

IWH Research Alert
August 20, 2021

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***Lau J, Mazzotta P, Whelan C, Abdelaal M, Clarke H, Furlan AD, et al. Opioid safety recommendations in adult palliative medicine: a North American Delphi expert consensus. *BMJ Supportive & Palliative Care*. 2021; [epub ahead of print].**

<https://doi.org/10.1136/bmjspcare-2021-003178>

Abstract: OBJECTIVES: Despite the escalating public health emergency related to opioid-related deaths in Canada and the USA, opioids are essential for palliative care (PC) symptom management. Opioid safety is the prevention, identification and management of opioid-related harms. The Delphi technique was used to develop expert consensus recommendations about how to promote opioid safety in adults receiving PC in Canada and the USA. METHODS: Through a Delphi process comprised of two rounds, USA and Canadian panellists in PC, addiction and pain medicine developed expert consensus recommendations. Elected Canadian Society of Palliative Care Physicians (CSPCP) board members then rated how important it is for PC physicians to be aware of each consensus recommendation. They also identified high-priority research areas from the topics that did not achieve consensus in Round 2. RESULTS: The panellists (Round 1, n=23; Round 2, n=22) developed a total of 130 recommendations from the two rounds about



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the following six opioid-safety related domains: (1) General principles; (2) Measures for healthcare institution and PC training and clinical programmes; (3) Patient and caregiver assessments; (4) Prescribing practices; (5) Monitoring; and (6) Patients and caregiver education. Fifty-nine topics did not achieve consensus and were deemed potential areas of research. From these results, CSPCP identified 43 high-priority recommendations and 8 high-priority research areas. CONCLUSIONS: Urgent guidance about opioid safety is needed to address the opioid crisis. These consensus recommendations can promote safer opioid use, while recognising the importance of these medications for PC symptom management

***Van Eerd D, D'Elia T, Ferron EM, Robson L, and Amick B III. Implementation of participatory organizational change in long term care to improve safety. Journal of Safety Research. 2021; 78:9-18.**

<https://doi.org/10.1016/j.jsr.2021.05.002>

Abstract: INTRODUCTION: Long Term Care (LTC) facilities are fast-paced, demanding environments placing workers at significant risk for injuries. Health and safety interventions to address hazards in LTC are challenging to implement. The study assessed a participatory organizational change intervention implementation and impacts. METHODS: This was a mixed methods implementation study with a concurrent control, conducted from 2017 to 2019 in four non-profit LTC facilities in Ontario, Canada. Study participants were managers and frontline staff. Intervention sites implemented a participatory organizational change program, control sites distributed one-page health and safety pamphlets. Program impact data were collected via Survey (self-efficacy, control over work, pain and general health) and observation (Quick Exposure Checklist). Interviews/focus groups were used to collect program implementation data. RESULTS: Participants described program impacts (hazard controls through equipment purchase/modification, practice changes, and education/training) and positive changes in culture, communication and collaboration. There was a statistically significant difference in manager self-efficacy for musculoskeletal disorder (MSD) hazards between the control and intervention sites over time but no other statistical differences were found. Key program implementation challenges included LTC hazards, staff shortage/turnover, safety



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culture, staff time to participate, and communication. Facilitators included frontline staff involvement during implementation, management support, focusing on a single unit, training, and involving an external program facilitator. CONCLUSION: A participatory program can have positive impacts on identifying and reducing MSD hazards. Key to success is involving frontline staff in identifying hazards and creating solutions and management encouragement on a unit working together. High turnover rates, staffing shortages, and time constraints were barriers as they are for all organizational change efforts in LTC. The implementation findings are likely applicable in any jurisdiction. Practical Application: Implementing a participatory organizational change program to reduce MSD hazards is feasible in LTC and can improve communication and aid in identification and control of hazards

Argus M and Paasuke M. Effects of the COVID-19 lockdown on musculoskeletal pain, physical activity, and work environment in Estonian office workers transitioning to working from home. Work. 2021; 69(3):741-749.

