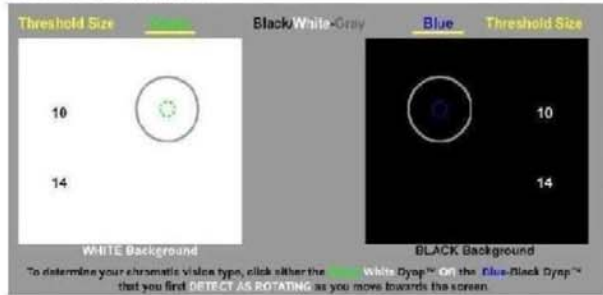


Dyop® color/contrast screening seems to be definitive for Red-Focused Vision (RFV) versus Green-Focused Vision (GFV) and for potential visual stress difficulties.



**Photoreceptor Response/Distribution**

Vision / Photoreceptor Type	Red % (L)	Green % (M)	Blue % (S)
Green Dominant	50	45	5
Red Dominant	75	20	5

**Viewing Distance Ratios**

Dyop® Color	Black/White	Green	Blue
Background	Gray	White	Black
Green Dominant	100%	70%	50%
Red Dominant	100%	50%	70%

**Green-Focused Vision (GFV)** facilitates a stable near vision image. **Red-Focused Vision (RFV)** facilitates 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**

*We all see things the same way...*  
*We all see things the same way...*  
*We all see things the same way...*

*We all see things the same way...*  
*We all see things the same way...*  
*We all see things the same way...*

**Swirl**  
*We all see things the same way...*

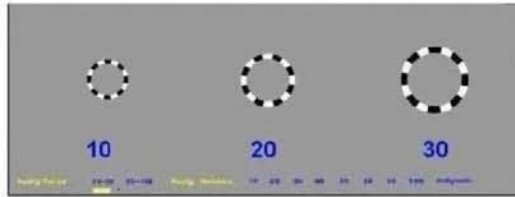
**Halo**  
*We all see things the same way...*

**Blur**  
*We all see things the same way...*

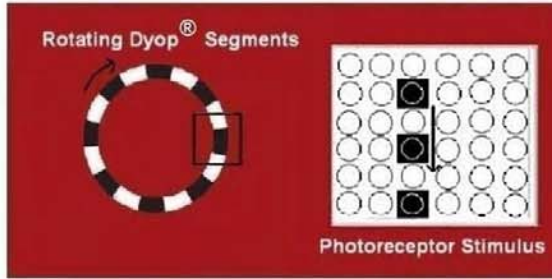
**Rivers**  
*We all see things the same way...*

# The Human Eye and the Dyop® system

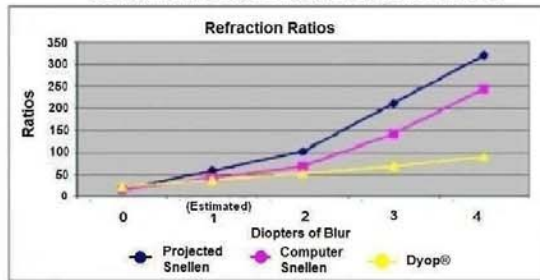
A Dyop® (short for Dynamic Optotype™) is a uniformly rotating segmented image whose calibrated size, motion, color, and contrast provides a precise method for determining visual acuity.



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**

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 Alpharetta, GA 30022

Allan@Dyop.org

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



The Dyop® (Dynamic Optotype™) tests and concept are covered under U.S. Patent 8,083,353 and International Patent WO2011022428.

## 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

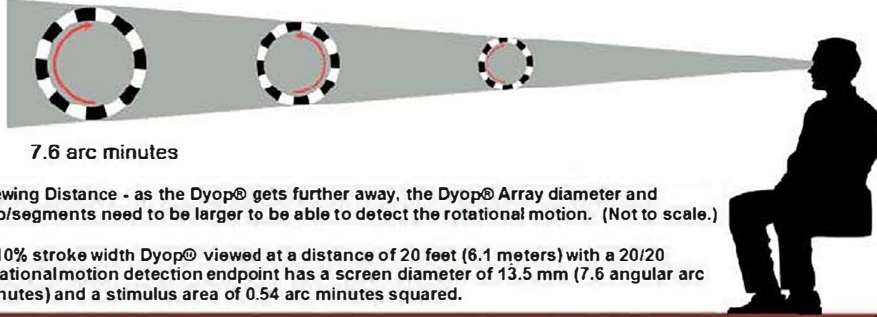
www.DyopVision.com



# 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.



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

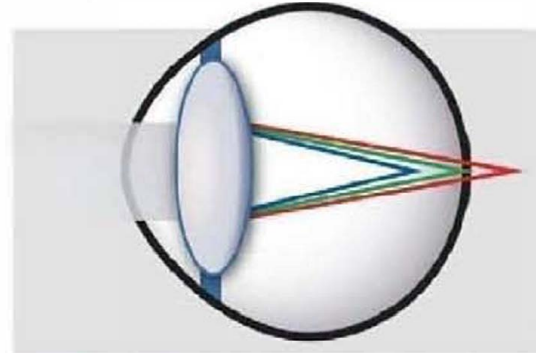


Dyop® consumer tests (acuity, infant acuity, color screening, color acuity/contrast, visual impairment, etc.) are intended to educate patients and are available free of charge at <http://www.dyop.org>

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.

## Green-Focused 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.



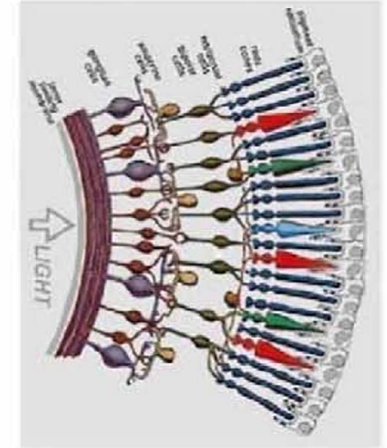
Green-Focused Vision has red focused behind the retina and green focused ON the retina to facilitate a stable near-vision focus.

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.

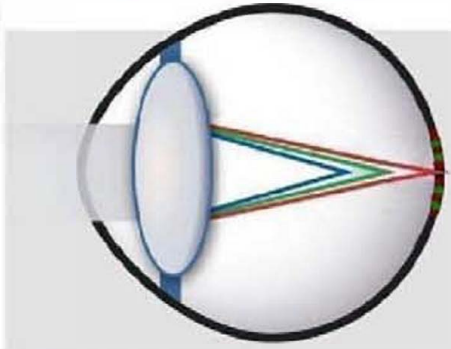
## Retina Structure

Transmission of light

Epithelium => 4 layers of neural ganglia => Photoreceptors

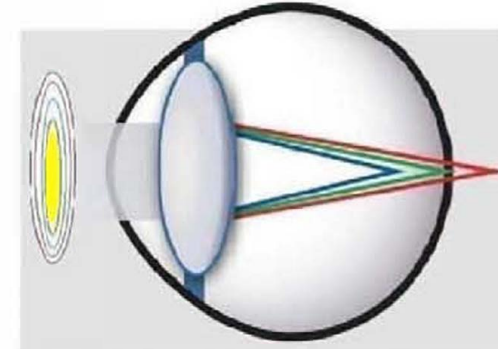


## Red-Focused Vision



Red-Focused 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.