



TOP COMPLIANCE (Pty) Ltd

Your Business' Safety Is Our Concern

QSE B-BBEE - Level Four

www.topcompliance.co.za

February 2021 NEWSLETTER

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What is computer Vision Syndrome (CVS) screen fatigue?

Computer vision syndrome is a new problem that has emerged in this century following increase usage of computer both at home and at work.

Over the past 20 years, there has been a great advancement in the information technology. The use of computer in every workplace has made life easier and increase output tremendously. Computer has become almost an indispensable piece of equipment both at office and at home. The introduction of computer no doubts has revolutionised and benefited the society; however, it does associate with health-related problems. Musculoskeletal related complaints such as tingling and numbness of the fingers, neck stiffness and backache are well known to be associated with prolonged usage of computer. More recently, visual and ocular problems are reported as the most frequently occurring health problems among computer users. In Malaysia, for example, a study conducted by the by National Institute of Occupational Safety and Health (NIOSH) indicated 61.4% of workers who used computers in their workplace suffered from lower back pain, shoulder and neck pain, while 70.6% of them complain of eyestrain.

Eye problems caused by computer use fall under the heading computer vision syndrome (CVS). It is not one specific problem. Instead, it includes a whole range of eye strain and discomfort. Research shows that between 50% and 90% of people who work at a computer screen have at least some symptoms.

Working adults are not the only ones affected. Kids who stare at tablets or use computers during the day at school can have issues, too, especially if the lighting and their posture are less than ideal.

How do computers affect our vision?

CVS is like other repetitive motion injuries you might get at work. It happens because your eyes follow the same path over and over. And it can get worse the longer you continue the movement.

When you work at a computer, your eyes must focus and refocus all the time. They move back and forth as you read. You may have to look down at papers and then back up to type. Your eyes react to images constantly moving and changing, shifting focus, sending rapidly varying images to the brain. All these jobs require a lot of effort from your eye muscles. And to make things worse, unlike a book or piece of paper, the screen adds contrast, flicker, and glare. What is more, it is proven that we blink far less frequently when using a computer, which causes the eyes to dry out and blur your vision periodically while working.

You are more likely to have problems if you already have eye trouble, if you need glasses but do not have them, or if you wear the wrong prescription for computer use.

Computer work gets harder as you age and the natural lenses in your eyes become less flexible. Somewhere around age 40, your ability to focus on near and far objects will start to go away.

What symptoms can one experience CVS?

There is no proof that computer use causes any long-term damage to the eyes. But regular use can lead to eye strain and discomfort.

You may notice:

- Blurred vision
- Double vision
- Redness of the eyes
- Eye strain
- Tearing of the eyes
- Gritty sensation of eyes
- Burning eyes
- Double vision
- Dry, red eyes
- Eye irritation
- Headaches
- Neck or back pain

These symptoms are usually temporary and disappear at the end of the working day even though a minority of workers may experience continuity of symptoms after work. If no intervention is initiated, most of these symptoms will recur and worsen in the future and you could also have issues with your work performance.

The pathophysiology of CVS

The symptoms experienced in computer vision syndrome are caused by three potential mechanisms: (i) Extra ocular mechanism, (ii) accommodative mechanism, (iii) ocular surface mechanism.

Extraocular mechanism causes musculoskeletal symptoms such as neck stiffness, pain, headache, backache and shoulder pain. These symptoms are well associated with improper placement of computer screen (poor ergonomics) which lead to muscle sprain.

Accommodative mechanism causes blurring of vision, double vision, presbyopia, myopia and slowness of focus change. In one study it was reported that a transient myopia was observed in 20% of computer users at the end of their work shift. Many people may have slight accommodative problem or binocular problems which do not usually cause symptoms when they are doing ordinary less strenuous visual task, but these problems worsen in prolonged period of computer usage.

Ocular surface mechanism causes symptoms such as dryness of the eyes, redness, gritty sensation and burning after extended period of computer usage. These symptoms may be multifactorial, among the common factors found to be related to dryness and redness of the eyes are cornea dryness, reduction in blink rate, increased surface of cornea exposure caused by horizontal gaze at the computer screen, reduction of tear production due to ageing process contact lens usage, medication such as antihistamines and systemic medical illnesses such as autoimmune connective tissue disease.

The visual demand while working with computers.

