

Repetitive strain injury

Fact Sheet



Safe Handling of
Hazardous Drugs

Prevalence

- Repetitive strain injury is widespread and accounts for 60% of all health-related problems caused by work in the EU.

European Occupational Safety and Health Administration. *Work-related musculoskeletal disorders: prevalence, costs and demographics in the EU*. 2019. Available at: <https://osha.europa.eu/en/publications/msds-facts-and-figures-overview-prevalence-costs-and-demographics-msds-europe/view>. Accessed September 2021

- The impact of musculoskeletal disorders on the EU workforce is substantial, with more than half reporting complaints.

European Occupational Safety and Health Administration. *Work-related musculoskeletal disorders: prevalence, costs and demographics in the EU*. 2019. Available at: <https://osha.europa.eu/en/publications/msds-facts-and-figures-overview-prevalence-costs-and-demographics-msds-europe/view>. Accessed September 2021

- The 2019 ESENER-3 survey encompassed 45,420 establishments across 33 European countries, covering all sectors and employing at least five people. Its focus was on workplace safety and health. Notably, the healthcare sector reported a higher prevalence of risk factors compared to other industries. Furthermore, these risk factors escalated between 2014 and 2019.

European Occupational Safety and Health Administration. *Musculoskeletal Disorders in the Healthcare Sector*. 2020. Available at: <https://osha.europa.eu/en/publications/musculoskeletal-disorders-healthcare-sector/view>. Accessed September 2021

Risk factors

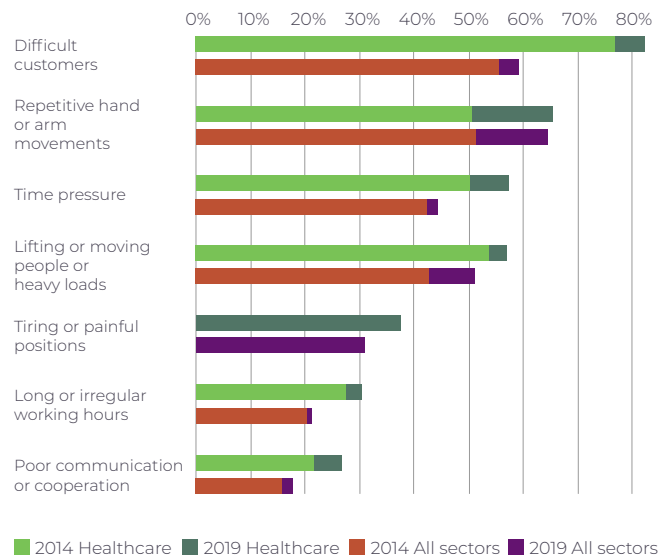
- Hospital pharmacy technicians and nurses are at high risk of developing repetitive strain injury.

Reisz F, Gairard-Dory AC, Fonmartin K, Bourbon J, Gouriex B. Prevention of work-related musculoskeletal disorders in pharmaceutical technology. *GERPAC*. 2016. Available at: <https://www.gerpac.eu/prevention-of-work-related-musculoskeletal-disorders-in-pharmaceutical-technology>. Accessed September 2021.

- The repetitive motions used by pharmacy technicians when compounding cytotoxic drugs can be strenuous on hands and wrists.

Belisle C. Tips for CSTD Use. *Oncology Safety*. 2017;14:S8. www.pppmag.com/digitalmag/Main.php?MagNo=180&PageNo=1#page/10

Risk factors for MSDs present in the healthcare sector ('Human health and social work activities') in 2014 and 2019 compared with all sectors in the EU-27



European Occupational Safety and Health Administration. *Musculoskeletal Disorders in the Healthcare Sector*. 2020. Available at: <https://osha.europa.eu/en/publications/musculoskeletal-disorders-healthcare-sector/view>. Accessed September 2021

- Risk factors for developing work-related musculoskeletal disorders include repetitive motions and awkward body postures (the two most harmful), exertion of high or prolonged muscular forces, skin pressure, vibration, a fast-paced work environment and insufficient rest or recovery time during work or between shifts.

Occupational Safety and Health Administration. Prevention of work-related musculoskeletal disorders in the workplace. *Occup Saf Heal Adm*. 2021. Available at: <https://www.osha.gov/SLTC/ergonomics/>. Accessed September 14, 2021.

- These risk factors can lead to a decrease in productivity, medical treatment, time off or even disability.

Byl NN, Barbe MF, Dolan CB, Glass G. Repetitive Stress Pathology in Pathology and Intervention in Musculoskeletal Rehabilitation. Elsevier; 2016:938-995

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- Pharmacy assistants have an increased risk of work-related musculoskeletal disorders due to excessive and repetitive hand movements, prolonged muscle exertion, forceful thumb use, and insufficient rest periods throughout their shifts, indicating muscular overload.

Macdonald, V. ASSESSMENT OF MUSCULOSKELETAL DISORDER RISK WITH HAND AND SYRINGE USE IN CHEMOTHERAPY NURSES AND PHARMACY ASSISTANTS. *IIE Transactions on Occupational Ergonomics and Human Factors*. 2018; 6:3-4, 128-142

Impact

- Repetitive strain injury has been associated with lost work time, significant medical costs and high turnover of pharmacy technicians.

