

IWH Research Alert
July 7, 2017

Missed an issue? Catch up on previous 2017 *Research Alerts* available on the IWH website <http://www.iwh.on.ca/research-alerts>

Research Alerts is a service provided to you by the Institute for Work & Health (IWH) to help you keep abreast of recent literature in the areas of occupational health and safety, epidemiology, public health and others within the IWH mandate. Please note that these articles have not been reviewed by Institute scientists to assess the quality of the studies. *Research Alerts* should not be considered an endorsement of the findings. Readers are cautioned not to act on the results of single studies, but rather to seek bodies of evidence. It should also be noted that the Institute for Work & Health cannot provide full-text of articles listed in *Research Alerts* to individuals outside of the organization, as this violates copyright legislation.

***Marin TJ, Van Eerd D, Irvin E, Couban R, Koes BW, Malmivaara A, Van Tulder MW, and Kamper SJ. Multidisciplinary biopsychosocial rehabilitation for subacute low back pain. Cochrane Database of Systematic Reviews. 2017; 6:CD002193.**
<http://dx.doi.org/10.1002/14651858.CD002193.pub2>

Abstract: BACKGROUND: Low back pain (LBP) is associated with enormous personal and societal burdens, especially when it reaches the chronic stage of the disorder (pain for a duration of more than three months). Indeed, individuals who reach the chronic stage tend to show a more persistent course, and they account for the majority of social and economic costs. As a result, there is increasing emphasis on the importance of intervening at the early stages of LBP. According to the biopsychosocial model, LBP is a condition best understood with reference to an interaction of physical, psychological, and social influences. This has led to the development of multidisciplinary biopsychosocial rehabilitation (MBR) programs that target factors from the different domains, administered by healthcare professionals from different backgrounds. This review is an update of a Cochrane Review on MBR for subacute LBP, which was published in 2003. It is part of a series of reviews on MBR for musculoskeletal pain published by the Cochrane Back and Neck Group and the Cochrane Musculoskeletal Group. OBJECTIVES: To examine the effectiveness of MBR for subacute LBP (pain for a duration of six to 12 weeks) among adults, with a focus on pain, back-specific disability, and work status. SEARCH METHODS: We searched for relevant trials in any language by a computer-aided search of CENTRAL, MEDLINE, Embase, CINAHL, PsycINFO and two trials registers. Our search is current to 13 July 2016. SELECTION CRITERIA: We included randomised controlled trials (RCTs) of adults with subacute LBP. We included studies that investigated a MBR

program compared to any type of control intervention. We defined MBR as an intervention that included a physical component (e.g. pharmacological, physical therapy) in combination with either a psychological, social, or occupational component (or any combination of these). We also required involvement of healthcare professionals from at least two different clinical backgrounds with appropriate training to deliver the component for which they were responsible.

DATA COLLECTION AND ANALYSIS: We used standard methodological procedures expected by Cochrane. In particular, the data extraction and 'risk of bias' assessment were conducted by two people, independently. We used the Cochrane tool to assess risk of bias and the GRADE approach to assess the overall quality of the evidence for each outcome.

MAIN RESULTS: We included a total of nine RCTs (981 participants) in this review. Five studies were conducted in Europe and four in North America. Sample sizes ranged from 33 to 351. The mean age across trials ranged between 32.0 and 43.7 years. All included studies were judged as having high risk of performance bias and high risk of detection bias due to lack of blinding, and four of the nine studies suffered from at least one additional source of possible bias. In MBR compared to usual care for subacute LBP, individuals receiving MBR had less pain (four studies with 336 participants; SMD -0.46, 95% CI -0.70 to -0.21, moderate-quality of evidence due to risk of bias) and less disability (three studies with 240 participants; SMD -0.44, 95% CI -0.87 to -0.01, low-quality of evidence due to risk of bias and inconsistency), as well as increased likelihood of return-to-work (three studies with 170 participants; OR 3.19, 95% CI 1.46 to 6.98, very low-quality of evidence due to serious risk of bias and imprecision) and fewer sick leave days (two studies with 210 participants; SMD -0.38 95% CI -0.66 to -0.10, low-quality of evidence due to risk of bias and imprecision) at 12-month follow-up. The effect sizes for pain and disability were low in terms of clinical meaningfulness, whereas effects for work-related outcomes were in the moderate range. However, when comparing MBR to other treatments (i.e. brief intervention with features from a light mobilization program and a graded activity program, functional restoration, brief clinical intervention including education and advice on exercise, and psychological counselling), we found no differences between the groups in terms of pain (two studies with 336 participants; SMD -0.14, 95% CI -0.36 to 0.07, low-quality evidence due to imprecision and risk of bias), functional disability (two studies with 345 participants; SMD -0.03, 95% CI -0.24 to 0.18, low-quality evidence due to imprecision and risk of bias), and time away from work (two studies with 158 participants; SMD -0.25 95% CI -0.98 to 0.47, very low-quality evidence due to serious imprecision, inconsistency and risk of bias). Return-to-work was not reported in any of the studies. Although we looked for adverse events in both comparisons, none of the included studies reported this outcome.

