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Journal articles marked with an asterisk indicate an IWH scientist or adjunct scientist is included in the list of authors.

**\*Ammendolia C, Hofkirchner C, Plener J, Bussieres A, Schneider MJ, Young JJ, Furlan AD, et al. Non-operative treatment for lumbar spinal stenosis with neurogenic claudication: an updated systematic review. *BMJ Open*. 2022; 12(1):e057724.**

<https://doi.org/10.1136/bmjopen-2021-057724> [open access]

**Abstract:** Objectives: Neurogenic claudication due to lumbar spinal stenosis (LSS) is a growing health problem in older adults. We updated our previous Cochrane review (2013) to determine the effectiveness of non-operative treatment of LSS with neurogenic claudication. Design: A systematic review. Data sources: CENTRAL, MEDLINE, EMBASE, CINAHL and Index to Chiropractic Literature databases were searched and updated up to 22 July 2020. Eligibility criteria: We only included randomised controlled trials published in English where at least one arm provided data on non-operative treatment and included participants diagnosed with neurogenic claudication with imaging confirmed LSS. Data extraction and synthesis: Two independent reviewers extracted data and assessed risk of bias using the Cochrane Risk of Bias Tool 1. Grading of Recommendations Assessment, Development and Evaluation was used for evidence synthesis. Results: Of 15 200 citations screened, 156 were assessed and 23 new trials were identified. There is moderate-quality evidence from three trials that: Manual therapy and exercise provides superior and clinically important short-term improvement in symptoms and function compared with medical care or community-based group exercise; manual therapy, education and exercise delivered using a cognitive-behavioural approach demonstrates superior and clinically important improvements in walking distance in the

immediate to long term compared with self-directed home exercises and glucocorticoid plus lidocaine injection is more effective than lidocaine alone in improving statistical, but not clinically important improvements in pain and function in the short term. The remaining 20 new trials demonstrated low-quality or very low-quality evidence for all comparisons and outcomes, like the findings of our original review. Conclusions: There is moderate-quality evidence that a multimodal approach which includes manual therapy and exercise, with or without education, is an effective treatment and that epidural steroids are not effective for the management of LSS with neurogenic claudication. All other non-operative interventions provided insufficient quality evidence to make conclusions on their effectiveness.

Prospero registration number: CRD42020191860.

**\*Mofidi A, Tompa E, Kalcevich C, McLeod C, Lebeau M, Song C, et al. Occupational exposure to wood dust and the burden of nasopharynx and sinonasal cancer in Canada. *International Journal of Environmental Research and Public Health*. 2022; 19(3):1144.**

<https://doi.org/10.3390/ijerph19031144> [open access]

Abstract: Background: Millions of workers around the world are exposed to wood dust, as a by-product of woodworking. Nasopharynx cancers (NPCs) and sinonasal cancers (SNCs) are two cancers that can be caused by occupational exposure to wood dust, but there is little evidence regarding their burden in Canada. Objective: the aim of this study was to estimate the incidence and economic burden of newly diagnosed cases of NPC and SNC in 2011 in Canada, attributable to occupational exposures to wood dust. Methods: calculating the incidence of cancer attributable to occupational exposure involved three steps of defining relative risk, assessing the prevalence of exposure and population modelling. We estimated the lifetime costs of newly diagnosed NPC and SNC from the societal perspective. The three major cost categories that we considered were direct costs (healthcare costs, out-of-pocket costs, and informal caregiving costs), indirect costs (labour productivity/output costs, employer adjustment costs, and home production losses), and intangible costs (health-related quality of life losses). To generate an estimate of economic burden, we used secondary data from multiple sources and applied them to our computational model developed from an extensive literature review. Results: From approximately 1.3 million workers exposed to wood dust, we expected 28%, 43% and 29% were exposed to low, medium, and high levels, respectively. We estimated from 235 newly diagnosed cases of NPC and 245 newly diagnosed cases of SNC, 4.6% (11 cases) and 4.4% (11 cases) were attributed to occupational exposure to wood dust, respectively. Our estimates of the economic burden of occupational NPC and SNC were about CAD 5.4 million (CAD 496,311 per-case) and CAD 6.7 million (CAD 627,437 per-case), respectively. For NPC direct costs constituted approximately 20% of all costs, and indirect and intangible costs accounted for 55% and 25%, while for SNC the breakdown distribution were 16%, 42% and 42%, respectively. Conclusions: Our estimates highlighted the importance of occupational NPC and SNC amongst other occupational cancers, especially in countries with large wood-related industries. This paper

also serves the information needs of policymakers who are seeking to make evidence-based decisions about occupational cancer prevention efforts