There is a difference in visual demand when one is viewing the display on the computer screen compared to reading a printed text. An image which is produced on the screen is made up of thousands of tiny spots or pixels which collectively form the image. The margin of the image or a word is usually not sharp and this is worsening if the image or word is formed by minimal pixels, or what is known as low resolution. As the

resolution goes down the image become poor in quality and the visual demand of a reader must be increased to appreciate well the wording or image. The contrast (intensity of the light) of the word to the background, the glare of the computer screen and the reflection from the glass screen are all important factors determining the amount of visual demand one must put to perceive the image well.

Refresh rate refers to the number of times (per minute) the computer screen is repainted to produce an image. When the refresh rate is too slow it causes a flickering screen. Studies have proven that a higher refresh rates is associated with less flickering thus decreases ocular symptoms and more user friendly. Extremely low refresh rates (high flickering) known to be associated with headache, fatigue, irritability and epileptic seizures. Many people are worried that the computer screen like most electrical appliances emits radiation. Numerous published studies have shown that there is no evidence to support any direct link between the radiation levels emitted and the worker's health problems. Similarly, there is no evidence that computer radiation contributes to significant cataract formation.

Preventing CVS

The most important approach in the management of computer vision syndrome is eliminating the causative factor leading to the symptoms. Many of the symptoms in computer vision syndrome can be prevented by proper strategies at the workplace.

1. **Cut the glare.** Change the lighting around you to reduce the effect on your computer screen. If light from a nearby window casts a glare, move your monitor and close the curtains or blinds. Ask your employer to install a dimmer switch for the overhead fixtures if they are too bright or buy a desk lamp with a moveable shade that casts light evenly over your desk. You can also add a glare filter to your monitor.
2. **Rearrange your desk.** The best position for your monitor is slightly below eye level, about 50 to 70cm away from your face. You should not have to stretch your neck or strain your eyes to see what is on the screen. Put a stand next to your monitor and place any printed materials you are working from on it. That way, you will not have to look up at the screen and back down at the desk while you type.
3. **Give your eyes a break.** Follow the 20-6-20 rule. Look away from the screen every 20 minutes or so and look at something around 6 meters away for about 20 seconds. Blink often to keep your eyes moist. If they feel dry, try some eye drops such as natural tears.
4. **Tweak your settings.** You do not have to live with the factory-installed pre-sets if you are uncomfortable. Adjust the brightness, contrast, and font size until you find what works best for you.
5. **Visit your optometrist regularly** for eye tests and to keep your prescription glasses up to date.
6. **Get your kids' eyes checked** too. Make sure any computers they use are set up at the right height and in the best light. Encourage them to take frequent breaks from the screen to give their eyes a rest.

Prevention remains the main strategy in managing of computer vision syndrome. Modification in the ergonomics of the working environment, patient education and proper eye care are important strategies in preventing computer vision syndrome.

<https://www.webmd.com/eye-health/computer-vision-syndrome#2>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4170366/>

Should you require further assistance or advice feel free to email us on info@topcompliance.co.za

Benefits of increased standing time while at work.

The WorkBuddy XL to improve your overall health and wellbeing while working.

You may have heard that sitting is the new smoking. While sitting or lying down for too long does increase your risk of chronic health problems, such as heart disease, diabetes and some cancers and it is even bad for your mental health.

The WorkBuddy XL is an affordable alternative to the expensive, electric standing desks. All the features and all the benefits, at a fraction of the price.

The benefits of the standing desks:

- Lowers your risk of weight gain due to burning more calories by standing in relation to sitting.
- Appear to reduce back pain by improving core strength and posture.
- Standing may lower your risk of heart disease with prolonged sedentary time thought to increase the risk.
- Choosing to stand rather than sit lowers blood sugar and cholesterol and keeps weight off which in turn again decreases your risk for heart disease.
- Prolonged sitting, even by people who exercise on a regular basis, also increases the risk for cancer. Standing up throughout the day gets your circulation moving and reduces inflammation and other markers that raise cancer risk.
- Help improve mood and energy levels.
- Standing even boost productivity while working.
- Standing while working helps strengthen your core muscles and leg, ankle, and foot muscles. It also helps improve your posture and balance.

Research has shown that sitting all day long is just bad for you. Humans were just not designed to sit all day long, yet this is what we do. It is recommended that people should work standing for a minimum of two hours per day with four hours being optimum.

The WorkBuddy XL will help you do just that. You can work seated at your desk and when you want to stand, simply lift the main workspace to an ergonomically correct height for you, and work standing.

Need convincing? Let us come to you and demonstrate the WorkBuddy XL.

Alternatively, visit <https://workbuddies.co.za/> or contact Erik on 083 442 0873 for more information.



