

Innovative approaches for dry eye management.

Dry eye management: embracing innovative approaches to diversify your service offering

This article explores the advantages of detecting dry eye at an early stage to avoid complications, the reasons for the conditions and its prevalence. By understanding the importance of early detection, you'll see how you can play a key role and take proactive measures to prevent and / or diagnose dry eye, promote eye health and enhance the development of your practice.

Dry eye definition

In the field of ophthalmology, managing dry eye syndrome has always been a complex challenge. With the rise of digital screens, increasing environmental pollution, and lifestyle changes, the number of patients suffering from dry eye has surged significantly over the past decade. Confronted with this evolving scenario, eye health professionals are facing an urgent need to rethink their traditional management approaches.

Dry eye disease is a chronic condition of the corneal surface that involves by persistent symptoms of irritation or burning that can cause inflammatory damage to the cornea and conjunctiva (1).

This multifactorial disease is characterized by a loss of homeostasis of the tear film, and accompanied by ocular symptoms, in which tear film instability and hyperosmolarity, ocular surface inflammation and damage, and neurosensory abnormalities play aetiological roles.

Dry eye syndrome is a dynamic and complex disease of the ocular surface and ocular adnexa with known risk factors. It is a condition with a cyclical character, in which the most important step is to find the aetiological trigger, restore homeostasis and break the vicious circle (2).

References.

- (1) Rouen PA, White ML. Dry Eye Disease: Prevalence, Assessment, and Management. Home Healthc Nov 2018 Mar/Apr;36(2):74-83.
 - (2) M Zemanová DRY EYE DISEASE. A REVIEW 2021 Winter;77(3):107-119.
-

There are two primary types of dry eye syndrome:

Evaporative dry eye:

This type of dry eye is characterized by **a deficiency in the lipid (oil) layer of the tear film**. The lipid layer helps prevent the evaporation of tears from the surface of the eye. When this layer is compromised, tears evaporate too quickly, leading to dryness and discomfort. This syndrome is the most common and often caused by a **meibomian glands dysfunction (MGD)**.

Aqueous tear-deficient dry eye:

In this type of dry eye, there is **reduced production of the watery component of tears**. Tears are composed of three layers: lipid, aqueous (watery) and mucin. The aqueous layer provides to the surface of the eye with moisture and a deficiency can result in dry eye symptoms.

What causes dry eye?

 Ageing	 Smoking	 Deficiency of tear producing glands	 Diets low in essential fatty acid
 Dry/windy environment	 Long stretches of reading or using digital devices	 Eye Surgery	
 Medications	 Prolonged contact lens wear	 Certain health conditions	

Who is at risk?

**Females:**

Dry eye syndrome is more common in women than in men. Hormonal fluctuations, especially during pregnancy and menopause, can impact tear production and lead to dryness and discomfort in the eyes.

**Age 50 or older:**

As individuals age, the natural production of tears tends to decrease. This reduction in tear production can lead to an increased risk of developing dry eye syndrome. Additionally, aging can bring about changes in the structure and function of the tear glands and eyelids, further contributing to the condition.

**Contact lens wearers:**

Contact lenses can alter the tear film and affect the way tears evaporate from the surface of the eye. Poor lens hygiene or wearing contacts for extended periods without breaks can exacerbate dry eye symptoms. People who wear contact lenses are advised to follow proper care and hygiene practices to reduce the risk of developing dry eye syndrome.

Vitamin A deficiency:

Vitamin A plays a crucial role in maintaining the health of the eyes, particularly in producing mucus and keeping the eyes moist. A deficiency in this essential nutrient can lead to dry eye symptoms. Consuming foods rich in vitamin A, such as carrots, broccoli, liver and leafy green vegetables, can help support eye health and prevent dryness.

Omega-3 fatty acids deficiency:

Omega-3 fatty acids are essential for overall health, including maintaining proper tear production and reducing inflammation in the eyes. A lack of omega-3s in the diet, found in sources like fish, walnuts, flax seeds and vegetable oils, can contribute to an increased risk of dry eye syndrome.

Certain autoimmune conditions:

