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***Carnide N, Hogg-Johnson S, Cote P, Koehoorn M, and Furlan AD. Factors associated with early opioid dispensing compared with NSAID and muscle relaxant dispensing after a work-related low back injury. Occupational and Environmental Medicine. 2020; [epub ahead of print].**

<https://doi.org/10.1136/oemed-2019-106380>

Abstract: Objectives: The objective of this historical cohort study was to determine the claimant and prescriber factors associated with receiving opioids at first postinjury dispense compared with non-steroidal anti-inflammatory drugs (NSAIDs) and skeletal muscle relaxants (SMRs) in a sample of workers' compensation claimants with low back pain (LBP) claims between 1998 and 2009 in British Columbia, Canada. Methods: Administrative workers' compensation, prescription and healthcare data were linked. The association between claimant factors (sociodemographics, occupation, diagnosis, comorbidities, pre-injury prescriptions and healthcare) and prescriber factors (sex, birth year, specialty) with drug class(es) at first dispense (opioids vs NSAIDs/SMRs) was examined with multilevel multinomial logistic regression. Results: Increasing days supplied with opioids in the previous year was associated with increased odds of receiving opioids only (1-14 days OR 1.62, 95% CI 1.51 to 1.75; =15 days OR

5.12, 95% CI 4.65 to 5.64) and opioids with NSAIDs/SMRs (1-14 days OR 1.49, 95% CI 1.39 to 1.60; ≥15 days OR 2.82, 95% CI 2.56 to 3.12). Other significant claimant factors included: pre-injury dispenses for NSAIDs, SMRs, antidepressants, anticonvulsants and sedative-hypnotics/anxiolytics; International Statistical Classification of Diseases and Related Health Problems, 9th Revision diagnosis; various pre-existing comorbidities; prior physician visits and hospitalisations; and year of injury, age, sex, health authority and occupation. Prescribers accounted for 25%-36% of the variability in the drug class(es) received, but prescriber sex, specialty and birth year did not explain observed between-prescriber variation. Conclusions: During this period in the opioid crisis, early postinjury dispensing was multifactorial, with several claimant factors associated with receiving opioids at first prescription. Prescriber variation in drug class choice appears particularly important, but was not explained by basic prescriber characteristics.

***Fan JK, Sim M, Lilley R, Wong IS, and Smith PM. Sleep disturbances and disability following work-related injury and illness: examining longitudinal relationships across three follow-up waves. Journal of Sleep Research. 2020; [epub ahead of print].**

<https://doi.org/10.1111/jsr.13124>

Abstract: Despite the high burden of sleep disturbances among the general population, there is limited information on prevalence and impact of poor sleep among injured workers. This study: (a) estimated the prevalence of sleep disturbance following work-related injury; and (b) examined the longitudinal association between sleep disturbances and disability/functioning, accounting for reciprocal relationships and mental illness. Longitudinal survey data were collected from workers' compensation claimants with a time-loss claim in Victoria, Australia (N = 700). Surveys were conducted at baseline, 6 months and 12 months. Sleep disturbance was measured using the Patient-Reported Outcomes Measurement Information System (PROMIS) questionnaire. Disability/functioning was based on self-reported activity limitations, participation restrictions and emotional functioning. Path models examined the association between disability/functioning and sleep. Mean sleep disturbance T-scores were 55.2 (SD 11.4) at 6 months, with 36.4% of the sample

having a T-score of 60+. Longitudinal relationships were observed between disability (specifically, emotional functioning) and sleep disturbances across successive follow-up waves. For example, each unit increase in T2 emotional functioning (five-point scale) was associated with a 1.1 unit increase in T3 sleep disturbance (approximately 29-76 scale). Cross-lagged path models found evidence of a reciprocal relationship between disability and sleep, although adjustment for mental illness attenuated the estimates to the null. In conclusion, sleep disturbances are common among workers' compensation claimants with work injuries/illnesses. Given the links between some dimensions of disability, mental health and sleep disturbances, the findings have implications for the development of interventions that target the high prevalence of sleep problems among working populations.

