

Neck pain risk factors

A systematic review and meta-analysis of 10 prospective cohort studies and two randomised controlled trials identified several statistically significant risk factors for the development of occupational neck pain among office workers – prolonged computer use was not among them. Risk factors included self-perceived muscular tension (medium tension: risk ratio (RR) = 2.75; 95% confidence interval (CI) 1.60–4.72; high tension: RR = 1.82; CI 1.14–2.90) (both strong evidence); low satisfaction/comfort with the workplace environment (RR = 1.28; CI 1.07–1.55) (strong evidence); positioning a computer keyboard close to the body (RR = 1.46; CI 1.07–1.99) (moderate-strength evidence); and low task variation (RR = 1.27; CI 1.08–1.50) (moderate). There were no associations for neck pain with longer duration of computer use (strong evidence), keyboard use (moderate) or mouse use (moderate/strong), less break time (moderate) or having the screen height above eye level (moderate). There was only limited evidence of no effect for a number of other physical factors, including mouse position, keyboard height, computer skills, keyboard-break software, break reminders and the use of chair armrests.

- *International Archives of Occupational and Environmental Health* 2017; online first: doi 10.1007/s00420-017-1205-3
- <http://link.springer.com/article/10.1007/s00420-017-1205-3>

Workplace health and wellbeing

There is little evidence for the effectiveness of brief workplace interventions to improve mental health and wellbeing, this systematic review of 20 studies found. Five studies included 'high-stress' occupations, such as policing, healthcare and education, while others studied manufacturing and office populations. The review found no evidence on the effectiveness of brief stress-management techniques, relaxation, mindfulness meditation, massage, or multidimensional interventions on employee mental health and wellbeing, and only limited evidence on the effectiveness of brief positive-psychology interventions. Nine studies compared brief with usual (ie longer-term) versions of the same type of intervention, and found limited evidence that longer-term positive psychology and mindfulness interventions were effective. Most studies had a high risk of methodological bias due to lack of randomisation (just seven studies were randomised), selection bias and other factors.

- *Scandinavian Journal of Work Environment & Health* 2017; 43(2): 99–108. doi:10.5271/sjweh.3616
- http://www.sjweh.fi/show_abstract.php?abstract_id=3616

Sleep apnoea

While treatments for obstructive sleep apnoea are effective in improving some health outcomes, there is insufficient evidence to justify screening for, or treatment of, the condition in asymptomatic adults (including adults with unrecognised symptoms) a systematic review of screening tools, diagnostic tests and treatments by the US Preventive Services Task Force concludes. The review and meta-analysis included 110 studies, with a combined population of 46,188 participants. There were no randomised trials on the effect of screening on clinical outcomes, and insufficient evidence to assess the balance between the benefits and harms of screening. For those referred for treatment, continuous positive airway pressure (CPAP) improved intermediate health outcomes – reduced apnoea-hypopnea index (AHI) and Epworth Sleepiness Scale (ESS) scores, and lower blood pressure – and sleep-related quality of life. Mandibular advancement devices (MADs) and weight-loss programmes were also associated with lower AHI and ESS scores. However, there was inadequate evidence on whether or not CPAP or MADs improved longer-term health outcomes, such as mortality, cognitive impairment, motor vehicle crashes and cardiovascular or cerebrovascular events.

- *JAMA* 2017; 317(4): 415–433. doi:10.1001/jama.2016.19635
- <http://jamanetwork.com/journals/jama/fullarticle/10.1001/jama.2016.20325>

Work factors associated with poor mental health

There is moderate-strength evidence that high job demands, low job control, high effort–reward imbalance, low relational justice, low procedural justice, role stress, bullying and low social support in the workplace are associated with a greater risk of developing common mental health problems, according to a systematic meta-review (a systematic review of reviews). However, the evidence does not allow definite conclusions on causality. There was weaker evidence that organisational change (including downsizing, relocation and mergers), job insecurity, temporary employment status and atypical working hours are also associated with poor mental health, and better-quality evidence is needed to establish if they are independent risk factors. The authors propose a ‘unifying model’ of three overlapping ‘clusters’ of interacting workplace risk factors – imbalanced job design, occupational uncertainty and lack of value and respect in the workplace. They also suggest that work-related factors interact with individual characteristics (such as coping styles and attitudes) to increase the risk of poor mental health outcomes. The review included seven moderate-quality systematic reviews, which together assessed 213 primary research papers, and 30 low-quality reviews.