<https://doi.org/10.3233/WOR-210033>

Abstract: Background: COVID-19 lockdown caused a sudden change in the work culture and environment. Objective: The aim of this study was to evaluate the impact of COVID-19 lockdown caused changes in musculoskeletal pain (MSP), physical activity (PA), workplace properties, and their in-between relationships among office workers. Methods: A total of 161 office workers (64.6%female) with a mean age of 38.2 ± 9.5 years participated. The study was conducted as an online form. Baecke Physical Activity Questionnaire, NORDIC Questionnaire, and questions about the work environment were used. The participants were asked to describe the current situation and retrospectively the situation 3 months before. Results: We found no significant differences in the prevalence of MSP or between the mean number of body regions suffering from MSP before and during the lockdown. During the lockdown, a significant ($p < 0.001$) reduction in total PA and sport-related PA and a significant ($p < 0.001$) increase in work-related PA was noted. A significant drop in both workplace comfort rating ($p < 0.05$) and workplace ergonomics rating ($p < 0.001$) was suggested during the lockdown. Our data also suggested several individual factors influencing the MSP among office workers during



the lockdown. Conclusions: Maintaining habitual physical activity level and preparing a more comfortable and ergonomic workspace can play a role in a healthier transition to working from home.

Arienti C, Armijo-Olivo S, Minozzi S, Tjosvold L, Lazzarini SG, Patrini M, et al. Methodological issues in rehabilitation research: a scoping review. Archives of Physical Medicine & Rehabilitation. 2021; 102(8):1614-1622.

<https://doi.org/10.1016/j.apmr.2021.04.006>

Abstract: **OBJECTIVE:** To identify, synthesize, and categorize the methodological issues faced by the rehabilitation field. **DATA SOURCES:** A scoping review was conducted using studies identified in MEDLINE, the Cochrane Library, EMBASE, Web of Science, Scopus, Physiotherapy Evidence Database, and Google Scholar up to August 2018. **STUDY SELECTION:** We included all type of publications describing methodological issues in rehabilitation research where rehabilitation is described as a multimodal process. The methodological issues have been categorized and classified. **DATA EXTRACTION:** The synthesis included qualitative and quantitative analysis. To focus the attention on rehabilitation, we post hoc divided in "specific issues" (highly related to, even if not exclusive of, rehabilitation research) and "generic issues" (common in biomedical research). **DATA SYNTHESIS:** Seventy-one publications were included: 68% were narrative reviews, 15% systematic reviews, 7% editorials, 4% meta-epidemiologic studies, and 5% others. Specific methodological issues include the following: problematic application of randomized controlled trials (32%), absent definition of core outcome sets (28%), poor interventions description (22%), weak methodological (conducting) and reporting quality (21%), scarce clinical practice applicability (14%), lack of blinding assessor (10%), inadequate randomization methods or inadequate allocation concealment (8%), and inadequate participants description and recruitment (8%). "Generic" issues included the following: data and statistical description (31%), authors' methodological training (7%), peer review process (6%, n=4), funding declaration (6%), ethical statement (3%), protocol registration (3%), and conflict of interest declaration (1%). **CONCLUSIONS:** Methodological and reporting issues might influence the quality of the evidence produced in rehabilitation research. The next steps to move forward in the field of



rehabilitation could be to evaluate the influence of all these issues on the validity of trial results through meta-epidemiologic studies and to develop specific checklists to provide guidance to authors to improve the reporting and conduct of trials in this field

Baid D, Hayles E, and Finkelstein EA. Return on investment of workplace wellness programs for chronic disease prevention: a systematic review. American Journal of Preventive Medicine. 2021; 61(2):256-266.