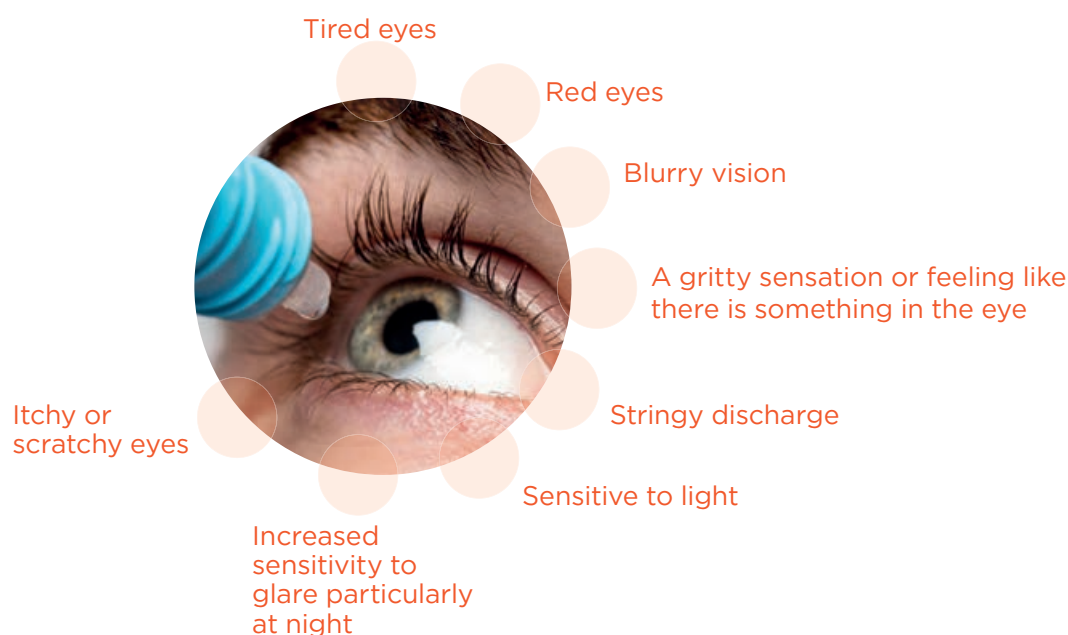
Individuals with autoimmune disorders, such as lupus or Sjögren's syndrome, are at a higher risk of developing dry eye syndrome. These conditions can lead to inflammation in the tear glands and affect the composition of tears, resulting in decreased tear production and chronic dryness in the eyes.

It is important to note that while these factors increase the likelihood of developing dry eye syndrome, anyone can experience dry eye symptoms. Proper eye care, regular eye exams, and adopting a healthy lifestyle that includes a balanced diet and adequate hydration can all contribute to maintaining good eye health and reducing the risk of dry eye syndrome.

References.

(3) <https://www.aao.org/eye-health/diseases/what-is-dry-eye>

What are the symptoms of dry eye?



Having a lot of tears in your eyes in dry eye syndrome might sound odd. But your eyes make more tears when they are irritated by dry eye (3).

What are the potential complications of dry eye?

Dry eye syndrome, if left untreated or inadequately managed, can lead to several complications that may affect the overall health and comfort of the eyes. Some potential complications of dry eye include:

- Corneal abrasions or ulcers
- Corneal infections
- Photophobia
- Decreased vision quality
- Conjunctivitis or keratoconjunctivitis
- Corneal scarring
- Impact on daily activities



References.

(3) <https://www.aao.org/eye-health/diseases/what-is-dry-eye>

What's the prevalence of dry eye?

16% of the adult population in **2020** expected to increase to **18.5%** by **2035**

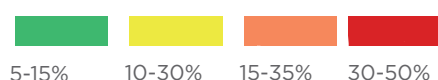
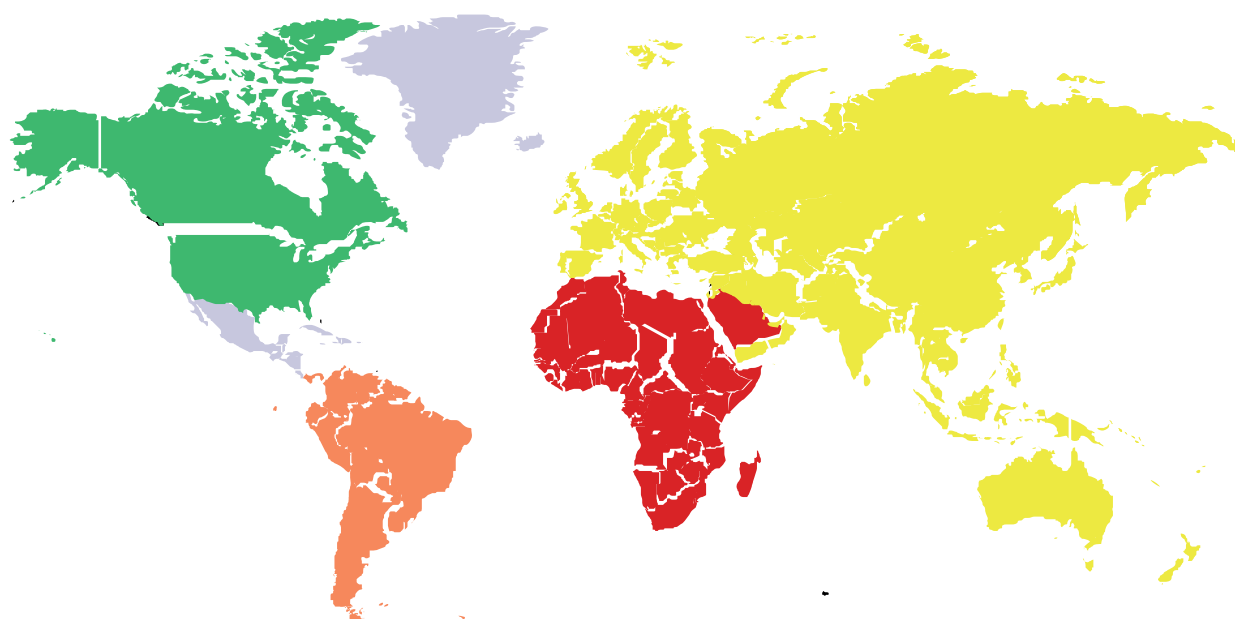
The prevalence varies by region, age, sex and other risk factors. For example, a study in Dubai found that the prevalence of DES was **62,6%** among the participants (4)



Nearly 1 in 5 people

We can conclude that lifestyles and environmental influences are key to the study of this syndrome and that the trend will be on the rise in the coming years, which means that eye care professionals must adapt to this change.