**Acke S, Couvreur S, Bramer WM, Schmickler MN, De Schryver A, and Haagsma JA. Global infectious disease risks associated with occupational exposure among non-healthcare workers: a systematic review of the literature. *Occupational and Environmental Medicine*. 2022; 79(1):63-71.**

<https://doi.org/10.1136/oemed-2020-107164> [open access]

Abstract: OBJECTIVES: Employees in non-healthcare occupations may be in several ways exposed to infectious agents. Improved knowledge about the risks is needed to identify opportunities to prevent work-related infectious diseases. The objective of the current study was to provide an updated overview of the published evidence on the exposure to pathogens among non-healthcare workers. Because of the recent SARS-CoV-2 outbreaks, we also aimed to gain more evidence about exposure to several respiratory tract pathogens. METHODS: Eligible studies were identified in MEDLINE, Embase and Cochrane between 2009 and 8 December 2020. The protocol was registered with International Prospective Register of Systematic Reviews (CRD42019107265). An additional quality assessment was applied according to the Equator network guidelines. RESULTS: The systematic literature search yielded 4620 papers of which 270 met the selection and quality criteria. Infectious disease risks were described in 37 occupational groups; 18 of them were not mentioned before. Armed forces (n=36 pathogens), livestock farm labourers (n=31), livestock/dairy producers (n=26), abattoir workers (n=22); animal carers and forestry workers (both n=16) seemed to have the highest risk. In total, 111 pathogen exposures were found. Many of these occupational groups (81.1%) were exposed to respiratory tract pathogens. CONCLUSION: Many of these respiratory tract pathogens were readily transmitted where employees congregate (workplace risk factors), while worker risk factors seemed to be of increasing importance. By analysing existing knowledge of these risk factors, identifying new risks and susceptible risk groups, this review aimed to raise awareness of the issue and provide reliable information to establish more effective preventive measures

**Billingsley S, Branden M, Aradhya S, Drefahl S, Andersson G, and Mussino E. COVID-19 mortality across occupations and secondary risks for elderly individuals in the household: a population register-based study. *Scandinavian Journal of Work, Environment & Health*. 2022; 48(1):52-60.**

<https://doi.org/10.5271/sjweh.3992> [open access]

Abstract: OBJECTIVES: This is the first population-level study to examine inequalities in COVID-19 mortality according to working-age individuals' occupations and the indirect occupational effects on COVID-19 mortality of older individuals who live with them. METHODS: We used early-release data for the entire population of Sweden of all recorded COVID-19 deaths from 12 March 2020 to 23 February 2021, which we linked to administrative registers and occupational measures. Cox proportional hazard models

assessed relative risks of COVID-19 mortality for the working-aged population registered in an occupation in December 2018 and the older population who lived with them. RESULTS: Among working aged-adults, taxi/bus drivers had the highest relative risk of COVID-19 mortality: over four times that of skilled workers in IT, economics, or administration when adjusted only for basic demographic characteristics. After adjusting for socioeconomic factors (education, income and country of birth), there are no occupational groups with clearly elevated (statistically significant) COVID-19 mortality. Neither a measure of exposure within occupations nor the share that generally can work from home were related to working-aged adults' risk of COVID-19 mortality. Instead of occupational factors, traditional socioeconomic risk factors best explained variation in COVID-19 mortality. Elderly individuals, however, faced higher COVID-19 mortality risk both when living with a delivery or postal worker or worker(s) in occupations that generally work from home less, even when their socioeconomic factors are taken into account. CONCLUSIONS: Inequalities in COVID-19 mortality of working-aged adults were mostly based on traditional risk factors and not on occupational divisions or characteristics in Sweden. However, older individuals living with those who likely cannot work from home or work in delivery or postal services were a vulnerable group

**Bo A, Hai AH, Chen DG, and Hammock K. Risk of bias assessments in systematic reviews and meta-analyses of behavioral interventions for substance use outcomes. *Journal of Clinical Epidemiology*. 2021; 139:20-27.**

