Ergonomics Beyond the Traditional Office Workstation References and Related Resources

- 1. Honan, M. Mobile Work: Ergonomics in a Rapidly Changing Work Environment, IOS Press, 2015.
- Computer Vision Syndrome, American Optometric Association https://www.aoa.org/patients-and-public/caring-for-your-vision/protecting-your-vision/computer-vision-syndrome#1
- 3. Sonne, M., et al., Development and evaluation of an office ergonomic risk checklist: ROSA Rapid office strain assessment, Applied Ergonomics 43 98-108, 2012
- 4. Miller, L., & Antle, D. The ROSA checklist: A tool for office ergonomics assessment. SIS Quarterly Practice Connections. 2016, 1(3), 28-30
- 5. McAtamney, L., et al., RULA: a survey method for the investigation of work-related upper limb disorders, Applied Ergonomics, 1993
- 6. Namwongsa, S., et al., Ergonomic risk assessment of smartphone users using the Rapid Upper Limb Assessment (RULA) tool, PLoS ONE 13 (8): e0203394 https://doi.org/10.1371/journal.pone.0203394, 2018
- 7. Dennerlein, J. The state of ergonomics for mobile computing technology, IOS Press, Work 52 269-277, 2015
- 8. Szucs, K., et al., A comparison of upper body and limb postures across technology and handheld device use in college students. Journal of Physical Therapy Science, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6181668, 2018.
- 9. Juraida, Y. & A. Effects of Netbook and Tablet Usage Postures on the Development of Fatigue, Discomfort and Pain, J. Eng. Technol. Sci., Vol. 48, No. 3, pgs. 243-253, 2016.
- 10. Institute for Work & Health, 'Too much standing hurts, too', At Work Issue 85, https://www.iwh.on.ca/newsletters/at-work/85/too-much-standing-hurts-too Summer 2016.
- 11. Lowe, BD, et al., Observation-based posture assessment: review of current practice and recommendations for improvement. DHHS NIOSH publication No. 2014-131, 2014.
- 12. Harvey, R., et al., The Effect of Head and Neck Position on Head Rotation, Cervical Muscle Tension, and Symptoms, Association for Applied Psychophysiology & Biofeedback, Biofeedback, Volume 46, Issue 3, pp. 65-71,
- 13. Rodrigues, M. S., et al., Differences in ergonomic and workstation factors between computer office workers with and without reported musculoskeletal pain, IOS Press, Work 57 563-572, 2017
- 14. Occupational Safety and Health Administration, Computer workstations etool. https://www.osha.gov/SLTC/etools/computerworkstations/checklist_evaluation.html
- 15. Independent reviews of ergonomics products, All Things Ergo https://allthingsergo.com
- 16. Lee, S, et al., Gender and posture are significant risk factors to musculoskeletal symptoms during touchscreen tablet computer use. The Journal of Physical Therapy Science, 30 855-861, 2018.

- 17. Lin, J. & B., S. Sit-Stand Workstations Are They a Solution to Musculoskeletal Stress? Professional Safety Journal, 63 75-77, October 2018.
- 18. Gao, L., et al., Economic evaluation of a randomized controlled trial of an intervention to reduce office workers' sitting time: the "Stand Up Victoria" trial, Scand J Work Environ Health 2018;44(5):503-511
- 19. Hansraj, Kenneth. (2014). Assessment of stresses in the cervical spine caused by posture and position of the head. Surgical technology international. 25. 277-9.
- 20. American Optometric Association: https://www.aoa.org/patients-and-public/caring-for-your-vision/protecting-your-vision/computer-vision-syndrome#1

Some Info specific to Vehicle Ergonomics

Ergonomics Solutions: Where the office meets the road

A company that provides solutions for "desks" in vans and cars https://www.goergo.com/

Havis Productivity in Motion – serves public safety, military, transportation, etc. Has various product mounting options for computing devices used in vehicles – brackets, mounts, displays, etc. https://www.havis.com/catalog/Featured Products-4-1.html

Article by Aon Risk Solutions on **Roadside Office Ergonomics: Laptop Use in Vehicles** https://www.aon.com/attachments/risk-services/Roadside Office Ergonomics.pdf

Gruevski, K, et al. The impact of mobile data terminal use on posture and low-back discomfort when combined with simulated prolonged driving in police cruisers. International Journal of Occupational Safety and Ergonomics (JOSE). 2013; Vol. 19, No. 3, 415-422. https://www.tandfonline.com/doi/pdf/10.1080/10803548.2013.11076998

This Research showed increased musculoskeletal discomforts associated with various computer tasks/postures performed in police cruiser vehicles – particularly neck, upper shoulder/arm and low back.