

PTSD prevention

A systematic review of the effectiveness and potential harm of psychological, pharmacological and emerging interventions to prevent post-traumatic stress disorder (PTSD) in adults found a general lack of robust evidence. Only interventions designed to work in the first three months after the traumatic exposure were included (19 included studies, 37 omitted owing to high risk of bias). Evidence was either lacking or insufficient to draw conclusions for most interventions or outcomes of interest. Collaborative care – a stepped combination of case management, motivational interviewing, psychopharmacology and cognitive behavioural therapy (CBT) – appears effective for victims of injuries requiring surgery; for those with acute stress disorder, brief trauma-focused CBT is more effective than supportive counselling in reducing PTSD severity; and psychological interventions are equally effective in men and women. Debriefing is ineffective in reducing PTSD incidence or severity.

- Agency for Healthcare Research and Quality, 2013. *Comparative Effectiveness Review no.109.*
- <http://effectivehealthcare.ahrq.gov/ehc/products/403/1443/PTSD-prevention-130327.pdf>

PTSD treatment

A systematic review of interventions used to treat adults diagnosed with PTSD, which included 101 papers reporting 92 studies, found that evidence quality was often limited. Psychological therapies are effective, but only exposure therapy is supported by high strength evidence. There is moderate quality evidence that cognitive processing therapy, cognitive therapy, CBT-mixed therapies, eye movement desensitisation and reprocessing, and narrative exposure therapy are effective for improving symptoms and/or achieving loss of PTSD diagnosis. There is moderate strength evidence that pharmacological treatments are effective (fluoxetine, paroxetine, sertraline, topiramate and venlafaxine). There is insufficient evidence to support the often-held view that psychological treatments should be used before drugs are prescribed.

- Agency for Healthcare Research and Quality, 2013. *Comparative Effectiveness Review no.92.*
- <http://effectivehealthcare.ahrq.gov/ehc/products/347/1435/PTSD-adult-treatment-report-130403.pdf>

Asthma risk rises with cumulative exposure to latex

Each year of cumulative occupational exposure to latex is associated with a 5% increase in the risk of developing new-onset asthma, this population-based cohort study reveals. A total of 792 people, asthma free at age 13, were assessed at age 44 for asthma. Occupational exposures were derived from work histories and an asthma-specific job exposure matrix. A total of 419 participants had been occupationally exposed to one or more of 18 high-risk agents. New-onset asthma was associated with exposure to high molecular weight latex and cleaning and disinfecting products in the unadjusted analysis, but these associations were not significant after adjusting for sex and smoking. However, cumulative exposure to latex was significantly associated with raised risk, independent of sex and smoking: 1.6-fold greater risk after six to 15 years' cumulative exposure and 2.7-fold greater risk after 16 or more years.

- *Journal of Occupational and Environmental Medicine* 2013; 55(3): 235–239.
- http://journals.lww.com/joem/Abstract/2013/03000/Occupational_Exposures_and_the_Development_of.2.aspx

Occupational exposure link to adult-onset asthma

Men exposed to epoxy compounds, diisocyanates and acrylates are at increased risk of adult-onset asthma, with hazard ratios particularly high among non-atopic individuals, according to this North European population study. More than 16,000 people completed asthma-symptoms and job-history questionnaires in 1999–2001, having participated in baseline screening in 1989–1992. Significant raised risks for men were from exposure to: plant-associated antigens (hazard ratio (HR) = 3.6; 95% confidence interval (CI) 1.4–9.0); epoxy compounds (HR = 2.4; CI 1.3–4.5); diisocyanates (HR = 2.1; CI 1.2–3.7); and accidental peak exposures to irritants (HR = 2.4; CI 1.3–4.7). The increase in risk was generally more pronounced in non-atopic men: acrylates (HR = 3.3; 95% CI 1.4–7.5); epoxy (HR = 3.6; CI 1.6–7.9); diisocyanates (HR = 1.5; CI 1.3–6.0); and accidental peak exposures to irritants (HR = 3.0; CI 1.2–7.2). Both men (HR = 2.6; CI 1.1–6.1) and women (HR = 2.0; CI 1.2–3.0) exposed to cleaning agents had an increased asthma risk, with the risks raised further among non-atopic individuals – (male HR = 4.1; CI 1.4–12.1; female HR = 2.5; CI 1.4–5.0). The population-attributable risk for occupational asthma was around 14% for men and 7% for women.

- *Annals of Occupational Hygiene*, 2013; 57(4); 482–492.
- <http://annhyg.oxfordjournals.org/content/57/4/482.abstract>

Sickness absence from respiratory symptoms

Exposure to occupational vapour, gas, dust, or fume (VGDF) doubles the risk of respiratory-related sickness absence (RRSA) in those reporting respiratory symptoms or asthma, according to this pan-European population-based study. A total of 6,988 participants who were in work at the time of the study were classified according to their respiratory symptoms or diagnosis. One in 15 (6.9%) of those with physician-diagnosed asthma, self-reported rhinitis, or wheeze/breathlessness reported RRSA in the previous year. Exposure to VGDF was associated with significant raised risk of RRSA in each group: asthma group, odds ratio (OR) = 2.0 (95% confidence interval (CI) 1.1–3.6); wheeze/breathlessness group, OR = 2.2 (95% CI 1.01–4.8); rhinitis group, OR = 1.9 (95% CI 1.02–3.4). These raised risks remained after controlling for confounders.

