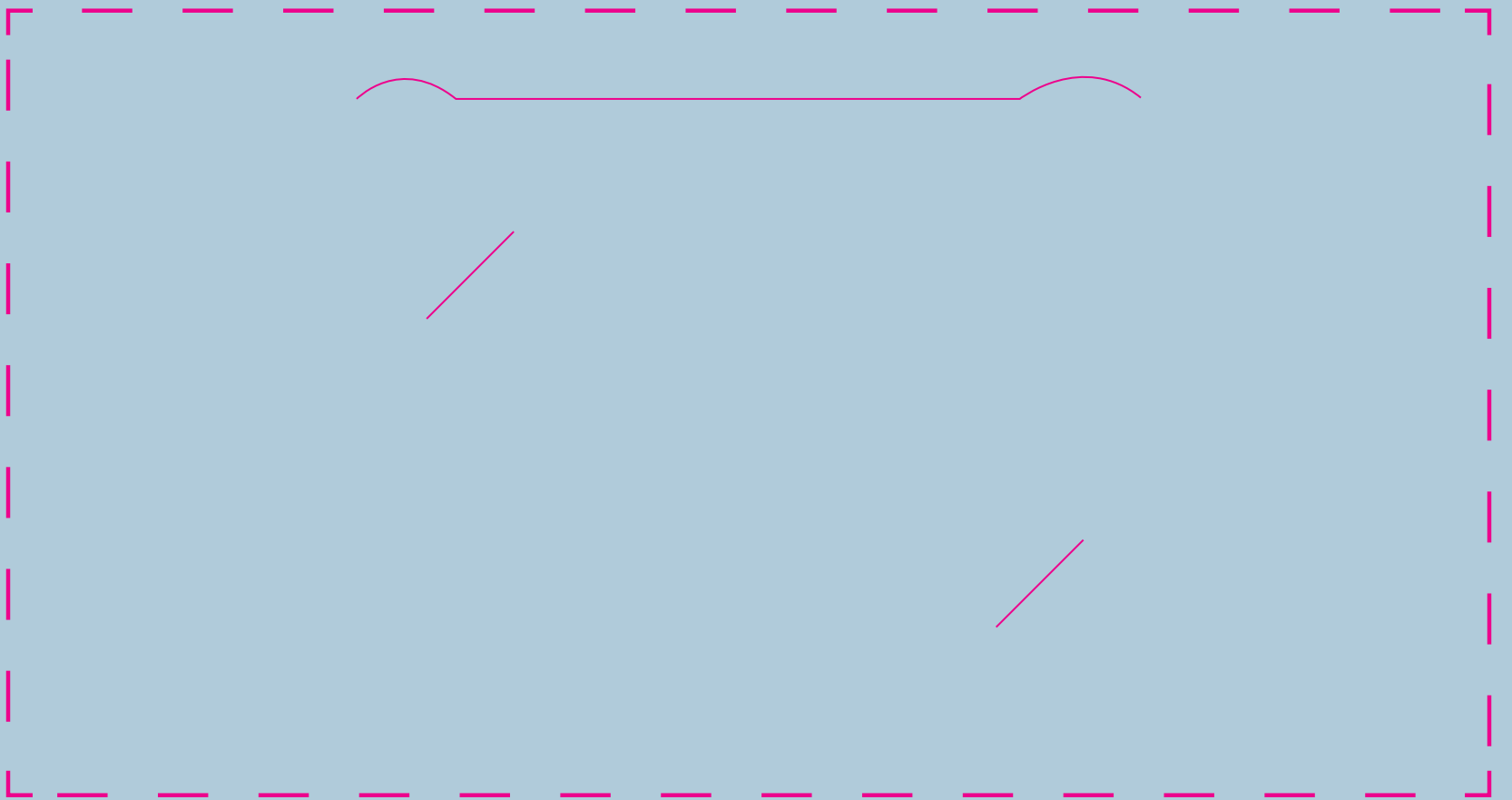
