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smart start

Digital distress

A new ailment of the tech-driven generation, computer vision syndrome is being increasingly seen in many youngsters. Know the measures to prevent the condition

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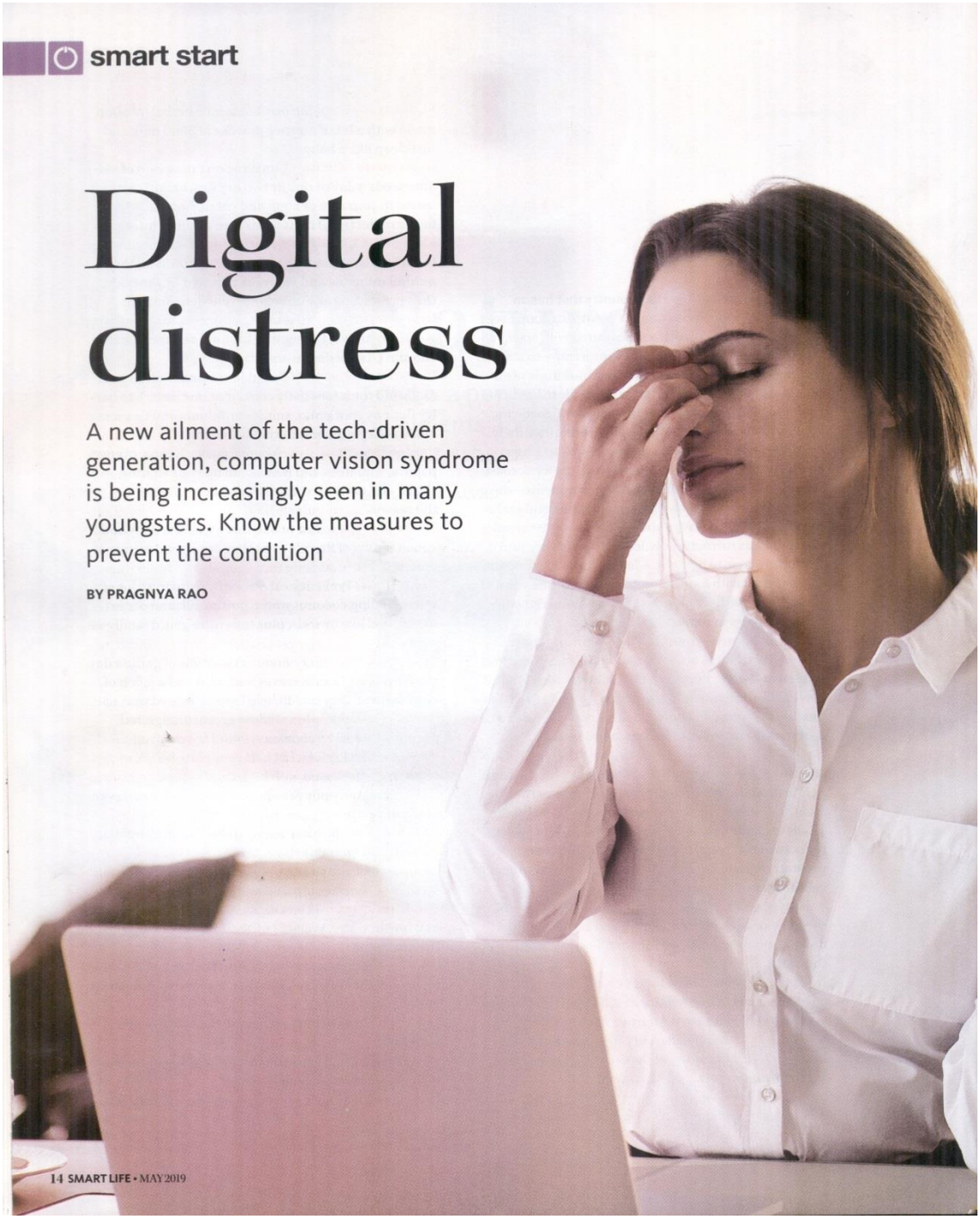

