

Work in brief

Keith Palmer, Editor



NEW GUIDELINES ON OCCUPATIONAL ASTHMA

In many countries occupational asthma is the commonest of all work related respiratory disorders. Thus, evidence based guidelines on its prevention, identification, and management are of the utmost importance to occupational physicians, health and safety practitioners, and public health officials. In this issue, Nicholson *et al*¹ provide such a set of guidelines based on an extensive review of the literature. Altogether, 474 original studies and over 2500 abstracts were considered; the reviewers supply 52 statements scored by two recognised systems for appraising the weight of evidence, and formulate 22 recommendations based finally on data from 223 studies. Some of their key conclusions concern the reduction of airborne exposure to allergens, and the crucial importance of health surveillance, early investigation of suspected cases, and complete early avoidance of further exposure in improving the prognosis for established cases. The theme is taken up in an accompanying editorial and in further correspondence from the authors on the rapid response pages of our website.



HEARING LOSS IN APPRENTICE CONSTRUCTION WORKERS

Despite much research and investment of resources, noise induced hearing loss remains a major industrial problem. Mostly the impact has been assessed in cross-sectional surveys of workers with many years of work exposure, but in this issue Seixas *et al*² report a prospective investigation at a much earlier stage of affairs. Apprentices from the construction industry were monitored prospectively over the first few years of employment both by standard audiometry and using the sensitive technique of distortion product acoustic emissions (DPOEs). Careful assessment was also made of noise exposure (estimated as trade specific L_{eq} levels) and wearing of hearing protection. Despite average noise levels under 90 dBA and just three years of follow up, small but significant measurable losses of hearing function were detected by the DPOE technique. Seixas *et al* discuss some of the advantages and difficulties in applying DPOE to health surveillance in an industrial setting.



POISSON REGRESSION AND UNGROUPED DATA

In applying Poisson regression to model disease rates, occupational epidemiologists generally assort person-time and event data into broad groupings. In doing this, they sometimes lose power and sensitivity to examine quantitative exposure-response relations for exposures originally measured on a continuous scale. Cox regression overcomes this limitation but is computationally intensive for analysis of large occupational cohorts, especially when investigating interactions and time dependent variables. As a useful alternative, Loomis *et al*³ demonstrate a method of Poisson regression that uses single units of person-time without the need for grouping. Analysing simulated and empirical data, they obtained unbiased effect estimates, similar to those from Cox regression. The authors suggest that this approach is preferable to analysing grouped data to which arbitrary exposure scores have been assigned.



OTHER RESEARCH

Elsewhere in this issue, we publish a case-control study on tumours of the endocrine glands with specific focus on welding and the hypothesis that extremely low frequency magnetic fields affect disease risks,⁴ a second case-control study of occupational factors for stomach cancer,⁵ and a South American survey concerning work organisation and risk of work related injuries in hospitals.⁶

- 1 Nicholson PJ, Cullinan P, Newman Taylor AJ, *et al*. Evidence based guidelines for the prevention, identification, and management of occupational asthma. *Occup Environ Med* 2005;**62**:290-9.
- 2 Seixas NS, Goldman B, Sheppard L, *et al*. Prospective noise induced changes to hearing among construction industry apprentices. *Occup Environ Med* 2005;**62**:309-17.
- 3 Loomis D, Richardson DB, Elliott L. Poisson regression analysis of ungrouped data. *Occup Environ Med* 2005;**62**:325-9.
- 4 Håkansson N, Stenlund C, Gustavsson P, *et al*. Arc and resistance welding and tumours of the endocrine glands: a Swedish case-control study with focus on extremely low frequency magnetic fields. *Occup Environ Med* 2005;**62**:304-8.
- 5 Krstev S, Dosemeci M, Lissowska J, *et al*. Occupation and risk of stomach cancer in Poland. *Occup Environ Med* 2005;**62**:318-24.
- 6 Gimeno D, Felkner S, Burau KD, *et al*. Organisational and occupational risk factors associated with work related injuries among public hospital employees in Costa Rica. *Occup Environ Med* 2005;**62**:337-43.

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