Prevalence of dry eye varies by region



The prevalence varies by region, age, sex, and other risk factors.

References.

- (4) <https://www.reviewofcontactlenses.com/article/rccl0218-the-global-burden-of-dry-eye> The prevalence, severity, and risk factors for dry eye disease in Dubai – a cross sectional study | BMC Ophthalmology | Full Text (biomedcentral.com)

VX 120+

Screening of dry eye

Very often, dry eye can be detected based on symptoms. Ophthalmologists also use a variety of tests including measuring tear production, special dyes, and evaluation of the constitution of the tear film in order to confirm the diagnosis. These tests serve to rule out other potential problems, such as conjunctivitis, that can produce the same symptoms.

A solution offered to eyecare professionals

Seeking consultation with an ophthalmologist is essential in order to receive the appropriate treatment for dry eye. However, opticians also play a vital role in prevention and referral. They can actively assist by screening for dry eye symptoms and referring their customers to an ophthalmologist when necessary (5).

Early screening for dry eye is crucial for effective management of the condition (6). To support opticians in providing this valuable service to their customers, Visionix has introduced a specialized module on its flagship multimodal screening device, the VX 120 + Dry Eye. This dedicated module scientifically validated (7) addresses the issue of dry eye, enabling opticians to conduct thorough screenings and identify potential cases, facilitating timely referrals to ophthalmologists for further evaluation and treatment.

Unmatched patient experience

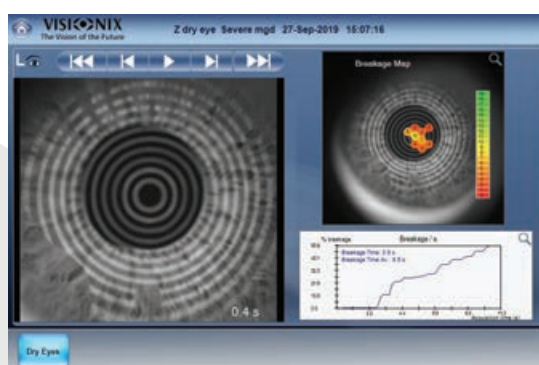
Extraordinary care does not go unnoticed and adds immense value to your services. Patients seek sophisticated care that they can trust. Lead the industry in providing the best care possible.



Multimodal platform, screening and monitoring of dry eye syndrome (DES)

- You can now screen and monitor eye pathologies including the dry eye syndrome.
- This device allows you to take care of the visual health of all your patients.
- Increase your quality of service by using a complete diagnostic tool.
- Perform a complete examination of the anterior segment of the eye.
- Obtain precise measurements and a visual health assessment of the customer

This new feature makes in-store screening simple, non-invasive, painless and fast. In just a few seconds, the device measures tear film break-up time (NITBUT) and tear meniscus height and documents the condition of the ocular adnexa. This technology can help opticians easily spot the first signs of dry eye in their customers (8).



References.

- (5) Blackie CA, Solomon JD, Scaffidi RC, Greiner JV, Lemp MA, Korb DR. The Relationship Between Dry Eye Symptoms and Lipid Layer Thickness. *Cornea*. 2009;28(7):789-794. doi: 10.1097/ICO.0b013e318195f883
- (6) Sheppard JD, Singh R, McClellan AJ, et al. Long-term Supplementation With n-6 and n-3 PUFAs Improves Moderate-to-Severe Keratoconjunctivitis Sicca: A Randomized Double-Blind Clinical Trial. *Cornea*. 2013;32(10):1297-1304. doi: 10.1097/ICO.0b013e318294fc85
- (7) Repeatability of non-invasive break-up time measures with a new automated dry eye platform in healthy eyes. Molina-Martín A, de Fez D, Piñero DP
- (8) Wolffsohn JS, Arita R, Chalmers R, et al. TFOS DEWS II Diagnostic Methodology report



INNOVATION TO UNLOCK YOUR POTENTIAL

VISIONIX INTERNATIONAL SAS

An der Pönt 62 - 40885 Ratingen - Deutschland
Tel. +49 (0) 2102-482770 - Fax +49 (0) 2102-48277 77
contact-de@visionix.com

www.visionix.com

Distributed in Canada by



125 Fleming Drive
Cambridge, ON N1T 2B8
info@clarionmedical.com
1-800-668-5236
www.clarionmedical.com