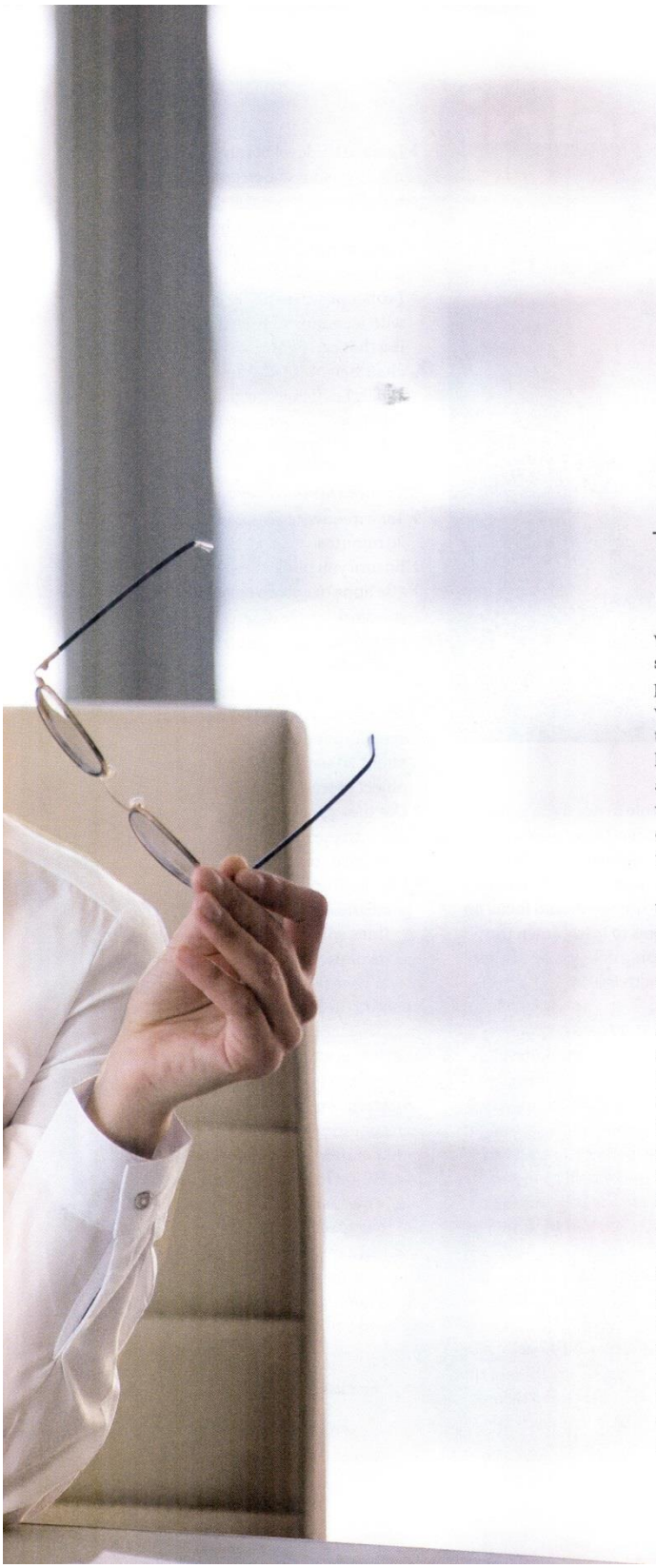

Video display units (VDUs) have become an integral part of our day to day life, for either vocational or non-vocational reasons as they increase our productivity and efficiency. As we enter into an era of digital revolution, we are constantly exposed to gadgets like desktops, laptops, smartphones, digital books and other VDUs both as a part of work and also as a mode of entertainment in our leisure time. With the prevailing tech dominance, numerous lifestyle disorders like obesity, cardiac issues, diabetes, and dry eye disease are gaining importance. "Computer vision syndrome", more commonly known as the "digital eye strain" is one such eye related health issue faced by the new age technology-driven generation.

