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Providing a Healthy Eye Environment with Digital Devices

As many people move into working and learning from home, it is a prudent time to look at how to reduce eye strain caused by digital devices. Creating an environment that promotes and supports good vision is important to ensure good eye health, which, in turn, helps support good education.

Our eyes are most comfortable when focusing farther than 6 metres away. So viewing a computer screen, iPad or other hand held device, forces our eyes to work harder. This, combined with unnatural glare and lighting and a reduced blink rate, can lead to eye strain, red or tired eyes, irritation, blurred vision, double vision and headaches.

Most of us experience these symptoms at some stage after using digital devices for a period of time.

The following advice is designed to help reduce these symptoms for those whose eyes are healthy and are appropriately corrected with glasses or other visual aids if required. If you continue to experience any of these symptoms despite following these recommendations, you are advised to consult with your local optometrist. The current lockdown situation means optometrists must triage to only see people who require "critical care". However, many practices are providing telehealth consultations. If you are in any way concerned about your symptoms, call your local optometrist to see if they are able to do this for you. Or visit **GoodVisionForLife.com.au** and use the "Find an Optometrist" and "Services Provided" functions to find someone who can help.
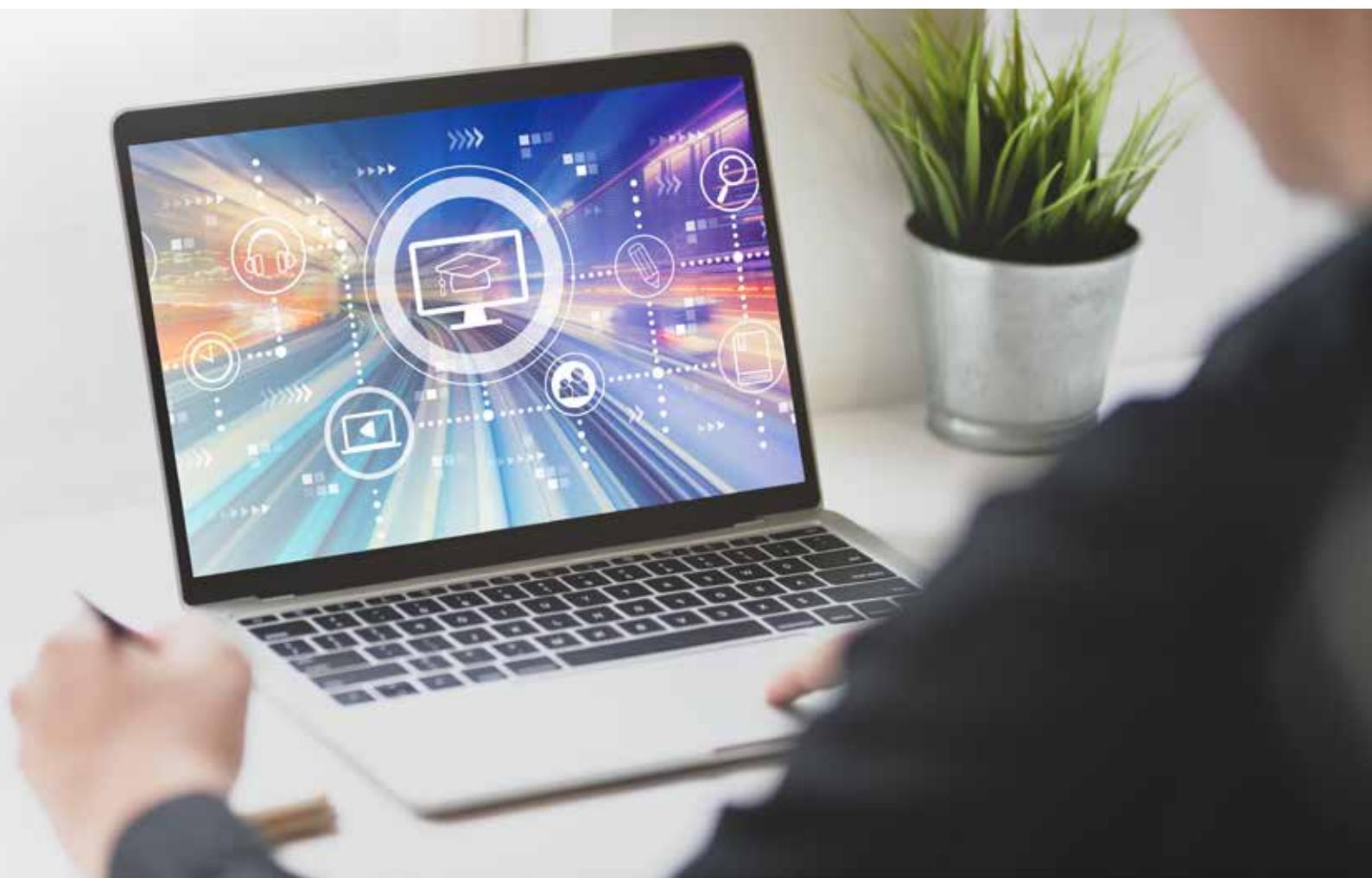
Tips for minimising eye strain when using digital devices