Anderson G, Frank JW, Naylor CD, Wodchis W, and Feng P. Using socioeconomics to counter health disparities arising from the covid-19 pandemic. British Medical Journal. 2020; 369:m2149.

<https://doi.org/10.1136/bmj.m2149> [open access]

Baker MG. Nonrelocatable occupations at increased risk during pandemics: United States, 2018. American Journal of Public Health. 2020; 110(8):1126-1132.

<https://doi.org/10.2105/AJPH.2020.305738>

Abstract: Objectives. To characterize which occupations in the United States could likely work from home during a pandemic such as COVID-19. Methods. I merged 2018 US Bureau of Labor Statistics (BLS) national employment and wage data with measures ranking the importance of computer use at work and the importance of working with or performing for the public from the BLS O*NET survey. Results. Approximately 25% (35.6 million) of US workers are employed in occupations (such as technology, administrative, financial, and engineering) that could be done from home; the remaining 75% work in occupations (including health care, manufacturing, retail, and food services) that are challenging to do from home. Conclusions. Most US workers are employed in occupations that cannot be done at home, putting 108.4 million workers at increased risk for adverse health outcomes related to

working during a pandemic. These workers tend to be lower paid. The stress experienced by lower-income groups, coupled with job insecurity, could result in a large burden of mental health disorders in the United States in addition to increased cases of COVID-19 from workplace transmission

Barnes LA, Eng A, Corbin M, Denison HJ, 't Mannetje A, Haslett S, et al. The prevalence of cardiovascular risk factors in different occupational groups in New Zealand. *Annals of Work Exposures and Health*. 2020; 64(6):645-658.

<https://doi.org/10.1093/annweh/wxaa040>

Abstract: OBJECTIVES: Objectives: Although cardiovascular disease (CVD) risk has been shown to differ between occupations, few studies have specifically evaluated the distribution of known CVD risk factors across occupational groups. This study assessed CVD risk factors in a range of occupational groups in New Zealand, stratified by sex and ethnicity. Methods: Two probability-based sample surveys of the general New Zealand adult population (2004-2006; n = 3003) and of the indigenous people of New Zealand (Maori; 2009-2010; n = 2107), for which occupational histories and lifestyle factors were collected, were linked with routinely collected health data. Smoking, body mass index, deprivation, diabetes, high blood pressure, and high cholesterol were dichotomized and compared between occupational groups using age-adjusted logistic regression. Results: The prevalence of all known CVD risk factors was greater in the Maori survey than the general population survey, and in males compared with females. In general for men and women in both surveys 'Plant and machine operators and assemblers' and 'Elementary workers' were more likely to experience traditional CVD risk factors, while 'Professionals' were less likely to experience these risk factors. 'Clerks' were more likely to have high blood pressure and male 'Agricultural and fishery workers' in the general survey were less likely to have high cholesterol, but this was not observed in the Maori survey. Male Maori 'Trades workers' were less likely to have high cholesterol and were less obese, while for the general population survey, this was not observed. Conclusions: This study showed differences in the distribution of known CVD risk factors across occupational groups, as well as between ethnic groups and males and females.

Girardi P, Merler E, Ferrante D, Silvestri S, Chellini E, Angelini A, et al. Factors affecting asbestosis mortality among asbestos-cement workers in Italy. *Annals of Work Exposures and Health*. 2020; 64(6):622-635.

