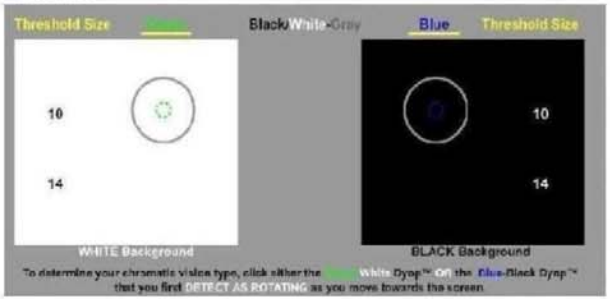
Dyop® color/contrast screening seems to be definitive for Pictographic Vision versus Letter-based Vision and for potential visual stress difficulties.



Photoreceptor Response/Distribution

Vision / Photoreceptor Type	Red % (L)	Green % (M)	Blue % (S)
Letter-based	50	45	5
Pictographic	75	20	5

Viewing Distance Ratios

Dyop® Color	Black/White	Green	Blue
Background	Gray	White	Black
Letter-based	100%	70%	50%
Pictographic	100%	50%	70%

Letter-based Vision facilitates a stable near vision image. Pictographic Vision facilitates a stable distance vision. However, RFV creates visual stress and difficulty in having stable near-image vision, and is associated with symptoms of dyslexia, migraines, and epilepsy. Chromatic modulation, using appropriately tinted lenses, shifts the visual focus, reduces near-image visual stress and instability associated with those symptoms.

Dyslexia-type Symptoms

Swirl

Blur

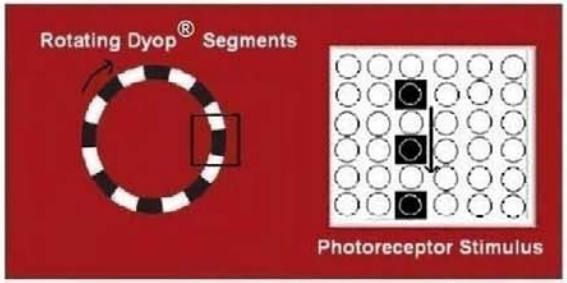
Halo

Rivers

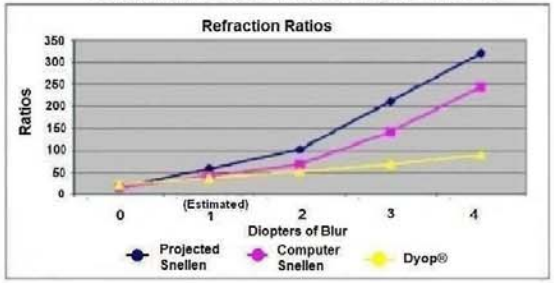
The Human Eye and the Dyop® system

A Dyop® (short for Dynamic Optotype™) is a uniformly rotating segmented image whose calibrated size, motion, color, and contrast provides a precise method for determining visual acuity.

At a calibrated viewing distance, the rotation/motion detection of the smallest Dyop® gap/segments indicates the acuity endpoint.



Refraction Ratios and Diopters of Blur



Dyop® tests combine the diameter, rotation/motion speed, segment/gap stimulus area, and color/contrast with the strobic refresh rate of the retina photoreceptors to create a precise detection threshold and an acuity and refraction endpoint.

www.Dyop.org
5035 Morton Ferry Circle
Alpharetta, GA 30022
Allan@Dyop.org

Helping the world see better, one person at a time.

Free Vision Screening

On-Line Testing for:

Adult Acuity
Infant Acuity
Color Perception
Dyslexia Screening
Visual Degeneration

The Dyop® Tests

(Dynamic Optotype™)

www.Dyop.org

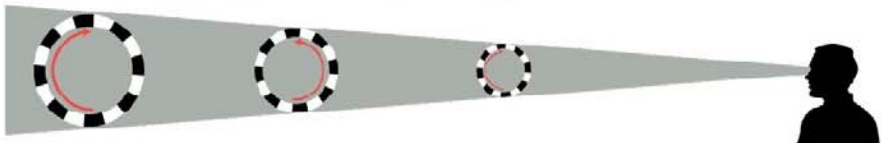
Bringing Acuity into the 21st Century

www.DyopVision.com

A Dyop® (short for Dynamic Optotype™) is an acuity and refraction optotype based upon photoreceptor physiology rather than cognition.

How a Dyop® works

A Calibrated Dyop® has a gap/segment area which creates an acuity endpoint whose rotational motion "disappears" when the gap/segment area becomes sufficiently smaller or is viewed at a further distance.



7.6 arc minutes

Viewing Distance - as the Dyop® gets further away, the Dyop® Array diameter and gap/segments need to be larger to be able to detect the rotational motion. (Not to scale.)

