No stress link to irritable bowel disease

Patients and clinicians often perceive stress as a risk factor for the two main inflammatory bowel diseases, Crohn's disease (CD) and ulcerative colitis (UC). However, a meta-analysis of 11 British and Scandinavian cohort studies, with over 95,000 participants, finds no link between work-related stress and the occurrence of either condition. The studies were part of the Individual-participant-data Meta-analysis in Working Populations Consortium, which includes the Whitehall II study in the UK and others in Finland, Sweden and Denmark. Job strain (a key indicator of work stress) was assessed using self-report questionnaires at baseline, with disease recorded over a mean follow-up time of 10.5 years. A total of 108 pre-existing cases of CD and 271 of UC were excluded from the analysis. Of those free from either disease at baseline, 126 people went on to develop CD and 414 developed UC; however, neither condition was significantly associated with job strain. For CD, hazard ratio (HR) = 0.89 (95% confidence interval (CI) 0.52–1.52); for UC, HR = 1.14 (CI 0.80–1.61).

- *PLoS ONE 2014; 9(2): e88711. ohaw.co/1foEhHo*
- http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0088711#abstract0

Double gloving works!

There is moderate quality evidence that wearing a double, rather than single layer of standard surgical gloves significantly reduces risk of glove perforation during clinical practice (rate ratio (RR) = 0.29; CI 0.23–0.37). This Cochrane systematic review included 34 randomised controlled trials (RCTs), covering 6,890 person-operations. All the RCTs included surgeons, with 27 also involving other surgical staff (eg nurses); control group participants all wore single layers of standard surgical gloves. Laboratory studies, without direct exposure to patients, were excluded. There is low quality evidence that triple compared with single gloving reduces the risk of perforations by 97% (RR = 0.03; CI 0.00–0.52). Indicator gloves (coloured inner gloves that show through if the outer one is penetrated) do not reduce the total number of perforations during an operation (RR = 0.72; CI 0.36–1.42) but do reduce the number of perforations per glove (RR = 0.09; CI 0.03–0.29) – moderate quality evidence. There is no advantage in using thicker compared with standard gloves (RR = 0.63; CI 0.37–1.08) – low quality evidence. Perforation risk is reduced by 76% by wearing double gloves comprising one standard and one fabric glove, compared with two standard gloves (RR = 0.24; CI 0.06–0.93) – low quality evidence. One study using an inner wire-weave glove did not reduce glove perforation risk. There is no evidence of publication bias.

- *Cochrane Database of Systematic Reviews 2014; 3: CD009573. ohaw.co/1hhAcsP*
- http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009573.pub2/abstract

Safer needles need better quality research

There is only low quality and inconsistent evidence supporting the use of safer needle devices to reduce needlestick injuries, this Cochrane systematic review concludes. Poor study design may be to blame rather than problems with the devices themselves. The review found just six randomised controlled trials meeting inclusion criteria, along with four controlled before-and-after studies and seven interrupted time series studies, with a high risk of bias in most of them. All the studies involved healthcare workers and included safety-engineered blood collection devices, intravenous (IV) systems, injection devices, sharps boxes and multiple safety device interventions. Studies of blunt suture needles were excluded. There is very low quality evidence that both safer blood collection systems and safer IV systems reduce injuries, but moderate quality evidence that the latter increase the risk of blood splashes where the safety system requires activation by the user (relative risk = 1.6; CI 1.08–2.36). Safer injection devices did not reduce injuries in two studies, while sharps boxes reduced exposure in one study but not in two others. There is no evidence comparing needle-retraction with needle-shielding devices. Sources of bias include using self-

reported percutaneous injuries as the main outcome measure – needlestick injuries are known to be underreported but the introduction of the intervention itself is likely to increase awareness and thus raise the reported injury levels.

- *Cochrane Database of Systematic Reviews 2014; 3: CD009740. ohaw.co/1f53dsJ*
- http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009740.pub2/abstract

Psychosocial job factors can raise blood pressure

Around half of the studies included in a systematic review of research investigating the effect of demand–control–support (DCS) and effort–reward imbalance (ERI) models found a significant adverse effect of psychosocial work factors on blood pressure (BP) – a major risk factor for cardiovascular disease – with more consistent effects observed in men than women. Seventy-four studies met inclusion criteria (57 cross-sectional, 15 prospective cohort and two case–control designs). Forty studies on the DCS model investigated BP, with a significant adverse effect of job strain found in 21 of them; seven out of 19 studies showed it had an adverse impact on hypertension. Of those studies reporting results separately by gender, six out of 18 studies found an adverse effect of job strain on BP in men, whereas just one in 10 reported a deleterious effect in women. Four out of seven studies found a significant adverse effect of ERI on BP – five out of six for men, and one out of six for women. Five out of six studies also found a deleterious effect of ERI on hypertension.