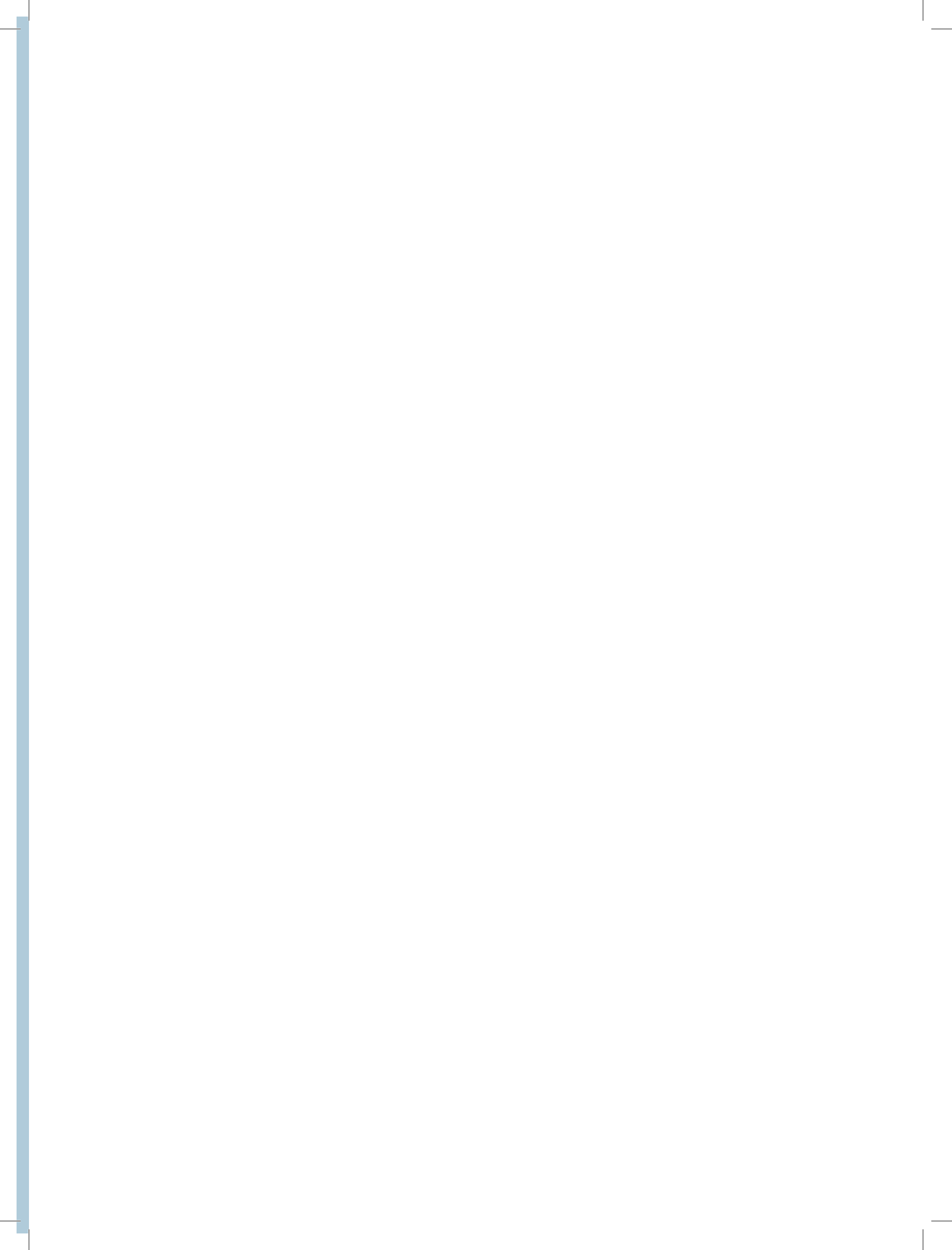