<https://doi.org/10.1016/j.jclinepi.2021.06.012>

Abstract: OBJECTIVE: This study aims to explore the current practice of risk of bias assessment in systematic reviews of behavioral clinical trials published in substance use journals and how assessment results were incorporated into meta-analysis. STUDY DESIGN AND SETTING: The authors searched for systematic reviews and meta-analyses of behavioral interventions published from 2016 to 2020 in 40 substance use journals. Two authors independently screened and extracted relevant information from each review. Different tools for risk of bias assessment and approaches of incorporating the risk of bias assessment results into meta-analysis were summarized. RESULTS: The study identified 35 systematic reviews and meta-analyses of behavioral clinical trials. Among the 35 reviews, 31 (89%) assessed the risk of bias of their included studies. Twelve (39%) of the 31 reviews incorporated these assessment findings into their meta-analysis of intervention effects (e.g., conducted meta-regression or subgroup analysis, sensitivity analysis, limited the synthesis only to the "high quality" studies). CONCLUSION: Performing and reporting risk of bias assessment remain inconsistent in published systematic reviews. Future systematic reviews and meta-analyses are encouraged to connect their risk of bias assessment findings with meta-analysis and follow the most updated PRISMA guidelines in reporting the methods and results of risk of bias assessment

**Choobineh A, Shakerian M, Faraji M, Modaresifar H, Kiani J, Hatami M, et al. A multilayered ergonomic intervention program on reducing musculoskeletal disorders in an industrial complex: a dynamic participatory approach. *International Journal of Industrial Ergonomics*. 2021; 86:103221.**

<https://doi.org/10.1016/j.ergon.2021.103221>

**Daneshmandi H, Choobineh A, Ghaem H, and Hejazi N. Proper sit-stand work schedule to reduce the negative outcomes of sedentary behavior: a randomized clinical trial. *International Journal of Occupational Safety and Ergonomics*. 2021; 27(4):1039-1055.**

<https://doi.org/10.1080/10803548.2019.1679972>

**Abstract:** Objective. This study aimed to recommend an appropriate sit-stand schedule among office workers. Methods. The participants were randomly allocated into Time Regime 1 (TR1), Time Regime 2 (TR2) and Control (C) groups. A sit-stand workstation was provided to the TR1 and TR2 groups. The following variables were assessed: energy and macronutrients, energy expenditure in the workshift, blood parameters, depression, musculoskeletal symptoms, fatigue, productivity, workstation comfort and acceptability of the sit-stand workstation. Results. The results showed a significant increase in energy expenditure in the TR1 and TR2 groups in comparison to the C group. After the intervention, the highest prevalence of musculoskeletal symptoms in the shoulders, wrists/hands, and ankles/feet was related to the TR1 group, which was significantly different from the TR2 and C groups. Additionally, the 'severity of depression' was reduced significantly in the TR1 and TR2 groups compared to the C group. The scores for 'total fatigue' and its subscales were also reduced in the TR2 group. Furthermore, TR2 improved 'total productivity' and some of its subscales. Moreover, TR2 had a higher acceptability compared to TR1. Conclusions. TR2 had a positive effect on the office workers' energy expenditure, blood parameters, depression, fatigue and productivity

**Kang Y, Yang S, and Patterson P. Modern cause and effect model by factors of root cause for accident prevention in small to medium sized enterprises. *Safety and Health at Work*. 2021; 12(4):505-510.**

<https://doi.org/10.1016/j.shaw.2021.08.002> [open access]

**Abstract:** BACKGROUND: Factors related to root causes can cause commonly occurring accidents such as falls, slips, and jammed injuries. An important means of reducing the frequency of occupational accidents in small- to medium-sized enterprises (SMSEs) of South Korea is to perform intensity analysis of the root cause factors for accident prevention in the cause and effect model like decision models, epidemiological models, system models, human factors models, LCU (life change unit) models, and the domino theory. Especially intensity analysis in a robot system and smart technology as Industry 4.0 is very important in order to minimize the occupational accidents and fatal accident because of the complexity of accident factors. METHODS: We have developed the modern cause and effect model that includes factors of root cause through statistical testing to minimize commonly occurring accidents

and fatal accidents in SMSEs of South Korea and systematically proposed educational policies for accident prevention. RESULTS: As a result, the consciousness factors among factors of root cause such as unconsciousness, disregard, ignorance, recklessness, and misjudgment had strong relationships with occupational accidents in South Korean SMSEs. CONCLUSION: We conclude that the educational policies necessary for minimizing these consciousness factors include continuous training procedures followed by periodic hands-on experience, along with perceptual and cognitive education related to occupational health and safety

