

# Work in brief



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## MENSTRUAL CYCLES AND ETHYLENE GLYCOL ETHERS IN SEMICONDUCTOR MANUFACTURING

Semiconductor fabrication employs a complex array of chemicals, including ethylene glycol ethers (EGEs). This month, Hsieh and colleagues report results from a study on the length of menstrual cycles among 606 female semiconductor workers.<sup>1</sup> Women whose jobs involved probable exposure to EGEs, which are suspected reproductive toxins, had 4–5 times the odds of long cycles (>35 days) compared to unexposed workers. Workers exposed to EGEs were also exposed to other chemicals, however. An accompanying editorial by Cordier and Multigner<sup>2</sup> situates this new study in the context of research on related compounds and draws attention to the methodological challenges of studying reproductive function.



## WHAT IS THE BEST MEASURE OF TRAFFIC RELATED POLLUTION?

Researchers often use indirect methods to estimate exposure to traffic related air pollution because the vehicular contribution to ambient pollution is difficult to measure directly. Findings reported by Heinrich and colleagues<sup>3</sup> highlight the inherent challenges of such indirect assessments. The researchers found rather poor agreement between self-reported exposure to traffic and quantitative estimates derived from geographic modelling. Although these results are discouraging, Forastiere and Galassi argue in an accompanying comment<sup>4</sup> that self-reports still have value that could be enhanced through innovative approaches, such as combining subject reports with expert judgement.



## MODELS FOR TEMPORAL PATTERNS IN CANCER RISK

Long term studies of occupational cohorts can benefit from the use of mathematical models to describe time dependent changes in the effect of exposure, because the intensity of exposure and the risk of disease may both vary over time. In this issue, Richardson and Ashmore evaluate three relatively simple models for time related effects.<sup>5</sup> Their analyses of cancer mortality among 40 000 nuclear workers suggest that a standard lag model provides an adequate description of the evolution of risk over time, while a bilinear function appears useful for identifying risks that diminish with time since exposure. These methods could also be applied in studies of cohorts exposed to other substances.



## CLEANING FOR A LIVING

Millions of people worldwide are employed cleaning the workplaces and homes of others. Yet, although their basic services improve the quality of life, cleaners have been nearly invisible in occupational health research until recently. In an illuminating contribution to the Journal's "World at work" series, Zock describes the job of professional cleaners and the surprising variety of chemical, physical, and psychosocial hazards to which they are exposed.<sup>6</sup> Perhaps this account of cleaning for a living will inspire investigations that make their work more visible.

- 1 Hsieh G-Y, Wang J-D, Cheng T-J, *et al.* Prolonged menstrual cycles in female workers exposed to ethylene glycol ethers in the semiconductor manufacturing industry. *Occup Environ Med* 2005;**62**:510–16.
- 2 Cordier S, Multigner L. Occupational exposure to glycol ethers and ovarian function. *Occup Environ Med* 2005;**62**:507–8.
- 3 Heinrich J, Gehring U, Cyrus J, *et al.* Exposure to traffic related air pollutants: self reported traffic intensity versus GIS modelled exposure. *Occup Environ Med* 2005;**62**:517–23.
- 4 Forastiere F, Galassi C. Self report and GIS based modelling as indicators of air pollution exposure: is there a gold standard? *Occup Environ Med* 2005;**62**:508–9.
- 5 Richardson DB, Ashmore JP. Investigating time patterns of variation in radiation cancer associations. *Occup Environ Med* 2005;**62**:551–8.
- 6 Zock JP. World at work: Cleaners. *Occup Environ Med* 2005;**62**:581–4.