

CLINIC NEWSLETTER



# How are we doing?

We want your feedback! Help us provide better service for you and your patients by taking our survey:



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## The Three-Legged Stool

At Vance Thompson Vision, our approach to patient care is grounded in the stability and balance of our Three-Legged Stool. Each leg represents a core principle that ensures we deliver exceptional care and guides every decision we make as a practice.

### Invest in the World's Most Advanced Technology

One example of technology we've firmly embraced over the last few years has been epithelial mapping. We've found mapping the thickness and regularity (or irregularity) of the epithelium has been critical in making decisions regarding refractive surgery and refractive cataract surgery.

- Brent Kramer, MD,  
Sioux Falls, SD | Alexandria, MN

### Do the Right Thing

Our doctors only recommend lenses they would choose for themselves or their closest loved ones.

- Amy Joy, Executive Director,  
West Fargo, ND

### Patient Experience

I had the best experience with Vance Thompson Vision! I had LASIK in September, and I am so glad I did! It has changed my life in the best way. The team at VTV made me feel comfortable and heard, and they were very patient with all of my questions! I will definitely be recommending them!

- Michelle L., Google Review

## Save the Date

Join us for our upcoming educational events designed to keep you at the forefront of advancements in eyecare and featuring expert-led sessions on the latest research, innovations in LASIK, cataract, glaucoma, and more. Mark your calendars and join us in these enriching professional development opportunities.

### Tech Training\*

January 14-April 1, 2025  
Tuesdays from 4:00-5:00 PM CT

### 2025 Billing & Coding Updates with Kirk Mack\*

Wednesday, January 29  
12:00-1:00 PM CT

### Sioux Falls Symposium

Friday, March 28, 2025

### Alexandria Evening of Education

Wednesday, April 16, 2025

\* Virtual Event



Scan to see  
all upcoming  
events on the  
OD Portal



## Revolutionizing Patient Comfort in Eye Surgery: MELT-300 Phase 3 Success!

No opioids, no IV, and more consistent sedation for eye surgery all lead to better experiences for your patients! We are excited to share this groundbreaking news from MELT Pharmaceuticals. MELT-300 is a novel sublingual sedation formula invented by **Dr. John Berdahl**, alongside **Dr. Vance Thompson**; **Chris Bender, DNAP, CRNA, APRN**; and **Dr. Bill Wiley**. The MELT combines midazolam and ketamine and is designed to replace IVs and eliminate opioids for surgical procedures. The work of these team members reflects Vance Thompson Vision's commitment to research and improving the standard of care for patients.



Scan to read the full article

## Vance Thompson Vision Expands to Cedar Rapids

We are excited to announce our expansion of Vance Thompson Vision to Cedar Rapids, taking over the former Fox Eye Laser & Cosmetic Institute and First Choice Surgery Center. Our new location will be led by Dr. Caroline Wilson, former Vance Thompson Vision Sioux Falls fellow and outstanding anterior segment surgeon renowned for her surgical skills and patient care. Our Cedar Rapids location will continue our commitment to providing world-class vision care across the Midwest as this location specializes in advanced surgical treatments including cataract surgery, cornea care, glaucoma, refractive, and oculoplastics surgery. We look forward to working closely with local optometrists and serving the Cedar Rapids community with the same commitment to excellence that has defined our practice for over 30 years.

## Clinic Corner

### Navigating Neuroadaptation: The Advance IOL Experience

Larae Zimprich, OD | Tanner Ferguson, MD

Advanced technology intraocular lenses (ATIOLs) are becoming increasingly popular and the advancements in technology in recent years have led to improved outcomes and higher levels of patient satisfaction. To ensure patients are satisfied with their decision and their visual outcome, it is important to communicate and set expectations prior to surgery and advise the patients of the process. Despite the extensive testing and evaluation to determine what lens is best for each patient, some patients experience subjective visual complaints such as glare, halos, and other visual disturbances in the early stages of healing. Many of these complaints can be related to the optical profile of the IOL and commonly present as halos around point sources of light at night. In most patients, these visual phenomena improve with time in a process known as neuroadaptation. Neuroadaptation is a physiologic process by which the brain reacts to a different sensory input and adapts over time. Recent studies evaluating functional MRI imaging have shed further light on this process.