DRY EYE DISEASE









PERSONALIZED TREATMENT FOR DRY EYE DISEASE RELIEF

There are 30 - 40 million people in the United States and over 300 million worldwide who have been diagnosed with dry eye disease. Most of these patients have learned to live with eye discomfort and have become dependent on remedies that provide only temporary relief. If this is your story, then you have come to the right place.

At Associated Eye Care, we take pride in providing relief to patients suffering from dry eye disease. With advanced diagnostic testing designed to determine the root cause of your dry eye disease symptoms, our team is able to accurately determine your personalized treatment plan, providing relief you never thought was possible.

The following information will help you understand dry eye disease and the many new treatment options available to you at Associated Eye Care.

OUR COMMITMENT TO EXCELLENCE

Associated Eye Care is proud to be an Accredited Dry Eye Center. Our trusted doctors are experts in the field of dry eye disease management and new technologies ensure our patients receive the best care. Experience, paired with state-of-the-art technology, makes us the premier dry eye disease center in the Twin Cities East Metro and Western Wisconsin.

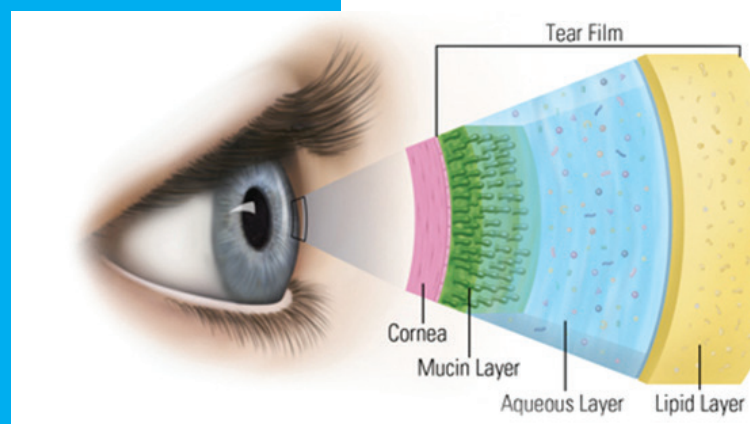


DRY EYE DISEASE

Dry eye disease is a common condition in which there is a deficiency in the quality and/or quantity of tears produced by the eyes. Tears perform many important functions for the eye including cleaning, lubrication, providing nutrition and maintaining a smooth surface to refract light and provide clear vision. A healthy tear film contains a complex balance of water, salts, mucin, and oils produced by glands on the eye and eyelids. If any of these components are out of balance, dry eye disease symptoms can occur.

Typical symptoms of dry eye disease include dry or gritty sensation, scratchiness, itching, burning, pain, eyelid heaviness, intermittent blurred vision and intermittent tearing. Symptoms are usually worse later in the day, during prolonged use of the eyes, and in conditions of heat, wind and low humidity.

Many patients with dry eye disease complain of intermittent tearing and watery eyes. Normally the lids produce a small amount of tears to keep the eyes lubricated and healthy. If this baseline tearing is of poor quality or insufficient quantity to keep the eyes healthy, a message will be sent to the brain to cause a reflex flow of tears from the main lacrimal gland. This reflex tearing results in a large volume of watery tears that accumulate in the eye or even run down the cheek. These symptoms may seem counterintuitive, but to prevent the eye from watering, one must treat the dryness that triggers it.



HOW DO I KNOW IF I HAVE DRY EYE DISEASE?

Please put a check mark next to each symptom you have experienced in the last 30 days:

- Dry or gritty sensation in the eyes
- Itching
- Burning
- Eye fatigue or eyelid heaviness (eyes feel tired when you know you have gotten plenty of rest)
- Intermittent blurred vision
- Intermittent tearing and watery eyes
- Sensitivity to light
- Eye redness
- Stringy mucous in or around the eyes
- A sensation of having something in your eyes
- Difficulty wearing contact lenses

Total number of symptoms: ____

Scoring: If you selected two or more symptoms, you may have dry eye disease. A dry eye disease evaluation is recommended to properly diagnosis and treat your condition.

MEET YOUR DOCTOR



JACOB R. **LANG**, OD, FAAO

Dr. Lang joined Associated Eye Care in 2006. He received his Doctor of Optometry degree from The New England College of Optometry in Boston, MA. He was a member of Beta Sigma Kappa Optometric Honor Society, and received several awards for excellence in patient care and contact lens expertise. Dr. Lang then completed a cornea and specialty contact lens residency in Boston, MA. Through this additional education, he gained expertise in dry eye and ocular diseases, therapeutic contact lenses and surgical co-management. Dr. Lang has been involved in dry eye clinical research and FDA trials for many years including medications and therapeutic devices. He writes articles for several publications on the topic and is actively involved in lecturing to colleagues at various meetings locally and nationally. He is a Diplomat of the American Board of Optometry, a fellow of the American Board of Optometry and an Adjunct Clinical Faculty for the Illinois College of Optometry, The Ohio State University and Salus University. He is Medical Director of Dry Eye Services at Associated Eye Care and the Co-Director for Associated Eye Care's optometric residency program. He is actively involved in lecturing on eye care innovations and research.

Certification

National Board of Examiners in Optometry, 2003; Fellow of the American Academy of Optometry, 2004; American Board of Optometry, 2011

Education

O.D., New England College of Optometry, 2003

Fellowship

Cornea and Specialty Contact Lens, New England College of Optometry, 2004

Dr. Lang, his wife and son enjoy snowshoeing, skiing and spending time outdoors. He also enjoys playing golf, fly-fishing, and fly-tying.