AUTHORS' CONCLUSIONS: On average, people with subacute LBP who receive MBR will do better than if they receive usual care, but it is not clear whether they do better than people who receive some other type of treatment. However, the available research provides mainly low to very low-quality

evidence, thus additional high-quality trials are needed before we can describe the value of MBP for clinical practice

Awang H, Tan LY, Mansor N, Tongkumchum P, and Eso M. Factors related to successful return to work following multidisciplinary rehabilitation.

Journal of Rehabilitation Medicine. 2017; 49(6):520-525.

<http://dx.doi.org/10.2340/16501977-2233> [open access]

Abstract: OBJECTIVE: To examine factors associated with successful return to work among participants in a Social Security Organisation Return To Work programme. METHODS: Secondary data for 9,850 participants were obtained from the Social Security Organisation Return To Work database. The dependent variable was the Return To Work programme outcome, successful return to employment (same employer or different employer) or unsuccessful return. Logistic regression analysis with weighted sum contrasts was performed to assess the odds ratios with 95% confidence interval (95% CI) for successful return to employment across the various subgroups of participants. RESULTS: Overall, 65.5% of participants successfully returned to employment, either with their former employers or with new employers. Successful return to employment was found to be significantly higher than the overall proportion among those participants who had had commuting accidents, followed by those who had had workplace accidents. Successful return to employment was also associated with injuries of the upper and lower limbs, employers who were interested in hiring disabled workers, motivation to participate in the programme, an intervention period of 3 months or less, age 29 years or younger, and male participants. CONCLUSION: A structured multidisciplinary intervention programme provides a positive outcome in terms of returning to work. Related factors have various impacts on successful return to work

Borjan M and Lumia M. Evaluation of a state based syndromic surveillance system for the classification and capture of non-fatal occupational injuries and illnesses in New Jersey. American Journal of Industrial Medicine. 2017; 60(7):621-626.

<http://dx.doi.org/10.1002/ajim.22734>

Abstract: BACKGROUND: This preliminary study evaluates a real-time syndromic surveillance system to track occupationally-related emergency room visits throughout New Jersey. METHODS: Emergency Department (ED) chief complaint fields were evaluated from 79 of 80 hospitals in NJ in 2014, using work-related keywords and ICD-9 E-codes, to determine its ability to capture non-fatal work-related injuries. Sensitivity analysis and descriptive statistics, were used to evaluate and summarize the occupational injuries identified. RESULTS: Overall, 11 919 (0.3%) possible work-related ED visits were identified from all ED visits. Events with the greatest number of ED visits were slips, trips, and falls (1679, 14%). Nature of injury included cuts, lacerations (1041, 9%). The part of the body most affected was the back (1414, 12%). This work-related classifier achieved a sensitivity of 5.4%, a specificity of 99.8%, and a PPV of 2.8%.

CONCLUSIONS: This evaluation demonstrated that the syndromic surveillance reporting system can yield real-time knowledge of work-related injuries

Danquah IH, Kloster S, Holtermann A, Aadahl M, and Tolstrup JS. Effects on musculoskeletal pain from "Take a Stand!" - a cluster-randomized controlled trial reducing sitting time among office workers. Scandinavian Journal of Work, Environment & Health. 2017; 43(4):350-357.

