Taking the strain

The global pandemic has been the catalyst for changes in the way we work. For many of us, spending more time on digital screens is the reality, coupled with hybrid working practices, which is leading to the development of eye problems for many, as optometrists **Debbie Young** and **Sarah Arnold** explain

The impact of COVID-19 has radically increased the time we spend looking at digital screens. According to a study for Vision Direct which polled 2000 people in Britain, the average time spent on digital screens is now more than 13 hours per day. Repetitive and prolonged computer screen viewing can lead to chronic physical and visual problems which, when left untreated, may lead to stress and anxiety.

Employers have a duty to ensure that the occupational health and safety requirements of their staff are met. The escalating reliance on technologies, coupled with less control over the work environment, has presented employers with new challenges. 'Eye-gonomics' is the missing agenda in outdated Display Screen Equipment risk assessments and looks to optimise occupational vision and structure work environments and practices to nurture sustainable eye comfort and visual function.

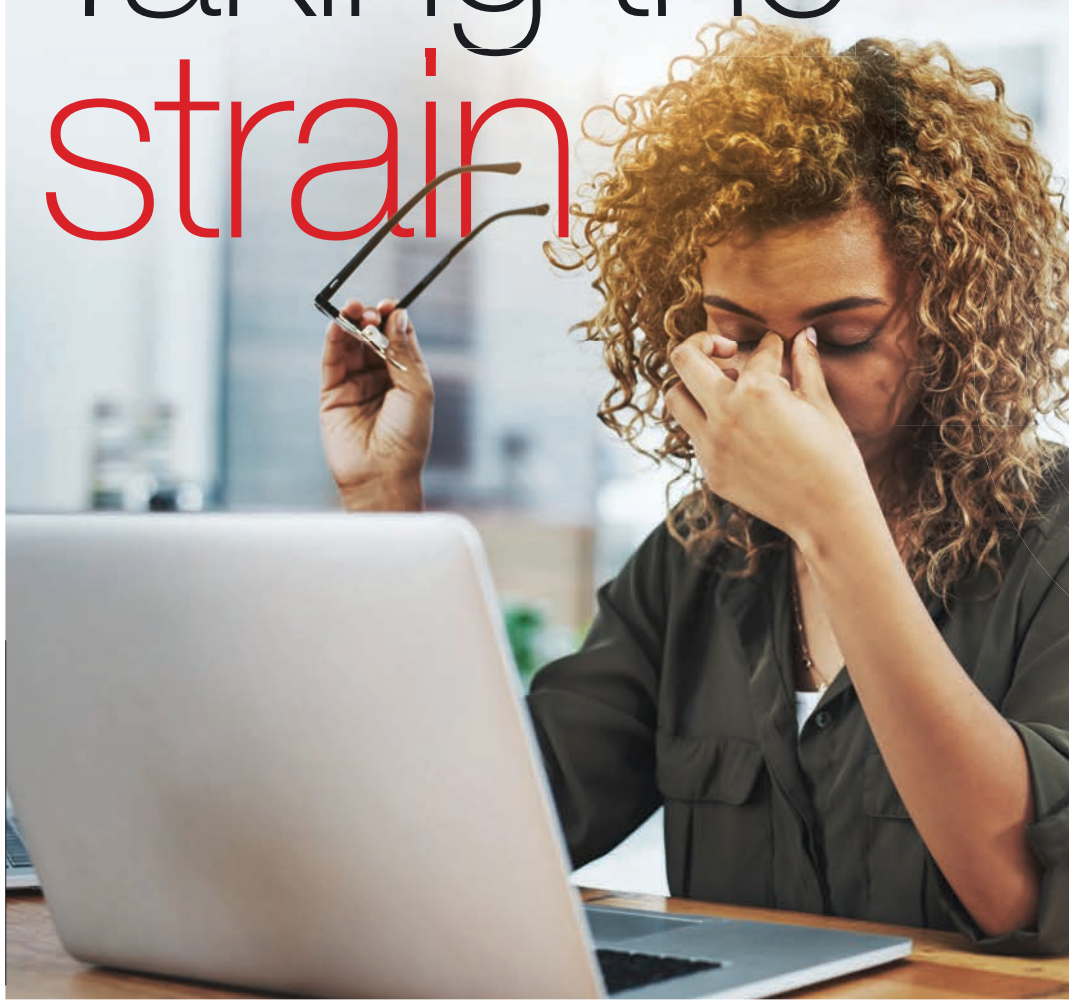
Christina Marriott, Chief Executive of the Royal Society for Public Health states, "Some form of home working is likely to continue for millions of people and we urge employers to take the necessary steps to ensure their staff can work from home as safely and healthily as possible."