- *Occupational and Environmental Medicine* 2017; online first: doi:10.1136/oemed-2016-104015
- <http://oem.bmj.com/content/early/2017/01/20/oemed-2016-104015>

Organisational change

Management change, low social capital, low organisational justice and poor quality of management were all predictive of older workers taking non-medical early retirement, this Danish prospective cohort study found. It involved 3,254 public service employees, aged 60–64 years who were, by virtue of their age, eligible for early retirement. Types of organisational change for each work unit were recorded from 2009 to 2011. Two-thirds (65%) of the study population experienced at least one organisational change during the two-year follow-up. Change was more common among healthcare workers (75%) and least frequent among laboratory technicians (46%). Over the two years, 21% of female and 14% of male employees took early retirement. After adjusting for age, gender and socioeconomic status, change of management increased the rate of early retirement by 37% (hazard ratio (HR) = 1.37; CI 1.13–1.66); merging work units increased it by 23% (HR 1.23; CI 1.01–1.49); and relocation increased it by 25% (HR 1.25; CI 1.01–1.54). Demerging did not have a significant effect (HR = 1.03; CI 0.79–1.33). After further adjusting for psychosocial work environment factors, only change of management remained predictive (HR = 1.27; CI 1.03–1.57). The following psychosocial work environment factors were also predictive of early retirement: work units with lower levels of social capital (HR = 1.22; CI 1.05–1.41); lower organisational justice (HR = 1.18; CI 1.04–1.32); and poor quality of management (HR = 1.14; CI 1.02–1.25) – these remained significant, with increasing effect sizes, after adjusting for organisational changes.

- *Scandinavian Journal of Work Environment & Health* 2017; online first: doi:10.5271/sjweh.3624
- http://www.sjweh.fi/show_abstract.php?abstract_id=3624

Promoting return to work

There is strong evidence that multi-domain interventions – ie those combining components aimed at service coordination (to improve access to, and delivery of workplace return-to-work (RTW) services), work modification and improving worker health – can be effective in reducing lost working time associated with musculoskeletal injuries and pain-related conditions, according to this systematic review of 36 medium- and high-quality studies. It also found strong evidence that work-focused cognitive behavioural therapy (CBT) can reduce lost working time and associated costs in workers absent with mental health problems, but also strong evidence that CBT on its own, ie without workplace modifications or service-coordination components, did not promote RTW. There was moderate-strength evidence that health-focused graded-activity programmes and workplace adjustments reduced lost working time. There was moderate-strength evidence that multi-domain interventions for musculoskeletal and pain-related conditions, and work-focused CBT for mental health conditions, improved work functioning after RTW. There was insufficient or limited evidence with regards to the effectiveness in promoting RTW of ‘work hardening’ (job-focused rehabilitation using actual work tasks and routines), physician training, case management, RTW plans, and worker or supervisor education and training – and not enough evidence on these to guide current policies or practices.

- *Journal of Occupational Rehabilitation* 2017; online first: doi 10.1007/s10926-016-9690-x
- <http://link.springer.com/article/10.1007/s10926-016-9690-x>

