

# ORTHO-K - WHAT IS IT?

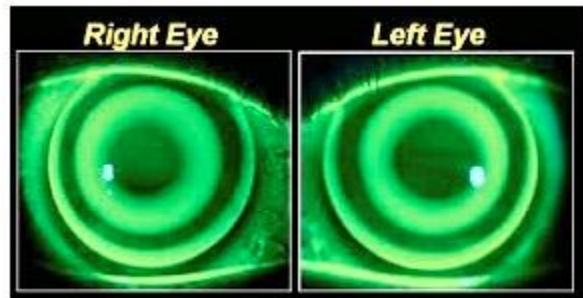
By Jim Thompson, Licensed Optician Contact Lens Fitter, COA

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Reducing myopia has been a desirable concept for decades. Myopia has been considered a 'manageable' ocular defect that affects a vast number of the worldwide population. We must stop regarding myopia as an ocular defect and start considering it a health problem. Indeed, many ocular specialists consider myopia as a disease and the health risks for individuals are potentially devastating as we age. This topic of myopia control is for another discussion so today we will focus on one method of reducing nearsightedness, orthokeratology.

First, let's consider the options of reducing myopia. We all know that LASIK, PRK, and RLE (refractive lens exchange) have been accepted procedures for reducing myopic corrections for the moderate to high corrections. Don't forget that surgery is forever. There is always a risk of complications, defects and debilitating issues that may arise one day, one month or several years following ocular surgery. There is a huge demand for practitioners that excel in post LASIK ectasia complications. Our practice is one that specializes in this important sub specialty, scleral lenses. Again, a topic for another day.

Today, let's talk about the non surgical, non invasive and reversible process of orthokeratology. **Ortho-k** is the process of temporarily re-aligning or reshaping the outermost layer of epithelial cells on the cornea. The average cornea is between 540-560 microns thick. The thickness of the epithelium is approximately 50-52 microns. Orthokeratology affects approximately 6 microns per diopter of correction, so if you want to reduce myopia by 4 diopters, you will reshape approximately 24 microns of the epithelium. Not a significant alteration in the corneal topography. One of the significant factors of orthokeratology is that it is completely reversible.



Highly oxygen permeable rigid contact lenses that are designed by using reverse geometry calculations are typically worn overnight and removed in the morning. Most corrections of 4-5 diopters of myopia, 1.5 diopters of WTR and 1 diopter of ATR astigmatism are successfully treated. Children, adolescents

and adults can be acceptable candidates. Children and adolescents are suitable candidates as studies have shown that scholastic achievement, sport performance and self-esteem are improved with successful Ortho-k use. Indeed, there are entire practices that specialize in paediatric Ortho-k, and see hundreds of patients a month.

Ortho-k is also used in myopia control. With the prediction that nearly 5 billion or 50 percent of the world's population will be myopic by 2050, the concept of myopia control is of massive importance.

Ortho-k is within the scope of practice of opticians. There are many RGP labs that have proven Ortho-k programs for interested practitioners. We have had a very robust Ortho-k component in our practice for over 20 years. If you educate yourself, adhere to the standards that maintain the health of the patient and continually monitor the patient for their entire ortho-k experience, you will be included in the company of successful practitioners.

## About Jim Thompson

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Jim Thompson is a Registered Optician, Certified Contact Lens Practitioner and Certified Ophthalmic Assistant who has more than 40 years experience within the eye care industry. After working for many years in the offices of optometrists and ophthalmologists, he became co-owner of Thompson Optics Ltd. in 1985. His specializations in keratoconus, post graft and post LASIK ectasia enable him to serve a broad spectrum of patients. Jim has been fitting scleral lenses for over 10 years and works closely with area ophthalmologists and optometrists.