



Myopia / Nearsightedness

Description

Brief introduction to myopia.

Vision Mechanic



Chances are that if you wear glasses or contact lenses and are under 40 years of age, you're nearsighted. Nearsightedness, or myopia, is a condition where the eye over-focuses light due to the shape of the eye, leaving distant objects blurry.

Nowadays, with an emphasis on computers and small digital devices permanently placed in our primary gaze, a little bit of myopia is not a bad thing. In the world of physiological optics (that is, the science of how our bodies use our eyes to make images), there is what can be said to be an 'ideal' state for different viewing conditions – a state of visual function that provides maximum clarity with minimum effort. Nearsightedness, with its built-in bias for focusing on near objects, makes it so there is

little to no effort required to do so: Nearsighted people pick up books and smart phones and read with ease at the right distance. As an older person, the myope doesn't need glasses to read as they can simply take their glasses off to see clearly at near distance. Further than that 'far point of focus', and objects will again appear blurred.

Myopia is a burden for the afflicted in that objects become progressively more blurred with increasing distance. This is an obvious problem for drivers, golfers, or watching a movie. The only ways to resolve the problem are to walk up to the object to see it clearly, which isn't always a good idea, or to use optics to diverge light rays to the distance. This requires a 'minus' or concave lens, so the opposite of a magnifying glass – the magnifier here is like the myopic eye, focusing light not on the horizon, but on a surface very close to the lens itself.

Myopia, then, is mostly a structural problem (eye is too big, light focuses in front of the retina and not on it). It is also a functional problem: Distant objects appear blurred. The functional restrictions can and do also lead to developmental impacts – nearsighted kids are often better at school given that they are adept and comfortable working at near distances, and with less visual strain, they are typically less irritable than their farsighted or astigmatic peers. The difference is so stark that population trends show myopic people do better on tests of cognitive skills, and they tend to move further in academics.

Nearsightedness (myopia), farsightedness (hyperopia), and astigmatism are referred to 'refractive errors (RE)', or as I prefer, the Refractive State. The differences between them are important and impact us over our lifetimes. You should know more about your own eyes and their refractive state – and the best place to start is to go for a general comprehensive vision assessment. Ask for the numbers, aka your glasses prescription, then sign up for our Intro to Human Vision course.

You can learn a lot more about eyes and vision, at [VisionMechanic.net](https://visionmechanic.net), so feel free to go over and have a look. Learn more about what should be in a comprehensive vision exam and what your own refraction numbers mean. You'll be especially interested in spending time with us and taking our Introduction to Human Vision courses if you're a parent, a teacher, therapist or doctor working with reading, developmental, and learning disorders, or even brain injuries – we have specific notes on refractive states and what these mean to developing humans and adults as well.

We're especially excited to work on an upcoming video course on myopia, its causes, and possible treatments with one of the World's leading researchers and gurus on the topic, [Dr. William K. Stell](#). This series will emphasize the biochemistry and physiology of myopia, treatment, and directions for research – so more science than our usual behavioural approach.

Sign up for our newsletter to keep up with the new posts, courses, and videos!

We'd appreciate it if you Liked and shared this video series if you find it helpful. We're planning a lot of new content so subscribe to ensure you see all the new videos as they come out. Go to [VisionMechanic.net](https://visionmechanic.net) to let us know if there's a topic you'd like us to cover in an upcoming episode of the VisionMechanic.

All science, with just a little attitude and no filler. That's the Vision Mechanic. See you next time.

 **Subscribe**

to our newsletter!

Category

1. -CLINICAL NOTES

Tags

1. myopia
2. refraction

Date Created

January 14, 2020

Author

drb

Vision Mechanic