**Leroy S, Schmidt AM, and Madjar N. Working from home during COVID-19: a study of the interruption landscape. Journal of Applied Psychology. 2021; 106(10):1448-1465.**

<https://doi.org/10.1037/apl0000972>

Abstract: We examine how the shift toward intensive work-from-home during the Coronavirus disease (COVID-19) pandemic has impacted the experience of interruptions during work time. We conducted a two-wave survey of 249 employees working from home during the COVID-19 pandemic. Building on a conceptual framework and typology (Leroy et al., 2020), we examine changes in the prevalence of interruptions since-COVID-19 as a function of interruption type (intrusions, distractions, breaks, multitasking, and surprises), source (work-based vs. nonwork), and timing (pre- vs. since-COVID-19). We find a large increase in interruptions since-COVID, with the largest increases observed for nonwork intrusions, distractions, and multitasking. Women reported a greater increase in interruptions, particularly with regard to nonwork interruptions of all types, in addition to work-based intrusions, multitasking, and surprises, uncovering an important source of gender inequity. A dedicated unshared workspace at home was associated with fewer nonwork interruptions, while more nonwork responsibilities predicted more nonwork interruptions. Further differentiation of interruption types and sources was observed with regard to outcomes of interruptions. Nonwork interruptions predicted higher family-to-work interference, emotional exhaustion, and lower performance. Notably, these relationships varied meaningfully across specific interruption-type/outcome combinations, highlighting the value of differentiating interruptions by type. Work-based interruptions-especially intrusions and multitasking-were associated with higher work-family interference and emotional exhaustion, as well as lower performance. The results of this study provide valuable insights to help understand and, ultimately, improve work experiences in the midst of the COVID-19 pandemic while also contributing to the broader literatures on interruptions and remote work. (PsyInfo Database Record (c) 2021 APA, all rights reserved)

**Li LZ and Wang S. Do work-family initiatives improve employee mental health? Longitudinal evidence from a nationally representative cohort. Journal of Affective Disorders. 2022; 297:407-414.**

<https://doi.org/10.1016/j.jad.2021.10.112>

Abstract: BACKGROUND: Work stress and work-family conflict are important correlates of affective disorders. The article explored (1) whether the wide adoption of work-family

initiatives improve a national workforce's mental health; (2) whether the potential benefits differ between the initiatives that give employees autonomy over job quality (flexible schedule and telework) or job quantity (work hours); (3) whether the effects depend on employee's perceived availability or actual usage of the initiatives, and if so, what are the respective mechanisms; and (4) whether there are gender differences in the mental health effects. **METHODS:** Fixed-effects analyses of five-wave panel surveys from 2010 to 2020 on a probability sample of 34,484 British workers, which measured mental health with the GHQ-12 scale. Job satisfaction and leisure time satisfaction were tested as mediators. **RESULTS:** Perceived availability of work-family initiatives improved men and women's mental health by increasing their job satisfaction. Actual usage of work-family initiatives improved women's, but not men's, mental health by increasing their job satisfaction and leisure time satisfaction. The mental health benefits of flexible schedule and telework initiatives are larger than reduced work hours initiatives. **LIMITATIONS:** The exploratory study used a broad mental health outcome and did not measure work-family initiatives' effects on specific affective disorders such as anxiety and depression. The study could not eliminate time-varying confounders. **CONCLUSIONS:** Actual and perceived job quality are important in workplace mental health promotion. Organizational leaders and policymakers can offer flexible work time and place to reduce work-family conflict and prevent employees' affective disorders

**Mawritz MB, Capitano J, Greenbaum RL, Bonner JM, and Kim J. Development and validation of the workplace hazing scale. *Human Relations*. 2022; 75(1):139-176.**