Digital eye strain

Whilst excessive screen work is unlikely to lead to any permanent harm to vision, digital eye strain is now the most common computer-related repetitive strain injury among office workers, surpassing carpal tunnel syndrome and tendonitis. Digital eye strain, also known as computer vision syndrome, describes a group of eye and vision-related problems including dry eyes, tired eyes, headaches, blurred vision and is associated with musculoskeletal issues.

Spectacles must be fit for purpose. If the magnification power of the spectacle lenses is too strong, the wearer will intuitively lean forward to see their screen clearly, which can compromise their posture. Conversely, the opposite can occur. We instinctively position our eyes to optimise clear viewing; wherever your eyes look, your body will follow.

Varifocal wearers are prone to neck and shoulder problems when working on computer screens. This is because they lift their chin to enable clear screen vision through a very limited area within their lens. With digital screen time rising, it's essential that both the correct prescription and lens type are worn to mitigate musculoskeletal neck and shoulder ache. Prolonged sub-optimal working postures can lead to a variety of problems, culminating for some in serious, debilitating long-term injuries.

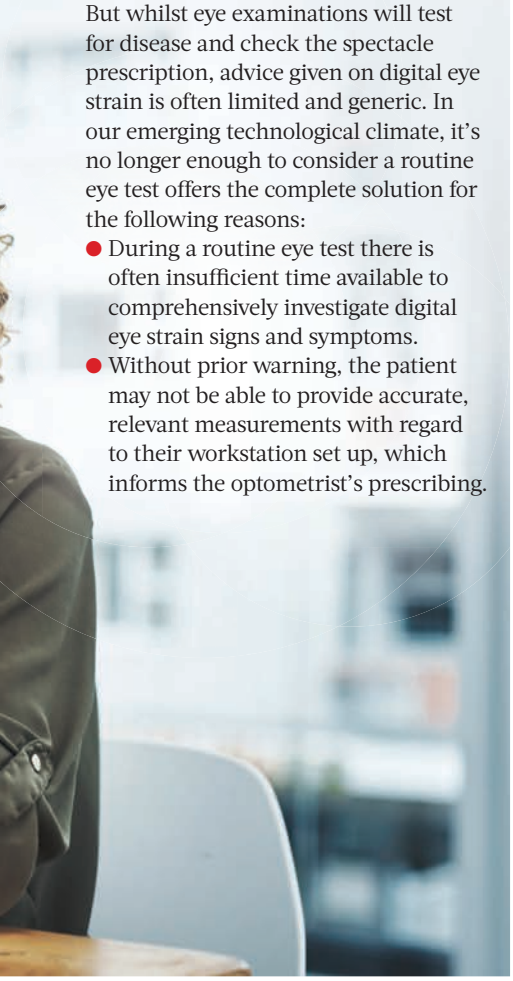


IMAGES: ISTOCK

Digital eye strain increases proportionally with screen time with reports estimating that up to 90% of screen users may experience symptoms. In July 2020, the College of Optometrists reported that millions of people could be suffering from a range of eye problems dubbed 'coronavision'. The number of patients coming into our optometric practices experiencing symptoms of digital eye strain has increased by 30% since lockdown.