<https://doi.org/10.1016/j.amepre.2021.02.002>

Abstract: CONTEXT: Individuals with noncommunicable diseases account for a disproportionate share of medical expenditures, absenteeism, and presenteeism. Therefore, employers are increasingly looking to worksite wellness programs as a cost-containment strategy. Previous reviews examining whether worksite wellness programs deliver a positive return on investment have shown mixed results, possibly because the more optimistic findings come from studies with poorer methodologic quality. The purpose of this systematic review is to critically revisit and update this literature to explore that hypothesis. EVIDENCE ACQUISITION: A total of 4 databases were systematically searched for studies published before June 2019. Included studies were economic evaluations of worksite wellness programs that were based in the U.S., that lasted for at least 4 weeks, and that were with at least 1 behavior change component targeting 1 of the 4 primary modifiable behaviors for chronic disease: physical activity, healthy diet, tobacco use, and harmful consumption of alcohol. Methodologic quality was assessed using Consensus for Health Economic Criteria guidelines and the risk for selection bias associated with the study design. Data extraction (September 2019-February 2020) was followed by a narrative synthesis of worksite wellness programs characteristics and return on investment estimates. EVIDENCE SYNTHESIS: A total of 25 relevant studies were identified. After conducting a quality and bias assessment, only 2 of the 25 studies were found to have both high methodologic rigor and lower risk for selection bias. These studies found no evidence of a positive return on investment in the short term. CONCLUSIONS: The highest-quality studies do not support the hypothesis that worksite wellness programs deliver a positive return on investment within the first few years of initiation



Bunner J, Prem R, and Korunka C. Perceived organizational support and perceived safety climate from the perspective of safety professionals: testing reciprocal causality using a cross-lagged panel design. Journal of Safety Research. 2021; 78([epub ahead of print].

<https://doi.org/10.1016/j.jsr.2021.06.006>

Abstract: INTRODUCTION: The objective of this study was to determine the reciprocal relationship between safety professionals perceived organizational support (POS) and perceived safety climate. Safety professionals are most effective when they perceive support from management and employees and they also attribute most of their success to support from the organization. Their work directly improves safety climate, and organizations with a high safety climate show a higher value for the safety professional. The causal direction of this relationship is, however, unclear. METHOD: Using a sample of 162 safety professionals, we conducted a cross-lagged panel study over one year to examine whether safety professionals' POS improves their perceived safety climate and/or whether safety climate also increases POS over time. Data were collected at two points and, after testing for measurement invariance, a cross-lagged SEM was conducted to analyze the reciprocal relationship. RESULTS: Our findings show that safety professionals' POS was positively related to perceived safety climate over time. Perceived safety climate, however, did not contribute to safety professionals' POS. CONCLUSIONS: This study significantly adds to the discussion about the factors influencing safety professionals' successful inclusion in organizations, enabling them to perform their work and, thus, improve occupational safety. Practical Applications: Since safety climate increases in organizations in which safety professionals feel supported, this study points out the kind of support that contributes to improved organizational safety. Support for safety professionals may come in classical forms such as approval, pay, job enrichment, and information on or influence over organizational policies

Chen H, Li H, and Goh YM. A review of construction safety climate: definitions, factors, relationship with safety behavior and research agenda. Safety Science. 2021; 142:105391.

<https://doi.org/10.1016/j.ssci.2021.105391>



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Crowell NA, Hanson A, Boudreau L, Robbins R, and Sokas RK. Union efforts to reduce COVID-19 infections among grocery store workers. *New Solutions*. 2021; 31(2):170-177.

<https://doi.org/10.1177/10482911211015676> [open access]

Abstract: Grocery store workers are essential workers, but often have not been provided with appropriate protection during the current pandemic. This report describes efforts made by one union local to protect workers, including negotiated paid sick leave and specific safety practices. Union representatives from 319 stores completed 1612 in-store surveys to assess compliance between 23 April 2020 and 31 August 2020. Employers provided the union with lists of workers confirmed to have COVID-19 infection through 31 December 2020. Worker infection rates were calculated using store employees represented by the union as the denominator and compared to cumulative county infection rates; outcome was dichotomized as rates higher or lower than background rates. Restrictions on reusable bags and management enforcement of customer mask usage were most strongly associated with COVID-19 rates lower than rates in the surrounding county. Stores that responded positively to worker complaints also had better outcomes. The union is currently engaging to promote improved ventilation and vaccination uptake

Diniz Fonseca E. Accident and innovation in construction industry: learning by doing to prevent accidents and improve the production. *Safety Science*. 2021; 142:105389.