DROPS, GELS, OINTMENTS, & VITAMINS

Dry eye disease has a wide range of severity and in some instances may be sight threatening. Treatment initially begins with artificial lubricants, usually drops, given 2 to 6 times a day.

Artificial tears work best when given on a scheduled basis rather than in response to symptoms. After beginning therapy with artificial tears, it may take several weeks of continuous use before long lasting improvement in symptoms is achieved. Not all artificial tears are created equal. Many have preservatives that can cause further irritation, especially if used frequently. Preserved artificial tears may be used up to 4-6 times a day. Preservative-free artificial tears should be used for sensitive eyes or when more frequent use is required. More severe cases of dry eye disease may require the use of thicker ointments or gels. Hot compresses using a microwaveable heat mask may also be utilized to improve the function of the lubricating oil glands in the eyelids.

Consider supplementing your diet with omega-3 fatty acids. Recent studies have shown that omega-3 fatty acids can improve the tear quality and reduce dry eye disease symptoms. While omega-3 fatty acids can be found naturally in many food sources (i.e. wild salmon and herring), maximum benefits for adults are believed to be achieved with a daily dose of 2000-4000 mg. If you are not currently taking this supplement, consider starting with 1000 mg daily and working up to 2000-4000 mg per day.

Associated Eye Care offers a wide variety of drops, gels, ointments and vitamins for dry eye disease therapy. These are available for purchase in our optical shops as well as the AEC Online Marketplace.



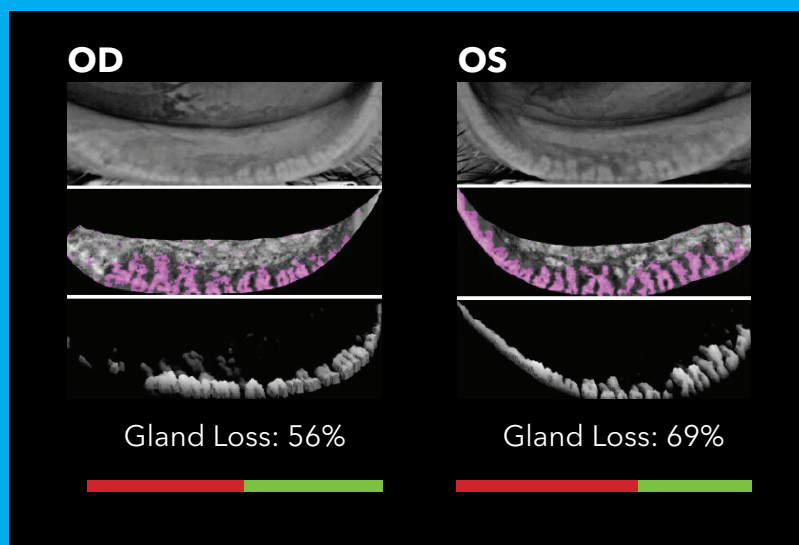
**Scan QR Code to Visit
our Online Marketplace at**
[www.associatedeyecare.com!](http://www.associatedeyecare.com)

DETECTING DRY EYE DISEASE

Successful treatment begins with understanding the root cause of your symptoms. At Associated Eye Care, we use specialized testing to accurately determine the cause of your dry eye disease and to develop a personalized treatment plan.

Meibography & Tear Film Imaging

Associated Eye Care is proud to offer a series of meibography and tear film imaging technologies. These non-invasive diagnostic tests capture live images of your tear film and measure lipid (oil) content and quality. The meibomian (oil) glands of the eyelids are also imaged to assess their anatomy and function. These tests will allow your doctor to determine if you should undergo treatment. The tearcheck® revolutionized Dry Eye Analyzer provides (9) tests with patented technology that allows you to evaluate and assess the health of the ocular surface within a few minutes



Tear Osmolarity™

ScoutPro Osmolarity system is used to measure osmolarity, which is the saltiness of your tears. As osmolarity in your tears increase, ocular surface cells become damaged. Using this device, your doctor will take a sample of tears from each eye to assess the quality of your tear film and the overall health of your ocular surface. ScoutPro Osmolarity system aids in accurate and early detection of Dry Eye Disease and provides information to follow disease severity over time

InflammaDry®

Dry eye disease causes inflammation which contributes to bothersome symptoms and damage to the ocular surface. In some cases, inflammation is present before a patient experiences any dry eye disease symptoms. InflammaDry® is the first in-office test capable of detecting MMP-9, an inflammatory marker that is often elevated in the tears of patients with dry eye disease. By recognizing elevated levels of MMP-9, InflammaDry® is able to identify patients that may be missed with other dry eye disease testing methods.

