



Low Back Pain and the Workplace

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estimated effect of antioxidants was significantly more positive if the reported bias control was low.

We agree with Taylor and Dawsey that there are high-quality aspects of the NIT trial.⁷ We classified the NIT trial as having a high-bias risk because the numbers and reasons for dropouts and withdrawals were not clearly reported. Post hoc subgroup analyses of low-bias risk trials found that antioxidants significantly increase mortality irrespective of whether the NIT trial was included (RR, 1.04; 95% CI, 1.01-1.08) or not included (RR, 1.05; 95% CI, 1.02-1.08).

Taylor and Dawsey argue that the inclusion of 2 low-bias risk trials on beta carotene in smokers may drive our results. However, additional analyses show that antioxidants have no significant effect on mortality irrespective of whether these 2 trials were included (RR, 1.02; 95% CI, 0.98-1.06) or not included (RR, 1.00; 95% CI, 0.97-1.04). Our analysis had included a total of 25 beta carotene trials. Because we have no individual patient data, we are unable to analyze the effect of beta carotene in smokers separately. In response to Taylor and Dawsey, we have conducted post hoc analyses that exclude the 25 trials on beta carotene. When these trials were excluded, the subgroup analyses found no significant effect of vitamin A (RR, 1.23; 95% CI, 0.91-1.66) or vitamin E (RR, 1.00; 95% CI, 0.94-1.06) when all trials were included irrespective of bias risk or when only trials with a low risk of bias were included (RR, 1.21; 95% CI, 0.88-1.67; RR, 1.04; 95% CI, 0.97-1.12, respectively). As with all post hoc analyses, they must be interpreted with caution.

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Low Back Pain and the Workplace

To the Editor: We believe that the Commentary on back pain in the workplace by Dr Hadler and colleagues poorly serves clinicians, patients with low back pain, and occupational health and safety professionals seeking to reduce the burden of low back pain among working people.¹ The authors argue that low back pain does not occur as a consequence of occupational physical demands (eg, lifting, twisting of the trunk, whole body vibration) but rather as a result of the “psychosocial context” of work and other phenomena. They claim that “extensive and compelling science” supports their opinions but cite only 2 published reviews and a few additional studies in support of their inference.

We consider it unfortunate that the authors did not cite any of the large international studies in which clinically and statistically significant associations were observed between occupational physical demands and low back pain after adjustment for confounders.^{2,3} Also missing were references to experimental studies (including randomized controlled trials) that support such a relationship.⁴ A comprehensive review of physical and nonphysical contributors to low back pain is included in the National Research Council and Institute of Medicine report on musculoskeletal disorders of the low back and upper extremity.⁵

The authors further argue that because low back pain is a common predicament inside or outside the workplace, it “cannot be shown to be more specific to the workplace than the viruses that cause upper respiratory infection.” We find this kind of analogy a poor substitute for epidemiological evidence. The common occurrence of low back pain outside the workplace proves nothing about low back pain risks that are encountered inside the workplace. Furthermore, evidence of occupational psychosocial exposures as risk factors for low back pain does not negate evidence regarding physical risk factors.^{3,5} Contemporary thinking about work-associated low back pain highlights the complex interactions of physical and psychosocial stressors.

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In Reply: We believe that Dr Garg and colleagues have misconstrued our Commentary. We fervently support actions that reduce the incidence of injuries. Our Commentary is a discussion of disablement associated with regional backache in occupational settings, not a discussion of workplace safety.

Regional backache is an intermittent and remittent predicament of life inside and outside the workplace. No consistent relationship has been demonstrated between physical activities that are customary (and customarily comfortable) and the incidence of regional backache. Furthermore, there is no compelling evidence that episodes of regional backache can be circumvented, even with programs designed explicitly to do so.¹ Most persons will have to cope with an episode eventually. Most cope effectively by a combination of avoidance and forbearance until the episode finally passes. For some people some of the time, forbearance and avoidance are rendered inadequate by coincident contextual challenges, particularly those producing emotional distress.²

Garg et al appear to argue that this does not pertain to the workplace. They allude to the many studies that sought associations only between physical demands and the incidence of compensable back "injury." We consider these stud-

ies flawed, and their results inconsistent and unimpressive.³ Such studies are superseded by a multivariate epidemiology that explores workplace factors along with the physical demands of tasks: psychosocial factors that color the work experience, factors in the interpersonal environment, and factors in the architecture of work that might reinforce disability. In our Commentary we cite 2 recent systematic reviews and 6 more recent studies that were designed to distinguish the degree to which the psychosocial context of working and the physical content of tasks affect the likelihood of disability associated with an episode of regional backache. The former is always discerned, usually overwhelming the influence of the range of physical demands placed on the modern worker. While the writers cite an experimental trial of back pain management, they do not note a subsequent study by the same authors documenting that the benefit was observed despite frequent nonadherence with ergonomic advice.⁴

We don't call angina "stair-climbers chest," nor do we advocate replacing all staircases with escalators. So it is with regional back "injury." Furthermore, a workers' compensation claim has great potential for harming the worker who finds an episode of regional backache disabling. Escalating iatrogenicity and disability are all too frequent results.

Workers deserve employment that is comfortable when the worker is well and accommodating when the worker is ill, be it with flu or angina or regional backache. The solution is not in the physical demands of tasks, a remedy that has not withstood scientific testing. The solution is in a broader understanding of human factors. The worker is advantaged by no other conceptualization.

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Financial Disclosures: Dr Hadler reported that he has received honoraria for numerous invited lectures related to workers' compensation before academic, governmental, union, industry, insurance, and professional audiences but has had no contractual arrangements with any industry or union entities. He also reported that he receives royalties for his author-initiated books, several of which relate to issues in workplace health and safety, and that he has served as an expert witness in evidentiary hearings relating to issues in workplace health and safety, but not related to the issue of compensable regional backache. Dr Tait and Dr Chibnall reported no financial disclosures.

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