

Irlen Syndrome

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Introduction

Irlen Syndrome affects approximately 12-14% of the general population, including gifted students and even those with good reading skills, but avoid reading. The number of individuals with Irlen Syndrome increases almost 46% for those with reading, learning, or attention problems. Helen Irlen wrote in her book Reading by the Colors: “The Irlen method addresses sensory problems related to light sensitivity, sensory overload, difficulties in the area of sensory integration and depth perception, and symptoms of physical discomfort in addition to reading problems.

Individuals with this syndrome perceive the world around them in a distorted way as a result of a sensitivity to certain wavelengths of light. Light is the basic component of the perceptual system. Society creates a constant and continual expectation to perform, but that expectation just cannot be met when one perceives the world in a different way. When words run like ants across the page, when the page changes color, when musical notes dance around on lines that weave and cross, when cars disappear and reappear next to you as you drive, when you play a sport and the ball is not where it is supposed to be, when stairs look like a sheer slope, when you are not aware of how others perceive the printed page or what reading is like for them, then you do not understand why you cannot do what everyone else can!

Techniques for assessing, diagnosing, and treating individuals whose problems are related to Irlen Syndrome are not meant to replace present educational interventions. Unfortunately, none of the current methods dealing with academic difficulties can solve all the problems of any one individual, particularly if one of those problems is Irlen Syndrome.

This is a treatment that helps people with Irlen Syndrome by eliminating perceptual distortions, which can be an obstacle to reading and learning. Having good perceptual skills is a critical component for effective reading and writing based activities.”

Over 96,000 children and adults world wide use Irlen colored filters and millions of children use Irlen Colored overlays.

About Helen Irlen

Helen Irlen is an internationally recognized educator, researcher, and scholar. The Irlen Method has been featured on *60 Minutes*, *Good Morning America*, *ABC Worldwide News with Peter Jennings*, and news programs in many other countries. There are Irlen clinics in most U.S. states and throughout the world. More than 8000 professionals are now trained and certified as Irlen screeners in school systems in the US, Canada, England, Australia, and New Zealand.

Irlen Syndrome was first identified by Ms. Irlen in the early 1980's (then educational psychologist), while she was working with adult learners in California. She observed that some of her students read with greater ease when they covered a page of print with a colored overlay, and so her quest began.

Test Yourself!

Ask yourself the following questions:

- Do you skip words or lines when reading?
- Do you reread lines?
- Do you lose our place?
- Are you easily distracted when reading?
- Do you need to take breaks often?
- Do you find it harder to read the longer you read?
- Do you get headaches when you read?
- Do your eyes get red and watery?
- Does reading make you tired?
- Do you blink or squint?
- Do you prefer to read in dim light?
- Do you read close to the page?
- Do you use your finger or other markers?
- Do you get restless, active, or fidgety when you are reading?

Yes to 3 or more of these questions would place you as a likely candidate for a screening to assess the possibility of Irlen Syndrome.

Irlen Syndrome and Reading

“Skilled readers are fluent readers whose word recognition is automatic, thus allowing them to use their linguistic skills and make extensive use of the printed page to gain information. Reading should be an automatic process that takes little energy and effort and should be used for enjoyment.

Characteristics that separate readers with Irlen Syndrome with other types of reading difficulties:

- Impedes the consistency and speed of letter and word recognition, forcing individuals to read material in a very different way.
- They “see” different effects on the paper, such as the white spaces looking like rivers, words can start to move and even swirl, letters could become more blurry, but acuity is tested as being normal, some students report becoming nauseous while reading, or some get a headache from reading.
- They have to struggle to make out the letters, even when they know them.
- Then they have to string the letters together to form separate words
- Then go back over the material again to make sure they understood what they were reading.

Some individuals with Irlen Syndrome might do very well with reading and even get good grades, but might not be aware that they are putting more energy and effort to the reading process.

The environment wherein we read contributes to the problem. The level and type of lighting where one reads can speed up the onset of the symptoms and actually worsen the problems occurring on a page. In general, it takes more energy and effort for people with Irlen Syndrome than those without it to concentrate and read under fluorescent lighting, and it requires more effort and energy on their part to read under fluorescent light than under any other type of lighting. They might be able to do it, but the price they pay is that it affects comprehension, the length of time they can read, and their energy level.

Materials matter as well. The brightness of white chalk boards and high gloss white paper can produce a glare that makes it even harder for these people to stay on task. The amount of words and the style and size of the print can also add to the problem.

The use of colored overlays or filters will not alleviate difficulties with blending, phonetics, or sounding out words, nor will it increase weak sight vocabularies. What it will do is eliminate the distortions so the person could attack these difficulties with more support and really shine through!

Irlen Syndrome is not, in itself, a learning disability. Research did indicate that almost half of those who have been diagnosed as having a learning disability have Irlen Syndrome as one component of their learning problem.