<https://doi.org/10.1093/annweh/wxaa037>

Abstract: OBJECTIVES: This study was performed with the aim of investigating the temporal patterns and determinants associated with mortality from asbestosis among 21 cohorts of Asbestos-Cement (AC) workers who were heavily exposed to asbestos fibres. METHODS: Mortality for asbestosis was analysed for a cohort of 13 076 Italian AC workers (18.1% women). Individual cumulative asbestos exposure index was calculated by factory and period of work weighting by the different composition of asbestos used (crocidolite, amosite, and chrysotile). Two different approaches to analysis, based on Standardized Mortality Ratios (SMRs) and Age-Period-Cohort (APC) models were applied. RESULTS: Among the considered AC facilities, asbestos exposure was extremely high until the end of the 1970s and, due to the long latency, a peak of asbestosis mortality was observed after the 1990s. Mortality for asbestosis reached extremely high SMR values [SMR: males 508, 95% confidence interval (CI): 446-563; females 1027, 95% CI: 771-1336]. SMR increased steeply with the increasing values of cumulative asbestos exposure and with Time Since the First Exposure. APC analysis reported a clear age effect with a mortality peak at 75-80 years; the mortality for asbestosis increased in the last three quintiles of the cumulative exposure; calendar period did not have a significant temporal component while the cohort effect disappeared if we included in the model the cumulative exposure to asbestos. CONCLUSIONS: Among heaviest exposed workers, mortality risk for asbestosis began to increase before 50 years of age. Mortality for asbestosis was mainly determined by cumulative exposure to asbestos

Leuridan G. Bridging the gap between culture and safety in a critical care context: the role of work debate spaces. *Safety Science*. 2020; 129:104839.

<https://doi.org/10.1016/j.ssci.2020.104839>

Liden E, Karlsson B, Toren K, and Andersson E. Metabolic syndrome: a risk factor for all-cause disability pension: a prospective study based on the Swedish WOLF cohort. Scandinavian Journal of Work, Environment & Health. 2020; 46(4):402-409.

<https://doi.org/10.5271/sjweh.3881> [open access]

Abstract: Objective The aim was to study the impact of metabolic syndrome on the risk for disability pension among Swedish employees. Methods A working population-based prospective cohort [Work, Lipids and Fibrinogen (WOLF) cohort, N=10 803], was linked to national registry records of all-cause disability pension for the period 1992-2013. Occupational health service data included 1992-2009 anthropometric measurements, blood samples, and questionnaires. Metabolic syndrome was defined according to International Diabetes Federation criteria, and risk for any all-cause disability pension was analyzed using Cox proportional hazard regression as hazard ratios (HR) with 95% confidence intervals (CI) adjusted for age, sex and other covariates. Results Of the employees, 17.9% (men 21.5%, women 9.7%) met the criteria for metabolic syndrome. The prevalence of all-cause disability pension was 15.2% in men with metabolic syndrome and 7.5% in men without metabolic syndrome; for women, the corresponding results were 23.2% and 12.7%. After adjustment for socio-demographic factors, health behaviors, work-related factors, diabetes, and obesity, the risk for all-cause disability pension among subjects with metabolic syndrome displayed an HR of 1.37 (95% CI 1.18-1.60). Results were similar for men and women. In a subgroup, further adjustment for chronic diseases resulted in an HR of 1.32 (95% CI 1.04-1.68). Conclusion This study demonstrates an increased risk for all-cause disability pension, even after adjustment for other risk factors, among Swedish employees with metabolic syndrome compared to those without at baseline

Nelson-Wong E, Gallagher K, Johnson E, Antonioli C, Ferguson A, Harris S, et al. Increasing standing tolerance in office workers with standing-induced back pain. Ergonomics. 2020; 63(7):804-817.