<https://doi.org/10.1016/j.ssci.2021.105389>

Greidanus MA, de Rijk AE, Frings-Dresen MHW, Tiedtke CM, Brouwers S, de Boer AGEM, et al. The use and perceived usefulness of an online toolbox targeted at employers (MiLES intervention) for enhancing successful return to work of cancer survivors. *Journal of Occupational Rehabilitation*. 2021; 31(2):393-404.

<https://doi.org/10.1007/s10926-020-09929-4> [open access]

Abstract: PURPOSE: The MiLES intervention is a web-based intervention targeted at employers with the objective of enhancing successful return to work (RTW) of cancer survivors. The aim of this study is to gain insight into the employers' use and perceived usefulness of the MiLES intervention. METHODS: Employer



representatives (e.g. Human Resource managers and supervisors) were given access to the MiLES intervention, which contains, among others, interactive videos, conversation checklists and tailored tips. After six weeks, an online questionnaire gathered data on employers' use and the perceived usefulness of the intervention. In-depth qualitative data on these topics were gathered during semi-structured interviews, which were analyzed using a content analysis. RESULTS: Thirty-one eligible employers were included. Twenty-two of them filled out the questionnaire and twenty were interviewed. Typically, employers used the intervention 2-3 times, for 26 min per visit. The usefulness of the intervention scored 7.6 out of 10 points, and all employers would recommend it to colleagues. Employers' use decreased when support needs were low and when the intervention did not correspond with their specific situation (e.g. complex reintegration trajectories). Employers perceived the intervention to be supporting and practically oriented. They appreciated the fact that the intervention was web-based and combined visual and textual content. The possibility of consulting specialized services for complex situations would further enhance its usefulness. CONCLUSION: The MiLES intervention provides employers with a useful tool in their daily practice. Its effectiveness for enhancing employers' managerial skills and cancer survivors' successful RTW is subject for further research

van Hees SGM, Carlier BE, Blonk RWB, and Oomens S.
Understanding work participation among employees with common mental disorders: what works, for whom, under what circumstances and how? A systematic realist review protocol.
Work. 2021; 69(3):827-838.

<https://doi.org/10.3233/WOR-213515>

Abstract: BACKGROUND: Work participation among employees with common mental disorders (CMDs) is an increasingly important, yet highly complex phenomenon. Given the call for preventing instead of reacting to negative work outcomes, there is a need to understand how employees with CMDs can continue working. OBJECTIVES: 1) to provide insights in applying a realist approach to the literature review process and 2) to present a way to develop an explanatory framework on work participation, the related causal mechanisms and the interaction with the work context. METHODS: A systematic realist literature review, using stay at work (SAW) and work performance



(WP) as outcomes of work participation. This protocol paper explains the rationale, tools and procedures developed and used for identification, selection, appraisal and synthesis of included studies. RESULTS: The review process entailed six steps to develop so called 'middle range program theories'. Each step followed a systematic, iterative procedure using context-mechanism-outcome (CMO) configurations. CONCLUSIONS: Conducting a realist review adds on the understanding to promote work participation, by examining the heterogeneity and complexity of intervention- and observational studies. This paper facilitates other researchers within the field of occupational health by demonstrating ways to develop a framework on work participation using realist synthesis

Hilton Boon M, Thomson H, Shaw B, Akl EA, Lhachimi SK, Lopez-Alcalde J, et al. Challenges in applying the GRADE approach in public health guidelines and systematic reviews: a concept article from the GRADE Public Health Group. Journal of Clinical Epidemiology. 2021; 135:42-53.