<http://dx.doi.org/10.5271/sjweh.3639>

Abstract: Objectives Prolonged sitting at work has been found to increase risk for musculoskeletal pain. The office-based intervention "Take a Stand!" was effective in reducing sitting time at work. We aimed to study the effect of the intervention on a secondary outcome: musculoskeletal pain. Methods Take a Stand! included 19 offices (317 workers) at four workplaces cluster randomized to intervention or control. The multicomponent intervention lasted three months and included management support, environmental changes, and local adaptation. Control participants behaved as usual. Musculoskeletal pain was measured by self-report questionnaire assessing pain in neck-shoulders, back and extremities in three categories at baseline, and one and three months follow-up. Results At one month, there was no difference in odds ratio (OR) for pain in neck-shoulders between the two groups. However, after three months, the OR was 0.52 [95% confidence interval (95% CI) 0.30-0.92] for pain in neck-shoulders in the intervention compared to the control group. No differences were found between the intervention and control group for pain in back and extremities over the three months. For total pain score a slight reduction was found in the intervention compared to the control group at one and three months [-0.13 (95% CI -0.23- -0.03) and -0.17 (95% CI -0.32- -0.01)]. Conclusions The secondary analyses showed that the office-based intervention Take a Stand! reduced neck-shoulder pain after three months and total pain score after one and three months among office workers, but not neck-shoulder pain after one month or pain in the back and extremities

Gocer O, Gocer K, Karahan E, and Ilhan IO. Exploring mobility & workplace choice in a flexible office through post-occupancy evaluation. Ergonomics. 2017; 1-40.

<http://dx.doi.org/10.1080/00140139.2017.1349937>

Abstract: Developments in information and communication systems, organizational structure, and the nature of work have contributed to the restructuring of work environments. In these new types of work environments, employees do not have assigned workplaces. This arrangement helps organizations to minimize rent costs and increase employee interaction and knowledge exchange through mobility. This post-occupancy evaluation (POE) study focuses on a flexible office in a Gold LEED (Leadership in Energy and Environmental Design)-certified building in Istanbul. An integrated qualitative and quantitative POE technique with occupancy tracking via barcode scanning and instant surveying has been introduced. Using this unique approach, we examined

the directives/drivers in workplace choice and mobility from different perspectives. The aggregated data was used to discern work-related consequences such as flexibility, workplace choice, work and indoor environment satisfaction, place attachment, and identity. The results show that employees who have a conventional working culture develop a new working style: "fixed-flexible working." Practitioner Summary This paper introduces a new POE approach for flexible offices based on occupancy tracking through barcode scanning to explore workplace choice and mobility. More than half (52.1%) of the participants have tended to choose the same desk every day. However, the satisfaction level of the "mobile" employees was higher than that of the "fixed flexible" employees

van Hoesen L, Boonen AERC, Hazes JMW, and Weel AEAM. Work outcome in yet undiagnosed patients with non-radiographic axial spondyloarthritis and ankylosing spondylitis; results of a cross-sectional study among patients with chronic low back pain. Arthritis Research & Therapy. 2017; 19(1):143.

<http://dx.doi.org/10.1186/s13075-017-1333-x> [open access]

Abstract: BACKGROUND: To understand the impact of yet undiagnosed non-radiographic axial spondyloarthritis (nr-axSpA) and ankylosing spondylitis (AS) on work outcomes in a cohort of patients with long-lasting chronic low back pain (CLBP). METHODS: Data were used from a primary care CLBP cohort that was established to understand the prevalence of nr-axSpA and AS. Clinical characteristics comprised measures of back pain (visual analogue scale), inflammation (C-reactive protein) and physical functioning (Roland Morris Disability Questionnaire (RMDQ)). Worker outcomes comprised a question on employment and the Work Productivity and Activity Impairment (WPAI) questionnaire, distinguishing absenteeism, presenteeism, and overall work impairment in those employed and activity impairment in all patients. For each disease subgroup, employment ratio compared to the general population was assessed by indirect standardization. Factors associated with work productivity were explored by zero inflated negative binomial (ZINB) regression models. RESULTS: Patients with CLBP (n = 579) were included (41% male, mean age 36 years), of whom 71 (12%) were identified as having nr-axSpA and 24 (4%) as having AS. The standardized employment ratios were 0.89 (95% CI 0.84-0.94), 0.97 (95% CI 0.85-1.09) and 0.81 (95% CI 0.56-1.06) for patients with CLBP, nr-axSpA and AS, respectively. Scores for the WPAI subdomains were not significantly different between patients with CLBP, nr-axSpA or AS. The ZINB models showed significant associations between visual analog scale (VAS) score for pain and RMDQ and work productivity. CONCLUSION: The impact of yet undiagnosed nr-axSpA and AS on patients' work outcomes was substantial but was not significantly different from those of patients with long-standing CLBP. Variables significantly associated with reduced work productivity were VAS for pain and RMDQ score

Husabo E, Monstad K, Holmas TH, Oyeflaten I, Werner EL, and Maeland S. Protocol for the effect evaluation of independent medical evaluation after six months sick leave: a randomized controlled trial of independent medical evaluation versus treatment as usual in Norway. BMC Public Health. 2017; 17(1):573.

