# Test Your Eyes!
# Cone Fatigue

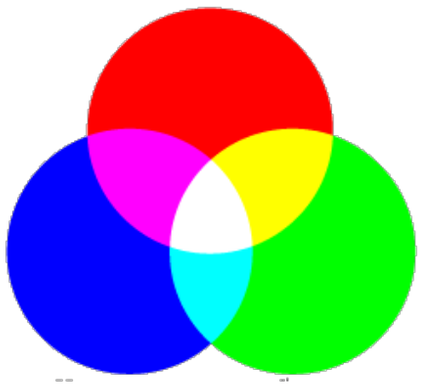
## How do you test for cone fatigue?

Stare at the image on the other side of this page for 20 seconds and then look at a blank white area. The after image you see has the opposite colors of the picture you just stared at due to cone fatigue.

## Why does this happen?

The eye contains special cells called photoreceptors that detect light. There are two types of photo-receptors—rods and cones. Rods can detect light and dark, and cones are good at detecting colors like red, green, and blue. When you stare at one color for too long, the cells that detect that color will become fatigued. The after image is a result of photoreceptors not being balanced. As the photoreceptors become less tired, which takes between 10–30 seconds, the balance is restored and the after image disappears.

For example, when you stare at something red, your red cones will become tired. However, the cones that perceive red's complementary color—cyan—are completely rested. Thus, when you look at a blank white area, the after image is cyan.



## Why does this matter?

Vision scientists study why photoreceptors get fatigued, and how they recover. These studies help us to understand more about what happens to our eyes due to with prolonged exposure to colored screens or reading materials.

## Find out more at ARVO.org/ILLUSIONS

Text adapted from: https://webvision.med.utah.edu/book/part-viii-psychophysics-of-vision/color-perception
Diagram: https://biztraffic.com/design-development/colorvenndiagram/
After image from: http://www.worqx.com/color/after_image.htm

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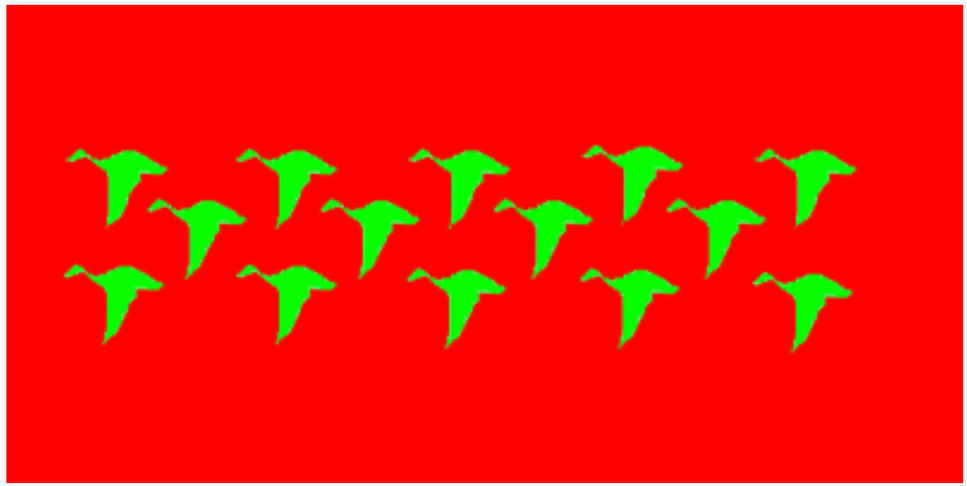
The Association for Research in Vision and Ophthalmology

ARVO is the largest and most respected eye and vision research organization in the world, with nearly 12,000 members from more than 80 countries. Our mission is to advance research worldwide into understanding the visual system and into preventing, treating and curing its disorders. This is done through meetings, education, partnerships, fellowships and programs that drive collaboration, innovation and the advancement of eye and vision science with a goal of saving sight. Learn more at ARVO.org.



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