Computer vision syndrome occurs from the high visual demand required for computer display viewing and from the interaction with its environment which affects our health by causing musculoskeletal, visual and ocular surface related problems. It is one of the various conditions causing dry eye disease. Musculoskeletal involvement generally occurs due to the muscle strain caused by improper placement of computer screens, where the patients experience symptoms like neck stiffness, pain, shoulder pain, headache and backache. The problems related to the eye may be due to dry eyes and also due to difficulty in focusing which causes double vision, blurred vision, and difficulty in near work. Dryness of eyes is induced due to infrequent blinking, almost half the times as normal, and rapid evaporation of the tear film while staring at bright screens. Most of the individuals with dry eye disease experience symptoms like burning, stinging or gritty sensation in the eyes with associated discomfort, irritation and sometimes pain. Upon longstanding dry eye disease, patients are predisposed to complications like breakdown of the corneal epithelium, which is the outermost layer of the cornea with subsequent corneal scarring and diminution in vision and risk of infection.

Computer vision syndrome is diagnosed based on the history of system or LED screen use for over six to eight hours a day, presence of signs of dry eyes and other musculoskeletal / posture related issues and in the absence of any other causes like autoimmune diseases (rheumatoid arthritis, systemic lupus erythematosis, Primary Sjogrens syndrome etc.), Steven Johnsons syndrome, ocular cicatricial pemphigoid etc. that can cause dry eye disease.

Apart from the effect of these VDUs on the eyes, the altered circadian rhythm causes difficulty in falling asleep among software professionals on regular night shifts and many individuals who use computer screens and smartphones at bedtime. The blue light emitted from the bright LED screens is known to deplete the levels of a hormone called "melatonin", which is essential to maintain our biological clock, leading to sleep disturbances among these individuals.

With technology playing a very constructive role in our lives, gadgets are everywhere and have become an indispensable part of our life. Though it is not possible to eliminate them from our day to day life, we should focus on taking measures to bring down the risk of developing dry eyes and other associated health issues.

Preventive measures

The common risk factors for developing computer vision syndrome are improper position, posture, improper viewing distance and angle, poor lighting, resolution and contrast, screen glare, slow screen refresh time and disparity between the brightness of the computer screen and the ambient light.

Some measures that can help alleviate symptoms are mentioned below:

Work environment modifications:

- Maintain appropriate location of the screens such that eyes need to look downward by 15-20 degrees while working
- Reduce the level of screen brightness by using screen guards and blue filters
- Reduce glare from ambient light by using blinds and screens for widows and light sources
- Proper posture should be maintained with a comfortable cushioned seating that can conform to the body and chair height is to be adjusted for the feet to be flat on the ground
- Adequate support needs to be provided to the wrist while typing

Measures for better eye care:

- Take frequent breaks, once every 20 minutes
- Ensure you blink at regular intervals
- Use apps to ensure better eye health, to adjust contrast and to set reminders to blink and stretch the body and limbs
- Follow the popular rule of 20-20-20. It is advised to take breaks from screens once every 20 minutes, for about 20 seconds by staring at an object at least 20 feet away.
- Get the eyes checked for any refractive error and use the adequate correction
- Use of protective glasses with anti-glare tinting can be of a great help

Thus, while advanced technology has revolutionised the modern style of work, we need to find a fine balance between the benefits we gain and the risks we face by utilising technology. The deleterious effects caused by gadgets can be minimised by paying importance to this emerging issue and incorporating workplace and lifestyle modifications in our day to day life. In addition to incorporating these safety measures, it is also essential not to neglect our symptoms and seek medical care at the slightest suspicion. Thus, emphasis should be laid on eye safety among the population at risk, as we need better eyes for a better future.

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