



# Impact of the Digital World on Eye Health

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**W**e, as ophthalmologists have seen a drastic surge in patients in the last few years, especially in the post-COVID era, with complaints of Digital Eye strain and digital fatigue, also known as “Computer vision” syndrome.

It is now considered the most frequent ocular condition that affects all age groups due to the prolonged usage of digital devices. Though it is not known to cause any permanent eye damage, the symptoms impact the patient’s quality of life, including a decline in work performance, both at a personal and professional level.

**Computer Vision Syndrome (CVS)** can be caused by a variety of factors, including-

1. Pre-existing/ unconnected refractive error
2. Abnormal binocular interaction causing Asthenopia & Eye muscle fatigue.
3. Accommodation abnormalities.
4. Dry eye or abnormal ocular surface.
5. Sub-optimal properties and qualities of the digital devices being used.

## ARTICLE INFO

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### Dates:

Published: 30-12-2024

### Keywords:

Computer Vision Syndrome, Digital fatigue, Dry eye syndrome, Eye Health, Eye strain.

### How to Cite:

Mittal J. Impact of the Digital World on Eye Health. *Journal of Comprehensive Clinical Practice*. 2024;18(2):80-81

## What causes Computer Vision Syndrome?

Extreme use of digital devices, with continuous screen usage for more than two hours at a stretch, is enough to trigger the symptoms. The longer the patient stares at the screen without proper blinking, the more likely he is to develop digital Eye fatigue symptoms.

*Main reasons behind digital screens causing eye strain are-*

1. Constant focus and Refocus to see the fine print made up of pixels or tiny dots.
2. Low contrast levels between the letters on the screen and their background.
3. Inadequate or incomplete blinking which causes insufficient lubrication of the ocular surface.

*Prominent symptoms of computer vision syndrome include-*

1. Eye discomfort- complaints of dryness, watering, itching, burning, or foreign body sensation.
2. Blurring of vision which may fluctuate.
3. Increase sensitivity to the bright lights.
4. Headache.
5. Posture-related symptoms, such as backache, neck, pain etc.

The diagnosis of CVS is made by a careful and detailed history and a comprehensive ocular examination often through a questionnaire/ dry eye questionnaire asking for information such as-

1. The amount of time the patient spends using the digital device
  2. Patient's work environment and his/her posture.
  3. Any history of pre-existing ocular surface disorder or dry eye treatment.
  4. Any history of medication being used in the eye.
  5. Any history of eye disease or ocular surgery.
  6. Any history of contact lens usage/ spectacle usage
2. Vision correction by proper refraction.
  3. Changing the patient's routine and regulating number of hours on the digital device.
  4. Adjusting patient's posture and work environment with adequate background lighting and humidifier in place.
  5. Patient counselling to follow the 20-20-20 rule for Computer vision syndrome
  6. Use of antiglare filters or glasses while working on computer screens.

## **MANAGEMENT OF COMPUTER VISION SYNDROME INVOLVES-**

1. Managing the dry eye with artificial tear substitutes.

To summarise, computers and gadgets as digital devices have made life easy for everyone in the current digital scenario, but a special emphasis should be made on raising awareness of Computer vision syndrome and the potential risk of Dry eye syndrome (DES) among the general population so that their quality of life and work performance does not get affected in the long run.