

SAFETY MEMO

September 26th, 2022 – Working on Computers



Did you know?

Introduction

Computer work is increasingly dominating the various professions, including engineering. The activities carried out on computer screens can include drafting of documents, the creation and verification of plans, the sizing of equipment, and many other items.

Worldwide, the average person spends a total of just under 7 hours looking at a screen (computer, smart phone, tablet/iPad, and television)¹. In 2019, the average screen time for people in France was more than 6 hours per day in front of screens². In Canada, people self-reported spending an average of 11 hours per day looking at screens, and 67% of survey respondents say their eyes get tired looking at a screen,³ while Americans spend over 7 hours per day looking at screens⁴.

Risks of Working on a Screen

Intensive and long-term work on screen can result in:

- **Musculoskeletal disorders (MSDs):** such as bending, straightening, gripping, holding, twisting, clenching, and reaching of the muscles, tendons, and nerves. It also includes fixed or constrained body positions, continual repetition of movements, force concentrated on small parts of the body (hand, wrist), or a pace of work that does not allow sufficient recovery between movements⁵.
- **Visual fatigue:** can be related both to individual pathologies or conditions and to the characteristics and position of the screen. Visual fatigue is often manifested by a feeling of dry eyes, tingling and/or headaches.
- **Psychosocial problems and stress:** working on a screen can cause stress due to the often more difficult organization of tasks, the malfunction of available software or the loss of data on the workstation.

Consequences

The direct consequence of problems derived from screen work is the decrease in the quality of work. It can also promote neck pain or low back pain which may require a long period of absence from work. Finally, working on a screen promotes a sedentary lifestyle, whether at work or in everyday life, as most of the time it is done in a sitting position.

For good comfort

To improve the quality of work on screen and reduce risks, the following prevention actions may be considered:

- Adopt a posture of least discomfort (Photo below)
- Choose the right equipment and materials (armchair, screen, mouse, keyboard)
- Work in a bright and cool environment (between 22-24°C / 72-76°F) with adequate humidity
- Avoid repetitive gestures

Best Practices

- Refer to the "Tips and tricks" paragraph of the safety memo of April 6, 2020 "Ergonomics and teleworking"⁶
- Arrange frequently used objects in an easily accessible zone
- Avoid visual fatigue by blinking the eyelids to moisten the eyeball, looking off the screen to reduce stress on the eyes, looking into the distance, and doing random eye movements to relax the muscles.



Picture 1: Courtesy of VectorStock

¹ Comparitech. Screen time statistics: Average screen time in US vs. the rest of the world. March 21, 2022. Retrieved from

<https://www.comparitech.com/tv-streaming/screen-time-statistics/>

² Guide-vue.fr. Santé & innovations pour vos yeux. Le travail sur écran. Retrieved from <https://www.guide-vue.fr/la-vue-par-theme/la-vue-au-travail/travail-sur-ecran>

³ Alcon Canada. Canadian spend 11 hours per day on screens. Sept 10, 2019. Retrieved from <https://www.newswire.ca/news-releases/canadians-spend-11-hours-per-day-on-screens-alcon-survey-shows-811357674.html>

⁴ Comparitech. Screen time statistics: Average screen time in US vs. the rest of the world. March 21, 2022. Retrieved from

<https://www.comparitech.com/tv-streaming/screen-time-statistics/>

⁵ Canadian Centre for Occupational Health and Safety. Work-related musculoskeletal disorders. Retrieved from <https://www.ccohs.ca/oshanswers/diseases/rmirsi.html>

⁶ Laporte. Ergonomics and Teleworking. April 6, 2020. Retrieved from <https://laporteconsultants.com/wp-content/uploads/2021/03/2020-04-06-Did-you-know-Ergonomics-and-telework-1-of-2.pdf>