- *American Journal of Industrial Medicine* 2013; 56(5): 541–549.
- <http://onlinelibrary.wiley.com/doi/10.1002/ajim.22178/abstract>

Melatonin levels in nightworkers

Female nightshift healthcare workers experience lower levels of melatonin compared with their dayshift colleagues, but melatonin disruption – which has been suggested as increasing the risk of breast cancer in shift workers – is significantly less pronounced in Asian compared with white workers, this US study finds (n = 276; 225 white and 51 Asian; aged 20–49). Nightshift workers worked at least 20 hours per week exclusively at night – at least eight hours per shift, finishing no earlier than 6am – and slept at night during their non-work days. Both white and Asian nightworkers had lower melatonin levels during daytime sleep relative to dayshift workers during normal night-time sleep (p < 0.0001). However, during non-work days white nightshift workers had a 47% reduction in melatonin levels during night-time sleep compared with day workers, whereas Asian nightworkers experienced only an 18% reduction (p = 0.01 for difference between Asian and white workers). Asian workers may be protected from the negative effects of shiftwork, conclude the authors.

- *American Journal of Epidemiology* 2013; online first: doi: 10.1093/aje/kws278.
- <http://aje.oxfordjournals.org/content/early/2013/02/03/aje.kws278.abstract>

Greater flu risk at lower humidity

Maintaining relative humidity (RH) above 40% reduces the infectivity of airborne influenza virus in medical examination rooms, according to this laboratory simulation study. Live N1N1 flu virus was nebulised and pumped (to mimic a patient coughing) from a laboratory manikin in a sealed simulated examination room. A breathing simulator was attached to a second manikin, which acted as a surrogate healthcare worker. Air samplers were attached to and around the second manikin's mouth, and elsewhere in the room. RH was adjusted from 7% to 73%. The total amount of virus collected at 15-minute intervals up to one hour was approximately the same, regardless of RH; however, it retained 71%–77% infectivity at RH \leq 23% but only 15%–22% infectivity at RH \geq 43%, with most of the infectivity lost during the first 15 minutes. Maintaining higher RH can reduce infection risk, and this should be considered when designing and building healthcare facilities.

- *PLoS One* 2013; 8(2): e57485.
- www.plosone.org/article/info:doi/10.1371/journal.pone.0057485#pone.0057485-Pantelic1

Unhealthy return

A randomised controlled trial of an experimental health and wellbeing programme for older workers at two teaching hospitals in the Netherlands found the intervention to be neither cost effective nor cost saving. In total, 730 workers aged over 45 years were randomised either to the 'Vital@Work' programme (designed to improve physical activity, nutrition and relaxation) or a control group – all workers received written information about healthy lifestyle. Vitality and need for recovery (NFR) from work-induced effort were assessed using two standardised questionnaires. Costs were assessed for the interventions, healthcare utilisation, absence and presenteeism. There were no statistically significant different vitality and NFR scores between the intervention and control groups and no significant cost savings in the outcome measures. The intervention cost on average €149 per employee and the return on investment was calculated at €2.21 lost for every €1 invested.

- *Journal of Occupational and Environmental Medicine* 2013; 55(3): 337–346.
- http://journals.lww.com/joem/Abstract/2013/03000/A_Cost_effectiveness_and_Return_on_Investment.17.aspx

Patient lifting device impact assessment

Near-complete use of patient lifting devices is required before the incidence of low back pain (LBP) and injury claims is noticeably reduced, according to this health impact assessment. The assessment was based on a 'Markov chain' decision-analysis model using information from nine quantitative studies on the association between manual patient lifting and LBP, and eight studies on the impact of lifting devices on LBP occurrence. It simulated a 10-year follow up of two hypothetical cohorts: nurses entering the profession without a history of LBP, and those already employed. If manual patient handling were completely eliminated – the best-case scenario – the model predicts that LBP prevalence could be reduced from 42% to 31%, with the impact levelling off after six years.

- *Occupational and Environmental Medicine* 2013; online first: 10.1136/oemed-2012-101210
- <http://oem.bmj.com/content/early/2013/03/21/oemed-2012-101210.abstract>

Work participation with arthritis

Seven key concepts are important to the work participation of patients with inflammatory arthritis, this systematic review of qualitative evidence finds (10 included studies; low to high methodological quality). The seven themes are: disease symptoms (eg fatigue, pain, physical limitations); management of the disease (eg access to treatment, coping); socioeconomic issues (such as job insecurity, financial concerns, social support); work conditions and adaptations (eg help from employer, psychological support, work flexibility); emotional challenges (self confidence, managing fear etc); interpersonal issues affecting work and family life (including support from colleagues, supervisors, families, lack of communication, work–life balance); and meaning of work (eg motivation, importance of work/identity, work as rehabilitation). Different challenges affect individual patients and put a strain on their ability to cope with work. Patients need ways of managing these challenges, including early professional involvement and advice.

- *Rheumatology* 2013; online first: doi: 10.1093/rheumatology/ket111
- <http://rheumatology.oxfordjournals.org/content/early/2013/03/07/rheumatology.ket111.abstract>