<https://doi.org/10.1016/j.jclinepi.2021.01.001> [open access]

Abstract: BACKGROUND AND OBJECTIVE: This article explores the need for conceptual advances and practical guidance in the application of the GRADE approach within public health contexts. METHODS: We convened an expert workshop and conducted a scoping review to identify challenges experienced by GRADE users in public health contexts. We developed this concept article through thematic analysis and an iterative process of consultation and discussion conducted with members electronically and at three GRADE Working Group meetings. RESULTS: Five priority issues can pose challenges for public health guideline developers and systematic reviewers when applying GRADE: (1) incorporating the perspectives of diverse stakeholders; (2) selecting and prioritizing health and "nonhealth" outcomes; (3) interpreting outcomes and identifying a threshold for decision-making; (4) assessing certainty of evidence from diverse sources, including nonrandomized studies; and (5) addressing implications for decision makers, including concerns about conditional recommendations. We illustrate these challenges with examples from public health guidelines and systematic reviews, identifying gaps where conceptual advances may facilitate the consistent application or further development of the



methodology and provide solutions. CONCLUSION: The GRADE Public Health Group will respond to these challenges with solutions that are coherent with existing guidance and can be consistently implemented across public health decision-making contexts

Kasemsan A, Joseph L, Paungmali A, Sitolertpisan P, and Pirunsan U. Prevalence of musculoskeletal pain and associated disability among professional bus drivers: a cross-sectional study. International Archives of Occupational & Environmental Health. 2021; 94(6):1263-1270.

<https://doi.org/10.1007/s00420-021-01683-1> [open access]

Abstract: Purpose: Professional bus drivers risk developing musculoskeletal pain (MSP) and disability due to their working condition. The current study investigates the prevalence rate of MSP and disability among professional bus drivers. Methods: A cross-sectional study was conducted among 83 professional bus drivers. The prevalence rate of MSP was evaluated using a standardized Nordic musculoskeletal questionnaire. The disabilities due to the MSP were evaluated using neck disability index (NDI), Oswestry disability index (ODI) and shoulder pain and disability index (SPADI) tools. Prevalence of MSP was presented with 95% of confidence interval (CI) at an alpha level of 0.05. The 12 months and 7 days prevalence of MSP were tabulated for analysing the trend of MSP between the upper and lower body regions. Results: The drivers had a mean driving experience of 10.07 ± 7.26 years. The mean driving hours/week were 50.25 ± 12.82 h. Neck and back were the most affected regions with a prevalence rate of 81.9% (N = 68) and 80.7% (N = 67) at 12 months. Back region recorded the highest 7 days prevalence rate for MSP with 53% (N = 44). Approximately one fourth of the bus drivers population (23.9%, N = 16) had moderate disability in back region. More than half with MSP in the neck region presented mild disability (54.4%, N = 37). Conclusion: The bus drivers reported a high prevalence rate of MSP in the neck, back and shoulder regions with mild to moderate disabilities. Appropriate health care and rehabilitation programs are necessary for the prevention and management of MSP among the bus drivers.

Lancman S and Barroso BIL. Mental health: professional rehabilitation and the return to work: systematic review. Work.



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2021; 69(2):439-448.