Macdonald, V. ASSESSMENT OF MUSCULOSKELETAL DISORDER RISK WITH HAND AND SYRINGE USE IN CHEMOTHERAPY NURSES AND PHARMACY ASSISTANTS. *IIE Transactions on Occupational Ergonomics and Human Factors*. 2018; 6:3-4, 128-142

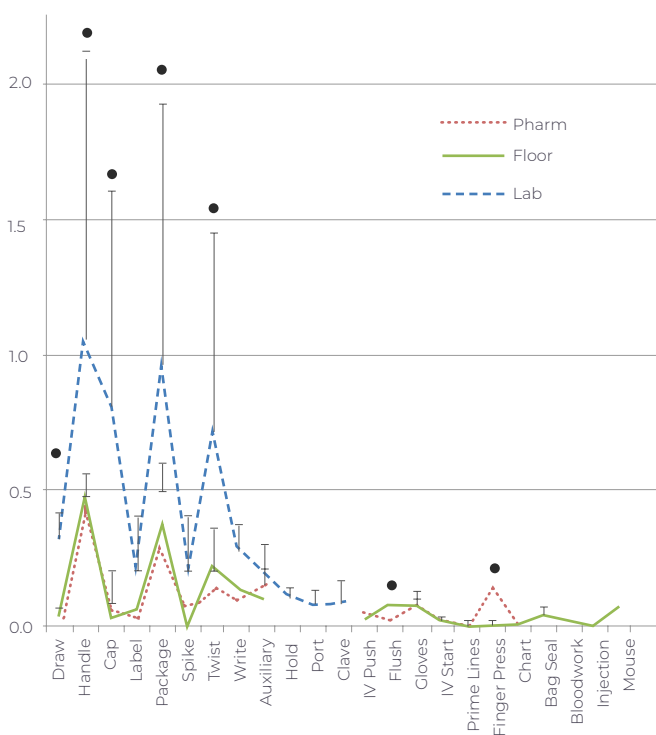
- Workers with musculoskeletal disorder complaints are more likely to be absent from work than those without health issues.

European Agency for Safety and Health at Work. *Work-related musculoskeletal disorders: prevalence, costs and demographics in the EU – Safety and health at work – EU-OSHA*. 2019. Available at: <https://osha.europa.eu/en/publications/msds-facts-and-figures-overview-prevalence-costs-and-demographics-msds-europe/view>. Accessed September 2021

- Excessive workload and stress among healthcare professionals pose a critical threat to the safety and quality of cancer care. Overburdened staff are at risk of errors in medication administration, surgical procedures, and radiation therapy, potentially leading to severe patient harm. This situation also jeopardizes the well-being of healthcare providers.

European Cancer Organisation. *Working Against Cancer: Giving Professionals the Right Tools for the Job*. European Cancer Organisation. 2020. Available at: <https://www.europecancer.org/resources/194:working-against-cancer.html>. Accessed September 2021.

Mean hand efforts per minute for each task (with SD, n=15) for pharmacy nurses, lab nurses and floor nurses in a hospital



Mean Hand Efforts per Minute (with SD, n=15) Macdonald, V. ASSESSMENT OF MUSCULOSKELETAL DISORDER RISK WITH HAND AND SYRINGE USE IN CHEMOTHERAPY NURSES AND PHARMACY ASSISTANTS. *IIE Transactions on Occupational Ergonomics and Human Factors*. 2018; 6:3-4, 128-142



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Mitigation

- Implementing effective workplace accommodations and assistive devices is crucial for managing musculoskeletal disorders.

European Agency Safety and Health Administration. *Musculoskeletal Disorders in the Healthcare Sector*. 2020. Available at: <https://osha.europa.eu/en/publications/musculoskeletal-disorders-healthcare-sector/view>. Accessed September 2021

- In one study, the Occupational Safety and Health Administration (OSHA) checklist was used to evaluate the risk of developing work-related musculoskeletal disorders (WMSDs) and to assess the potential of automated syringe-filling machines to mitigate WMSD occurrence in hospital sterile preparation. Using the OSHA criteria, a peristaltic pump scored 9, primarily due to repetitive tasks and pressure on the skin. In contrast, an automated syringe-filling machine achieved a lower score of 4, reflecting reduced levels of repetitiveness, skin pressure, and awkward postures.

Reisz F, Gairard-Dory AC, Fonmartin K, Bourbon J, Gouriex B. Prevention of work-related musculoskeletal disorders in pharmaceutical technology. *GERPAC*. 2016. Available at: <https://www.gerpac.eu/prevention-of-work-related-musculoskeletal-disorders-in-pharmaceutical-technology>. Accessed September 2021.

- Implementing effective changes in healthcare workplaces requires a multifaceted approach, including knowledge, financial resources, a cultural shift, and sustained effort. A concerted effort to prevent, reduce, and manage musculoskeletal disorders can create a healthier work environment, leading to increased recruitment and improved employee retention within the sector.

European Agency Safety and Health Administration. *Musculoskeletal Disorders in the Healthcare Sector*. 2020. Available at: <https://osha.europa.eu/en/publications/musculoskeletal-disorders-healthcare-sector/view>. Accessed September 2021

