

Stanford



Tawna Roberts, OD, PhD

Assistant Professor of Ophthalmology (Pediatric) and, by courtesy, of Pediatrics

CLINICAL OFFICES

- **Byers Outpatient Surgery Center**

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Bio

CLINICAL FOCUS

- Optometrist
- Pediatric Vision
- Binocular Vision
- Strabismus
- Amblyopia
- Concussion Related Vision Disorders

ACADEMIC APPOINTMENTS

- Assistant Professor - University Medical Line, Ophthalmology
- Assistant Professor - University Medical Line (By courtesy), Pediatrics - Operations
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

PROFESSIONAL EDUCATION

- BS, Pacific University , Biology (1999)
- OD, Pacific University College of Optometry , Optometry (2003)
- Residency, Southern California College of Optometry , Pediatrics and Vision Therapy (2004)
- MS, Indiana University , Vision Science (2014)
- PhD, University of Houston College of Optometry , Vision Science and Physiological Optics (2015)

LINKS

- Roberts Vision Development and Oculomotor Laboratory: <https://med.stanford.edu/roberts-lab.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our research efforts are funded by grants from the National Eye Institute, Department of Defense, and various foundations to study vision development in infants and young children as well as binocular vision disorders in adolescents and adults with concussions. Our focus is to identify underlying mechanisms that will inform clinical treatment approaches and ultimately leading to the prevention of strabismus, amblyopia, and binocular vision disorders.

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Jen Haensel

Publications

PUBLICATIONS

- **Repeatability of the Accommodative Response Measured by the Grand Seiko Autorefractor in Children with and without Amblyopia and Adults.** *American journal of ophthalmology*
Chinn, R. N., Raghuram, A., Curtiss, M., Gehring, A., De Paula, A. J., Roberts, T. L.
2021
- **Endophthalmitis after pediatric cataract surgery in the United States: report using an insurance claims database.** *Journal of cataract and refractive surgery*
Nguyen, A. M., Roberts, T. L., Ryu, W. Y., Lambert, S. R.
2021; 47 (9): 1161-1166
- **Vergence and accommodation deficits subacutely and chronically in concussion recovery**
Raghuram, A., Chinn, R., Wiecek, E. K., Marshall, C., Roberts, T. L., Stevens, R., Hawash, K. K., O'Brien, M., Shah, A. S.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2021
- **Prescribing Patterns for Hyperopia**
Kulp, M., Ciner, E., Mitchell, G., Ying, G., Peterseim, M., Alex, A., Allison, C., Block, S., Candy, T., Granet, D., Hertle, R., Moore, B., Orel-Bixler, et al
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2021
- **Vergence and accommodation deficits subacutely and chronically in concussion recovery**
Raghuram, A., Chinn, R., Wiecek, E. K., Marshall, C., Roberts, T. L., Stevens, R., Hawash, K. K., O'Brien, M., Shah, A. S.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2021
- **Diagnosis of vergence and accommodation deficits in children and adolescent with concussion using established clinical criteria versus normative data**
Chinn, R., Marshall, C., Wiecek, E. K., Roberts, T. L., O'Brien, M., Hawash, K. K., Stevens, R., Shah, A. S., Raghuram, A.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2021

