Clinical Studies

Family study of CTRP5 mutation, long zonules, macular degeneration and glaucoma

Investigators: Daniel K. Roberts, OD, MS, Radha Ayyagari, PhD, Faye Davis, PhD and Jacob Wilensky, MD

This study seeks further understanding of the relationship of a gene (CTRP5) mutation to the development of long anterior lens zonules which may serve as a surrogate marker of risk for serious eye conditions including macular degeneration and glaucoma. This study may help physicians identify early risk for serious eye disease via recognition of the LAZ phenotype.

Funded by: NIH/NEI and the Illinois College of Optometry Research Funds

Phase I and II: Community-based multi-center randomized control trial of peripheral prism glasses for hemianopia

Principal Investigators of multi-center clinical trial: Karen Keeney, MSBA – Principal Investigator, Chadwick Optical, Inc. and Alex Bowers, PhD – Principal Investigator, Schepens ERI

Principal Investigator on site: Tracy Matchinski, OD

Using a community-based, randomized, controlled multi-center crossover trial, we will evaluate the functional utility for general mobility (walking) of new high power (57 prism diopters .) – about 30°) permanent peripheral prism glasses, which provide visual field expansion device for patients with homonymous hemianopia. The primary objective will be to compare the high-power prism glasses to a control device (very low power prism glasses). The secondary objective will be to compare the functional utility of two designs of the peripheral prism glasses, the current horizontal design and a new oblique design: We will evaluate the hypothesis that the oblique design provides more useful field expansion for general mobility than the horizontal design. In addition we will also evaluate the use of a simplified prism-fitting protocol for community-based practitioners, which incorporates a standard inter-prism separation.

Funded by: NIH/NEI

Provision of Low Vision Rehabilitation Services and Devices to Increase Quality of Life in Senior with Vision Loss

Investigators: Tracy Matchinski, OD, Derrald Taylor, OD, Janis Winters, OD, Karen Squier, OD and Danielle Poole, OD

The risk for developing serious vision and eye problems increases with age, and specifically people over 61 have an increased risk for cataracts, diabetic retinopathy, glaucoma, macular
degeneration and other sight-threatening or visually impairing eye conditions. While most visual changes can be corrected by traditional glasses, contact lenses, medical treatment or surgery, those caused by eye diseases or injury can cause permanent loss. People with low vision retain some usable vision but have reduced visual acuity or a significantly obstructed field of vision, or both as well as significant loss of contrast sensitivity, color vision and binocularity/depth perception. As a result, they have difficulty with the activities of daily living (such as reading prescription labels and driving), leisure pursuits, education, vocation and social interactions. Seniors with low vision often experience grief, confusion, fear, anxiety, depression, and loss of self-esteem. Rehabilitative services, environmental modifications, and assistive devices have been shown to be effective in helping people with low vision use their residual vision more effectively.

**Funded by:** The Max Goldenberg Foundation

**Amblyopia Treatment Studies (ATS)**

Investigators: Yi Pang, OD, PhD, Sandra Block, OD, MEd, Christine Allison, OD, Geoffrey Goodfellow, OD, Brian Caden, OD, MEd and Megan Allen, OD

ATS is NIH-funded multi-center clinical studies. Several studies in amblyopia treatment have been carried on and the study results become clinical guidelines. Currently, we have 2 ongoing ATS.

**Funded by:** NIH/NEI

**A Randomized Clinical Trial of Observation versus Occlusion Therapy for Intermittent Exotropia (IXT)**

Investigators: Yi Pang, OD, PhD, Sandra Block, OD, MEd, Christine Allison, OD, Geoffrey Goodfellow, OD, Brian Caden, OD, MEd and Megan Allen, OD

This is a NIH-funded multi-center clinical study. The purpose of this study is to determine the effectiveness of occlusion for the treatment of IXT and to determine the natural history of IXT among patients aged 3 to < 11 years

**Funded by:** NIH/NEI

**A Prospective Pilot Study of Treatment Outcomes for Amblyopia Associated with Myopic Anisometropia**

Investigators: Yi Pang, OD, PhD, Kelly Frantz, OD, Sandra Block, OD, MEd, Christine Allison, OD and Geoffrey Goodfellow, OD

This study is addressing issues related to the treatment outcomes of amblyopia caused by
myopic anisometropia in children 4 to 14 years old. The purpose of the study is to investigate whether macular pathology exists in association with myopic anisometropia and to determine if there is VA improvement with refractive correction alone and patching treatment in amblyopia associated with myopic anisometropia.