Screen set up: Ideally, a desk top monitor should be no closer to your eyes than your arm's length. For hand held devices, such as an iPad or a book, the minimum held distance should be the distance between your elbow and the second knuckle of your hand. Our eyes are not designed to turn inwards (converge) for long periods of time – the muscles holding the eyes in this position tire much faster than when they keep our eyes more parallel. Similarly our eyes do not comfortably turn up and in, so ensure the top of the computer screen is set at eye level so you are looking slightly down at the screen. We should also be sitting upright and looking down at our hand held digital devices, not lying on our backs or sides and looking up at them. This helps to keep our eyes at an equal distance to the screen. Have the computer screen at a small slant of 10-20 degrees. Ideally, use a stand to keep an iPad slanted at around 20-30 degrees, rather than lying it flat on the desk.

Posture: Once our screens are set up at the right height and distance, it is important to maintain good posture to keep this set up correct. At a desk, sit with your feet flat on the floor (or on a foot rest), with your legs at a 90 degree angle. When using a pen, try to hold it 2-3cm from the tip so you can see what you are writing or drawing without having to tilt your head or body sideways. A tilted work surface (about 20 degrees) can help here.

Text type: There is no hard and fast rule here, but choose a text type and size that allows you to comfortably read it without having to lean closer to the screen or strain your eyes. 14 point is optimal, 12 point will do.

Lighting/glare: It is least stressful for our vision when the room we are working in is evenly lit and the screen we are working on has a similar brightness to that room. Our pupils control the light that enters our eyes, but they also have a function in focusing. Our pupils constrict (become smaller) when we are focusing on near tasks, such as paperwork and computer work, as this helps our depth of focus. But if the room lighting is reduced, our pupils will dilate in order to let more light in. This then diminishes our eyes' ability to comfortably focus on close tasks, thereby causing eye strain and headaches. This is a critical point in reducing eye strain with digital devices. Too many people look at screens (including television) in inappropriately lit rooms.

Glare control is also important. Ideally, our screen in set at right angles to any window. Use a mirror on the screen to see if any light source is reflecting directly from the screen and adjust the screen position accordingly. If this is not possible, use a screen shield (or even a makeshift cardboard shield) to block the source from the screen.

Regular breaks: As previously mentioned, our eyes are most comfortable when focusing at distances farther than 6 metres away. We can't avoid near tasks in our studies and work, but we can take regular breaks. Follow the 20-20-20 rule – every 20 minutes, focus on an object 20 feet (6 metres) away for 20 seconds. Every couple of hours, go outside. There is now enough evidence-based data to indicate that the increasing growth of myopia (shortsightedness) in our community is in part due to a decline in "outdoor time". Spending time in natural outdoor sunlight is an important step in maintaining good eye health. Taking part in hand-eye activities that involve interacting with visual space at the same time also helps with the development of good depth perception.

Avoiding dry eye: Normally we blink about 15-20 times a minute. Blinking is critical in avoiding dry and irritated eyes. However, when we are concentrating and maintaining focus at a constant near distance, this blink rate can drop by as much as a half. Looking up regularly can help this. Particularly as we head into winter, and our heaters are turned on, dry eye will become a problem for many. Keep fluids up. A simple bowl of water in the room can help to maintain some humidity to the air. For those who wear contact lenses, consider using your glasses more often while using your computers at home.

Following these simple steps can help to minimize visual stress when using digital devices. And less visual stress can help us achieve more in our study and work life.

Leonie Turner
B.Sc.Optom. PGradCertOcTher.