A 2017 study by Rosa et al.<sup>1</sup> involved 30 patients who underwent uncomplicated bilateral cataract surgery with multifocal IOLs. This study investigated how dysphotopsias can affect the brain's processing of visual information. Patients were evaluated using functional magnetic resonance imaging (fMRI) at postoperative intervals of 3 weeks and 6 months while they were exposed to visual stimuli similar to dysphotopsias. Functional MRIs provide noninvasive imaging based on contrast between oxygenated and deoxygenated hemoglobin associated with neuronal activity. The study found that patients who had recently been implanted with multifocal IOLs had increased activity of cortical areas in the brain dedicated to visual attention, procedural learning, cognitive control, and goal oriented behavior. In addition, patients who were bothered by visual symptoms such as glare and halos showed even more increased activity in those areas of the brain.

Another study by Zhang et al.<sup>2</sup> from 2021 compared the neuroadaptation after multifocal and monofocal IOL implantation. This study compared



## Brandon Baartman, MD

Omaha, NE

Dr. Brandon Baartman is a fellowship-trained, board-certified ophthalmologist who leads our practice in Omaha, NE. He is passionate about improving the quality of eye care in the community through education, research, technology, and enhancing the patient experience.

Outside of the clinic, Dr. Baartman enjoys golfing, cheering for the Huskers and Green Bay Packers, and spending time with his wife, Nicole, and their three children. Weekends are “family days,” filled with outdoor activities, homemade popcorn, and animated movies.



## Alecia Diede, OD

Billings, MT

Dr. Alecia Diede is a board-certified optometrist with a commitment to individualized patient care. She specializes in the evaluation and management of cornea, cataract, refractive, and glaucoma surgery patients.

During her residency at Vance Thompson Vision in Sioux Falls, Dr. Diede not only furthered her commitment to research and the latest advancements in the ophthalmic field, but she made lifelong friends. When she’s out of the clinic, she loves to explore the natural beauty of the Mountain West through kayaking, fishing, and hunting with family. She also loves visiting local coffee shops, thrift stores, trying new recipes, and walking her pug, Molly.

22 patients (44 eyes) who underwent uncomplicated phacoemulsification, 11 implanted with multifocal IOLs and 11 with monofocal IOLs. Visual disturbances (glare and halos), visual acuity, contrast sensitivity, visual evoked potentials, and visual cortical function were all evaluated before and after surgeries. In the multifocal IOL group, visual cortex activity initially decreased 1 week post-surgery, returned to baseline by 3 months, and further improved by 6 months. This indicates an adaptation suppression phase shortly after surgery. Conversely, the monofocal group exhibited increased cortical function at 1 week, which normalized to baseline by 3 months. Both groups reported reduced glare and halo severity over 6 months. These findings highlight distinct neuroadaptation patterns between monofocal and multifocal IOLs, with both showing progressive improvement over time.

Both articles provide valuable insight into the experiences of patients and process of neuroadaptation that occurs following cataract surgery. This information helps us communicate to patients the process of neuroadaptation, emphasizing that with time, the brain can adjust to these changes, leading to improved satisfaction and performance of the implant.

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1 Rosa AM, Miranda ÂC, Patrício M, McAlinden C, Silva FL, Murta JN, Castelo-Branco M. Functional Magnetic Resonance Imaging to Assess the Neurobehavioral Impact of Dysphotopsia with Multifocal Intraocular Lenses. *Ophthalmology*. 2017 Sep;124(9):1280-1289. doi: 10.1016/j.ophtha.2017.03.033. Epub 2017 Apr 22. PMID: 28433446.

2 Zhang L, Lin D, Wang Y, Chen W, Xiao W, Xiang Y, Zhu Y, Chen C, Dong X, Liu Y, Chen W, Lin H. Comparison of Visual Neuroadaptations After Multifocal and Monofocal Intraocular Lens Implantation. *Front Neurosci*. 2021 Jun 14;15:648863. doi: 10.3389/fnins.2021.648863. PMID: 34194292; PMCID: PMC8236945

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### Listen to the adVANCED Patient Care podcast

Designed to keep you at the forefront of the field, Vance Thompson Vision's podcast offers dynamic insights, practical clinic tips, and engaging discussions with experts. Recent episodes cover groundbreaking research, the latest advancements in LASIK, and innovative approaches to cataract treatment, providing you with the knowledge and tools needed to elevate your craft.

