

# Repetitive strain injury

## Fact sheet



## 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

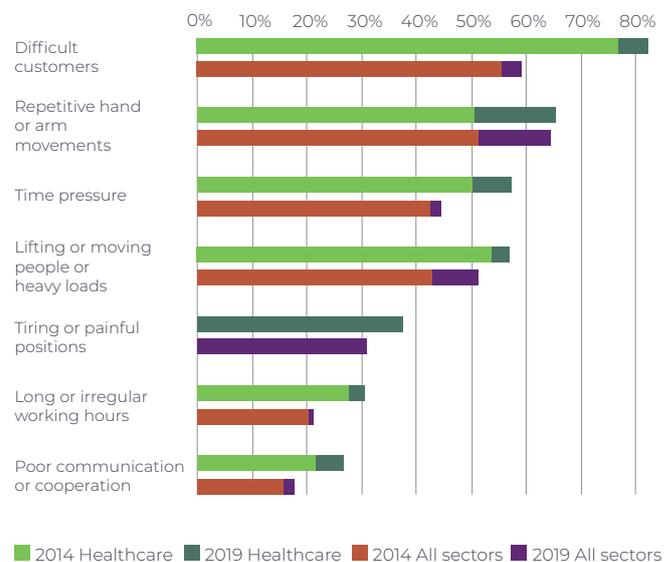
- More than one-half of the EU workforce reports musculoskeletal disorder complaints, and their impact should not be underestimated.

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

- A 2019 survey of 45,420 establishments in 33 European countries across all sectors employing at least five people, showed that musculoskeletal disorder risk factors were reported more frequently in the healthcare sector than in other sectors as a whole. The survey also showed that the majority of risk factors (including repetitive hand or arm movements) increased in the healthcare sector between 2014 to 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 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



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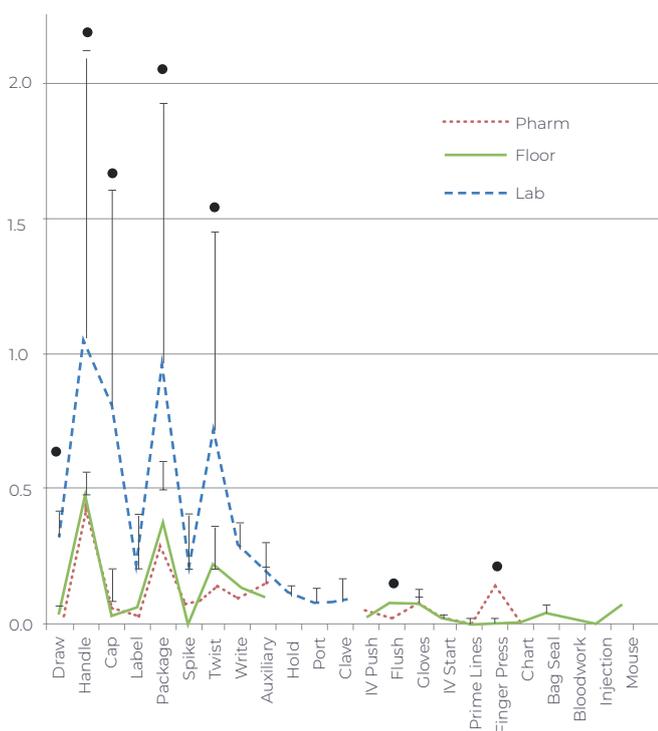
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Safe Handling of Hazardous Drugs

### Risk factors

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

- 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=#page/10](http://www.pppmag.com/digitalmag/Main.php?MagNo=180&PageNo=#page/10)

- 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

- A study examining hand and syringe actions required of workers in chemotherapy preparation and administration over a work shift concluded that the high number of hand efforts, combined with prolonged durations, muscle activity, thumb force and lack of muscular rest, resulted in muscular overload over the course of a shift, suggesting a high risk of work-related musculoskeletal disorders.

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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### Impact

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

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- The cost linked to one repetitive strain injury in Germany has been reported at €28,545 (estimate).

European Musculoskeletal Conditions Surveillance and Information Network (EUMUSC) . *Musculoskeletal Health in Europe Summary Report*. 2021. Available at: [www.eumusc.net/myUploadData/files/Musculoskeletal%20Health%20in%20Europe%20Report%20Summary%20KE%20WIP.pdf](http://www.eumusc.net/myUploadData/files/Musculoskeletal%20Health%20in%20Europe%20Report%20Summary%20KE%20WIP.pdf) . Accessed September 2021

- Absenteeism among workers with musculoskeletal disorder complaints is higher than among workers without health problems.

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

- Stress and impossible workloads are a risk to the safety and quality of care provided to cancer patients, and to the well-being of professionals. Inadequate preparation or administration of medicines by stressed and over-loaded personnel can pose the potential of significant patient safety risk.

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.



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### Mitigation



- Effective management of musculoskeletal disorders in workplaces through work accommodation and the use of assistive devices is necessary.

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

- In a study to assess the contribution of an automated syringe-filling machine in reducing the occurrence of work-related musculoskeletal disorders, the occupational Safety and Health Administration (OSHA) checklist test was applied to hospital sterile preparations: with a peristaltic pump, the overall score was 9. With an automated syringe-filling machine, the overall score was 4.

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.

- Working with effective changes in healthcare workplaces requires knowledge, economic resources, a change of organisational culture and continued effort. An effort focusing on preventing, reducing and managing musculoskeletal disorders promotes a healthy workplace, a positive cycle of recruitment into the healthcare sector and better retention of the existing workforce.

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