Slit Lamp Examination

Your doctor will perform a thorough slit lamp examination of the eyes and eyelids to assess for the presence and severity of dry eye disease. Special stains may be used to better visualize the tears and ocular surface during your exam. Additional exam tests may be utilized to better identify the cause of your dry eye disease.

TREATING DRY EYE DISEASE

When traditional methods of treating dry eye disease (i.e. drops, gels, ointments) do not provide adequate relief, your doctor may recommend advanced dry eye disease therapies.

Tear Care System

The TearCare System is a system designed to treat patients with dry eye disease due to meibomian gland dysfunction (MGD). The meibomian glands in your eyelids create the oil necessary to keep your eyes well-lubricated. When MGD is present, these oil glands don't work correctly, resulting in inadequate oil in your tears. When there is not enough oil in your tears, the tears may evaporate from the surface of your eyes too quickly. This can cause dry eyes. Common symptoms of dry eye disease include dryness, itching, redness, watering, or blurry vision.

The TearCare System is a treatment that uses heat and pressure to unblock the meibomian glands in your eyelids. Unblocking these oil glands allows them to work more normally and helps them create the oil that keeps your tears healthy.

The TearCare System is an easy, in-office procedure performed at Associated Eye Care. You'll first have your eyelids prepared before having the SmartLids placed on your eyelids. While the SmartLids are on your eyelids, you'll feel a combination of heat and pressure massaging your glands to unblock them. The treatment takes about 10 minutes to complete.

Many patients report a significant improvement in their symptoms after undergoing TearCare. The benefits often last for six months to a year. Patients may need to repeat treatments to continue experiencing relief.

Intense Pulsed Light (IPL)

IPL stands for Intense Pulsed Light. IPL treats dry eye disease caused by meibomian gland dysfunction/disease (MGD) by decreasing inflammation in and around your eyes. IPL uses a very strong light source applied to your skin to remove inflammation and abnormal blood vessels as well as liquefying hardened oils clogging the meibomian glands within your eyelids.

TREATING DRY EYE DISEASE

How fast does it work? While many experience relief after their first IPL treatment, most people experience the most improvement after the third treatment as inflammation continues to recede and gland function returns. How many treatments are required? The number of treatments varies based on severity, however, a minimum of 4 treatments have been shown to be effective in treating MGD.

Punctal Plugs

Tears normally drain off of the eye and into the nasal cavity through a hole, or punctum, in each upper and lower eyelid. Permanent or temporary plugs may be placed in these holes to retain tears on the surface of the eye for a longer period of time.

Autologous Serum Eye Drops

These are eye drops made from your own blood serum, which are rich in healing properties and nutrients. The serum from your blood is diluted with a sterile, preservative-free solution to produce eye drops that are unique to you.

Amniotic Membrane

Amniotic membrane can be obtained and used for a variety of ocular conditions due to its anti-inflammatory and healing properties. While temporarily positioned over the eye, it can result in rapid healing of the ocular surface.

Associated Eye Care is proud to be one of the first practices in the country to provide these exciting, new forms of treatment. In addition, your doctor may recommend other dry eye disease therapies, such as **therapeutic contact lenses** or other **prescription medications**, as part of your personalized treatment plan.



PREPARING FOR YOUR DRY EYE DISEASE EVALUATION

At your dry eye disease evaluation, you will undergo specialized testing in order to create a personalized treatment plan. Because we use sensitive testing instruments to identify the root cause of your symptoms, please follow the instructions below to avoid any delays in your care:

1. Do not wear any eye makeup to your dry eye disease evaluation.
2. Do not put contact lenses in your eyes the day of your dry eye disease evaluation. They may be inserted after the testing is completed.
3. Do not use ointments or gels around your eyes the evening prior to your dry eye disease evaluation.
4. Do not use any Vaseline or oily cleansers to remove eye makeup.
5. Do not use any lubricating drops on the day of your testing.
6. Do not use any prescription eye drops (i.e. glaucoma drops) less than two hours prior to testing.
7. Do not rub or touch your eyes two hours prior to testing.
8. Do not apply eye creams, facial cream, mascara, or sunscreen prior to the testing.



AFFORDABLE FINANCING

Get relief today, pay tomorrow. Associated Eye care offers 0% financing for 6 months through CareCredit. CareCredit is a healthcare credit card that allows patients to finance medical procedures not fully covered by insurance.

