Computer Vision Syndrome

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A K A
Monitor fatigue

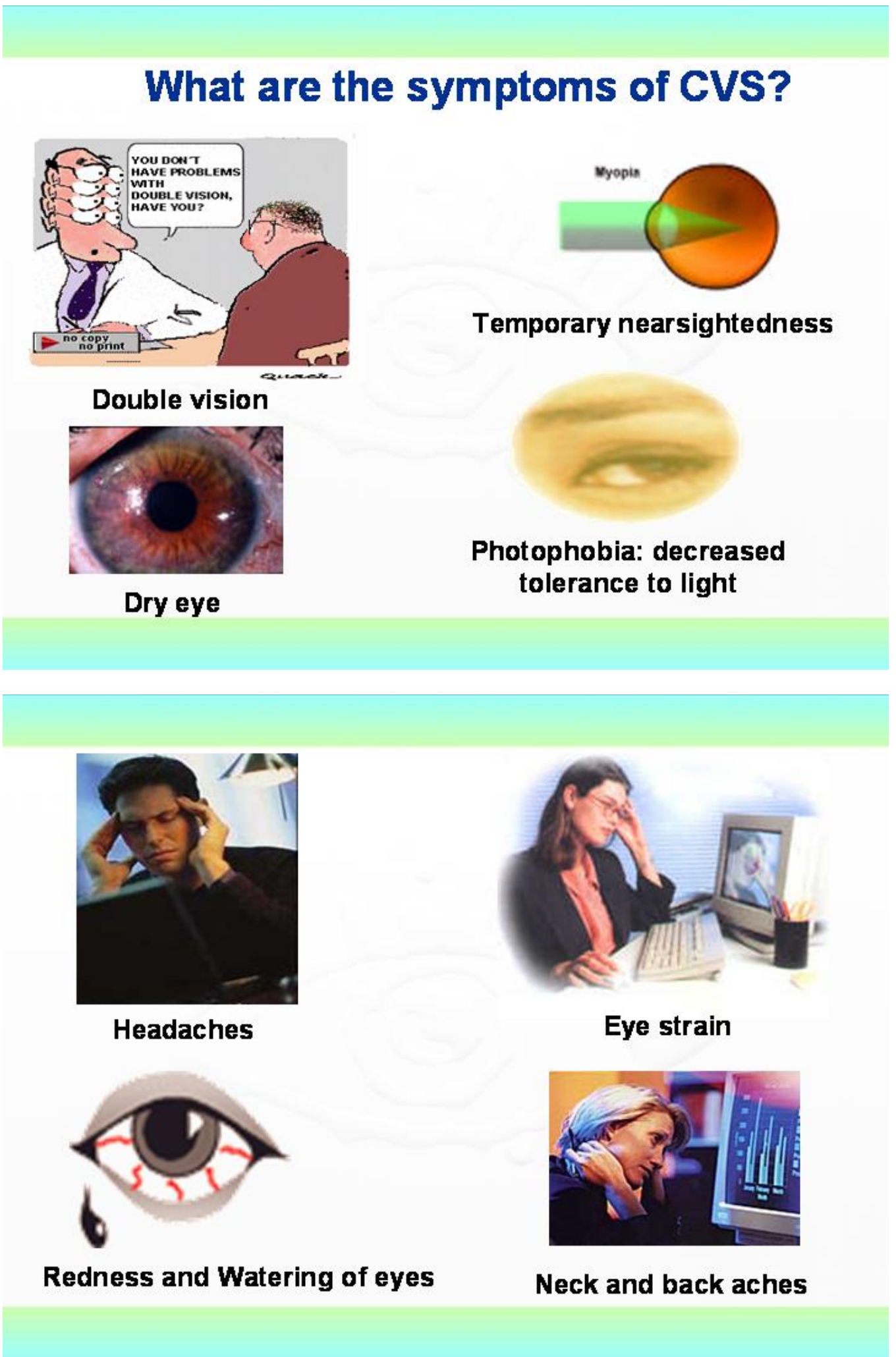
What is Computer Vision Syndrome (CVS)?

Computer Vision Syndrome (CVS) is the general term used to describe a variety of vision related symptoms that may be aggravated by regular use of a computer for two or more hours a day.

Impact of CVS

CVS affects mental and physical well-being and impacts productivity

What are the symptoms of CVS?



What causes these symptoms?

Characters (pixels) on computer screen do not have well defined edges. They are brightest at the center and diminish in intensity towards the edges.
This makes it very difficult for eyes to maintain focus.
Extensive focusing does not give much opportunity to the eye muscles to move and this leads to eye strain, burning, tired - eyes feeling.

Other factors which cause CVS

Computer users have a very fixed posture.
Constant gazing at a near distance at the monitor (which leads to convergence fatigue).
The upper body remains fixed for very long period of time.
The eye muscles do not get much opportunity to move.
Uncorrected visual defects

CRT emissions

The computer monitor radiates ionizing and non-ionizing radiations; both in the visible and invisible spectrum

The emissions in the UV and EMF (electromagnetic field) spectrum are not filtered to a significant extent by the glass screen of the monitor

Concerns have been raised due to the dermo-carcinogenic effect and cataractogenic effect of UV radiations and the effect on behavioral changes due to EMF

Most of the recent studies indicate the amount of UV-A radiations are well within 0.5% to 10% of the permissible occupational exposure limits

There is no UV-B or UV-C radiation emitted by monitors
EMF - VLF and ELF (very low and extremely low frequency) radiations are similarly in the <10% norms.

Thus, CRT emissions are of no direct significance to the health of the operator (skin, eye, psyche)

Other factors

Lack of image clarity
Glare from reflections and lights

Infrequent blinking

Normally a person blinks 15 times/min, but while working on a computer, the blink rate comes down to 5 times /min because of continuous staring at the screen.
Blinking is critically important for spreading of tears to form an even film on the eye surface and also in refreshing this tear film.
Thus in the absence of adequate blinking, eyes become dry and irritated.

How can a person find out whether he is at a risk for CVS?

According to AOA (American Optometric Association), anyone who exceeds two hours of computer use a day is at a risk for CVS.

What can be done to minimize CVS?

To begin, anyone who suspects CVS, should have a thorough eye exam by an ophthalmologist.
Apart from this, a few additional steps can help reduce CVS
Blink more often
omputer users should make a conscious effort to blink more often:
They should try out the suggested formula
20: 20: 20
Every 20 mins: for 20 seconds: blink 20 times
OR
Adjusting height of the seat
Adjust the height of the desk or chair so that the middle of the computer screen is about 20 degrees below eye level.

Screen distance

The screen should be at a distance of 16-30 inches from the eyes

Avoid air drafts

Also avoid sitting in front of an airconditioner facing its air draft while working on a computer.

Reduce glare

Direct the overhead lights away from computer screens

Position your monitor so that all windows are to the side rather than to the back or front.

Adjust window blinds so that sunlight is away from screen and your eyes.

Install an anti-glare optically coated glass filter on the computer screen

Take breaks

Computer users can reduce fatigue by taking breaks from work and can benefit from taking a five minutes break for every 30 minutes of work.

Use lubricating eye drops

Lubricating eye drops are meant to provide moisturizing relief to your eyes, which have become dry and irritated by working for long hours on the computer.
Lubricating eye drops help in soothing the eyes and relieving irritation, redness & the eyestrain.
Lubricating eye drops can be used as often as you want, especially the newer ones, without harmful preservatives, which are safe to the eye enabling their frequent use.