<https://doi.org/10.3233/WOR-213489>

Abstract: **BACKGROUND:** The problem of illnesses, sick leave and the necessary return to work and permanence at work has been determining the development of different protocols and professional rehabilitation programs in different countries. **OBJECTIVE:** We sought to identify articles that address programs for professional rehabilitation and the return to work of people laid off due to mental health problems, and to verify the results of professional rehabilitation programs and the follow-up processes for such return. **METHOD:** A systematic review was performed according to the criteria of the Preferred Reporting Items for Systematic Reviews and Meta-Analyzes (PRISMA). The serial search of the articles was carried out in the electronic databases: Web of Science, MEDLINE/PubMed and Scopus. The variations in the descriptors served to find a greater range of significant results for the research. **RESULTS:** In total, 2,306 articles were found. Another two articles that met the inclusion criteria were located through manual searches, adding up to a total of 2,308. Applying the exclusion criteria resulted in a final data set of 47 peer-reviewed articles. **CONCLUSIONS:** The issues involving return to work and permanence in work were complex and multifaceted in the research articles studied. Recovery from Common Mental Disorders (CMDs) is a major cause of long-term sick leave and the granting of disability benefits. Many people with these diagnoses remain employed; however, further studies are needed with women, workers with fragile relationships, and immigrants

Ou YK, Liu Y, Chang YP, and Lee BO. Relationship between musculoskeletal disorders and work performance of nursing staff: a comparison of hospital nursing departments. International Journal of Environmental Research and Public Health. 2021; 18(13):7085.

<https://doi.org/10.3390/ijerph18137085> [open access]

Abstract: This study aimed to explore the relationship between musculoskeletal disorders and the work performance of nursing staff. This cross-sectional study used the Checklist for Musculoskeletal Disorders (MSDs), the Nordic Musculoskeletal Questionnaire (NMQ), and the Work Ability Index to survey the prevalence of MSDs, as well as to determine the impact of MSDs on 117 nursing staff working in



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an emergency department, an intensive care unit, and general wards. The findings indicate that the nursing staff were exposed to a workplace environment with a high risk of MSDs. Nursing staff in the emergency department were at a particularly high risk of MSDs in their upper and lower limbs, while those working in the intensive care unit had a particularly high risk of injuries caused by manual material handling. Analyzing the relationship between MSD risk factors and NMQ scores showed a 6 times, 3.25 times, and 2.28 times increase in MSD conditions with a high workload compared to a low workload in the hand and wrist, the lower back or waist, and the knee, respectively. Medium and high workloads were found to increase the risk of MSD, which in turn affected the work ability of the nurses

Norgaard Remmen L, Fromsejer Heiberg R, Hoyrup Christiansen D, Herttua K, and Berg-Beckhoff G. Work-related musculoskeletal disorders among occupational fishermen: a systematic literature review. Occupational and Environmental Medicine. 2021; 78:522-529.

<https://doi.org/10.1136/oemed-2020-106675>

Abstract: BACKGROUND: Commercial fishing constitutes an increased risk of musculoskeletal disorders (MSD), as it consists of heavy workloads and uncontrollable strenuous settings. The aims of this systematic review were to describe the prevalence of MSD among occupational fishermen and to identify risk factors for onset work-related MSD. METHODS: All studies investigating MSD in occupational fishermen were systematically identified and reviewed. Searched databases were PubMed/MEDLINE, EMBASE and CINAHL. Two independent researchers performed the quality assessments of the studies. RESULTS: From 292 articles identified, 16 articles consisting of 13 studies were suitable for inclusion. Prevalence of overall MSD ranged from 15% to 93%. The only consistent work-related risk factor was 'working part time', while other risk factors, such as vessel and job type showed conflicting results. CONCLUSION: MSDs in occupational fishermen are common across countries. Variations observed in MSD prevalence might be due to differences in methodology, populations and definitions of MSD. Evidence on work-related risk factors for MSD is sparse and most studies were of poor methodological quality. Only working part time was identified as a consistent risk factor for MSD possibly caused by



a healthy worker effect. There is a need for investigating causality in longitudinal studies, including both active and retired fishermen to better understand the complexity of MSD. PROSPERO REGISTRATION NUMBER: CRD42020147318

Dos Santos Bunn P, de Oliveira Meireles F, de Souza Sodre R, Rodrigues AI, and da Silva EB. Risk factors for musculoskeletal injuries in military personnel: a systematic review with meta-analysis. International Archives of Occupational & Environmental Health. 2021; 94(6):1173-1189.