The amounts in these columns are the amount to be paid if you choose to make equal monthly payments and take advantage of the promotion. If you are interested in financing options, please check eligibility and sign up at www.carecredit.com.

Procedure Fee	6 Month No Interest Payment Plan*
\$500	\$83
\$700	\$117
\$900	\$150

*Under the no interest payment plan, you are required to pay minimum monthly payments. In order to avoid interest charges, the promotional purchase must be paid in full within the promotional period.

Flex Spending?

Did you know you can use your flexible spending account (FSA) or health savings account (HSA) for dry eye disease treatment? Your flex funds will expire at the end of the year. Use it before you lose it!

INSURANCE COVERAGE



The evaluation and treatment of Dry Eye Disease is covered by most medical insurance plans. Depending on the details of your insurance plan, however, you may be personally responsible for some of the costs. This is especially likely if you have not yet met your annual deductible. We encourage you to contact your insurance company prior to your visit to determine your coverage and estimated out-of-pocket costs for the medical visit and following dry eye tests and treatments. We have included the CPT codes for typical testing and potential treatment options to help you make this determination.

Diagnostic Testing

Dry eye evaluations typically include the following tests to help your doctor determine the primary causes and best treatments for your dry eye disease.

Meibography & Tear Film Imaging (CPT 92285) - Live images of the meibomian (oil) glands and tear film to assess gland anatomy and function.

Tear Osmolarity® (CPT 83861) - Measures the salt content of the tears to determine the level of dryness.

InflammaDry® (CPT 83516) - Assesses the level of dry eye related inflammation in the tears.

Therapies

There are many treatments for dry eye disease, including over-the-counter medications, prescription medications, and in-office treatments. Your doctor will discuss personalized treatment recommendations during your dry eye evaluation visit.

TearCare System (CPT 0563T) - The TearCare® System applies localized heat therapy to the eyelids and is used in conjunction with manual expression of the meibomian glands to improve the health and quality of tear production. Not covered by insurance.

Intense Pulsed Light (IPL) - Treats dry eye disease caused by meibomian gland dysfunction/disease (MGD) by decreasing inflammation in and around your eyes. Not covered by insurance.

Punctal plugs (CPT 68761; supply code A4263) - Permanent or temporary plugs placed in the region that drains tears off the eyes. Helps keep tears and lubricating drops on the eyes longer. Covered by most insurance plans, but subject to the terms and conditions of your policy.

Amniotic Membrane (CPT 65778) - Temporary device, like a contact lens, which is positioned over the eye to initiate rapid healing of the ocular surface. Covered by most insurance plans, but subject to the terms and conditions of your policy.



**Scan QR Code
To Visit Our
Dry Eye Webpage**



FAQ

How do I know if I have dry eye disease?

Patients with dry eye disease typically experience dry or gritty sensation, scratchiness, itching, burning, pain, eyelid heaviness, intermittent blurred vision and intermittent tearing. If you notice fluctuations in your vision, particularly after tear film stressors such as reading or computer work, you may have dry eye disease. Your eye doctor will conduct a series of tests to properly diagnosis and treat your condition.

What causes dry eye disease?

There are many factors that can lead to dry eye disease. As you age, you may secrete fewer tears, leading to increased dryness. Dry eye disease is more common in women, especially post-menopausal women, due to hormonal changes. Patients with diabetes, rosacea, Sjogren syndrome, thyroid, and auto-immune diseases are at a greater risk for developing dry eye disease. Environmental factors, such as low humidity and high altitude, as well as wearing contact lenses, may worsen your dry eye disease symptoms.

My eyes are always watery or teary, how can I have dry eye disease?

A healthy tear film contains a complex balance of water, salts, mucin and oils produced by glands on the eye and eyelids. When the tear film is out of balance many patients report watery eyes. This occurs because the eye creates excessive tears when it is dry. However, these new tears do not “stick” to the surface of the eye and do not provide adequate lubrication.



FAQ

Is dry eye disease treatment covered by my insurance?

The diagnosis and evaluation of dry eye disease is typically covered by most medical insurance plans. Insurance coverage for dry eye disease therapies will vary from treatment to treatment. Please contact your health insurance provider to determine plan eligibility and coverage. Associated Eye Care offers zero-interest financing through CareCredit. Our dedicated team is available to assist you with payment options and any additional questions you may have.

How Does LASIK and/or cataract surgery affect dry eye disease?

Some patients experience increased dryness following refractive or cataract surgery. This is caused by a decrease in tear production and typically subsides within 3-6 months after surgery. When considering a vision correction procedure such as LASIK or cataract surgery, it is important to also be evaluated for ocular surface health issues.

