



Hyperopia / Farsightedness

Description

Vision Mechanic



Farsightedness, like astigmatism, is one of the mystery words in vision science. People might have heard these words, but most cannot say them easily from memory, let alone explain what are. Still, they are the two most damaging and relevant refractive states in the world of learning disabilities.

Watch this brief introduction to farsightedness (hyperopia) and find out why it can be a special problem in the classroom.

The refractive state (sometimes called the refractive 'error', or RE) is a measure of the eye's natural focusing state, that is, with no help: Does the eye focus light on the retina, or too far in front of the

retina, or too far behind it? If light focuses too far behind the eye, the eye must then 'pull' focus forward so the focused image lands on the photoreceptors in the retina. This pulling of focus is accomplished by muscle strain in the very tiny muscles that surround our natural lens, just behind the iris. This muscle group is called the ciliary body and it is responsible for changing the shape of our natural lens to focus light and reduce blur.

This state where light naturally focuses behind the eye and must then be pulled into focus is called farsightedness. The eye can be said to be too small, too short. The farsighted person will look to the horizon and (often enough) see just fine – it's relatively easy to pull focus in onto a distant object where the focus starts behind the object. Near objects require more focusing effort, and so farsighted people will shy away from extended near work as it leads to other strain in facial muscles and other muscles of the head.

Farsightedness, or hyperopia, is managed through use of convex optics – lens appears thick in the middle and magnify the world. Aside from use of contact lenses, farsightedness does not have many options other than glasses. Uncorrected hyperopes often show a similar list of concerns:

- Headaches.
- Irritability.
- Difficulty concentrating, especially while reading or viewing digital screens.
- Disinterest in academics.

Given the differences in physical loading between farsighted and nearsighted people (myopes), it comes as no surprise that universities and colleges show a great over-representation of myopes vs. the overburdened hyperopes. Myopes find reading easier, physically-speaking, and only rarely report strain while reading. Hyperopes have to maintain muscle strain to focus at near distance and feel this in different, nasty, annoying ways. It should also be no great mystery that hyperopes are much more likely to simply quit school.

The good news is that as humans grow larger, so do their eyes. The end result is that many hyperopes will see a reduction in their prescription over time, but this is not a cure for all farsighted people.

Given hyperopia/farsightedness is more prevalent in the young, and given it can gravely impact on a child's behaviour, all parents and teachers should pay heed. The Introduction to Human Vision courses answer many questions on how vision works, and what happens when it fails. You can learn a lot more about eyes and vision at [VisionMechanic.net](https://visionmechanic.net), so feel free to have a look. You'll be especially interested in spending time with us if you're a parent, a teacher, therapist or doctor working with reading, developmental, and learning disorders, or even brain injuries.

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.



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