More alcohol, more absence

There is a dose–response relationship between daily alcohol consumption and risk of sickness absence, according to a prospective cohort study of French utility workers (part of the ‘GAZEL’ epidemiological study, set up in 1989 to follow more than 20,000 workers). Absence data for 9,907 daily drinkers (8,442 men and 1,465 women) was collected for an average of 8.4 years for male participants and 11.2 years for females. Absence duration was classified as: short – up to seven days; intermediate – eight to 28 days; and long – over 28 days. Daily alcohol consumption was classified using the World Health Organization guide for monitoring alcohol consumption: ie for men, low (1–40 g alcohol/day), moderate (41–60), high (61–100) or very high consumption (over 100); for women, low (1–20 g/day), moderate (21–40), high (41–60) and very high consumption (over 60). Data were adjusted for occupational status, age, smoking status and other factors. Increasing alcohol consumption was associated with greater risk of sickness absence with a dose–response relationship in both sexes ($p < 0.01$ for men; $p = 0.01$ for women). Male employees with moderate, high and very high daily alcohol consumption had higher risks of sickness absence compared with those in the low-consumption group: moderate-consumption risk ratio (RR) = 1.15 (CI 1.07–1.23); high-consumption RR = 1.31 (CI 1.23–1.41); and very high-consumption RR = 1.67 (CI 1.36–2.06). Women with high or very high consumption were more likely to take sickness absence than those with low consumption (RR = 1.19; CI 1.03–1.38). For men, increasing alcohol consumption was associated with higher risks of taking short, intermediate and long sickness absences ($p < 0.01$ for each); in women, it was associated with increased risks of short ($p = 0.01$) and long absences ($p = 0.02$). Daily alcohol consumption was also associated in men with long absences due to mental health, cardiovascular, respiratory and musculoskeletal diseases and injury ($p < 0.01$ for each), and in women with respiratory disorders ($p = 0.05$), digestive diseases ($p = 0.04$) and injury ($p = 0.04$).

- *European Journal of Public Health* 2017; online first: doi:10.1093/eurpub/ckx012
- <https://academic.oup.com/eurpub/article-abstract/doi/10.1093/eurpub/ckx012/3003304/Daily-alcohol-consumption-and-sickness-absence-in?redirectedFrom=fulltext>

Work-related risk factors for pregnancy outcomes

Occupational physical activity was associated with higher risk of preterm birth (PTB) and small-for-gestational age (SGA) babies – both with a dose–response relationship – this US cohort study found. Data were obtained for 5,926 singleton births, 8% of which were preterm; SGA data were available for 5,830 of them. Exposure to work factors were estimated by taking detailed work histories from each mother in the cohort for all their jobs that lasted at least one month, from three months before pregnancy to the date the pregnancy ended. After adjustment for maternal age, race/ethnicity, education and smoking, high levels of occupational physical activity were significantly associated with SGA (adjusted odds ratio (AOR) for highest versus lowest physical activity categories = 1.36; CI 1.02–1.82; p for trend = 0.001) and PTB (AOR = 1.24; CI 0.93–1.64; p for trend=0.01). There were no associations with psychosocial stressors (interpersonal stressor, automated work, or job responsibility).

- *Occupational and Environmental Medicine* 2017; 2017; 74: 192–199
- <http://oem.bmj.com/content/74/3/192>

Workplace bullying

There is some evidence that organisational and individual interventions may prevent workplace bullying, this Cochrane systematic review revealed, but the five included studies, which together involved 4,116 participants, were all of very low quality. Two studies examined the ‘Civility, Respect, and Engagement in the Workforce’ (CREW) culture-change intervention, widely used in the US and Canada to improve work climate. A meta-analysis demonstrated a statistically significant, though small (5%) increase in civility score (civility was considered as the opposite of bullying) six and 12 months from the start of the study. One of these studies found a small decrease in the score for ‘incivility victimisation’ by supervisors, but not by co-workers, and no change in self-reported incivility perpetration. Sickness absence was slightly reduced after six months (mean difference = 0.63 days; CI 0.34–0.92). One controlled before-and-after study assessed the effectiveness of ‘expressive writing’. Participants in the intervention group were asked to write down their ‘deepest thoughts and feelings’ about their previous work day, for 20 minutes every day for three days; those in the control group were asked to write on any topic for 20 minutes. Intervention participants scored lower on one measure of bullying, ‘incivility perpetration’, but not on ‘incivility victimisation’. A cluster randomised controlled trial examined the impact of combinations of policy communication, stress-management training and negative-behaviour awareness training. There was no change in self-reported bullying victimisation (13.6% before and 14.3% after intervention) but the trial was hampered by poor take up of the training – of the 1,041 participants who filled in a pre-participation survey just 150 completed the training.

- *Cochrane Database of Systematic Reviews* 2017; 1: CD009778. doi: 10.1002/14651858.CD009778.pub2
- <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009778.pub2/abstract>