

# Keratoconjunctivitis sicca etiology, clinical presentation, and therapeutic approaches.

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## Description

Dry Eye Disease (DED), also known as keratoconjunctivitis sicca, is a common eye condition that affects millions of people worldwide. While it might not always be a serious medical condition, it can significantly impact a person's quality of life. Dry eye disease is a multifactorial ocular disorder characterized by an insufficient quantity or poor quality of tears to nourish and protect the eye's surface. Tears are crucial for maintaining the health of the front surface of the eye and for providing clear vision. When there is an imbalance in the tear film, it can result in dry, irritated, and uncomfortable eyes. This condition can occur in one or both eyes and can range from occasional discomfort to a chronic, ongoing problem.

Several factors can contribute to the development of dry eye disease, and often, it's a combination of these causes that lead to the condition. Dry eye disease is more common as people get older, with hormonal changes and decreased tear production contributing to the condition. Exposure to dry, windy, or dusty environments, as well as air conditioning or heating systems, can increase the risk of developing dry eyes. Certain medications, such as antihistamines, decongestants, antidepressants, and birth control pills, can decrease tear production and contribute to dry eye symptoms. Conditions like diabetes, rheumatoid arthritis, Sjögren's syndrome, and thyroid disorders can increase the risk of dry eye disease. Staring at screens for extended periods can reduce the frequency of blinking, leading to decreased tear production and increased evaporation of existing tears. Wearing contact lenses can disrupt the balance of the tear film, causing irritation and dryness.

The symptoms of dry eye disease can vary in severity. A persistent sensation of dryness or grittiness in the eyes is a hallmark symptom of DED. Dry eyes can become red and bloodshot due to irritation and inflammation. The eyes may feel itchy and may also burn, causing discomfort. Paradoxically, some people with DED experience reflex tearing as the eyes try to compensate for dryness. Increased sensitivity to light, or photophobia, can be another symptom of DED. Vision may become temporarily blurred, particularly when reading, using digital devices, or in windy conditions. Dry eyes can lead to eye fatigue, which is especially common in those who spend long hours working on a computer.

Diagnosing dry eye disease typically involves a comprehensive eye examination. An eye care professional will assess the patient's medical history, symptoms, and lifestyle factors that could contribute to DED. The Schirmer test or the phenol red thread test can measure tear production and help identify

deficiencies. Evaluation of the tear film quality and stability using techniques like Tear Break-Up Time (TBUT). Dyes are used to identify damage to the surface of the eye. A meibography can assess the structure of the meibomian glands, which produce the oily component of tears.

Managing dry eye disease involves addressing the underlying causes and alleviating the symptoms. Treatment options can vary depending on the severity of the condition. Over-the-counter lubricating eye drops or artificial tears can provide temporary relief from dry eye symptoms by adding moisture to the eyes. In more severe cases, prescription eye drops such as cyclosporine (Restasis) or lifitegrast (Xiidra) may be recommended to reduce inflammation and improve tear production.

Tiny silicone or gel plugs can be inserted into the tear ducts to slow down the drainage of tears, keeping the eyes moist. Applying warm compresses to the eyelids can help liquefy the meibum, the oily layer of tears, making it easier to flow onto the eye's surface. Consuming omega-3 supplements or foods rich in omega-3 fatty acids can help improve the composition of tears. Avoiding dry or windy conditions and using humidifiers can help maintain a comfortable environment for the eyes. Reducing screen time, practicing the 20-20-20 rule (take a 20-second break every 20 minutes to look at something 20 feet away), and staying well-hydrated can help manage dry eye symptoms. Treating any underlying medical conditions, such as diabetes or autoimmune disorders, can help alleviate dry eye symptoms. In cases of meibomian gland dysfunction, a procedure called Lipiflow can be used to unblock and stimulate the glands, allowing for healthier tear production. For severe dry eye cases, specially designed scleral contact lenses can provide moisture and comfort to the eye.

While not all cases of dry eye disease can be prevented, certain lifestyle modifications can reduce the risk of developing the condition. Schedule routine eye examinations to catch and address any potential issues early. Be mindful of blinking more frequently, especially when working on screens for extended periods. Wear wraparound sunglasses to shield your eyes from wind, dust, and harmful UV rays. Proper hydration can help maintain adequate tear production. Consume a diet rich in omega-3 fatty acids and vitamins A and D to support eye health.

Dry eye disease is a common and often underdiagnosed condition that can significantly impact a person's daily life and well-being. Recognizing the causes and symptoms of DED is the first step in seeking appropriate management and treatment. With various options available, individuals can find relief and

improve their eye comfort, allowing them to enjoy clear, healthy vision.

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