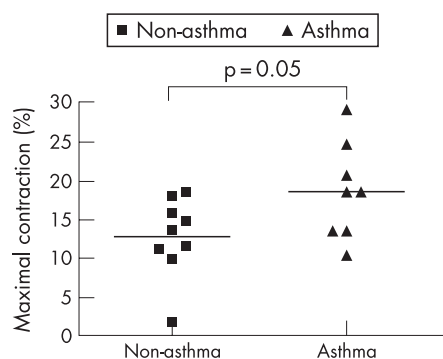


## ASTHMA IN INTENSIVE CARE UNITS

Acute severe asthma may require admission to intensive care units (ICUs), although information on epidemiology and outcome is generally only available from relatively small studies. In this month's *Thorax*, Stow and colleagues report on the outcome of people with acute severe asthma admitted to ICUs, using a comprehensive database of ICUs in Australia. The incidence of ICU admissions fell significantly from 1.9% in 1996 to 1.1% in 2003 and over a third received mechanical ventilation in the first 24 h. A decline in mortality was found over this time, even though the severity of the asthma event had increased.

See p 842

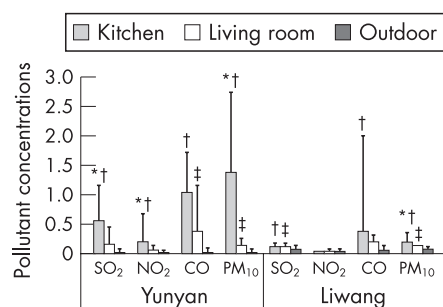


## AIRWAY SMOOTH MUSCLE CONTRACTION IN ASTHMA

Exaggerated bronchial constriction is a key feature of asthma and may be life threatening. Increased airway smooth muscle is also a characteristic of asthma, although there is little information on mechanisms of airway smooth muscle contractility due to difficulty in study of these factors. In this issue, Matsumoto and colleagues describe a refined collagen gel assay to measure the degree of contraction of human primary airway smooth muscle cells in culture and thus enable study in asthmatics. The authors show that these collagen gels are suitable models and found greater contraction of airway smooth muscle cells from patients with asthma than those without the condition, accounting for the greater airway narrowing in asthma.

See p 848

Maximal contraction of airway smooth muscle cells from people with asthma and without asthmatics



## TRAFFIC AND LUNG FUNCTION IN WOMEN

It is accepted that exposure to air pollution is responsible for changes in lung function. Road traffic is a major factor in causing air pollution in industrialised countries and in this issue Kan and colleagues describe the largest ever performed study on the relationship between traffic exposure and lung function. The study had a cross-sectional design and involved a community-based cohort of 15 792 US middle-aged men and women. After adjustment for confounders, the results show that higher traffic density was associated with lower forced expiratory volume in 1 s and forced vital capacity volume in women but not in men. Women who lived within 150 m of a major road were more likely to have reduced lung function. In the accompanying editorial Holguin suggests some of the reasons for these intriguing lung function observations that include increased susceptibility to pollution in women and increased exposure in women due to staying for a greater time in the home.

See p 837 and 873

Indoor and outdoor pollutant concentrations in rural Yunyan and urban Liwang. Data presented as geometric mean (SD), n = 10. Pollutant concentrations are in mg/m<sup>3</sup> except for CO which is in 106mg/m<sup>3</sup>. SO<sub>2</sub>, sulphur dioxide; NO<sub>2</sub>, nitrogen dioxide; CO, carbon monoxide; PM<sub>10</sub>, particulate matter with aerodynamic diameter (10 mm). \*p, 0.05 kitchen vs living room; †p, 0.05 kitchen vs outdoor; ‡p, 0.05 living room vs outdoor.

## BIOMASS FUELS AND COPD RISK

As Y Liu points out in his accompanying editorial to the paper by S Liu and colleagues on biomass fuels and chronic obstructive pulmonary disease (COPD) risk in China, although energy consumption from biomass fuels is only a small part of the total, use of biomass fuels such as firewood is much more prevalent in developing than developed countries. S Liu and colleagues report on a well-designed cluster sampling analysis of COPD prevalence in two areas of South China (rural and urban areas) in relation to biomass fuels. Prevalence of COPD was significantly higher in the rural community as a whole than in the urban area. Biofuels were mainly used in the rural areas and cooking took place in poorly ventilated kitchen areas, with significantly higher pollutant levels in rural kitchens. As Y Liu points out, this is an important high-quality study where many variables and risk factor interactions were addressed. Although cigarette smoking is still the most important risk factor for development of COPD, biomass fuels also contribute to the morbidity from COPD in developing countries. About three billion people may be using biomass fuels for energy and thus this issue is a significant public health problem that needs to be addressed.

See p 838 and 889