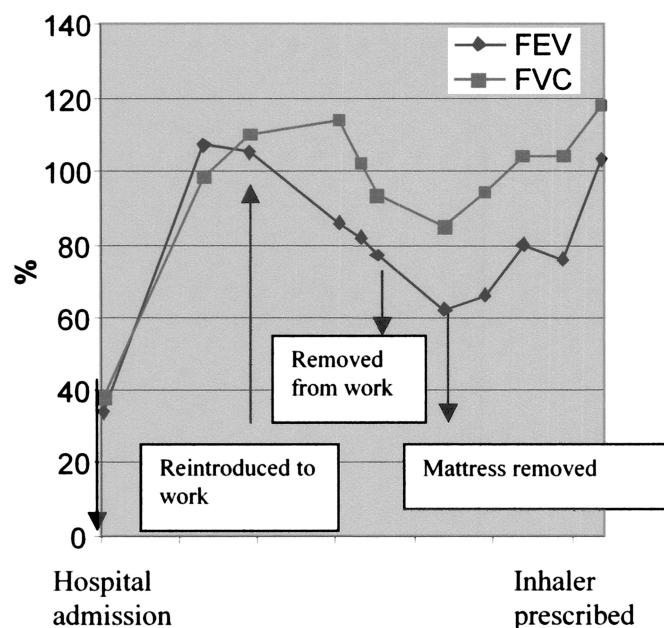


manufacture of foam. The main market for this 'environmentally friendly foam' is for cot mattresses. We describe a case of occupational asthma with eosinophilic constrictive bronchiolitis caused by cutting foam manufactured using Soya bean. This is the first case in world literature to the authors' knowledge where Soya bean induced respiratory allergy has been described in this way.

**Case description** 26-year male smoker presents with a 3-month history of fatigue, 10 kg weight loss, cough and work related breathlessness. Soya-based foam had been introduced into the work place 6 months prior to presentation, which the subject cut with a band knife. No respiratory protection or ventilation was used. No previous allergies or asthma were known. Throat itch preceded symptom onset. Other workers complained of conjunctivitis. At presentation the subject was afebrile, oxygen sats 88% air, CRP 0.7, peripheral eosinophils 1.6 (14%), WBC normal and FEV1 34% predicted. Vasculitis and HIV screening negative. HRCT confirmed constrictive bronchiolitis, which resolved after a course of oral steroids. Lung function returned to normal. The subject was re-introduced to work where a marked drop in FEV1 was documented (Abstract P7 Figure 1). Bronchoscopy showed mucus plugging with eosinophilic casts. Peripheral eosinophilia increased with general fatigue. Total IgE remained normal, IgE for *Aspergillus fumigatus* <0.4. IgE for soya was 0.4, but slightly elevated for other cross reactants. Skin tests for Soya bean and husk were positive. The worker was redeployed away from the foam cutting area but still had occasional exposure and peak flow variability compatible with occupational asthma, with increased non-specific bronchial hyper-reactivity on histamine challenge. Lung function, eosinophil count and bronchial reactivity stabilised following removal of the foam from the factory and home.



Abstract P7 Figure 1

**Conclusion** Eosinophilic airway plugging, with severe air trapping, reversible airflow obstruction and peripheral eosinophilia resolved after removing Soya bean based foam products from the work area and home. Skin prick tests confirm Soya bean allergy. The syndrome described has not been reported previously and may have implications for the foam manufacturing industry.

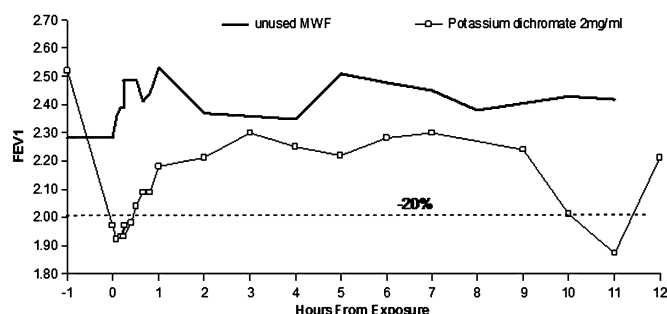
## P8 UNIQUE OUTBREAK OF OCCUPATIONAL ASTHMA IN TOOLMAKERS CAUSED BY CHROME

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**Introduction** We describe a unique outbreak of occupational asthma in toolmakers due to chrome. We investigated four employees of a medium-sized manufacturer of precision jet-engine parts for work-related asthma at our city hospital Occupational Lung Disease Unit.

**Case Series** The four patients were aged between 35 and 56 and three of them had never smoked. They presented with new onset asthma and rhinitis symptoms that were subsequently diagnosed as occupational based on 2-h peak expiratory flow measurements (OASYS-2 scores range: 3.25–4.00). Two of the patients had impaired lung function at diagnosis. One case showed a dual asthmatic response and two cases showed early asthmatic reactions to potassium dichromate 2 mg/ml on specific inhalation challenges. The fourth case had a small late reaction only to cobalt chloride 10 mg/ml. (Abstract P8 Figure 1).



Abstract P8 Figure 1 Specific inhaled challenge test from case 1, showing dual asthmatic responses to inhaled potassium dichromate (2 mg/ml). There was no response to either used MWF or cobalt chloride (not shown on the plot).

**Discussion** All workers were sensitised within the preceding 5 years, before which the metalworking fluid brand and composition was changed. The latency onset of symptoms ranged from 6 to 24 months. This suggests leaching of the chrome and cobalt into this particular oil. Skin prick responsiveness and exhaled nitric oxide were not good predictors of airways response. Occupational asthma caused by chrome sensitisation is rare but has been described in electroplaters (1), steel welders (2) and construction workers (3); this is the first outbreak in toolmakers.

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## P9 THE EVALUATION OF AN IMPROVED METHOD OF OCCUPATIONAL ASTHMA DIAGNOSIS FROM TIMEPOINT ANALYSIS OF SERIAL PEF RECORDS

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**Background** The diagnosis of occupational asthma requires objective confirmation. Analysis of serial measurements of Peak Expiratory