<https://doi.org/10.1080/00140139.2020.1761034>

Abstract: Sit-stand desks are popular however many people have

standing-induced low back pain (LBP). People with LBP have fewer standing weight shifts compared with back-healthy people. Participants were classified as standing-tolerant or intolerant. Participants were provided sit-stand desks for 12 weeks. Participants were assigned to intervention (graded standing exposure and exercise) or control (no instruction) conditions. Participants reported weekly sitting time and average/worst LBP. Standing weight shifts and LBP were re-assessed post-intervention. All groups decreased sitting time (range: 30-50%) over 12 weeks. Sitting time and average LBP were correlated in all standing-intolerant individuals, worst LBP and sitting time were correlated for intervention group only. All standing-intolerant individuals increased standing weight shifts and decreased LBP after 12-weeks. Standing-intolerant individuals benefitted from 12-weeks of sit-stand desk use regardless of intervention. Motivated individuals with standing-induced LBP may increase standing tolerance with sit-stand desk use. Additional benefits may exist when structured guidance is provided. Practitioner summary: Many people are standing-intolerant due to low back pain (LBP). This lab and field-based study showed some benefits from structured approaches to gradually progress standing time when transitioning to standing work. Using a sit-stand desk for 12 weeks resulted in decreased LBP and sitting time in standing-intolerant people. Abbreviations: LBP: low back pain; OSPAQ: Occupational Sitting and Physical Activity Questionnaire; VAS: visual analog scale; GRF: ground reaction force; WeekVASMAX: worst low back pain reported on visual analog scale for prior week; WeekVASAVE: average low back pain reported on visual analog scale for prior week; ICC: intraclass correlation coefficient; LabVASMAX: worst low back pain reported on visual analog scale during lab-based standing; LabVASAVE: average low back pain reported on visual analog scale during lab-based standing; FvR,L: vertical ground reaction force for right and left force plate; BWSSMALL: small (10-29% body weight) body weight shift; BWSLARGE: large (> 30% body weight) body weight shift; ActivPALSED: ActivePAL data for sedentary time; ActivPALSTND: ActivePAL data for standing time; ANOVA: analysis of variance; Standing Intolerant-INT: standing intolerant participants assigned to intervention condition; Standing Intolerant-CON: standing intolerant participants assigned to control condition; Standing Tolerant-INT: standing tolerant participants assigned to intervention

condition; Standing Tolerant-CON: standing tolerant participants assigned to control condition; SI: standing intolerant; ST: standing tolerant; INT: intervention; CON: control.

Richard MC and Durand MJ. Workers age 55 and over working with pain. A descriptive interpretive study. Journal of Occupational Rehabilitation. 2020; 30(2):211-220.

<https://doi.org/10.1007/s10926-019-09865-y> [open access]

Abstract: Purpose In most industrialized countries, the share of workers in the age 55+ age group is increasing while there is a shortage of young workers. Although data suggest that at least one in five older workers suffers from chronic musculoskeletal pain, most will continue working despite pain. The objective of this study is to explore factors associated with staying at work for workers with musculoskeletal pain. Methods An interpretive descriptive method was used. Semi-structured individual interviews were conducted. Inclusion criteria were: manual/mixed occupations, persistent musculoskeletal pain, and working 28 h weekly or more. Analysis was performed using themes from the conceptual model created. Results Fourteen participants were included, ages 55-70. They ranged from self-employed individuals to employees of large organizations. For most, the perception of being useful, having peer recognition and feeling that work contributes to health were essential drivers for staying at work. Flexibility at work was deemed essential by all but took various forms. Individual cost of staying at work varied from low to high. Conclusion This study identified both personal and work-related factors associated with working in the presence of pain. New concept of cost of staying at work appears promising

Schuring M, Robroek SJW, Carrino L, O'Prinsen AC, Oude Hengel KM, Avendano M, et al. Does reduced employment protection increase the employment disadvantage of workers with low education and poorer health? Journal of Epidemiology and Community Health. 2020; [epub ahead of print].

<https://doi.org/10.1136/jech-2020-213772> [open access]

Abstract: Background: Declines in employment protection may have disproportionate effects on employment opportunities of workers with low education and poorer health. This study investigates the impact of changes in employment protection levels on employment rates

