SLOWING DOWN THE PROGRESSION OF MYOPIA

A new approach to control nearsightedness

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Myopia

Myopia, or nearsightedness, is the most common refractive error of the eye. It starts in childhood and progresses in the first two decades of life as the eyes and body grow. Because the eyeball becomes too long for the focusing (refractive) power of the eye, images of seen objects are formed in front of the retina (the sensitive seeing part in the back of the eye) instead of being focused on the retina itself.

As a growing epidemic, myopia currently affects 30 percent of people worldwide and is expected to hit 50 percent by 2050.

### Myopia Risk Factors

- Genetics (parental myopia)
- Education level
- Near work (reading, electronics)
- Living in big cities
- Limited sunlight exposure

### Myopia Progression

High myopia (more than -6.00) is known to increase the risk of:

- Retinal tears
- Retinal detachment
- Glaucoma
- Cataract
- Psychological burden from wearing thick lenses
- Reduced best-corrected vision

### Current Ways to Slow Down Myopic Progression

**Atropine eye drops**
Most effective, but requires daily eye drops for 3-5 years. The drops dilate the pupils and can cause light sensitivity and blurred vision.

**Orthokeratology**
Special contact lenses worn overnight only. They reshape the cornea and slow down eye growth. Contact lenses can have side effects and are difficult to insert with kids.

**Special glasses (defocus lenses)**
These are least effective and show less vision quality.

### A New Approach

The white part of the eye, the sclera, forms the outer shell of the eye and is composed of microscopic collagen fibers. Animal studies have shown that sclera can be strengthened by a procedure called cross-linking, where a topical riboflavin (vitamin B2) is applied to the sclera and treated with ultraviolet light.

### The Use of Riboflavin in Our Study

Riboflavin is a common ingredient in kid multivitamins and is currently being used as a safe, high-dose oral medicine to prevent migraines in kids and adults. In our new approach, we’ll use the same high dose to study the effects of riboflavin on myopia and eye growth by administering it daily for six months, with 30 minutes of sunlight exposure each day. We’ll examine your child annually for three years, in addition to a checkup six months after the initial visit.

### Interested in participating?

Call us at (573) 882-8920 if your child:
- Is 6-12 years old
- Has myopia
- Has no glaucoma, cataract or other eye problems
- Was born at full term and is otherwise healthy

Please mention Myopia Study with Dr. Al-Samarraie when scheduling.