

MEDIA RELEASE: August 2004
HOUSEHOLD HEATERS LINKED TO ASTHMA

Exposure to fume emitting heaters during the first year of life is associated with an increased risk of asthma later in childhood, a study of school children in Belmont, NSW has found.

Involving over 500 children aged between 8 and 11 years, the results of the study are tabled in the latest edition of industry publication *Thorax*.

Dr Guy Marks, Head of Epidemiology at the Woolcock Institute, and a member of the research team, said the most important finding of this study was the observation that early life exposure to fume emitting heaters has effects that are manifest many years later in children 8 to 11 years.

Unflued gas heaters are commonly used for domestic heating in NSW and there have been other suggestions that exposure to gas heaters and cookers may have adverse effects on respiratory health, so we decided to investigate the effect of these and other fume emitting heaters, currently and during the first year of life, on the risk of asthma related outcomes.

We asked parents of eight to 11 year old children whether their children had experienced wheeze within the last year and whether they had been diagnosed with asthma by a doctor. Some of the children had a breathing test that measures twitchiness of the airways, known as airway hyperresponsiveness, an abnormality closely linked with asthma. The parents were also asked what form of heating they used currently and during the first year of the child's life.

We found that children aged eight to 11 years who were exposed to fume emitting heaters during the first year of life were approximately 1.5 times more likely than children who were not exposed to this type of heating, to have recent wheeze and airway hyperresponsiveness and approximately twice as likely to have the combination of these (wheeze and airway hyperresponsiveness).

Dr Marks adds that interestingly there was also no association between the use of fume emitting heaters during the first year of life and the presence, at age eight to 11 years, of doctor diagnosed asthma.

We suggest this is because asthma symptoms such as recent wheeze and objective measurements of airway hyperresponsiveness may be better indicators of the presence of asthma than diagnosed asthma. Asthma is difficult to diagnose in early life and many children who carry this label from early childhood may have had non-asthma diseases with symptoms mimicking those of asthma, particularly cough, he said.

Dr Marks said without direct measures of specific exposures to fume emitting heaters it is not possible to draw conclusions about the specific agents responsible for the study's key finding.

Nitrogen dioxide (NO₂) is one product of combustion of hydrocarbons that has been shown to have effects on airway mucosa and respiratory health.

Dr Marks also cautioned that these findings should be replicated, preferably in a study in which exposures to fume emitting heaters are recorded during the first year of life, before definitive conclusions can be drawn.

If confirmed in other settings, this finding would require a review of the range of heating types appropriate for use in households in which young children live, according to the research team from the Woolcock Institute of Medical Research.

<http://thorax.bmjournals.com/>