Research Briefs

Health Risks for Welders

ENGINEERING sites around New Zealand have been slow to take up recommendations from a 1996 study of occupational respiratory symptoms in welders.

The researchers working on the HRC-funded study at Wellington School of Medicine found that welders working without local exhaust ventilation more commonly experienced a sharp drop in lung function. These findings were reported back to the management and study participants of the eight different welding sites that took part.

When the sites were revisited two years later, only one had installed local exhaust ventilation in part of the site since the first study. Four still had no exhaust ventilation and had made no change to the workplace. Of the remaining three sites, two already had ventilation to begin with and one had moved to larger premises. Nearly a quarter of the welders did not use respiratory protection, such as a face mask, in either the first study or the follow-up. Five welders (nearly 13%) used respiratory protection in both studies. Four welders (10%) who didn't use protection at the first study were using it two years later. Seven welders (18%) used protection when first studied but were no longer using it at the follow-up.

Researcher Tania Slater says further effort is needed to ensure that studies like this lead to significant improvements in the work environment.

"Discussing the results with workers and management, individually, may have been more effective in bringing about safer workplace practices."

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Understanding Mechanisms of Pre-term Birth

Professor Murray Mitchell

PROFESSOR Murray Mitchell and his group at the University of Auckland are investigating the molecular mechanisms of pre-term labour, and strategies for preventing pre-term birth.

Professor Mitchell says that, despite decades of research, the mechanism that determines the onset of birth in humans and non-human primates remains unclear. Previous studies, from his laboratory and from others, have identified inflammatory and anti-inflammatory molecules that play a role in birth at term and at pre-term. Researchers used cDNA array technology on a series of tissue samples from women delivering at term or pre-term, with and without labour, to identify a number of novel genes as potential markers of pre-term birth.

Current studies by Professor Mitchell's group are aimed at investigating the association between key regulators of inflammation, and other factors which are known to be involved in determining the onset of birth, such as hormones and prostaglandins.

While most studies have been laboratory-based, the researchers hope to use clinical and animal studies. With collaborators at National Women's and Middlemore Hospitals, they have investigated the use of various biochemical markers to predict pre-term labour. They hope to extend this trial to include Maori and Pacific women, and to include assessment of socio-economic factors and bacterial vaginosis as well as the candidate markers they have identified. Other work will involve establishing a rat model of infection-induced pre-term labour.

"With this model we will examine the effectiveness of new anti-inflammatory drugs and immuno-therapeutics," says Professor Mitchell. "However, before such studies can be performed, the effects must be properly identified. Hence the core of the programme is understanding the role of cytokines and other regulatory factors in birth at the tissue and molecular level."

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Stress Among Parents of Children with ADHD

PRELIMINARY results of an HRC-funded ADHD Research Clinic study indicate high levels of stress among parents of children with ADHD.

As a result of these findings, Dr Tripp's team has developed a skills-based group parenting stress management program designed to teach parents skills to manage and reduce the stresses associated with parenting a child with ADHD. The nine-session programme is currently being piloted in a trial with the parents of six to 12-year-old children diagnosed with ADHD. Pre and post-treatment, the participating parents complete measures which assess parenting stress, style and beliefs, psychological and family functioning, relationship quality, social support and child behaviour.

Dr Tripp says all parents who started the programme completed the nine weekly sessions. Preliminary data indicates that, immediately post-treatment, there is a decrease in parent stress along with increases in mood, parenting efficacy and effective parenting practices.

"The effects appear greater for mothers than fathers, although this may reflect the larger sample of participating mothers."

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