June 28, 2013

Standing Committee on Families and Communities,
c/o Committee Clerk
801 Legislature Annex
9718-107 Street
Edmonton, Alberta, T5K 1E4

RE: Bill 204: Irlen Syndrome Testing Act

To Whom It May Concern:

The American Optometric Association (AOA) submits comments regarding the providence’s consideration of Bill 204, the Irlen Syndrome Test Act on behalf of our fellow optometrists practicing in Alberta and at the request of the Alberta College of Optometrists.

The AOA represents approximately 36,000 doctors of optometry, optometry students and paraoptometric assistants and technicians and is the premier association in the United States for the profession and a leading authority on the eye and vision health. Optometrists serve patients in nearly 6,500 communities across the United States, and in 3,500 of those communities are the only eye doctors. Doctors of optometry provide more than two-thirds of all primary eye and vision health care in the United States. Optometrists will play a valuable role in delivering care for those who are newly enrolled in insurance, and without optometrists, the eye care needs of the American public, particularly children, cannot be met.

The AOA is aware that the Alberta government is considering legislation that would mandate screening for children for Irlen Syndrome but would not mandate a more effective comprehensive eye exam. The AOA does not support this legislation and believes that this is not in the best interests of the child nor the best use of valuable resources. Given the very limited effect that Irlen treatment alone has we recommend that Alberta instead consider comprehensive eye exams for all children entering school in the providence. Not only would a comprehensive eye exam more completely address the issues surrounding screening for Irlen Syndrome but would also determine eye and vision issues that can be addressed by a qualified eye care professional. Unlike an Irlen screening, a comprehensive vision exam will contribute to the overall health of the child and help them better achieve in school. I am attaching a copy of a report that the AOA created in 2004 addressing the lack of evidence for Irlen Syndrome screening, the AOA is not aware of any substantive scientific research that has been completed to change our conclusion.

The AOA’s recommendation is consistent with established knowledge that vision disorders, including amblyopia, strabismus, and significant refractive errors, are the most prevalent disabling childhood conditions in the United States, with one in four children having some form
of vision problem, as recently noted by the American Public Health Association (APHA)\(^1\) and we believe the same holds true for Canada. For example, based on Medical Expenditure Panel Survey data, one study estimates that about one-quarter of children between 6 and 18 years old wear corrective lenses.\(^2\) Further, as also noted by the APHA, impaired vision can affect a child’s cognitive, emotional, neurological and physical development, and is associated with developmental delays, lower educational attainment, and the need for special education, vocational and social services, often into adulthood. Finally, the United State’s Center for Disease Control and Prevention (CDC) emphasizes that treating vision problems early may protect a child’s sight, and teaching children with severe vision loss how to function as early as possible can help them reach their full potential.\(^3\) Clearly, comprehensive vision and eye health care is essential and is a necessity for the well-being of children.

In closing, the AOA highly recommends that the Alberta government consider mandating comprehensive eye exams for all children entering school as a better way to address the concerns that form the basis of the legislation. If you have further questions about the importance of children’s vision care please do not hesitate to contact Brian Reuwer at 703-837-1343 or via email at breuwer@aoa.org.

Sincerely,

Ronald L. Hopping, OD, MPH
President

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\(^1\) See American Public Health Association, Resolution A8, “Reducing Barriers and Increasing Access to Children’s Vision Care Services,” Adopted November 2011.


THE USE OF TINTED LENSES AND COLORED OVERLAYS FOR THE TREATMENT OF DYSLEXIA AND OTHER RELATED READING AND LEARNING DISORDERS

Over the past two decades the use of tinted lenses and colored overlays to improve reading comfort and performance has been presented in both the popular media and professional literature. With increasing frequency, patients and parents consult optometrists about the value of colored overlays and tinted lenses. Meares\(^1\) and later Irlen\(^2\) described a syndrome of visual symptoms and distortion that can be alleviated with colored filters. This syndrome has been referred to as "scotopic sensitivity syndrome" or the Irlen Syndrome.\(^3\) Colored overlays and tinted lenses are purported to improve reading ability and visual perception, increase sustained reading time, and eliminate symptoms associated with reading such as light sensitivity, eyestrain, headaches, blurring of print, loss of place, and watery eyes.