“Growing up a Hemingway and not being able to read is a pretty terrible thing. Being dyslexic, I was afraid of reading scripts and memorizing. With my colored filters the words stop moving around the page, and I now read fast and furious.” – Margaux Hemingway, from an interview on the Sally Jesse Raphael television show, April 11, 1990.

Irlen Syndrome also affects children's behavior, their attitude towards learning and life, motivation to participate, their self-esteem, depth perception, ability to participate in sports and judging movement, coordination, ability to participate in music, math, handwriting, copying and writing."

Irlen Syndrome and Headaches / Migraines

The Irlen Method is known internationally (www.irlen.com) as a way to treat light sensitivity and perceptual difficulties, but is not just for addressing reading problems. Reports from clinicians all over the world have indicated how effective the Irlen Method can be for physical symptoms such as headaches, stomachaches, sleepiness, migraines, dizziness, or fatigue. When light and visual stress cause these symptoms, color can be an effective and noninvasive solution.

Research on the Irlen Method shows that for some individuals, headaches, migraines, and other physical symptoms can be caused by the brain's inability to tolerate and process certain colors of the light spectrum. The Irlen method is a patented process that determines the exact wavelengths of light to which each individual's brain is uniquely sensitive. The offending light waves are isolated and filtered by precision tinted colored glasses. The ability to only filter these wave lengths of light is the key to the success of this method. The color is not like sunglasses. Your unique color brings comfort without making it darker and thus can be worn inside, outside and even driving at night.

Check out the website of the international headquarters in California (www.irlen.com)

Irlen Syndrome and Autism

The cause of Autism remains a puzzle and there is no universally effective method for dealing with this diagnosis. Individuals on the Spectrum differ greatly, and it is well known that any program should be based on the needs of the individual.

70% of information an individual receives is visual, and some people with autism cannot process visual information correctly. Even though the community at large believes people on the spectrum to be visual learners, we have seen many children with extremely faulty visual systems trying to make do the best they can with a system, that amongst other systems, appear to be most accessible. Rapid movements may cause an individual to feel disoriented. It may hurt to look at sharp contrasts of light and dark colors. Some individuals with autism may experience visual disturbances similar to those of migraine sufferers and have difficulty tolerating fluorescent lights.

Research suggests that the brains of children with autism are wired differently, shaping their perception of the world, and other people. According to Dr. Schultz, Yale's Child Study Center, "there is a relationship between what we see and what we know" Perception molds behavior.

Studies using Irlen Colored Filters have shown positive changes in brain chemistry, biochemical differences, and increased ability to perceive faces and emotions. Reducing the sensory overload also seems to improve the ability to process meaning from hearing, taste, or smell.

“Sensory Processing problems can cause real pain; even non-verbal individuals with autism can have a problem with sensory overload. Some people are really helped by Irlen Colored Lenses.”
– Temple Grandin, Ph.D.

“I have always known that the world was fragmented. My mother was a smell, my father a tone, and my older brother was something which moved about. Nothing was whole except the colors and sparkles in the air. These Irlen glasses have changed all that. Faces and body parts and voices have become whole and understood.” – Donna Williams

“I looked in quick glances, understood by piercing fragments. I saw cracked children, cracked steps, print, and writing. Since having Irlen tinted lenses, I have the sight and hearing I very much wanted.” – Richard Attfield

Go to www.irlen.com to read more about what you can do about your child with autism.

Research

The journal, “Teaching Exceptional Children,” Vol. 40 No 4 March / April 2008, published by the Council for Exceptional Children, contains an article entitled: *Determining Appropriate Testing Accommodation: complying with NCLB and IDEA* by Spencer J. Salend. The article presents guidelines and resources that multidisciplinary teams can use to identify, select, and evaluate appropriate testing accommodations for students. In Figure 2 is listed a range of testing accommodations. Under Presentation Mode Accommodations is “providing students with graphics, tactile and photo enlarged materials, visual magnification-aids, and **color acetate overlays**.”

A magnetoencephalographic (MEG) investigation of visual information processing in Irlen Syndrome – Jeffrey David Lewine, Ph.D, John Davis Ph.D, Sherri Provencal, M.A., James Edgar M.A., William Orrison, Jr., M.D. – In this study MEG was used to characterize visual responses in conditions with or without lenses. Steady-state visual evoked magnetic fields were recorded from 8 subjects with Irlen Syndrome and 8 normal control subjects using a 122-channel, whole head biomagnetometer. The data from this study suggest that the closed Irlen lenses provide for normalization and crystallization of visual information processing in most members of the Irlen Syndrome population.