What if I'm not getting enough relief from over-the-counter artificial tears?

When traditional methods of treating dry eye disease (i.e. drops, gels, ointments) do not provide adequate relief, your doctor will refer you to Associated Eye Care's Dry Eye Disease Program for further evaluation and testing. Our Dry Eye Disease team use state-of-the-art technology to accurately determine the root cause of your symptoms and create a personalized treatment plan for dry eye disease relief.

WHERE TO FIND US

At Associated Eye Care, we're committed to bringing world-class eye care closer to home in a way that's more convenient for you. That's why we have several convenient locations for you to choose from.

Stillwater, MN

2950 Curve Crest Blvd W, 55082

Hudson, WI

Hudson Medical Center
2651 Hillcrest Drive, Suite 104, 54016

Lino Lakes, MN

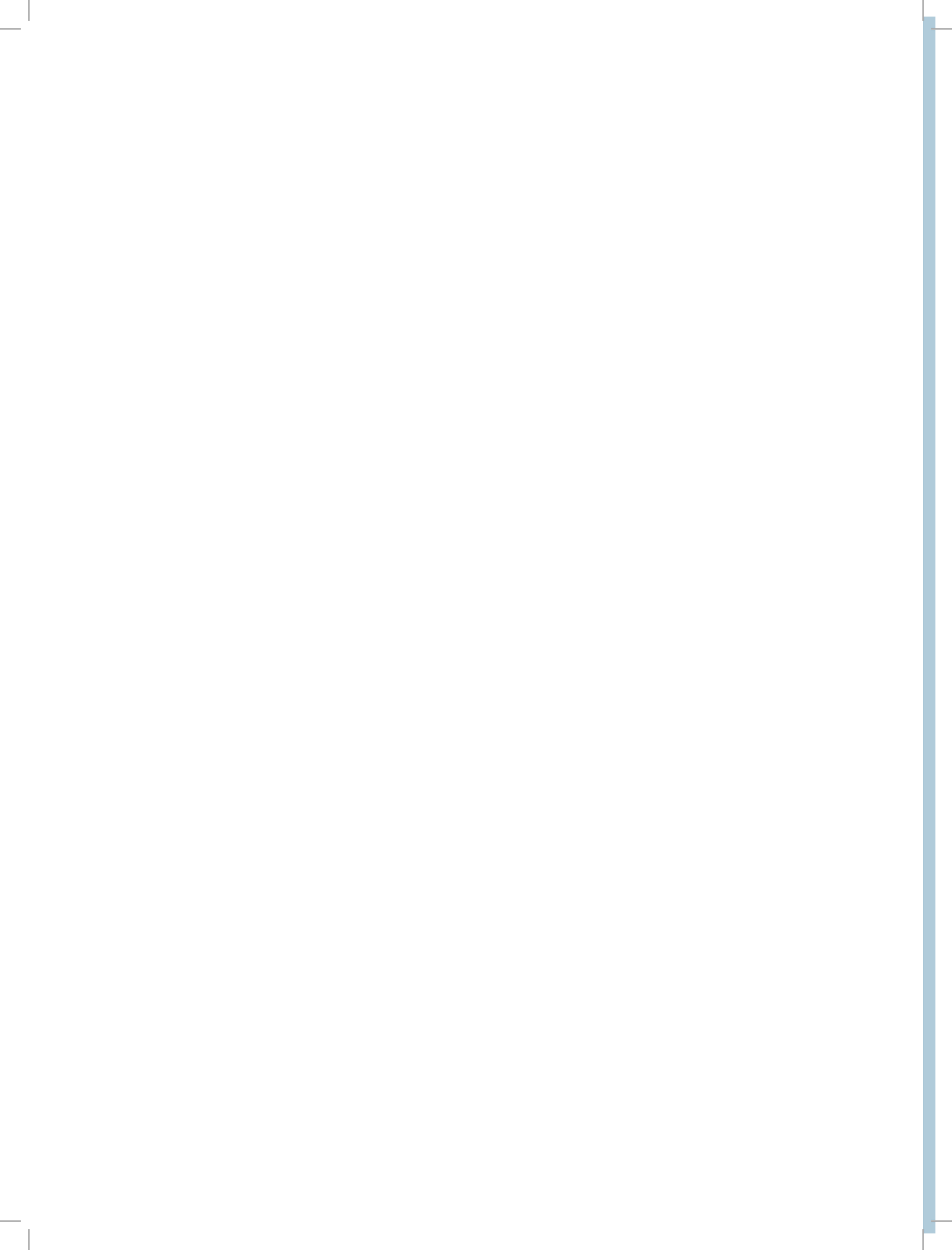
2380 Rosemary Way, 55038

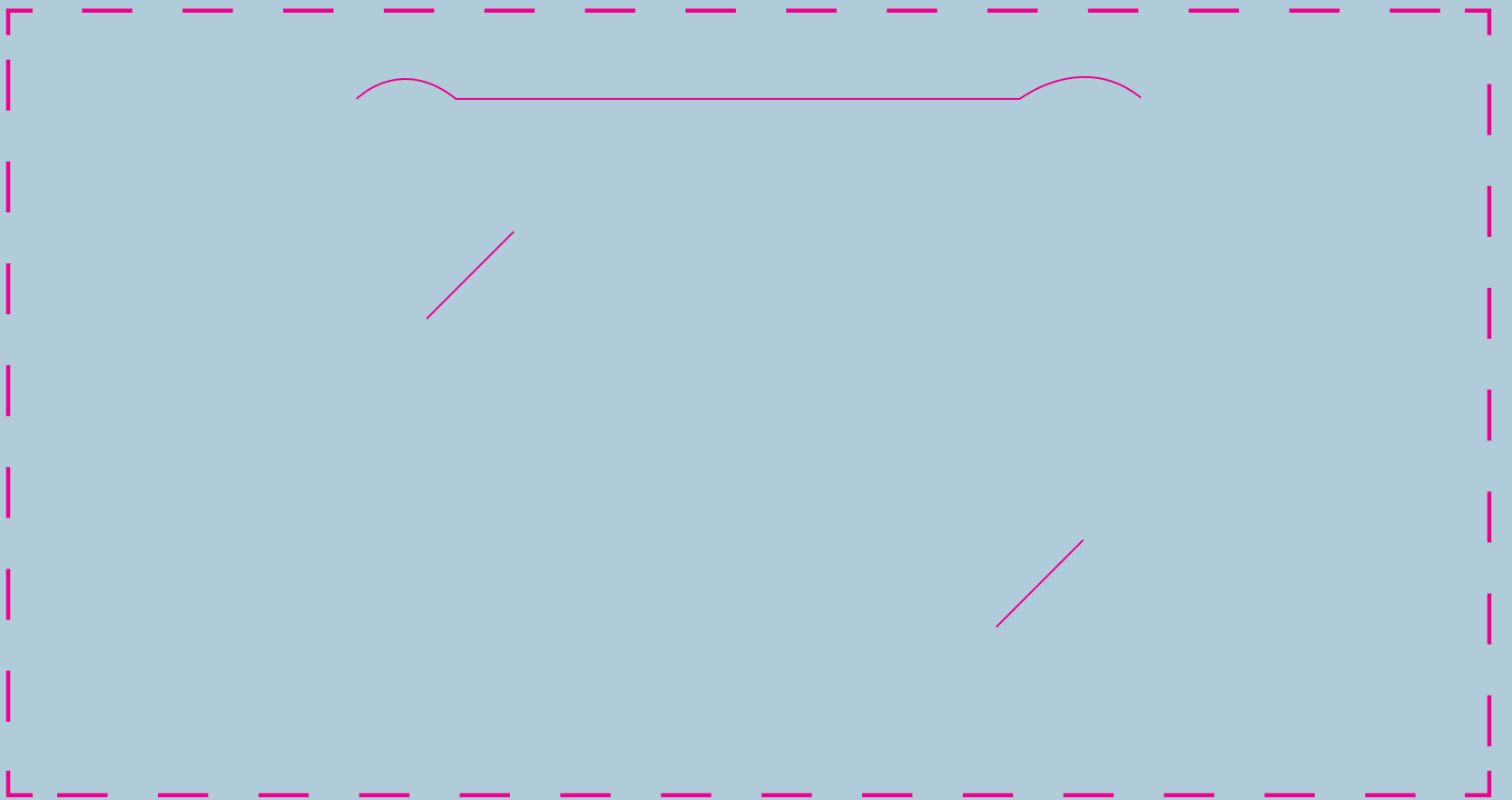
New Richmond, WI

525 N Knowles Ave, Suite 200, 54017

Woodbury, MN

City Place Medical Building
237 Radio Drive, Suite 100, 55125





VISION FOR A **LIFETIME**

For more information or to schedule an appointment, call: 800.846.1877

www.associatedeyecare.com   