- **Vergence, accommodation, and visual tracking in children and adolescents evaluated in a multidisciplinary concussion clinic.** *Vision research*
Wiecek, E. K., Roberts, T. L., Shah, A. S., Raghuram, A.
2021; 184: 30–36
- **Association between post-concussion symptoms and oculomotor deficits among adolescents.** *Brain injury*
Gowrisankaran, S., Shah, A. S., Roberts, T. L., Wiecek, E., Chinn, R. N., Hawash, K. K., O'Brien, M. J., Howell, D. R., Meehan, W. P., Raghuram, A.
2021: 1-11
- **yy Repeatability of Accommodation in Children with and without Amblyopia using the Grand Seiko Autorefractor**
Roberts, T. L., Chinn, R., Curtiss, M., Gehring, A., De Paula, A., Raghuram, A.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2020
- **Effectiveness of vergence/accommodative therapy for accommodative dysfunction in children with convergence insufficiency.** *Ophthalmic & physiological optics : the journal of the British College of Ophthalmic Opticians (Optometrists)*
Chen, A. M., Roberts, T. L., Cotter, S. A., Kulp, M. T., Sinnott, L. T., Borsting, E. J., Tea, Y. C., Jones-Jordan, L. A., Hertle, R. n., Mitchell, G. L., Eugene Arnold, L. n., Chase, C. n., Scheiman, et al
2020
- **Repeatability of Contrast Sensitivity in Patients with Infantile Nystagmus Syndrome Using the CSV-1000(R)**
Kraft, A. R., Gehring, A. M., Hertle, R. W., Roberts, T. L.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
- **Objective Blur Detection Thresholds in Amblyopic and Fellow Eyes of Children with Amblyopia**
Gehring, A. M., Juric, A., Ricker, I. A., Roberts, T. L.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
- **Impact of Visual Cues on the Magnitude and Variability of the Accommodative Response in Children With Emmetropia and Uncorrected Hyperopia and Adults.** *Investigative ophthalmology & visual science*
Roberts, T. L., Manny, R. E., Anderson, H. A.
2019; 60 (5): 1527–37
- **A Randomized Clinical Trial of Immediate versus Delayed Glasses for Moderate Hyperopia in 1- and 2-Year-Olds.** *Ophthalmology*
Kulp, M. T., Holmes, J. M., Dean, T. W., Suh, D. W., Kraker, R. T., Wallace, D. K., Petersen, D. B., Cotter, S. A., Manny, R. E., Superstein, R. n., Roberts, T. L., Avallone, J. M., Fishman, et al
2019
- **The Impact of Visual Cues on Accommodative Variability in Children with Emmetropia and Uncorrected Hyperopia**
Roberts, T. L., Manny, R. E., Anderson, H. A.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2018
- **Reliability and Validity of Gaze-Dependent Functional Vision Space: A Novel Metric Quantifying Visual Function in Infantile Nystagmus Syndrome** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
Roberts, T. L., Kester, K. N., Hertle, R. W.
2018; 59 (5): 1760–68
- **Blur Detection, Depth of Field, and Accommodation in Emmetropic and Hyperopic Children** *OPTOMETRY AND VISION SCIENCE*
Roberts, T. L., Stevenson, S. B., Benoit, J. S., Manny, R. E., Anderson, H. A.
2018; 95 (3): 212–22
- **Impact of Cognitive Demand during Sustained Near Tasks in Children and Adults** *OPTOMETRY AND VISION SCIENCE*
Roberts, T. L., Manny, R. E., Benoit, J. S., Anderson, H. A.
2018; 95 (3): 223–33
- **Accommodative Accuracy and Stability In Passive and Active Viewing Tasks in Children with Uncorrected Hyperopia**
Roberts, T. L., Benoit, J. S., Manny, R. E., Stevenson, S. B., Anderson, H. A.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2016
- **Accommodative Gain in Relation to Perceived Target Clarity** *OPTOMETRY AND VISION SCIENCE*
Roberts, T. L., Anderson, H. A., Stuebing, K. K.
2015; 92 (11): 1092–1102

- **Comparison of Objective and Subjective Accommodative Response from Preschool to Pre-Presbyopia**
Roberts, T. L., Stuebning, K. K., Anderson, H. A.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2014
- **The Correlation Between a Dynamic Stimulus and Accommodation or Vergence Responses in Open-Loop Conditions During Infancy**
Candy, T., Roberts, T. L., Babinsky, E., Manh, V.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2014
- **Intraobserver reliability of contact pachymetry in children** *JOURNAL OF AAPOS*
Weise, K. K., Kaminski, B., Melia, M., Repka, M. X., Bradfield, Y. S., Davitt, B. V., Johnson, D. A., Kraker, R. T., Manny, R. E., Matta, N. S., Schloff, S., Pediat Eye Dis Investigator Grp
2013; 17 (2): 144–48
- **Vision Specific Quality of Life of Pediatric Contact Lens Wearers** *OPTOMETRY AND VISION SCIENCE*
Rah, M. J., Walline, J. J., Jones-Jordan, L. A., Sinnott, L. T., Jackson, J., Manny, R. E., Coffey, B., Lyons, S., ACHIEVE Study Grp
2010; 87 (8): 560–66
- **Randomized Trial of the Effect of Contact Lens Wear on Self-Perception in Children** *OPTOMETRY AND VISION SCIENCE*
Walline, J. J., Jones, L. A., Sinnott, L., Chitkara, M., Coffey, B., Jackson, J., Manny, R. E., Rah, M. J., Prinstein, M. J., ACHIEVE Study Grp
2009; 86 (3): 222–32
- **A Randomized Trial of the Effect of Soft Contact Lenses on Myopia Progression in Children** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
Walline, J. J., Jones, L. A., Sinnott, L., Manny, R. E., Gaume, A., Rah, M. J., Chitkara, M., Lyons, S., ACHIEVE Study Grp
2008; 49 (11): 4702–6