



TAUBER EYE CENTER

Focus on Vision

Advanced Diagnostics – Latest technologies help find answers

At Tauber Eye Center, we are committed to do all we can to accurately diagnose eye problems and deliver state-of-the-art treatment and care for our patients. We have invested in the latest technological tools to help us accomplish this goal. Several new instruments are highlighted here:

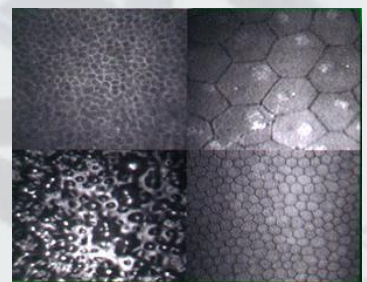
TEAR OSMOLARITY

Do you really have dry eye? Dry Eye is a disease of the tears and ocular surface that results in fluctuating vision, tear film instability and increased osmolality that can cause damage to the ocular surface. The symptoms of dry eyes are very similar to other conditions such as blepharitis (eyelid inflammation) and eye allergies. Osmolality is a measure of how dilute or dense tears are, and has been shown to be the most sensitive and specific measure of dry eyes. We use the newly developed Tearlab device to confirm dry eye disease in borderline cases.



CONFOCAL MICROSCOPY

The cornea, the clear “window” that is the front of the eye, can develop serious infections, from bacteria, viruses, fungus, mold, yeast or even parasites. Precise identification of the germ responsible is necessary to select proper medical treatment. The confocal microscope provides highly magnified imaging of the cornea in a slice-by-slice manner to visualize the type of infection that is present. We can also evaluate and follow the health of corneal transplants with serial microscopic photographs. This advanced microscope is one of very few in the Kansas City region.



SD-OCT ADVANCED IMAGING

Optical Coherence Tomography (OCT) is a non-contact medical imaging technology similar to ultrasound and MRI. With OCT, reflected light produces detailed cross-sectional and 3D images of the eye. Earlier versions of this tool (TD-SDT) provided 400 scans per second. The newer Spectral-domain OCT (SD-OCT) uses a significantly faster, non-mechanical technology. SD-OCT simultaneously measures multiple wavelengths of reflected light across a spectrum, and is 100 times faster than TD-OCT and acquires 40,000 A-scans per second. The increased speed and number of scans translates into higher resolution and a better chance of observing disease. We use this imaging tool on the cornea, retina and to study the health of the optic nerve.



Dr. Joseph Tauber specializes in anterior segment surgery, corneal transplantation, the treatment of corneal and external diseases and laser vision correction procedures. A board-certified ophthalmologist, Dr. Tauber received his doctorate from Harvard Medical School, his training in internal medicine at Beth Israel Hospital and in ophthalmology at Tufts-New England Medical Center, all located in Boston, Massachusetts. Dr. Tauber enhanced his medical education with two years of ocular immunology and corneal and external disease fellowship training at the Massachusetts Eye and Ear Infirmary. Dr. Tauber has been performing laser vision correction surgery since 1989, as one of the first ophthalmologists in the U.S. doing these surgeries.

Dr. Tauber has been a principal investigator in over 70 research studies of high-risk corneal transplantation, inflammation and allergic eye diseases, corneal infectious diseases and numerous studies related to dry eye syndrome. He is a member of the American Academy of Ophthalmology, and the Medical Director of the Heartland Lions Eye Bank, which provides corneas for transplant surgeons around the US and internationally. Dr. Tauber has written six book chapters and over 50 articles for such prestigious medical journals as Ophthalmology, Investigative Ophthalmology and Visual Science, Journal of Cataract and Refractive Surgery and Cornea.



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