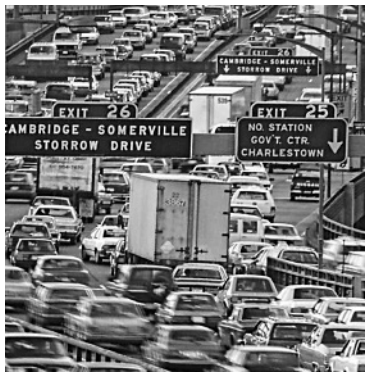
Work in brief

Keith Palmer, *Editor*

THE ILLS OF SEAFARERS

This issue includes two papers on the health of seafarers. To investigate traumatic deaths in British merchant shipping, Roberts and Marlow[1] analysed records spanning 1976–2002—a million seafarer-years at risk. The 835 deaths were mostly accidental, but included suicides, homicides and poisonings; 185 deaths involved disappearances at sea. The accidental mortality rate was 28 times that of all British workers over the period. Rates, although declining, were still up 16-fold in recent times. The authors call for urgent improvements, including better safety awareness, avoidance of certain practices, and care for those at risk of suicide. Meanwhile, Hansen *et al*[2] studied the causes of hospital admission in 1996–2001 in Danish merchant seafarers registered with the Maritime Authority. Employment records were linked with a national in-patient register and hazard ratios calculated for major diagnoses. Injury and poisoning featured strongly among the causes of excess morbidity, as well several diseases related to seafarers' lifestyles. Risks varied by rank, charge and ship type.



PROCOAGULANT EFFECTS OF PM_{10}

To explore whether PM_{10} increases the risk of cardiovascular events via blood clotting, Gilmour *et al*[3] have exposed several human cell types to a PM_{10} challenge and measured gene expression, protein release, IL-8, tissue factor (TF, a co-factor of activated factor VII), tissue plasminogen activator (tPA), and coagulant activity of the culture media. Augmented clotting was seen in experiments involving monocyte derived macrophages and bronchial epithelial cells. Increased apoptosis and TF gene, tPA gene, and protein expression occurred in exposed macrophages. PM_{10} can thus alter macrophage and endothelial cell function to promote blood clotting.

DERMAL EXPOSURE TO N,N-DIMETHYLFORMAMIDE

As control of airborne hazards improves, so attention shifts to other routes of exposure. Repeated skin contact may lead to accumulation of hazardous metabolites. This concern prompted Chang *et al*[4] to estimate the contribution to total body burden of N,N-dimethylformamide in workers with similar airborne but dissimilar dermal exposures. Pre-shift urinary N-methylformamide (U-NMF) was measured over 5 consecutive working days in 25 workers from a synthetic leather factory (higher dermal exposure) and 20 from a copper laminate circuit board factory (lower dermal exposure). A linear accumulation was found, greater in the synthetic leather workers than in the circuit board workers, underscoring the importance of this exposure portal.

ERGONOMIC RISK FACTORS IN THE ''BIT'' STUDY

Aches and pains in computer users are often blamed on poor ergonomics—including ''poor'' postures, desk and screen heights, and monotonous work. However, few prospective studies have characterised the effect of ergonomic practices. The study of Juul-Kristensen and Jensen[5] adds to a growing literature. Some 2576 Danish office workers were followed in 1999–2000, including a subgroup with highly repetitive computer use. The study assessed whether ''good'' ergonomic conditions were as beneficial as assumed. Subjects with arm or back pain at baseline were questioned about their symptoms at follow up. Information was collected on screen glare and height, keyboard placement, adjustments to desk and seat height, rest breaks, pace of work, time at the keyboard, and other factors. Those with less frequent symptoms at follow up had spent less time working with a computer and had more control over their work pace than those with unchanged complaints. The benefit was greatest in the subgroup with highly repetitive work. Other ergonomic factors did not relate closely to prognosis.

REFERENCES

1 **Roberts SE**, Marlow PB. Traumatic work related mortality among seafarers employed in British merchant shipping, 1976–2002. *Occup Environ Med* 2005;**62**:172–80.
2 **Hansen HL**, Tüchsen F, Hannerz H. Hospitalisation among seafarers on merchant ships. *Occup Environ Med* 2005;**62**:145–50.
3 **Gilmour PS**, Morrison ER, Vickers MA, *et al*. The procoagulant potential of environmental particles (PM_{10}). *Occup Environ Med* 2005;**62**:164–71.
4 **Chang H-Y**, Tsai C-Y, Lin Y-Q, *et al*. Total body burden arising from a week's repeated dermal exposure to N,N-dimethylformamide. *Occup Environ Med* 2005;**62**:151–6.
5 **Juul-Kristensen B**, Jensen C. Self-reported workplace related ergonomic conditions as prognostic factors for musculoskeletal symptoms: the ''BIT'' follow up study on office workers. *Occup Environ Med* 2005;**62**:188–94.