

Face masks, digital screens and winter weather are a triple threat for dry eyes

December 17 2021, by William Ngo



Credit: AI-generated image ([disclaimer](#))

How do your eyes feel right now? Whether you're sitting at home or in the office, you're likely reading this on a digital device, and your eyes may be hot, scratchy, tired and dry. If so, you may be part of a new phenomenon called dry eye triad (DET).

The science of eye dryness has advanced rapidly in recent years, as has general awareness of the condition. Researchers have faced two new variables as the pandemic set in: significant upticks in digital screen use and altered airflow from mask wearing. Colder weather is on the horizon in much of the world, adding a seasonal third punch to a growing problem.

The good news is that people do not need to suffer in silence. Once aware of the causes and steps to counter dryness, everyday comfort is usually within reach.

What is dry eye disease?

Eye doctors report seeing more patients with irritated, burning and stinging eyes. These symptoms are very common, and when persistent can be diagnosed as [dry eye disease](#), a condition affecting up to [75 percent of the population](#).

Severity varies, with most people having minor intermittent symptoms, but for others it can be [highly disruptive to work and daily life](#).

Dry eye disease has many causes, and effectively addressing it requires attention to multiple aspects of ocular health, general health and the environment.

Starting with the eye itself, the role of an eye care practitioner like me has been to ensure the [eyelids and eyelashes are healthy](#), that the [glands in the eyelids are producing oils](#), that there are [sufficient tears to keep eyes feeling moist and ensure that surface inflammation](#) is controlled. It is also important to [account for health conditions and medications that may contribute to drying the ocular surface](#).

Then the pandemic arrived, behaviors changed and dry eye triad began

to affect millions across the globe.

Factor 1: Impact of fall and winter

Your eyes are subject to the same environmental conditions as the rest of your body. This is more apparent during the fall and [winter](#). As surrounding air becomes less humid, dry eye symptoms increase. Comfortable levels of humidity typically range between 40 and 70 percent. During the coldest days of winter, humidity percentages can drop into the single digits. The [tear film evaporates much more quickly in these conditions](#), leaving the surface of the eye drier than normal.

Cooler weather comes hand-in-hand with increased use of indoor heating. That commonly dry heat accelerates tear film evaporation even further.

Several steps can help offset these drying situations. Using [humidifiers](#) increases moisture in the air and [air purifiers](#) may also help.

Simple management strategies guard against excessive tear film evaporation by improving the oily (lipid) outer layer of the tear film. Using [warm compresses](#) on the eyelids helps tear film oils spread more easily, and adding [lipid-based artificial tear drops](#) supplements the oil level.

It also helps to [drink more water](#) to maintain adequate levels of hydration.

A UNIQUELY UNCOMFORTABLE WORLD

THE DRY EYE TRIAD

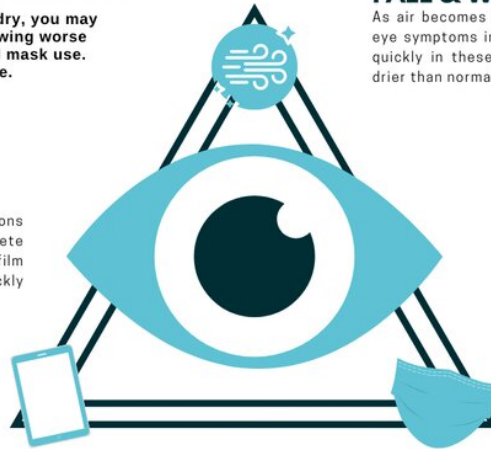
If your eyes feel hot, scratchy, tired, or dry, you may be part of a new phenomenon that's growing worse with colder weather, digital devices, and mask use. Speak with your eye doctor to learn more.

FACTOR #2

DIGITAL DEVICE USE

When viewing a screen, dryness sensations are driven by less frequent and incomplete blinks. With that reduced rate, the tear film evaporates and is not replaced quickly enough.

- Take more frequent breaks
- Know the 20-20-20 rule. Every 20 minutes, shift your gaze 20 feet away for 20 seconds
- Install a blink reminder app



FACTOR #1

FALL & WINTER AIR

As air becomes less humid and indoor heating ramps up, dry eye symptoms increase. The tear film evaporates much more quickly in these conditions, leaving the surface of the eye drier than normal.

- Use humidifiers and air purifiers
- Place warm compresses on your eyelids
- Consider lipid-based artificial tear drops
- Drink more water

FACTOR #3

MASK WEAR

Mask-Associated Dry Eye (MADE) is caused by exhaled air travelling out the top opening of a mask and over the surface of the eyes, making tears evaporate even faster.

- Determine which mask design best fits your face
- Use medical tape to seal off the top part of the mask



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The dry eye triad. Credit: William Ngo

Factor 2: Increased digital device use

The COVID-19 pandemic has forced many people to work and study remotely from home, spending more time on digital devices. When viewing a screen, dryness sensations are driven by a change in blinking patterns. Blinks are less frequent and not as full and complete.

The natural mechanism of blinking is important to distribute a fresh layer of tears over the surface of the eye. With a reduced blink rate, the tear film evaporates and is not replaced quickly enough, leading to increased irritation and discomfort.

The most straightforward advice is to take more frequent breaks. The "20-20-20 rule" (every 20 minutes, look at something 20 feet away for

20 seconds) helps manage eye strain when working on digital devices. There are even [programs and apps](#) that remind you to blink more frequently and more fully.

Factor 3: Mask wear continues

With indoor mask-wearing still being mandated or recommended to reduce the spread of COVID-19, it has also resulted in some people noticing an increase in dry eye sensations. Termed mask-associated dry eye (MADE), it is caused by exhaled air traveling out the top opening of the mask and over the surface of the eyes, making [tears evaporate even faster](#).

[The remedy](#) is similar to preventing glasses from fogging with mask wear: use medical tape to "seal off" the top part of the mask to prevent airflow there.

Managing dry eye triad

With winter drawing closer, plus increased digital device use and mask wearing, the dry eye triad's triple-layered threat to the stability of your tear film is real. Thankfully, in most cases, that does not have to be debilitating.

Begin by having a conversation with your eye care provider, who can help you implement the steps I've mentioned to make sure your eyes are lubricated, well-rested and not subjected to low humidity and evaporative airflow conditions.

More intense eye dryness may well benefit from tailored treatment. Your optometrist or ophthalmologist may recommend a specific regimen or refer you to a dry eye speciality clinic. Several [new pharmaceuticals and](#)

[medical devices](#) are putting relief in reach for even severe cases.

The most important advice of all, though, is not to dismiss dry eye altogether. The condition is real, more prevalent than ever and can be addressed with a combination of education, behaviors and therapies. Understanding your options will put you on a path to comfortable, healthy eyes not only during the cold weather months, but year-round.

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