2004 – Noble, Orton, Irlen, Robinson – investigated the effects of using Irlen colored overlays on reading rate, accuracy, fluency and comprehension under regular class conditions, with class teachers investigating the study and conducting the assessments. All subjects in third grade in Whitney and McKinley schools were tested with 71 students identified. After 3 months of use of overlays, the Whitney group (with overlays) demonstrated a significant improvement in

reading achievement with mean gains in grade equivalence scores of between 1 year, 2 months and 1 year 7 months. In the next 3 months the gains for the Whitney group reached a plateau., with no more significant improvements, possibly due to having reached grade levels at that time. The McKinley group showed negligible improvements during those first three months (not having had the overlays), but showed significant improvement during the 3 to 6 month phase with the use of overlays, which ranged from 1 year, 8 months to 2 years, 8 months.

2004 – Dr. D. Amen M.D. – Looked at 42 people identified with Irlen Syndrome and compared them to 200 age matched people without any evidence of Irlen Syndrome. He found (in using SPECT scans, to a highly significant degree, there are areas on increased activity in the brain’s emotional and visual processing centers and decreased activity in the cerebellum, an area that helps to integrate coordination and new information, with subjects who are diagnosed with Irlen Syndrome.

1994-1995 – Whiting, Robinson, Parrott – Surveyed 267 Irlen lens wearers – 114 responses analysed and subjects used lenses for at least 6 years. The areas of greatest improvement from wearing lenses were overall reading, visual confusion, skipping lines, reading fluency, concentration, and comprehension. 94% reported lenses to be of “some” or “large” benefit. 58% reported lenses to be of “large” help. 7% indicated no benefit. Benefits were greatest for those that already possessed basic reading skills. Peer pressure found to be a factor in deciding not to wear colored lenses.

1994 – Marge Livingstone, publication of Harvard Medical School – Has been doing pioneering research on identifying vision-processing problems that may cause dyslexia. She notes that our visual system processes information in two ways when we read. The one major pathway quickly tells you the location of the letters on the page, while the other, a few milliseconds later, providing details about the shapes of letters. If this synchrony is disturbed, she postulates, the rapid visual system operates a tad slower than it should and the results are that words appear to slide around on the page. This two vision-processing pathways are known as the magnocellular and parvocellular systems. The first reacts very quickly and is sensitive to motion and slight differences in contrast. The second pathway, operates more slowly and handles color and resolution of fine detail. In looking at the colored lenses prescribed by Dr. Irlen, she believes that it may be useful because they heighten the contrast between the letters and the background, thus altering the timing differences between the two systems.

1992 – Kyd et.al – Assesses the influence of colored overlays on reading rate, accuracy and comprehension – 14 identified (ages 8 to 13) with a learning disability compared to 14 non-learning disabled students (ages 9 and 10). Rate of reading was significantly improved for 93% of the identified group using their preferred overlays, but reading accuracy and comprehension did not improve. The identified group reported immediate and marked improvement in symptoms and an increase in reading fluency. 100% of identified group reported greater ease and comfort when reading with colored overlays. 86% of the identified group noted a reduction in brightness, improved clarity of print, and 57% indicated improved spacing between print. 93% of the control group abandoned using their overlays.

1990 – O’Connor Sofo et.al – Studied the effect of colored overlays on reading rate, accuracy, and comprehension – 67 children, identified as having Irlen Syndrome were compared to 25 non-identified children (grades 2 to 6). After one week the group using preferred overlays increased in reading rate by 6.6 months, reading accuracy by 6.9 months and reading comprehension by 19.4 months. The group of identified children who were given random overlays showed no significant change and the group given clear overlays regressed 4 months in reading rate, 3 months in reading accuracy and 7 months in reading comprehension. The group of unidentified children showed no significant effect with clear or colored overlays. The regressed performance in the clear and non-preferred color overlay groups weaken the belief in a placebo effect accounting for the benefits from Irlen treatment.

1989 – Chan Robinson – Looked at the effect of colored lenses on reading comprehension and the need for instructional assistance on 20 reading disabled students, 20 age matched reading disabled students, and 20 unmatched reading disabled students. The colored lens group required less instructional assistance and performed better than the control groups.

1988 – Warnock – Studied the effect of colored tint on reading with 50 learning disabled vs. 60 controls. IDPS results suggested that about 10% of both groups would benefit from tinted lenses. Preference for a tint was evident in 87% of the LD group and 37% of the control group. 54% of those with Irlen lenses showed a slight increase in reading, but only borderline significance.

1987 – Adler Atwood – Studied the influence of colored lenses on reading and visual perception in high school students and adults in a special education program. There were 41 pupils identified with Irlen Syndrome in the group of which 23 were in the experimental group and 18 pupils were in the control group. The group using tinted lenses made significant improvements in all areas and showed a significant decrease in visual problem areas identified (photophobia, visual resolution, span of focus, target location time, timed reading, tracking ease and accuracy). The control group without tinted lenses revealed no change.

Suggested Reading:

Reading by the Colors – Helen Irlen 2005 edition

The Light Barrier – Rhonda Stone