

# Office Ergonomics

## Office Ergonomics - Computer Glasses

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## What are computer glasses?

Computer glasses are prescription glasses that are designed to wear when doing computer work. They allow you to focus your eyes on a computer screen, which is farther away than reading material is normally held. There are other activities such as for example playing piano (piano glasses) or shooting (shooting glasses) that also require a similar custom fitting. These specialty glasses called task-specific are designed to meet the visual needs of the activity.

Generally speaking, bifocals are not necessarily designed for computer work. They tend to force the wearer to tilt the head back in order to focus on the screen while looking through the lower segment of the bifocal lenses. Many people will either lean in or lean backwards to find the right spot in their lenses where they can see best. Such a forced position can cause neck and shoulder pain and it can also cause arm and low back pain.

Depending on the individual's vision and type of work, there are several options while selecting computer-specific glasses, such as:

### Monofocal

Monofocal or single-vision glasses designed for computer work will provide the appropriate optical correction for the working distance between the screen and the computer user's eyes. This option allows users to view the whole screen with a minimum up-and-down head movement.

The disadvantage of this option is that both distant objects and reading materials that are closer than the computer screen will appear blurry.

## Bifocal

Bifocal glasses can be prescribed so that the upper segment is set up for the screen distance and a lower segment for work that is closer than the screen (reading distance).

The disadvantage of this option is that objects farther away than the screen are blurry. Bifocal lenses also distort images of objects in the peripheral zone of vision. Segmented lenses like bifocals and those mentioned below have a smaller area for viewing the screen. This means more up-and-down head movement may be required to view all parts of the screen.

## Trifocal

Trifocal glasses have lenses that combine a segment for far vision, another for near vision, and a third one for vision at the screen distance (a distance between the far and near segments).

As with bifocal lenses, there may be limitation to the viewing areas.

## Progressive Addition Lenses (PAL)

Progressive Addition Lenses (PAL) offer continuity of vision by eliminating lines between segments of different focal power. However, there may be limited areas of focus due to the line-free design.

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## Which kind of computer glasses are the best?

There is no such a thing as one type of computer glasses that fits all or is the best for everybody. Visual ability and personal preferences of a computer operator, the type of work, the distance between the computer user's eyes and the monitor, lighting design in any given workplace are factors that should be taken into consideration while selecting computer glasses.

Each of the options listed above can be beneficial for computer users, if properly fitted and re-corrected as needed. However, it is very important that the selection of computer glasses is made based on consultation with an eye specialist (optometrist and ophthalmologist) who is knowledgeable in problems specific to the regular use of a computer.

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## Why do you need frequent eye examinations?

Eye specialists recommend that adults have their eyes examined once every one or two years. If you have not had an examination in the previous two years and are having increasing difficulty in reading, having blurred vision or other eye-related symptoms, or have a family history of eye or vision problems, it is probably time for an eye examination.

Working with a computer on a regular basis (a few hours a day) is very demanding on the computer operators' eyes. Eye specialists report a growing number of patients who relate their vision problems or complaints to their use of computers. The term computer vision syndrome (CVS) or digital eye strain has been coined to refer to computer-related and device related (tablet, cell phone, e-reader) vision problems such as eyestrain, headaches, blurred vision, dry eyes, and neck and shoulder pain.

Ergonomically sound [computer workstations](#), favorable work-rest schedules, properly designed [visual environment](#) alleviate eyestrain (visual problems) among computer operators. However, in many cases such measures alone cannot be effective if the computer operator's vision is not corrected.

Because of the potential extra stress on the eyes, eye specialists may suggest more frequent examinations for all who do computer work on a daily basis. Consult with your eye specialist for the recommended examination schedule for you.

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## Why might young people with perfect vision need glasses for computer work?

Computer work involves focusing the eyes at close distances. Monitors are often placed [too close](#) (closer than the eye's default accommodation distance) to the operator because of space constraints in offices. People of all ages may experience symptoms of computer vision syndrome, and may require computer glasses to reduce these symptoms. No matter your age, you should talk with your eye specialist about the kind of work you do, how much time you work on a computer, how the work station is set up, and so on.

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## Why do mature people need their vision corrected?

Starting around the age of forty or so, the ability to focus on closer objects decreases - books and newspapers have to be held farther away to bring them into clear focus. Holding object away from the body is probably the first sign of the condition called presbyopia (from Greek words meaning old man's eyes). Another sign of presbyopia is that people's ability to refocus quickly between near and far objects decreases.

Most people over forty require the vision correction for reading or performing other near tasks. The most common correction that allows for near vision without compromising far vision is a reading or bifocal lens.

However, the conventional reading or bifocal correction that gives visual comfort for a presbyopic person is not necessarily the right correction as would be recommended for working with a computer. As mentioned before, wearing bifocal glasses often forces a computer user to tilt the head back to focus on the screen through the lower part of the bifocal lenses. Such a forced position can cause neck, shoulder and back pain. In some people it can also result in localized tingling or 'pins and needles' sensations in the hands, wrists, or forearms.

## What are some common computer-related eye problems and solutions?

Complaint	Problem	Treatment
<b>Blurred vision</b>	incorrect glasses/spectacles or contact lens prescription	eye examination
	decreased blink frequency	increase a blink rate
	an accommodative spasm	gaze away from the monitor for 20 seconds, 6 metres (20 feet) away, every 15-20 minutes
	tear film abnormality	artificial tear drops
<b>Aching, burning and stinging eyes</b>	HVAC air currents on work station	deflectors
	lid or eye inflammation	eye examination
	improper glasses or contact lens prescription	eye examination
<b>Headache</b>	poor monitor resolution	large (not over 19"), high quality monitor or increase font size
	cluttered viewing	clean it up
<b>Neck, shoulder and back pain</b>	poor workstation ergonomics	improve posture
	insufficient back support	improve chair
	poor posture - leaning forward or tilting head back to see / focus on the screen	eye examination
	poor posture	improve posture and chair

Fact sheet last revised: 2017-07-12

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