**Funded by:** Illinois College of Optometry (ICO) Research Funds, Illinois Society for the Prevention of Blindness, CIBA Vision

**A Prospective Study on Diagnosing Optic Nerve Hypoplasia and Treatment of Associated Amblyopia**

Investigators: Yi Pang, OD, PhD and Kelly Frantz, OD

In this study, HRT will be utilized to measure the size of the optic disc and the thickness of the RNFL in the eyes with optic nerve hypoplasia. We will determine if HRT can assist the diagnosis of ONH by comparing to the standard test, the ratio of the distance between the center of the optic disc and the center of the macula and the mean optic disc diameter.

**Funded by:** Illinois Society for the Prevention of Blindness

**The Vision of Hope Health Alliance**

Investigators: Janis E. Winters, OD

Epidemiological research is being done to characterize vision as well as ocular/systemic disease among the low-income uninsured individuals served. The goal is to illustrate the unmet health needs of this population and promote development of other programs to serve low-income uninsured individuals.


**Pediatric Outreach Program (POP)**

Investigators: Valerie M. Kattouf, OD, Megan Allen OD and Janice McMahon, OD

The POP provides comprehensive eye examinations (vs. vision screenings) for high risk children ages 0-5 with partnership through early intervention agencies. Examinations, follow-up care and treatment are provided on site. The goal of the program is the early detection and intervention of childhood vision problems which aim to maximize child development and learning.

The POP also provides educational seminars regarding the importance of vision in regard to child development and learning.

**Funded by:** Lion Illinois Foundation
The Interrelationship of Five Oculomotor Diagnostic Tests and their Associated Binocular Vision Correlates

Investigators: Darrell Sch Lange, OD, DOS, Dominick Maino, OD, MEd, Brian Caden, OD, MA, and Angela Rodriguez

The purpose of this study is to determine the value of several oculomotor tests for accurately and appropriately recording the ability and efficiency of eye-movements necessary for reading, near vision and classroom work. This study may help pediatric optometrist determine which tests are most helpful for patients of different ages and abilities.

Funded by: ICO Research Fund

Spatial Perception of Amblyopes

Investigators: Susan A. Kelly, PhD and Yi Pang, OD, PhD

Accurate perception of the spatial location of objects in our visual environment depends upon the accurate perception of near distances which can then be used as a template to extend accurate spatial localization to further distances. If both the angular declination of an object and the slope of the surface supporting the object can be correctly detected then observers can accurately localize the egocentric distance and height of objects up to 20 m. Amblyopes have been reported to have difficulty both estimating near distances and sampling visual space, and thus may not accurately localize objects. Our results thus far indicate that strabismic amblyopes do indeed have difficulty with object localization while anisometropic amblyopes perform similarly to visual normals.

Funded by: ICO Research Fund

Contact Lens Adaptation: Comfort over time

Investigators: Janice Jurkus, OD, MBA

Gas Permeable (GP) and Silicone Hydrogel (SiHy) toric lenses are both used to correct vision, especially astigmatism. This study will rank perception of comfort during at different times in the initial adaptation for both lens modalities.

Funded by: a GPLI Grant

Efficacy of Topical Azithromycin (Azasite) Ophthalmic Solution in the Treatment of Dysfunctional Tear Syndrome

Investigators: Dominick L. Opitz, OD and Keith Tyler, OD

Description: Blepharitis often contributes to the clinical signs and symptoms similar to dry eye or Dysfunctional Tear Syndrome. Traditional treatment used for dry eye, such as lubricating eye
drops, does little to improve blepharitis. The purpose of this study is to determine if azithromycin 1% ophthalmic solution (Azasite) applied to the eyelid margins reduce the symptoms and signs of dry eye caused by blepharitis.

**Vision Therapy as an Additive/Alternative Treatment for Attention Deficit / Hyperactivity Disorder – Phase II**

Investigators: Darrel Schlange, OD, DOS

Description: The purpose of this study is to determine the effectiveness of Vision Therapy as an alternative and/or additive treatment for attention and hyperactivity problems. Some binocular vision problems are often associated with attention disorders. Therefore we will treat the vision problem and test the subsequent changes in attention using the Test of Variables of Attention. We believe this information will be helpful in providing information on alternative and additive procedures for attention problems, not using medication.

**An Investigation of Eye Movement Skills and their Relationship to Birth Order**

Investigators: Christine Allison, OD and Darrel Schlange, OD, DOS

Description: The purpose of this study is to investigate the relationship between birth order and eye movement skills, as well as to investigate the relationship between various types of play activities and eye movement skills. We would expect that children without siblings, and/or oldest children may have better eye movement skills due to the types of play activities that they perform, and the increased time that they may spend reading with their parents versus children with multiple siblings.