A 10% stroke width Dyop® viewed at a distance of 20 feet (6.1 meters) with a 20/20 rotational motion detection endpoint has a screen diameter of 13.5 mm (7.6 angular arc minutes) and a stimulus area of 0.54 arc minutes squared.

How do Dyop® tests differ from traditional vision test methods?

Snellen Test

Our eyes developed as survival sensors to detect motion and distance and NOT just the difference between static letters such as 'E' or 'C'.

Dyop® tests use the strobic stimulus and motion of the gap/segments to provide a more precise indicator of vision than staring at static images.

Dyop® tests provide a universal method of measuring acuity and vision that is independent of culture, age, and language.

Incrementally scaled Dyop® images are intended as a global replacement for Snellen and Landolt optotypes.

Bringing acuity testing into the 21st Century

Dyop® tests provide a wide range of vision perception analysis methods including:

- Acuity
- Refraction
- Infant Acuity
- Color Screening
- Chromatic Stress
- Peripheral Vision
- Visual Degeneration

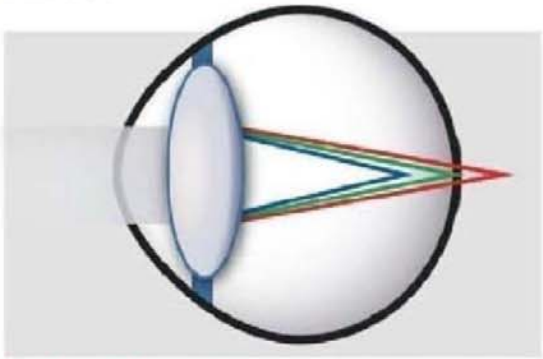
Dyop® Certified

Dyop® consumer tests (acuity, infant acuity, color screening, color acuity/contrast, visual impairment, etc.) are intended to educate patients and are available free of charge at http://www.dyop.org

After using the Dyop® test at no cost on our webpage, you will also be able to find the nearest Dyop® Certified Eye Care Professional.

Letter-based Vision

The chromatic response to light controls the muscular focus of the lens with the biological lens focusing different colors at different depths within the retina.

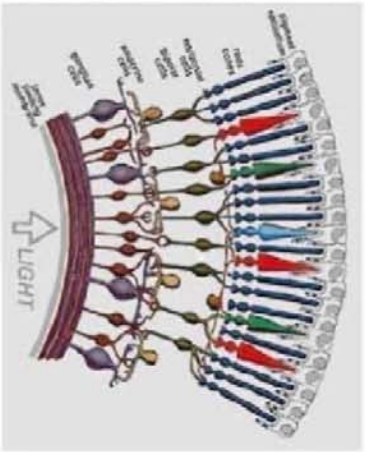


Letter-based Vision has red focused behind the retina and green focused ON the retina to facilitate a stable near-vision focus.

Retina Structure

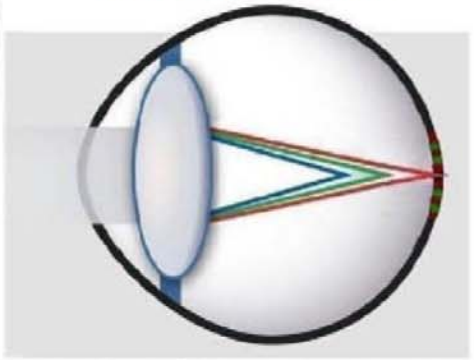
Transmission of light

Epithelium => 4 layers of neural ganglia => Photoreceptors



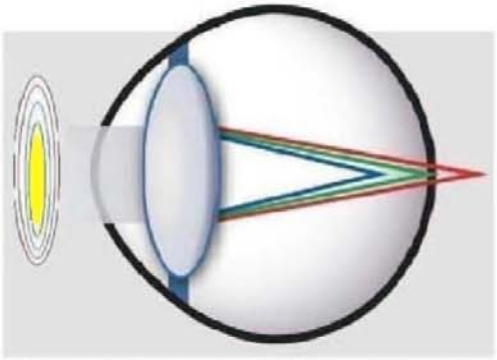
We see in color and not just in black and white. Acuity comes from the focal length disparity of the colors of red, green, and blue as perceived by those respective photoreceptors in regulating the tension on the biological lens. A Dyop® test uses retina physiology and the Dyop® Array gap/segment stimulus area to measure acuity. The neural ganglia functions much as a biological circuit board with a ratio of 100 photoreceptors to every optic nerve fiber going from your eye to your brain.

Pictographic Vision



Pictographic Vision has red focused on the retina and green focused in front of the retina resulting in visual stress when trying to focus on near-vision images.

Chromatic Corrected Vision



Chromatic modulating lenses eliminate symptoms of dyslexia, migraines, and epilepsy by "reprogramming" the neural ganglia, and reducing near-image visual stress.