

# CLINICAL Standards for EYE HEALTH CARE in BEHAVIORAL OPTOMETRY

MARTIN H. BIRNBAUM, O.D.

## Abstract

Several recent papers emphasize clinicolegal aspects of areas of care that are important to behavioral optometrists: pediatric eye/vision care, and management of patients with binocular vision disorder. The purpose of this paper is to review this literature and discuss the development of clinical guidelines in this author's private practice.

## Key Words

pediatrics, binocular vision disorder, strabismus, amblyopia, clinicolegal aspects

In recent years, as the scope of optometry has expanded, there have been a number of articles<sup>1-3</sup> in the literature on clinicolegal aspects regarding the detection of ocular and systemic disease, especially ocular and brain tumors, in patients with strabismus and amblyopia, as well as in the general pediatric population. The American Optometric Association has published practice guidelines for Pediatric Eye and Vision Examination,<sup>4</sup> for Care of the Patient with Amblyopia,<sup>5</sup> and for Care of the Patient with Strabismus: Esotropia and Exotropia.<sup>6</sup> The purpose of this paper is to overview this literature and to share some personal perspectives, our current thinking, and our clinical approach.

Standards of care are derived from a complex interaction between state optometry laws, state board rulings, professional education, health insurance reimbursement, and malpractice litigation.<sup>1</sup> Individuals may have varying perspectives on the appropriateness of some of these factors, as well as the overall direction that the profession has moved toward expanded scope of practice. Individuals may differ with respect to the specifics of clinical standards, and even with regard to the issue of whether guidelines should exist at all: on the one hand, clinical practice guidelines can serve to improve quality of care and, when properly followed, reduce practitioner liability; on the other hand, such guidelines may encourage defensive practice and unnecessary testing, dictate the nature of the care that is delivered, and increase the liability of the practitioner who exercises clinical

judgment in not following the guidelines.

Several recent papers in the optometric literature review malpractice claims arising from mismanagement of strabismus and amblyopia, and especially from failure to detect disease underlying these disorders.<sup>1-3</sup> Two examples of these cases are as follows:

1. In *Keir vs. United States*<sup>1,2,7,8</sup> a 4-year-old with accommodative esotropia successfully managed with spectacles was examined by a military optometrist. Ophthalmoscopy was performed through an undilated pupil with a direct ophthalmoscope. One year later the child was found to have retinoblastoma in the esotropic eye. Radiation therapy was performed, after which best acuity was reduced to 20/300. The optometrist was sued for failure to detect the tumor. Testimony centered on whether the standard of care included a dilated examination in a child, or whether use of the Binocular Indirect Ophthalmoscope (BIO) would have detected the tumor. Some ophthalmologic experts testified that a dilated fundus examination with binocular indirect ophthalmoscopy is necessary for all cases of strabismus. The court found in favor of the optometrist, but later the appellate court held that *the medical testimony established the standard of care for the optometrist and that the optometrist's failure to perform a dilated fundus examination with a BIO violated that standard*. The appellate court ultimately found in favor of the optometrist, based largely on the testimony of

an ophthalmologist specializing in ocular oncology, who testified that the peripheral tumor would have been extremely difficult to detect in a 4-year-old patient, especially because the tumor often presents initially as a small, clear lesion. However, the principle appears to be well established that the optometrist is to be held to a medical standard of care; that the optometrist has a responsibility to detect ocular disease, even if the chance of disease is remote, if the tests employed are efficient and of low risk; and that optometrists have a legal duty to examine the retinal periphery in children with strabismus. Although optometry is a health care profession distinct from medicine, the courts have long accepted expert testimony from ophthalmologists on the standard of care to which optometrists will be held.

2. An 8-year-old child with 20/60 visual acuity in the right eye, normal pupils and color vision, mild anisometropia, and no strabismus, was diagnosed with amblyopia and treated with penalisation. Visual acuity (VA) improved to 20/25+. A year later VA decreased to 20/70, an afferent pupillary defect was present, color vision was desaturated in the right eye, and visual fields, taken for the first time, revealed a significant defect. An intracranial tumor was ultimately diagnosed. Following surgery, best visual acuity was 20/100 with unresolved visual field defect. A malpractice suit against the optometrist was successful, with a \$1.3 million settlement.<sup>3,9</sup>

The significance of these cases, and others like them, is to underscore that strabismus and apparent amblyopia can result from intracranial tumors, intraocular tumors, and other systemic and ocular disease, and that the differentiation between functional disorders and those induced by disease is not always an easy one to make. Patients presenting with either strabismus or amblyopia must be carefully investigated to rule out the possibility of underlying disease. Of special concern are strabismus which is of recent onset and/or noncomitant, and apparent amblyopia which is not accompanied by constant strabismus or significant anisometropia. However, reasonable steps should be taken to attempt to rule out a disease etiology in all cases of strabismus and amblyopia, since strabismus which is

caused by disease may begin as an intermittent squint that develops gradually and appears benign, and disease that causes reduced visual acuity may occur in the presence of strabismus or anisometropia, and simulate functional amblyopia. In brief, even in those patients which appear to be straightforward cases of functional strabismus or amblyopia, the clinician should recognize the possibility of systemic or ocular disease, and take appropriate steps to rule it out.