<http://dx.doi.org/10.1186/s12889-017-4469-3> [open access]

Abstract: BACKGROUND: It has been discussed whether the relationship between a patient on sick leave and his/her general practitioner (GP) is too close, as this may hinder the GP's objective evaluation of need for sick leave. Independent medical evaluation involves an independent physician consulting the patient. This could lead to new perspectives on sick leave and how to follow-up the patient. METHODS/DESIGN: The current study is a randomized controlled trial in a Norwegian primary care context, involving an effect evaluation, a cost/benefit analysis, and a qualitative evaluation. Independent medical evaluation will be compared to treatment as usual, i.e., the physicians' and social insurance agencies' current management of long-term sick-listed patients. Individuals aged 18-65 years, sick listed by their GP and on full or partial sick leave for the past 6 months in Hordaland county will be included. Exclusion criteria are pregnancy, cancer, dementia or an ICD-10 diagnosis. A total sample of 3800 will be randomly assigned to either independent medical evaluation or treatment as usual. Official register data will be used to measure the primary outcome; change in sickness benefits at 7, 9 and 12 months. Sick listed in other counties will serve as a second control group, if appropriate under the "common trend" assumption. DISCUSSION: The Norwegian effect evaluation of independent medical evaluation after 6 months sick leave is a large randomized controlled trial, and the first of its kind, to evaluate this type of intervention as a means of getting people back to work after long-term sickness absence. TRIAL REGISTRATION: ClinicalTrials.gov NCT02524392 . Registered June 23, 2015

Malachowski C, Kirsh B, and McEachen E. The sociopolitical context of Canada's national standard for psychological health and safety in the workplace: navigating policy implementation. Healthcare Policy. 2017; 12(4):10-17.

<http://dx.doi.org/10.12927/hcpol.2017.25102>

Abstract: In January 2013, Canada introduced the National Standard for Psychological Health and Safety in the Workplace. This paper describes how the standard, which is the first of its kind internationally, came to be the instrument of choice within the current Canadian sociopolitical climate. A key consideration was that the policy tool had to be packaged in a manner that would be accessible and relevant across all workplaces and across all provinces and territories. This paper explores possibilities for future regulation of the standard

Milner A, Maheen H, Currier D, and LaMontagne AD. Male suicide among construction workers in Australia: a qualitative analysis of the major

stressors precipitating death. BMC Public Health. 2017; 17(1):584.

<http://dx.doi.org/10.1186/s12889-017-4500-8> [open access]

Abstract: BACKGROUND: Suicide rates among those employed in male-dominated professions such as construction are elevated compared to other occupational groups. Thus far, past research has been mainly quantitative and has been unable to identify the complex range of risk and protective factors that surround these suicides. METHODS: We used a national coronial database to qualitatively study work and non-work related influences on male suicide occurring in construction workers in Australia. We randomly selected 34 cases according to specific sampling framework. Thematic analysis was used to develop a coding structure on the basis of pre-existing theories in job stress research. RESULTS: The following themes were established on the basis of mutual consensus: mental health issues prior to death, transient working experiences (i.e., the inability to obtain steady employment), workplace injury and chronic illness, work colleagues as a source of social support, financial and legal problems, relationship breakdown and child custody issues, and substance abuse. CONCLUSION: Work and non-work factors were often interrelated pressures prior to death. Suicide prevention for construction workers needs to take a systematic approach, addressing work-level factors as well as helping those at-risk of suicide

Oldfield M, MacEachen E, MacNeill M, and Kirsh B. 'You want to show you're a valuable employee': a critical discourse analysis of multi-perspective portrayals of employed women with fibromyalgia. Chronic Illness. 2017; [epub ahead of print].

<http://dx.doi.org/10.1177/1742395317714034>

Abstract: Background Advice on fibromyalgia, a chronic illness primarily affecting women, often presents it as incompatible with work and rarely covers how to remain employed. Yet many women do. Objectives We aimed to understand how these women, their family members, and workmates portrayed employees with fibromyalgia, and how these portrayals helped women retain employment. Methods We interviewed 22 participants, comprising five triads and three dyads of people who knew each other. Using the methodology of critical discourse analysis, we analysed the interview data within and across the triads/dyads through coding, narrative summaries, and relational mapping. Results Participants reported stereotypes that employees with fibromyalgia are lazy, malingering, and less productive than healthy workers. Countering these assumptions, participants portrayed the women as normal, valuable employees who did not 'give in' to their illness. The portrayals drew on two discourses, normalcy and mind-controlling-the-body, and a related narrative, overcoming disability. We propose that participants' portrayals helped women manage their identities in competitive workplaces and thereby remain employed. Discussion Our findings augment the very sparse literature on employment with fibromyalgia. Using a new approach, critical discourse analysis, we expand on known job-

retention strategies and add the perspectives of two key stakeholders: family members and workmates

Pek S, Turner N, Tucker S, Kelloway EK, and Morrish J. Injunctive safety norms, young worker risk-taking behaviors, and workplace injuries. *Accident Analysis and Prevention*. 2017; 106:202-210.