- *Scandinavian Journal of Work Environment and Health 2014; 40(2): 109–132. ohaw.co/1nohbbH*
- http://www.sjweh.fi/show_abstract.php?abstract_id=3390

Physical work can increase risk of preterm birth

Physically demanding work during pregnancy can cause small to moderate increased risks of preterm birth (PTB), according to this systematic review. The studies included eight prospective cohort, three retrospective cohort and six case–control studies; 10 studies were assessed as having a low risk of bias. Pooled risk estimates for the low-bias studies were as follows: standing and walking more than three hours a day – odds ratio (OR) = 1.41 (CI 1.06–1.89); lifting and carrying weights of more than 5kg – OR = 1.24 (CI 0.96–1.61); and lifting and carrying more than 5kg weights in the third trimester OR 1.30 (CI 1.01–1.76). A meta-analysis of five studies found an increased risk of PTB from having two or more tasks requiring physical effort, or occupational fatigue (OR = 1.49; CI 1.12–1.99)

- *International Archives of Occupational and Environmental Health 2014; online first: doi: 10.1007/s00420-013-0924-3. ohaw.co/1lEv5qD*
- http://link.springer.com/article/10.1007/s00420-013-0924-3

No clear links for preterm birth risk with shiftwork or long hours

A systematic review of 16 studies – eight of high, and eight of moderate methodological quality – did not find sufficient evidence to support clear links between either shiftwork or long working hours and a raised risk of preterm birth (PTB). A meta-analysis showed a marginally raised risk of PTB associated with long working hours (odds ratio (OR) = 1.25; CI 1.01–1.54), but there was no significant raised risk of PTB with shiftwork (OR = 1.04; CI 0.90–1.20).

- *International Archives of Occupational and Environmental Health 2014; online first: doi: 10.1007/s00420-014-0934-9. ohaw.co/1foyT7m*
- http://link.springer.com/article/10.1007/s00420-014-0934-9

Work is generally good for mental heath

A systematic review of 33 prospective studies confirms that employment is generally beneficial for mental health. The review includes both small and large studies, with sample sizes from 45 to 8,744 participants, and follow-up ranging from three months to 21 years. Twenty-three studies are rated as high quality. Although there is insufficient evidence to draw conclusions on the impact of employment on psychological distress, general health or physical health, there is strong evidence that it protects against both depression and general mental health. Pooled risk estimates drawn from studies comparing re-employed individuals with people permanently unemployed shows that re-employment reduces both the risk of depression (OR = 0.52; CI 0.33–0.83) and – despite the above inconclusive finding from the evidence synthesis – psychological distress (OR = 0.79; CI 0.72–0.86). The fact that healthy people are more likely than unhealthy individuals to enter the labour force – the 'healthy worker effect' – is an important caveat to the general conclusions.

- *Occupational and Environmental Medicine 2014; online first: doi: 10.1136/oemed-2013-101891. ohaw.co/1lFzTYg*
- http://oem.bmj.com/content/early/2014/02/20/oemed-2013-101891.abstract

Bullying risks long-term absence

Bullying is a significant independent risk factor for long-term sickness absence due to mental ill health (OR = 1.32; CI 1.06–1.64) and musculoskeletal disorders (OR = 1.29; CI 1.06–1.58), according to this prospective cohort study of 2,983 public and private sector workers in Belgium. Reporting higher levels of reward at work was associated with lower risk of long-term mental health absence (OR = 0.76; CI 0.60–0.97). Workers aged 30–55 years were recruited into the Belstress III study and completed a baseline questionnaire covering individual and socio-demographic variables, health behaviours and psychosocial work environment factors. Sickness absence data was collected from personnel administration records; reasons for absences over 15 days were obtained by contacting the worker's GP (achieved for 290 long-term absence cases). An important caveat is that participants volunteered for the study, risking selection bias; however, the large numbers and use of reliable absence data are major strengths.

- *European Journal of Public Health 2014; online first: doi: 10.1093/eurpub/cku009. ohaw.co/1jzFZXJ*
- http://eurpub.oxfordjournals.org/content/early/2014/02/23/eurpub.cku009.abstract

Hearing protection ineffective in practice

A retrospective cohort study of 19,911 workers aged 18–65, as part of the US National Institute for Occupational Safety and Health Occupational Hearing Loss Surveillance Project, calls into question the effectiveness of hearing protection measures to prevent noise-induced hearing loss. More than 385,000 audiometric records from 2005 to 2009 were analysed. There was no difference in the OSHA standard threshold shift (a measure of hearing loss) between workers who reported never or always wearing hearing protection (OR = 1.23; CI 0.92–1.64) and no significant difference in high-frequency threshold shift (OR 1.26; CI 1.00–1.59; p = 0.0546). Inconsistent and intermittent use of hearing protectors may have contributed to their lack of effectiveness, but the study shows that hearing protection is no substitute for effective engineering control of noise.

- *American Journal of Industrial Medicine 2014; online first: doi: 10.1002/ajim.22323. ohaw.co/1mDBHoL*
- http://onlinelibrary.wiley.com/doi/10.1002/ajim.22323/abstract

Prehabilitation may improve post-operative outcomes

Improving fitness before elective surgery – so-called prehabilitation – may reduce post-operative fitness and hospital stay, according to this systematic review and meta-analysis. Pre-operative physical conditioning, either using physiotherapy targeted at specific muscles or joints, or broader 'whole body' exercises (the focus of this review), is designed to enhance recovery, and although not specifically addressed in the review, could conceivably improve return-to-work outcomes. Most studies found that total-body conditioning improved post-operative pain and physical function, and reduced length of stay in hospital. A meta-analysis of nine studies found a significant small-to-moderate reduction in length of stay following total-body prehabilitation ($p = 0.033$). Evidence quality was rated poor to moderate, with several studies assessed as having a high risk of bias. Higher quality randomised controlled trials are required to improve knowledge in this emerging area.

- *Physiotherapy 2014; online first: dx.doi.org/10.1016/j.physio.2013.08.008. ohaw.co/1l13vko*
- http://www.sciencedirect.com/science/article/pii/S0031940613001144