Solutions to overcome digital eye strain require a holistic approach. One size does not fit all and multiple factors must be taken into account for each individual. Most symptoms can be resolved by making specific 'eye friendly' physical, environmental and behavioural changes which will include introducing management strategies to alleviate dry eyes, tired eyes and headaches, coupled with having regular eye examinations. But whilst eye examinations will test for disease and check the spectacle prescription, advice given on digital eye strain is often limited and generic. In our emerging technological climate, it's no longer enough to consider a routine eye test offers the complete solution for the following reasons:

- During a routine eye test there is often insufficient time available to comprehensively investigate digital eye strain signs and symptoms.
- Without prior warning, the patient may not be able to provide accurate, relevant measurements with regard to their workstation set up, which informs the optometrist's prescribing.
- The professional advice received is verbal. Research shows that patients retain only 14% of verbal information in a clinical setting whereas, if information is in an illustrated written format, 80% is retained.



Minimising risk

The Health & Safety at Work Act 1974, makes it clear it's the employer's duty "to manage and reduce the risks which employees are exposed to when they carry out their work". In May 2020, the Health & Safety Executive updated their guidance stating, "Employers have the same health and safety responsibilities for employees working from home as for any other employees. If you have staff working at home, you must still manage the risks to their health from Display Screen Equipment (DSE)." Employees also have a duty to comply with the instructions and systems that their employers put in place to manage their risks. Providing employees with tailored, evidenced-based, self-help strategies and best practices will go a long way to minimising potential risks.

Equipping employees with good 'eye-gonomic' and ergonomic advice is key. If digital eye strain and associated neck problems are to be avoided/ safely managed, screen users should be advised to:

- Wear appropriate spectacles, (prescription, lens type, tints and coatings). This will encourage a neutral and sustainable head posture.
- Ensure screen distance and screen height are correctly set for comfortable viewing.
- Minimise screen glare using the appropriate ambient lighting (screen placement, task lighting and natural day light).
- Employ appropriate strategies to manage dry and tired eyes.
- Practise good wellbeing working habits including frequent short (20-20-20) breaks and longer breaks, away from the screen.

Historically, some DSE assessments have been carried out in-house. Working from home or hybrid working is here to stay with 94% of organisations now offering their staff some form of flexible working. This raises new challenges for DSE assessors. The use of digital screens is ubiquitous for both work and social purposes, so new approaches are needed to reduce the risk of digital eye strain.

Although many businesses may be uncertain about the best way to manage the risks faced by their workforce using DSE, help is at hand with outsourced, sustainable innovations. One such innovative approach is offered by *Eyes for Work*, the first optometrist-led UK company to provide organisations with large scale, cost effective, targeted risk assessments. Each *Eyes for Work* report identifies those with digital eye strain symptoms and offers each employee a personalised package of tailored ergonomic and wellbeing work practices.

Most symptoms can be resolved through 'eye friendly' physical, environmental and behavioural changes

After completing a quick and easy online questionnaire, a report is delivered to each employee which encourages safe and healthy working and facilitates optimal visual performance. Follow-up assessments allow companies to track the digital eye health of their workforce. To find out more, please visit **www.eyesforwork.co.uk**
Email **info@eyesforwork.co.uk**

Deborah Young is an independent prescribing optometrist with a special interest in medico-legal work.

Sarah Arnold is an optometrist and academic and was an AOP Optometry Lecturer of the Year 2020 Finalist. Her special interest is in visual impairment. Together, in 2020, they set up and now run *Eyes for Work*.

Further reading

Digitized: The Daily Impact of Digital Screens on the Eye Health of Americans, www.thevisioncouncil.org
Management of Digital Eye Strain: Coles-Brennan C. et al Clin Exp Optom 2019; 102;18-19 https://pubmed.ncbi.nlm.nih.gov/297974531