according to education and health in 23 European countries. Methods: Data were taken from the 4-year rotating panel European Union Statistics on Income and Living Conditions study. Employed participants aged 29-59 years (n = 334 999) were followed for 1 year over an 11-year period, from 2003 up to 2014. A logistic regression model with country and period fixed effects was used to estimate the association between changes in the Organisation for Economic Co-operation and Development (OECD) employment protection index and labour market outcomes, incorporating interaction terms with education and health. Results: 15 of the 23 countries saw their level of employment protection decline between 2003 and 2014. Reduced employment protection of temporary workers increased odds of early retirement (OR 6.29, 95% CI 3.17 to 12.48) and unemployment (OR 1.37, 95% CI 1.07 to 1.76). Reduced employment protection of permanent workers increased odds of early retirement more among workers in poor health (OR 4.46, 95% CI 2.26 to 8.78) than among workers in good health (OR 2.58, 95% CI 1.30 to 5.10). The impact of reduced employment protection of temporary workers on unemployment was stronger among lower-educated workers (OR 1.47, 95% CI 1.13 to 1.90) than among higher-educated workers (OR 1.21, 95% CI 0.95 to 1.54). Conclusion: Reduced employment protection increased the odds of early exit from paid employment, especially among workers with lower education and poorer health. Employment protection laws may help reduce the employment disadvantage of workers with low education and poorer health.

Spinazze A, Cattaneo A, and Cavallo DM. COVID-19 outbreak in Italy: protecting worker health and the response of the Italian Industrial Hygienists Association. *Annals of Work Exposures and Health*. 2020; 64(6):559-564.

<https://doi.org/10.1093/annweh/wxaa044> [open access]

Abstract: The number of people infected with severe acute respiratory syndrome-coronavirus 2 (SARS-CoV-2), i.e. the virus causing coronavirus disease (COVID-19), is dramatically increasing worldwide to the size of a pandemic. At the time of writing Italy is ranking first among countries both in terms of number of COVID-19 confirmed cases and in terms of number of deaths. Such a wide spread of COVID-19 has led to concern among workers who are facing the risk of becoming infected during the execution of their

duties. We believe it is useful to remark on the need for professional expertise in the field of Occupational Hygiene in this emergency context, in which the indications provided by national and international bodies, the available scientific literature and the legal provisions are constantly and rapidly evolving. It is of fundamental importance that there is an effective analysis of expert inputs, to provide essential guidance to Health, Safety and Environmental managers and other prevention managers in workplaces. In this regard, not only a constant update of the regulatory framework is needed, but also a development and circulation of operational guidance to all the stakeholders to translate general indications into clear operating procedures and implementation tools to be adopted in the workplaces. We believe that the scientific associations in the field of Occupational Hygiene play a crucial role in guiding and assisting prevention professionals. There is considerable expertise in the occupational hygiene and exposure science communities that can help employers and workers to contain and delay the spread of COVID-19. For this reason, the Italian Association of Industrial Hygienists (AIDII-Associazione Italiana degli Igienisti Industriali) published documents containing operational guidelines to provide correct and constantly updated information for: (i) workers employed in essential activities (with low and medium risk of contagion), (ii) health workers and other workers at high or very high risk of contagion, and (iii) for the correct use and handling of personal protective equipment for workers and for the population in general. It is worth pointing out that the documents produced are not intended to replace those produced by authoritative bodies, but to comply with and complete them by reporting an effective summary and further indications about the measures that should be taken in practice under the light of the Italian legislation. At present, the challenge is to produce scientifically sound knowledge, appropriate tools, and effective methodologies, by coordinating the initiatives of different scientific associations, with the final aim to effectively transfer them to employers and workers

Sundstrup E and Andersen LL. Joint association of physical and psychosocial working conditions with risk of long-term sickness absence: prospective cohort study with register follow-up. *Scandinavian Journal of Public Health*. 2020; [epub ahead of

print].

