# Astigmatism

## Description

Say it with me: Ah-stig-muh-tizm. Now 5 times, quickly.

> Watch this short video to learn some basic facts about one of the most commonly un-diagnosed cause of health and learning disorders.



In garden variety farsightedness (hyperopia) and nearsightedness (myopia), there is a theoretical focal point where the image becomes clear on the retina, from edge to edge. For the myope, all that is needed is to get close enough to the object so that its position matches the far point of focus (which is close to us, nearer than the horizon). For the farsighted, the clear point can only happen with focusing effort to pull focus in from behind the retina. In both cases, there is a potential point of perfect clarity along one curved plane.

Not so much for the person with astigmatism (whose eyes are astigmatic). Astigmatism is an optical phenomenon whereby the image is skewed between two planes of focus, one being the more positive plane optically speaking, being nearer to the viewer, and the other being somewhat further away. It is usually the result of the effects of the cornea and lens combined. This sounds complicated, but basically it means the image is smeared, or distorted, across two planes of focus. So, regardless of where you try to focus your eye, the image is never clear, not all of it, not all at once. This means the eye continues in an effort to try to clear the image by exerting muscular force to alter the shape of the lens, but the clarity never comes and the effort continues. The strain is made worse when the image is finely detailed, like text, or high contrast like on a computer screen. Because of the strain, students with more than 0.75 dioptres of astigmatism will struggle in the neo-traditional computer-based classroom, starting with headaches and difficulty reading, ADHD-like symptoms.

Astigmatism and its effects are complicated, and like hyperopia and myopia, all too common. And, all too often, it is left undetected in the rush to diagnose ADHD and reading disabilities. It’s a sad fact that none of the many psychoeducational assessments I’ve read have included any mention of refractive state or visual function – even though the bulk of modern assessments is predicated on visual tasking. It is a truism that children with astigmatism and other visual functional deficits will score worse on most testing batteries compared to visually-enabled peers.

The Vision Mechanics know that you have to fix the basic inputs, check the plugs, check the tank, before you start looking at computer code. Vision is everything, when it goes wrong, life follows.

You can learn a lot more about refractive states like astigmatism, hyperopia, and myopia by taking the Intro to Human Vision course and other courses at 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've got a load of good advice we all should have been taught in school.

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 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.

Dr. B



**Category**

1. -CLINICAL NOTES

**Tags**

1. astigmatism
2. optics
3. refraction

**Date Created**
January 14, 2020
**Author**
drb