<https://doi.org/10.1007/s00420-021-01700-3>

Abstract: Objective: To investigate the risk factors for musculoskeletal injuries in military personnel. Methods: A systematic literature search was carried out in August 2019 and updated in July 2020 without language or time filters. The inclusion criteria were prospective studies that investigated the risk factors for injuries in military personnel. Only risk factors analyzed by at least ten studies were selected for the meta-analysis. For data analysis, the RevMan5.3 program was used to compare the number of participants with injuries between high- or low-risk groups. The measurement of dichotomous variables was one of the selected parameters for the analysis, as well as the Mantel-Haenszel statistical method, random-effects model, and analysis with a relative risk (RR) and 95% confidence interval for the included studies. Results: A total of 2,629 studies were identified through databases. Thirty-four studies met the inclusion criteria. The groups considered at risk were the oldest [RR = 1.22; (95% CI 1.06-1.41)], with overweight or obesity [RR = 1.27; (95% CI 1.08-1.48)], with previous injuries [RR = 1.15; (95% CI 1.01-1.30)], and with the worst performance in running tests of 1,600-3,200 m [RR = 1.87; (95% CI 1.28-2.71)]. Gender, ethnicity, and smoking were not associated with injuries. However, a subgroup analysis showed that among studies with a follow-up of fewer than 12 months, women presented RR = 2.44 (95% CI 1.65-3.60) more likely to develop injuries. Conclusion: Age, overweight or obesity, previous injuries, and performance in the 1600-3200 m run are associated with an increased risk of injury in the military.

Stave GM, Smith SE, Hymel PA, and Heron RJL. Worksite temperature screening for COVID-19. Journal of Occupational &



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Environmental Medicine. 2021; 63(8):638-641.

<https://doi.org/10.1097/JOM.0000000000002245> [open access]

Abstract: OBJECTIVE: To determine whether temperature screening is useful in detecting and reducing workplace transmission of SARS-CoV-2. METHODS: A survey was conducted to determine whether temperature screening successfully identified workers with coronavirus disease 2019 (COVID-19) among a convenience sample of medical directors of multinational corporations in a wide range of industries. RESULTS: More than 15 million screenings were performed by 14 companies. Fewer than 700 episodes of fever were identified. Of these, only about 53 cases of COVID-19 were detected. By contrast about 2000 workers with diagnosed COVID-19 were in the workplace and not detected by screening. CONCLUSIONS: One case of COVID-19 was identified by screening for approximately every 40 cases that were missed. Worksite temperature screening was ineffective for detecting workers with COVID-19 and is not recommended

Wang S, Park J, and Wang Y. Cross-cultural comparison of firefighters' perception of mobility and occupational injury risks associated with personal protective equipment. International Journal of Occupational Safety & Ergonomics. 2021; 27(3):664-672.

<https://doi.org/10.1080/10803548.2019.1607027>

Abstract: Purpose. The objective of this study was to compare the effects of personal protective equipment (PPE) on firefighters' perceptions of mobility and their experienced occupational injury risks between China and the USA. Materials and methods. An online survey was conducted and a total of 328 firefighters, including 203 Chinese firefighters and 125 US firefighters, participated in the survey. Results. Both Chinese and US firefighters ranked mobility restriction as the most dissatisfactory characteristic of the current PPE. US firefighters reported the upper body as the most restricted region and self-contained breathing apparatus (SCBA) as the most dissatisfactory item. Chinese firefighters ranked boots as the leading cause of dissatisfaction, but they did not indicate any particular discomfort region. Moreover, musculoskeletal disorders (MSDs) were the most prevalent occupational injury reported by both Chinese and US firefighters. Restricted mobility while wearing PPE was closely



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related to the risk of MSDs. Conclusions. The findings suggested that PPE design for US firefighters should consider a balance in the weight distribution of SCBA and the overall interface of turnout gear and equipment. For Chinese firefighters' PPE, flexibility of materials for boots should be emphasized to increase mobility and reduce the risks of MSDs

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