<https://doi.org/10.1177/0018726720957058>

**O'Neill C, Gopaldasani V, and Coman R. Factors that influence the effective use of safe work method statements for high-risk construction work in Australia: a literature review. *Safety Science*. 2022; 147:105628.**

<https://doi.org/10.1016/j.ssci.2021.105628>

**Pena-Gralle APB, Talbot D, Duchaine CS, Lavigne-Robichaud M, Trudel X, Aube K, et al. Job strain and effort-reward imbalance as risk factors for type 2 diabetes mellitus: a systematic review and meta-analysis of prospective studies. *Scandinavian Journal of Work, Environment & Health*. 2022; 48(1):5-20.**

<https://doi.org/10.5271/sjweh.3987> [open access]

**Abstract:** **OBJECTIVES:** This systematic review and meta-analysis aimed to synthesize the available data on prospective associations between work-related stressors and the risk of type 2 diabetes mellitus (T2DM) among adult workers, according to the demand-control-support (DCS) and the effort-reward imbalance (ERI) models. **METHOD:** We searched for prospective studies in PubMed, EMBASE, Web of Science, Scopus, CINHAI and PsychInfo. After screening and extraction, quality of evidence was assessed using the ROBINS-I tool adapted for observational studies. The effect estimates extracted for each cohort were synthesized using random effect models. **RESULTS:** We included 18 studies (reporting data on

25 cohorts) in meta-analyses for job strain, job demands, job control, social support at work and ERI. Workers exposed to job strain had a higher risk of developing T2DM when compared to unexposed workers [pooled rate ratio (RR) 1.16, 95% confidence interval (CI) 1.07-1.26]. This association was robust in several supplementary analyses. For exposed women relative to unexposed women, the RR was 1.35 (95% CI 1.12-1.64). The RR of workers exposed to ERI was 1.24 (95% CI 1.08-1.42) compared to unexposed workers. CONCLUSIONS: This is the first meta-analysis to find an effect of ERI on the onset of T2DM incidence. It also confirms that job strain increases the incidence of T2DM, especially among women

**Shakespeare T, Watson N, Brunner R, Cullingworth J, Hameed S, Scherer N, et al. Disabled people in Britain and the impact of the COVID-19 pandemic. *Social Policy & Administration*. 2022; 56:103-117.**

<https://doi.org/10.1111/spol.12758> [open access]

Abstract: This paper reports on in-depth qualitative interviews conducted with 69 disabled people in England and Scotland, and with 28 key informants from infrastructure organisations in the voluntary and statutory sectors, about the impact of COVID-19, and measures taken to control it. Participants were recruited through voluntary organisations. As with everyone, the Pandemic has had a huge impact: we discuss the dislocations it has caused in everyday life; the failures of social care; the use of new technologies; and participants' view on leadership and communication. We conclude with suggestions for urgent short term and medium term responses, so that the United Kingdom and other countries can respond better to this and other pandemics, and build a more inclusive world

**Torres Y, Nadeau S, and Landau K. Evaluation of fatigue and workload among workers conducting complex manual assembly in manufacturing. *IJSE Transactions on Occupational Ergonomics and Human Factors*. 2021; 9(1):49-63.**

<https://doi.org/10.1080/24725838.2021.1997835>

Abstract: OCCUPATIONAL APPLICATIONS We conducted a study to evaluate fatigue and workload among workers performing complex assembly tasks. We investigate several predictors of fatigue, including subjective workload estimates, sleep duration, the shift being worked, and production levels. High levels of fatigue were reported in one-third of the shifts evaluated. The main predictors of high fatigue were workload estimates, working evening shifts, and baseline fatigue. Among the six dimensions of workload, only mental demand and frustration were predictors of high fatigue. Mental demand was also rated highest. Participants reported less than seven hours of sleep in 60% of the nights evaluated. These results suggest that managers and supervisors should consider cognitive workload as a key contributing factor to fatigue in complex manual assembly. Similarly, work schedule planning should consider shift duration, start times, and end times, because of the negative influence on fatigue and the potential disruptions on sleep among workers

**Worton SK and Furman E. Examining peer learning as a strategy for advancing uptake of evidence-based practices: a scoping review. Evidence & Policy. 2021; 17(4):635-659.**  
<https://doi.org/10.1332/174426421X16149619754826>

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