Some of our training courses can be done through our virtual classroom.

Certain types of Risk Assessments and audits will be done by means of virtual site visits using various means of technology to virtually visit the site.

For more information please contact – info@topcompliance.co.za

<https://www.topcompliance.co.za/index.php/products>



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Courses offered by Top Compliance (Pty) Ltd

<https://www.topcompliance.co.za/index.php/skills-development-head/training-calendar>

SKILLS PROGRAMS - ONSITE TRAINING – HEALTH AND WELFARE SETA		Course duration
First Aid Level 1,2 & 3 - HW/SP/1601190		
US 119567	Perform basic life support and first aid procedures	5 days
US 120496	Provide risk-based primary emergency care/first aid in the workplace	
US 376480	Provide first aid as an advanced first responder	
First Aider - HW/SP/1202005		
US 119567	Perform basic life support and first aid procedures	5 days
US 120496	Provide risk-based primary emergency care/first aid in the workplace	
US 13915	Demonstrate knowledge and understanding of HIV/AIDS in a workplace, and its effects on a business sub-sector, own organisation and a specific workplace.	
First Aid (Basic) - HW/SP/150795		
US 119567	Perform basic life support and first aid procedures	4 days
US 9964	Apply health and safety to a work area	
Health, Safety and Fire Combination - HW/SP/1510179		

US 9964	Apply health and safety to a work area	5 days
US 119567	Perform basic life support and first aid procedures	
US 120331	Demonstrate knowledge pertaining to fires in working places	
Workplace SHE Rep - HW/SP/1510182		
US 9964	Apply health and safety to a work area	3 days
US 259639	Explain basic health and safety principles in and around the workplace	
First Aid and Safety Representative - HW/SP/1510183		
US 9964	Apply health and safety to a work area	4 days
US 119567	Perform basic life support and first aid procedures	
First Aid and Firefighting - HW/SP/1511239		
US 120496	Provide risk-based primary emergency care/first aid in the workplace	4 days
US 13961	Demonstrate knowledge and use of hand operated firefighting equipment	
Fire and Rescue Skills Programme - HW/SP/1604338		
US 252250	Apply firefighting techniques	4 days
US 119567	Perform basic life support and first aid procedures	
Emergency First Aider - HW/SP/1605377		
US 119567	Perform basic life support and first aid procedures	5 days
US 120496	Provide risk-based primary emergency care/first aid in the workplace	
Safety Management - HW/SP/1601159		
US 9964	Apply health and safety to a work area	3 days
US 259639	Explain basic health and safety principles in and around the workplace	
ONLINE VIRTUAL CLASSROOM		
Occupational Health and Safety Courses		
FREE overview of COVID-19		07h45 – 09h00
Safety representative course specific for COVID-19 in terms of the OHS Act and Regulation for Hazardous Biological Agents		07h45 – 11h00
OHS Act & SHERQ representative – Legal Liability		07h45 – 16h00
The Occupational Health and Safety Act & responsibilities of management – Legal Liability		07h45 – 16h00
Food facility health & safety course in terms of R364		07h45 – 14h00
Fire Fighting and Prevention Courses		
Basic firefighting		07h45 – 13h00
Basic firefighting with emergency action planning		07h45 – 15h00
First aid		
First aiders updated protocols for COVID-19 in terms of the OHS Act and Regulation for Hazardous Biological Agents		07h45 – 10h00
ONSITE TRAINING		
First Aid Courses:		Accreditation
First aid: Level 1	2 days	DoEL
First aid: Level 2	3 days	DoEL
First aid: Level 3	3 days	DoEL
First aid: Level 1 & 2	3 days	DoEL
First aid: Level 2 & 3	3 days	DoEL
First aid: Level 1, 2 & 3	5 days	DoEL
Child and infant CPR & choking	6 hours	
Adult CPR & choking	6 hours	

Adult CPR & choking and AED	1 day	
Occupational Health and Safety Courses		
OHS Act & SHERQ representative – Legal Liability	1 day	
The Occupational Health and Safety Act & responsibilities of management – Legal Liability	1 day	
Safety representative course specific for COVID-19 in terms of the OHS Act and Regulation for Hazardous Biological Agents	6 hours	
Food facility health & safety course in terms of R364	6 hours	
Fire Fighting and Prevention Courses		
Basic firefighting (Fire marshal)	6 hours	
Basic firefighting with emergency action planning (Fire & Evacuation marshal)	1 day	