<http://dx.doi.org/10.1016/j.aap.2017.06.007>

Abstract: Injunctive safety norms (ISNs) refer to perceptions of others' expectations of one's safety-related conduct. Drawing on a sample of Canadian young workers (n=11,986; M age=17.90 years; 55% males), we study the relationships among four sources of non-work-related (i.e., parents, siblings, friends, teachers), two sources of work-related (i.e., supervisors, co-workers) ISNs, young workers' self-reported work-related risk-taking behaviors, and workplace injuries. Structural equation modeling suggests that ISNs from parents, supervisors, and co-workers were related to less frequent work-related risk-taking behaviors, and with fewer workplace injuries via less frequent work-related risk-taking behaviors. In addition, ISNs from supervisors were directly associated with fewer workplace injuries. In contrast, ISNs from teachers and siblings were not associated with work-related risk-taking behaviors, but ISNs from siblings were associated with fewer work injuries. Finally, ISNs from friends were associated with more frequent work-related risk-taking and more frequent work injuries via more frequent work-related risk-taking. This study draws attention to the relative roles of non-work sources of social influence and provides some evidence of how ISNs might be related to young workers' work-related risk-taking behaviors and their workplace injuries. It also contributes to practice by suggesting specific interventions that parents, supervisors, and co-workers could undertake to reduce young workers' work-related risk-taking and workplace injuries, namely encouraging youth to be safe at work

Pussegoda K, Turner L, Garritty C, Mayhew A, Skidmore B, Stevens A, Boutron I, Sarkis-Onofre R, Bjerre LM, Hrobjartsson A, Altman DG, and Moher D. Identifying approaches for assessing methodological and reporting quality of systematic reviews: a descriptive study. *Systematic Reviews*. 2017; 6(1):117.

<http://dx.doi.org/10.1186/s13643-017-0507-6> [open access]

Abstract: BACKGROUND: The methodological quality and completeness of reporting of the systematic reviews (SRs) is fundamental to optimal implementation of evidence-based health care and the reduction of research waste. Methods exist to appraise SRs yet little is known about how they are used in SRs or where there are potential gaps in research best-practice guidance materials. The aims of this study are to identify reports assessing the methodological quality (MQ) and/or reporting quality (RQ) of a cohort of SRs and to assess their number, general characteristics, and approaches to 'quality' assessment over time. METHODS: The Cochrane Library, MEDLINE(R), and EMBASE(R) were searched from January 1990 to October 16, 2014, for reports

assessing MQ and/or RQ of SRs. Title, abstract, and full-text screening of all reports were conducted independently by two reviewers. Reports assessing the MQ and/or RQ of a cohort of ten or more SRs of interventions were included. All results are reported as frequencies and percentages of reports. RESULTS: Of 20,765 unique records retrieved, 1189 of them were reviewed for full-text review, of which 76 reports were included. Eight previously published approaches to assessing MQ or reporting guidelines used as proxy to assess RQ were used in 80% (61/76) of identified reports. These included two reporting guidelines (PRISMA and QUOROM) and five quality assessment tools (AMSTAR, R-AMSTAR, OQAQ, Mulrow, Sacks) and GRADE criteria. The remaining 24% (18/76) of reports developed their own criteria. PRISMA, OQAQ, and AMSTAR were the most commonly used published tools to assess MQ or RQ. In conjunction with other approaches, published tools were used in 29% (22/76) of reports, with 36% (8/22) assessing adherence to both PRISMA and AMSTAR criteria and 26% (6/22) using QUOROM and OQAQ. CONCLUSIONS: The methods used to assess quality of SRs are diverse, and none has become universally accepted. The most commonly used quality assessment tools are AMSTAR, OQAQ, and PRISMA. As new tools and guidelines are developed to improve both the MQ and RQ of SRs, authors of methodological studies are encouraged to put thoughtful consideration into the use of appropriate tools to assess quality and reporting

Rugulies R, Aust B, and Madsen IE. Effort-reward imbalance at work and risk of depressive disorders. A systematic review and meta-analysis of prospective cohort studies. Scandinavian Journal of Work, Environment & Health. 2017; 43(4):294-306.