A comprehensive review of the available scientific literature regarding the effectiveness of tinted lenses or filters revealed the following:

There is evidence that the underlying symptoms associated with the Irlen Syndrome are related to identifiable vision anomalies, e.g., accommodative, binocular, and ocular motor dysfunctions, in many patients seeking help from colored lenses.\(^4\)-\(^7\) Furthermore, such conditions return to normal function when appropriately treated with lenses, prisms, or vision therapy. When patients exhibiting the Irlen Syndrome were treated with vision therapy, their symptoms were relieved. These patients were no longer classified as exhibiting this syndrome, and therefore did not demonstrate a need for the colored overlays or tinted lenses.\(^4\)

Most investigators have not controlled for the presence of vision anomalies, e.g., accommodative, binocular, and ocular motor dysfunctions. In most cases, researchers have simply assumed that a history of a previous eye examination ruled out any significant vision problem.\(^8\)-\(^14\) Others have developed a protocol to screen for vision problems but have not included an adequate battery of tests to eliminate common accommodative, binocular, and ocular motor dysfunctions.\(^3\),\(^15\)-\(^19\)

The results of prospective, controlled research on the effectiveness of tinted lenses or colored overlays vary. One randomized, controlled trial demonstrated that children with reading difficulties, who were prescribed filters based on colored overlays, experienced reduced symptoms of asthenopia.\(^15\) While this study suggests the color may need to be individually and precisely prescribed, another study demonstrated significantly improved eye movements among reading disabled children when reading through blue filters.\(^20\) Other researchers failed to find improvement in comprehension scores in readers using tinted lenses.\(^4\)

Results of testing utilized to determine the most appropriate color are not repeatable.\(^21\),\(^22\) There are numerous variables within the individual and the environment (such as differences in lighting between the home and various classrooms) that can influence the effectiveness of assigned overlays. It has been reported that up to twenty-five percent of the time, children who receive tinted lenses need to have their tints adjusted within the first year.\(^23\)
The effect of spectral filters and colored overlays is not solely a placebo.\textsuperscript{15} Colored overlays and tinted lenses are not cures for dyslexia, but may be useful reading aids for some individuals with reading difficulty.\textsuperscript{24}

The underlying physiological mechanism for the Irlen Syndrome is still not known. While some argue that a magnocellular deficit exists in these individuals,\textsuperscript{25-29} others suggest the problem is pattern glare.\textsuperscript{30, 31}

There is lack of agreement about the best way to evaluate patients for the presence of the Irlen Syndrome. Some suggest the use of the Irlen 2-part evaluation system,\textsuperscript{32} while others promote the use of the Intuitive Colorimeter.\textsuperscript{33} Both systems require additional research.

Visual processing is a fundamental part of the reading process.\textsuperscript{34} Future research must address the issue of underlying vision anomalies, sub-typing of reading disabilities and the differential response to different treatments. Controlled clinical research will allow reading and learning disabled individuals, their parents, and the professionals who work with them, to better evaluate the effectiveness of available treatments for each individual.

Therefore, it is the position of the American Optometric Association that:

1. Undetected vision problems may be a factor in individuals who exhibit the symptoms of the Irlen Syndrome. A comprehensive eye/vision examination with particular emphasis on accommodation, binocular vision, and ocular motor function is recommended for all individuals experiencing reading or learning difficulties, as well as those showing signs and symptoms of visual efficiency problems.

2. The American Optometric Association encourages further research to investigate the effect that specifically tinted lenses and colored overlays have on visual function related to reading performance.

3. Vision problems are a frequent factor in reading difficulties. Ignoring the role of vision or inadequately evaluating the vision of individuals with reading problems is a disservice which may prevent the person from receiving appropriate care.

This publication was formulated by the American Optometric Association’s Binocular Vision Working Group. The following individuals are acknowledged for their contributions:

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Approved by: American Optometric Association, April 2004
REFERENCES

1. Meares O. Figure/ground, brightness contrast, and reading disabilities. Visible Language, 1980;14: 13-29.