# What is Computer Vision Syndrome?

Computers are being used for both work and play. Prolonged staring at the computer screen results in eyestrain related to usage of computer. These groups of visual symptoms that computer users may experience are referred to as Computer Vision Syndrome or CVS as it is being called now.

There are many common vision symptoms related to computer usage. These symptoms may include headaches, eyestrain, burning or tired eyes, blurred vision, overall, fatigue, neck or shoulder pain, and loss of focus or dry eyes. Other well-known disorders due to computer usage are of the neck, arms or back.  Most people do not associate their eye symptoms with the time they spend looking at their computer screens and assume that their headaches are form job stress, or that tired eyes an expected part of their jobs.

When a near object is to be seen the following occur, the eyes come together (Convergence), the lens charges shape to focus to the near object (Accommodate) and point downward (Depression). Now what is convergence and accommodation? Convergence is the mechanism by which the gazes of the two eyes coincide, but the elevated viewing angle on a computer screen disrupts the normal relationship of convergence and depression of visual gaze. In a horizontal visual gaze, the eyes are normally parallel for distance fixation. Hence, the eyes must remain converged in the elevated position, which can lead to discomfort. Accommodation is the process by which we are able to focus the far and near object by control of the lens in the eye. The ciliary body consists of the supports called zonules attached to the lens, which control the focusing of the lens. This is a reflex process of which we are unaware of in our daily life.

The main cause of visual discomfort has to do with the computer image itself. Pixels (picture elements) lack crisp edge definition, even on high-resolution monitors this results in the focus drifting out to the resting point, then moving back to the plane of the screen. When looking at a computer monitor the eyes focus. Over a period with this accommodative effort, the ciliary body becomes fatigued and begins to cause CVS symptoms. Increased flicker and accentuates the fatigue. Most of these conditions are treatable and is a common cause of headache in eye clinics. Eye examination consists of information on the work place the number of hours spent in front of the screen.

Computer vision syndrome is preventable with proper vision correction for near vision and distance vision, background illumination and viewing angle of the screen. The center of the screen should be 8 to 10 cms below the eyes. When CVS is diagnosed a set of simple eye exercises or orthoptic exercise to improve the working of the eye muscles and correction of basic work place related problems improve the condition and prevent the recurrence. Professionals working with a computer screen should have a complete eye examination every year.

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