<http://dx.doi.org/10.5271/sjweh.3632>

Abstract: Objective The aim of this review was to determine whether employees exposed to effort-reward imbalance (ERI) at work have a higher risk of depressive disorders than non-exposed employees. Methods We conducted a systematic review and meta-analysis of published prospective cohort studies examining the association of ERI at baseline with onset of depressive disorders at follow-up. The work was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement and a detailed study protocol was registered before literature search commenced (Registration number: CRD42016047581). We obtained a summary estimate for the association of ERI with risk of depressive disorders by pooling the study-specific estimates in a meta-analysis. We further conducted pre-defined sensitivity analyses. Results We identified eight eligible cohort studies, encompassing 84 963 employees and 2897 (3.4%) new cases of depressive disorders. Seven of the eight studies suggested an increased risk of depressive disorders among employees exposed to ERI. The pooled random-effects estimate was 1.49 [95% confidence interval (95% CI) 1.12-1.80, P<0.001], indicating that ERI predicts risk of depressive disorders. The estimate was robust in sensitivity analyses stratified by study quality, type of ERI ascertainment and

type depressive disorder ascertainment, respectively. Conclusions Employees exposed to ERI were at increased risk of depressive disorder. Future studies on ERI and depressive disorders should examine if this association is stronger or weaker when ERI is measured repeatedly during follow-up and with other methods than self-report or when depressive disorders are ascertained with clinical diagnostic interviews

Swinton PA, Cooper K, and Hancock E. Workplace interventions to improve sitting posture: a systematic review. Preventive Medicine. 2017; 101:204-212.

<http://dx.doi.org/10.1016/j.ypmed.2017.06.023>

Abstract: PURPOSE: Evaluate the effectiveness of workplace interventions to improve sitting posture of workers that spend long periods of time seated at a visual display terminal. METHODS: A systematic review of randomised controlled trials, non-randomised controlled trials and single-group intervention trials featuring workplace interventions with pre- and follow-up measurements of sitting posture was conducted (registered in PROSPERO, CRD#42015027648). Nine databases were searched for studies available between January 2005 and February 2016. RESULTS: 2519 articles were screened with 12 studies meeting the inclusion criteria. The included studies featured various ergonomic workplace interventions and comprised 4 randomised controlled trial (n=457), 2 non-randomised controlled trials (n=416) and 6 single-group intervention trials (n=328). Due to clinical and methodological heterogeneity, pooling of data was not completed and a narrative summary of findings was developed using the Grading of Recommendations Assessment Development and Evaluation (GRADE) framework. The evidence for four review outcomes was assessed with medium to large positive improvements obtained for the majority of studies investigating changes to gross sitting posture, whereas mixed findings were obtained for more specific local segment assessments of sitting posture. The overall evidence quality for all review outcomes were identified as either 'low' or 'very low'. CONCLUSION: There is evidence which is limited in quality to indicate that ergonomic workplace interventions can improve gross sitting posture. More high quality research across a range of intervention types is required with longer follow-up durations and more advanced methods to assess sitting posture with greater frequency and less bias

Vedaa O, Morland E, Larsen M, Harris A, Erevik E, Sivertsen B, Bjorvatn B, Waage S, and Pallesen S. Sleep detriments associated with quick returns in rotating shift work: a diary study. Journal of Occupational & Environmental Medicine. 2017; 59(6):522-527.

<http://dx.doi.org/10.1097/JOM.0000000000001006>

Abstract: OBJECTIVE: We aimed to compared sleep characteristics associated with quick returns (QRs, <11 hours between shift intervals) with those associated with other common shift transitions. METHODS: Sixty-seven nurses completed a 2-week work and sleep diary (94.0% female, mean age 47.7 years). A multilevel

fixed effects model was used to examine the sleep in QRs compared with two consecutive night shifts, two consecutive evening shifts, and two consecutive day shifts, respectively. RESULTS: None of the other shift transitions studied encumbered as many detriments as QRs, which included short sleep duration (5.6 hours), slightly prolonged sleep onset latency, more abrupt ending of main sleep period, increased sleepiness, and higher level of perceived stress on the following shift. CONCLUSION: The study emphasizes the need for sufficient time for rest and recuperation between shifts

*IWH authored publication.