

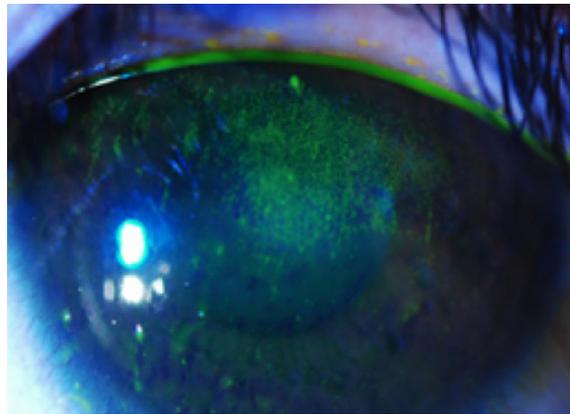
Dry eye's impact on patients' ability to read

Dry eye patients who complain of trouble reading for long periods of time have study results to back up their complaints, according to Esen Akpek, MD. Study results¹ published in *Optometry and Vision Science* indicate that dry eye can slow a person's reading speed by an average of 30 words per minute and can make it difficult to read for more than about 30 minutes, Dr. Akpek said.

Many dry eye patients who come in complaining of redness, foreign body sensation, and more often also mention their reading. "If you check their vision, they have 20/20, but they say they can't read and can't drive," she said, adding the length of the task can be an important factor. When asked to write a check, for example, typically patients have no problem, but if you ask them to read a chapter for 30 minutes, it's difficult.

Studying patient complaints

"[W]hat patients were saying is they were unable to sustain the vision during prolonged visual functioning," Dr. Akpek said. "We thought the currently available reading tests were not long enough to stress the ocular surface to actually measure the reduction in their functioning."



Slit lamp appearance of punctate epithelial erosions stained with fluorescein in a patient with aqueous tear deficiency, highlighting the irregularity of the corneal surface

Source: Esen Akpek, MD

Investigators launched a study of 155 dry eye patients over age 50 as well as 31 controls. They adapted a 30-minute sustained reading test originally designed by Pradeep Yammanuru Ramulu, MD, associate professor of ophthalmology at Wilmer Eye Institute, for use in his glaucoma patients. "We noted that patients who had clinically significant dry eye, where we could measure the dryness, had a reduction in their reading speed, particularly closer to the end of the 30-minute reading period," she said, noting that after 30 minutes, those with dry eye could only read 240 words per minute versus 272 words per minute for controls. However, participating in an out loud reading test for a short duration did not measure any difference, Dr. Akpek said.

The Ocular Surface Disease Index (OSDI) questionnaire, which has three subsections including one linked to vision-related functioning, also showed the impact of dry eye. "We found that the vision-related OSDI subscore was independently associated with slow reading," Dr. Akpek said.

In addition, investigators found a link between reading speed and dry eye-related corneal staining with the ocular staining score 0- to 6-point scoring system. "Each one-point increase in the corneal staining score is a 10-word per minute decrease in the reading speed," Dr. Akpek said. "This was the first time we were able to show a correlation between a measurable impact in function due to dry eye and a measurable clinical finding."

Newfound correlations

The prevailing wisdom has been that signs and symptoms don't correlate when it comes to dry eye. In fact, they do correlate, Dr. Akpek stressed. "If a patient says their vision is blurred, check it with the OSDI," she said. "You get the vision-related OSDI and the OSDI subscore; that correlates with the decrease in their reading speed and that correlates inversely with their corneal staining."

Patients' complaints can be checked. "We just have to know what to look for," Dr. Akpek said. "They are not saying they can't see the (Snellen)

by Maxine Lipner
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Reference

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Bird's eye view of diabetes

More than 400 million individuals worldwide suffer from diabetes, which remains a complex disease with a relatively high disease burden. The years of life lost from the disease, its complications, comorbidities, and treatment side effects are roughly 10 years in people with type 1 and 3 years in type 2 diabetes, despite state-of-the-art care. In a presentation by Coen D.A. Stehouwer, MD, at the 36th Congress of the European Society of Cataract and Refractive Surgeons, a bird's eye view of diabetes helped update ophthalmologists on the current progress in diabetes treatment.

"Diabetes is a very prevalent disease, with both type 1 and type 2 increasing, owing in part to the increasing patient age. It is still a disease for which we have to improve outcomes," Dr. Stehouwer said. "The years of life lost and the overall prognosis very much depend on the age of onset and risk factor control. There are important recent developments, such as technologies applied mainly in type 1 diabetes and novel treatments, notably GLP-1 agonists and SGLT-2 inhibitors, applied mostly in type 2, that do appear to improve the prognosis. An important caveat, however, is their price and the fact that their true long-term safety has not been established," he said.

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chart. What they are saying is they can't read a book. So if the practitioner evaluates the reading function, they will see that the patient is right and they cannot read as fast."

One aspect not included in the study is the fact that patients tend to get fatigued. "We don't know the reason for the fatigue. It might be frequent blinking, it might be blurring of vision," Dr. Akpek said.

For these patients, they need to keep in mind that they can't read all day. In cases where someone works at a computer all day, they need to take breaks to periodically put drops in and rest their eyes, Dr. Akpek noted. "Whenever a patient complains of vision difficulties, the tear film has to be examined," she said. For example, a patient

Dr. Stehouwer explained that even patients with the usual risk factors and less severe classic complications have a considerably low quality of life that is often associated with symptoms such as depression, cognitive decline, heart failure, and shortness of breath, despite receiving the best possible care. Living with diabetes is complicated by cardiovascular disease, microvascular complications, weight gain, and hypoglycemia, among many other serious side effects, which lead to considerable distress among individuals and cause both personal and societal expense.

Toll of diabetes

According to the Swedish National Diabetes Register, the average number of life years lost to individuals with type 1 diabetes is 10 years and 17 years in those with childhood onset, despite the improvement in the available therapeutic options.¹ This number is lower in type 2 diabetes, between 2 and 5 years, and largely dependent upon the age of onset.²

A recent study that analyzed the effects of risk factors such as HbA1c, blood pressure, cholesterol, smoking, and albuminuria demonstrated increased mortality with a higher number of risk factors per patient, as well as a graded increase in

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with diabetes may have macular edema, but they may also have a bad case of dry eyes, she pointed out, adding that improving just the dry eye may enhance the quality of their vision.

Dr. Akpek hopes the study leaves practitioners with the understanding that what patients say is true: They are unable to read as fast as normal. Importantly, investigators also found a clinically measurable parameter, in the form of corneal staining that correlates with blurring of vision, and this can also be tracked by the vision subsection of the OSDI. "This is revolutionary," Dr. Akpek said. "It's wrong to say signs and symptoms don't correlate. We just have to know how to look." ●