<https://doi.org/10.1177/1403494820936423>

Abstract: Aims: The interplay between physical and psychosocial working conditions for the risk of developing poor health is not well understood. This study aimed to determine the joint association of physical and psychosocial working conditions with risk of long-term sickness absence (LTSA) in the general working population. **Methods:** Based on questionnaire responses about physical working conditions and psychosocial working conditions (influence at work, emotional demands, support from colleagues and support from managers) and two-year prospective follow-up in a national register on social transfer payments, we estimated the risk of incident LTSA of >30 days among 9544 employees without previous LTSA from the Danish Work Environment Cohort Study. The analyses were censored for all events of permanent labour market drop-out (retirement, disability pension, immigration or death) and controlled for potential confounders. **Results:** In the total cohort, more demanding physical working conditions were associated with risk of LTSA in a dose-response fashion (trend test, $p < 0.0001$). The combination of poor overall psychosocial working conditions (index measure of influence at work, emotional demands, support from managers and support from colleagues) and hard physical working conditions showed the highest risk of LTSA. However, poor overall psychosocial working conditions did not interact with physical working conditions in the risk of LTSA ($p = 0.9677$). **Conclusions:** The results of this study suggest that workplaces should strive to improve both psychosocial and physical work factors in order to ensure the health of workers

Svinndal EV, Jensen C, and Rise MB. Employees with hearing impairment. A qualitative study exploring managers' experiences. Disability and Rehabilitation. 2020; 42(13):1855-1862.

<https://doi.org/10.1080/09638288.2018.1541101> [open access]

Abstract: Purpose: Explore managers' experiences regarding employees with hearing impairments. **Materials and methods:** Individual interviews with ten managers having employees with hearing impairment. The interviews were analyzed using Systematic text condensation. **Results:** The managers felt great responsibility for

their employees' functioning, but hearing loss issues were easily forgotten. They found access to information as imperative to secure workplace adjustments, and temporary needs, rather than permanent ones, were easily met. Despite their challenging nature, meetings were not accommodated to meet hearing loss needs. Support in accommodation processes at the workplace was not requested since minor adjustments were perceived as sufficient. Conclusion: The results show that there are barriers towards developing less strenuous working conditions for employees with hearing impairments. The implications of hearing loss should be recognized as risk factors for fatigue and treated accordingly. Appropriate services are necessary to support the stakeholders at the workplace and utilize the room for manoeuvre in the accommodation process. Further studies should identify how such services can accommodate both the employees, and managers' needs. IMPLICATIONS FOR REHABILITATION Hearing loss as a risk factor for fatigue needs to be addressed by rehabilitation professionals. Vocational rehabilitation professionals are needed to support employees with hearing loss and their employers in making adjustments at the work place. Occupational rehabilitation professionals and professionals targeting hearing impairments are both needed in the process

Zhang Y, ElGhaziri M, Nasuti S, and Duffy JF. The comorbidity of musculoskeletal disorders and depression: associations with working conditions among hospital nurses. Workplace Health & Safety. 2020; 68(7):346-354.

<https://doi.org/10.1177/2165079919897285>

Abstract: Background: Musculoskeletal disorders (MSDs) are the leading cause of pain and disability among nurses and are frequently accompanied by depression. However, the association between the comorbidity of MSDs and depression and working conditions has not been studied, which was the aim of this study. Methods: In 2015, all nurses (n = 1,102) employed at a community hospital in the Northeast United States were invited to participate in this cross-sectional study. A survey was distributed in which participants were asked to report on MSDs, depressive symptoms, as well as subjective working conditions assessed including physical demands, psychological demands, decision authority, social support, and work-family conflict. Findings: 397 nurses responded (36%), and the

prevalence of the comorbidity of MSDs and depression was 14.5%. Poisson regression (PR) models suggested that work-family conflict was associated with increased risk of the comorbidity (PR = 2.18; 95% confidence interval [CI] = 1.33-3.58), as was 8-hour night shift (PR = 2.77; 95% CI = [1.22, 6.31]) or 12-hour day shift (PR = 2.20; 95% CI = [1.07, 4.50]). Other working conditions were not directly associated with the comorbidity. Conclusions/Application to Practice: The comorbidity of MSDs and depression is prevalent among hospital nurses, and work-family conflict and working night shift or longer shifts were significantly associated with this. Effective workplace programs are needed to address nurses' working conditions to reduce their work-family conflict, thereby improving their musculoskeletal and mental health

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