of disability and disutility—and please note, these are very different concepts—while being aware of the many barriers to our understanding. We may parse evidence in a concatenation of reductionist steps that seem logical, even statistically significant. Further, we may debate about methods of all sorts: diagnostic, therapeutic, social, medical system, and so on. Still, amblyopia is a real disease with neuroanatomic and neuropsychologic decrements. We humans know a bad thing when we encounter it and we have a sense of how bad things are in a relative sense; these are statements of utility. And, we know the elimination of preventable vision loss in children is a fundamental good.

Lempert seems to posit the following: (1) treatment yields no decrease in disability and therefore seemingly does not matter; (2) treatment is fundamentally bad because it is associated with bullying and engenders ill will; and (3) treatment is ineffective in reversing the vision loss, hence there can be no effect on utility. He concludes: “Prevention, rather than using Band-Aids, is a cost-effective technique for managing vision problems.” I respectfully disagree on all counts.

First, Lempert fails to distinguish between and among scales of disability and utility. Disability scales measure how bad things are, not whether they are good or bad, and so on. Second, to suggest that any professional should countenance bullying as an acceptable part of a therapeutic plan runs afield of the notion of a caring and healing profession. Retrospective interviews garnering points of view about past experiences may yield revisionist or rationalizing appraisals of efforts put forth by the family and professional team allied in saving sight. And third, this space does not permit a full review of the benefits of amblyopia.