This author is unaware of cases in which optometrists treating nonstrabismic binocular vision disorders have been sued for malpractice for failure to detect underlying systemic disease. However, this potential certainly exists since neurological disease may interfere with both accommodation and convergence functions. The optometrist should be particularly alert to the possibility of neurologic disorder in cases that present with unusual symptoms or findings, and in cases in which the monocular amplitude of accommodation or the nearpoint of convergence do not rapidly respond to therapy.

The primary reason for my concern in this is not the avoidance of malpractice suits, but rather the desire to provide good clinical care. The spate of recent articles on malpractice suits and clinicolegal issues related to binocular vision disorder led to the conclusion that we needed to formulate guidelines for use in our practice. The Clinical Practice Guidelines<sup>4</sup> formulated by the American Optometric Association for eye and vision examination of infants, toddlers, preschool children, and school age children, recommended the following testing for ocular health assessment and systemic health screening:

- > evaluation of the anterior segment and adnexa
- > evaluation of the posterior segment with pupillary dilation
- > assessment of pupillary responses
- > visual field screening by confrontation
- > color vision testing in preschool and school age children
- > measurement of intraocular pressure in school age children and, when signs, symptoms or risk factors exist for glaucoma, in preschool children as well

For patients with amblyopia, the AOA's Optometric Clinical Practice Guideline indicates that ocular health should be evaluated to rule out coincident

tal or causal anomalies or disease, and that this evaluation should include assessment of pupillary function, monocular color vision, biomicroscopic examination of the anterior segment, and thorough evaluation of the ocular media and posterior segment through a dilated pupil. Visual field evaluation is recommended to rule out psychogenic or organic causes of decreased visual acuity in patients with bilateral amblyopia but no significant isoametropia, history of form deprivation, or retinal disease.

Applying these guidelines, plus those implied by the previously cited papers, to our clinical practice, we have derived and begun to implement the following practice guidelines:

1. Pupillary reflexes (direct, consensual, swinging flashlight test) to be performed routinely on all patients
2. Direct ophthalmoscopy through an undilated pupil to be performed on all patients
3. Binocular indirect ophthalmoscopy through a dilated pupil to be recommended (at a separate visit and with an additional fee) for all new patients, for previously-seen patients who have not been so evaluated, and at age-appropriate intervals or as indicated by symptoms and risk factors thereafter
4. Biomicroscopy to assess the anterior segment to be performed routinely on all patients
5. Visual fields: we currently perform a 40-point Hymphrey central field screening on all patients over age 16. Consideration will be given to extending this age downward. Confrontation or modified confrontation fields to be performed on all patients too young for automated field screening.

In addition, we plan to implement the following guidelines for individuals with strabismus, amblyopia, nonstrabismic binocular vision disorder, and visual processing deficit:

### **Strabismus**

- > Dilated examination of the posterior segment with the BIO
- > Central and peripheral visual field screening with the Humphrey 120-point full field program
- > Careful assessment for noncomitancy
- > Careful history as regards nature of onset and recency of onset
- > Careful history to rule out other signs of potential neurologic disorder



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#### **Amblyopia**

- > Dilated examination of the posterior segment with the BIO
- > Threshold visual fields testing with the Humphrey central 30-2 or central 24-2 program
- > Careful history as regards any concurrent systemic disease

#### **Nonstrabismic binocular vision disorders and visual processing deficits**

- > Dilated examination of the posterior segment with the BIO
- > Central field screening with the 40-point Humphrey program
- > Careful history to rule out concurrent neurologic or other systemic disease

#### **Summary**

This paper is presented not to suggest that we are experts in this area, but rather to share our clinical concerns and our current thinking. Some of the guidelines reflect policies that have been in effect in our practice for a long time, particularly the visual field screening for all patients over 16. Other guidelines, particularly the dilated BIO exam and the extended visual

fields for strabismus and amblyopes, and the visual field screening for patients younger than age 16 with nonstrabismic binocular vision disorder or visual processing deficit are new and are currently in the process of implementation. We have recently introduced a Patient Information Form to be filled out at the first visit, which provides for extended data on general health, medications, and family health. We need to develop an extended case history checklist to probe for associated neurologic and other systemic disease in patients with strabismus, amblyopia, nonstrabismic binocular vision disorder, and visual processing deficit. My purpose in presenting this paper is to alert my behavioral colleagues to our increasing concern in this area, and to share our current approach.

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Corresponding author:  
Martin H. Birnbaum, O.D.  
SUNY State College of Optometry  
100 East 24th Street  
New York, NY 10010  
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