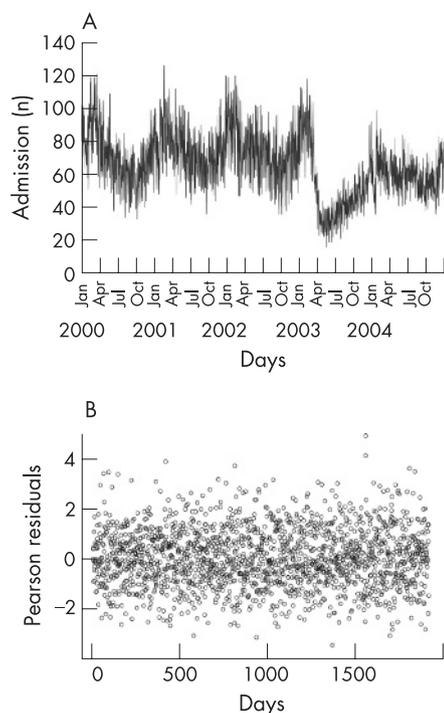


## AIR POLLUTION AND COPD IN HONG KONG

Exacerbations of chronic obstruction pulmonary disease (COPD) are a major healthcare burden and it is now recognised that air pollution has some effect on increasing the impact of the exacerbation. Ambient concentrations of air pollutants are high in Hong Kong and in this issue Ko and colleagues report on the temporal relationship between air pollutants and hospital admission in 15 major hospitals in Hong Kong between 2000 and 2004. Significant associations were found between hospital admissions for COPD and all five air pollutants monitored—SO<sub>2</sub>, NO<sub>2</sub>, ozone (O<sub>3</sub>), PM<sub>10</sub> and PM<sub>2.5</sub>. In a multipollutant model, O<sub>3</sub>, SO<sub>2</sub> and PM<sub>2.5</sub> were significantly associated with increased COPD admissions (see figure). SO<sub>2</sub>, NO<sub>2</sub> and O<sub>3</sub> had a greater effect during colder months.

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(A) Number of daily admissions for COPD from January 2000 to December 2004. (B) Time plot of Pearson residuals of daily admissions for respiratory diseases based on the core model.

## ASTHMA PREVALENCE AND ISAAC

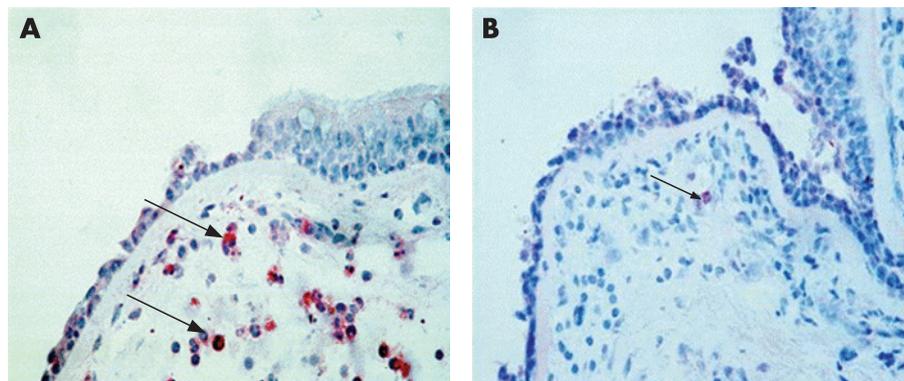
The International Study of Asthma and Allergies in Childhood (ISAAC) was designed to compare prevalence of asthma and allergy between populations in different countries and trends over time. Phase I showed considerable variations in the prevalence of current wheeze and in this month's *Thorax* Pearce and colleagues report phase III of the ISAAC study where the phase I survey was repeated after an interval of 5–10 years. The results of phase III show that international differences in asthma symptom prevalence have reduced, especially in the 13–14 age group, with decreases in Western Europe and in English speaking countries. There was an increase in prevalence in regions where previously there was low prevalence, such as Latin America. This important and intriguing study shows that there is still an overall rise in the global burden of asthma probably due to increased awareness, although prevalence differences have lessened.

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## AHR AND T CELL PEPTIDE INDUCED ASTHMATIC RESPONSES

In this issue of the journal, Ali and colleagues report on an interesting study of the relationship between allergen specific T cells and airway hyper-responsiveness (AHR). The authors produced late asthmatic reactions in people with atopic asthma through inhalation of allergen derived T cell peptides. Fifty per cent of subjects developed a response without a preceding early reaction and this group showed greater AHR with increases in bronchial mucosal CD3 and CD4 cells together with increases in thymus- and activation-regulated chemokine (TARC+) cells. This study emphasises the importance of the airway T cell inflammatory response in production of AHR (see figure).

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Photomicrograph of TARC cells after peptide challenge in bronchial biopsy specimens from responder (A) and (B) non-responders. Arrows show examples of immunopositive cells.

## BRONCHODILATOR RESPONSE AND FOT IN CHILDREN

The forced oscillation technique (FOT) is being used more often in the assessment of lung function in preschool children due to its ease of measurement and low requirement for cooperation from the child. Bronchodilator responses are used to evaluate children with chronic lung disease but there is little information on the bronchodilator response using the FOT in preschool children with lung disease compared with health children. In this month's *Thorax* Thamrin and colleagues report that the bronchodilator responses measured with FOT are strongly influenced by baseline lung function. Thus changes in lung function should be reported as a percentage of baseline values. We also need more studies to assess the value of post-bronchodilator changes in lung function measured with FOT in these children with lung disease.

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