Although exposure to asbestos is the most common cause of death from occupational lung disease, a recent survey clearly demonstrated poor awareness of the dangers of asbestos exposure amongst those trades-people most likely to be exposed to it. Since Do-It-Yourself (DIY) commonly results in asbestos exposure, we wondered whether homeowners are aware of the hazards of asbestos exposure in residential properties.

Methods A UK-wide, on-line questionnaire survey of homeowners was conducted among the 60 000 users of 'Opinion Matters' to elicit their knowledge and views on asbestos between 18.05.2010 and 01.06.2010.

Results 2002 homeowners completing the questionnaire. 55% live in homes built during the era when asbestos was commonly used as a building material. Respondents were predominantly from older age groups; knowledge about asbestos increased with the homeowner's age. When buying houses, 40% did not check whether the fabric of the home contained asbestos. 52% respondents had performed DIY in their homes and 23% were planning to do so within the year. While 60% respondents thought that asbestos had been used in residential building and refurbishments, 3% believed that it had never been used and 12% believed that it was present only in factories and warehouse. 41% thought that all asbestos has now been removed from residential buildings. Most respondents (88%) sought professional advice regarding asbestos disposal but 3% just took it to the Council tip, 2% put it into their normal dustbins and 3% didn't know what to do with it. Some precautions were taken when undertaking DIY; 71% respondents covered the furniture, 50% wore a dust mask and 43% wore protective overalls and goggles. However, only 29% checked for the presence of asbestos-containing materials (Abstract P12 Table 1).

Abstract P12 Table 1 Asbestos knowledge of home owner respondents—by age

	Total	16–24 years	25–34 years	35–44 years	45–54 years	>55 years
No. of respondents	2002	9	252	451	540	750
Know asbestos used as building material (%)	39	11	28	34	39	46
Not confident to identify asbestos (%)	65	78	75	70	69	54
Would ask for professional to dispose of asbestos (%)	88	100	85	86	90	89
Has never had information on how to identify/mange asbestos	58	67	53	61	58	51
Have not heard of mesothelioma (%)	61	56	74	65	63	53

Conclusions Despite recent Health and Safety Executive awareness campaigns among trades-people, homeowners, including those who practice DIY, have dangerous misconceptions about the presence of asbestos in residential properties and have a poor grasp of essential safety precautions necessary for dealing with it. More effective public awareness campaigns are urgently required.

P13 CLINICAL, RADIOGRAPHIC AND PULMONARY FUNCTION FINDINGS IN SILICOSIS

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Introduction Silicosis is a pneumoconiosis caused by the inhalation of respirable silica. The condition is irreversible, and may be complicated by other pulmonary and non-pulmonary diseases. We describe clinical, radiographic and pulmonary function testing characteristics in a case series of silicosis.

Methods Cases were identified from clinics in two Edinburgh teaching hospitals. The diagnosis was based on characteristic radiographic features and a history of exposure to respirable silica; in two subjects silicosis was confirmed by surgical biopsy. Average length of follow up was 64 months.

Results 18 cases were identified, all were male. Median age = 52 years (range 28–66). 12 subjects worked as stonemasons, 5 as miners and 1 in a brick works. Common symptoms at presentation were dyspnoea (61%), cough (44%) and sputum (33%) but one-third were entirely asymptomatic and identified by radiological screening. Asymptomatic subjects tended to be younger; median 41 (range 28–66) vs 53 (range 28–66). 15 subjects (83%) had an abnormal CXR; the remainder had abnormalities on HRCT only. PMF was present in 9 cases (50%), one of whom was asymptomatic, and significant emphysema was present in 2 cases (11%). 60% of subjects with simple silicosis had normal spirometry and normal transfer factor (TCO). Seven subjects had obstructive spirometry; four were ex- or current smokers (average 16.5 pack years) and three never smokers. Only three subjects had a restrictive defect on spirometry, two of whom had radiographic evidence of PMF. 81% with a reduction in gas transfer had either a smoking habit or PMF. Lymphopenia was present in six subjects. Ten subjects had immunology performed; four were positive for anti-nuclear antibodies; one subject had a pre-existing diagnosis of systemic sclerosis and one subsequently developed SLE. All subjects had normal renal function. Two subjects developed *mycobacterium tuberculosis* and two (both smokers) developed bronchogenic carcinoma.

Conclusions Despite the risks of silicosis being well described and legislation aimed at controlling silica exposure local experience suggests a resurgence of silicosis, particularly amongst younger workers who may be asymptomatic and may not have significant lung function changes.

Clinical and experimental studies in asthma

P14 DOES VITAMIN D AXIS HAVE AN EFFECT ON THE SEVERITY OF ASTHMA?

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Background Vitamin D (VD) has been suggested to play a role in the development of asthma and frequency of asthma exacerbation[1]. Vitamin D Binding Protein (VDBP) is thought to influence the development of COPD through its immunomodulatory effect[2]. This study explores the role of vitamin D axis in relation to asthma severity.

Method An observational case control study with a healthy group (H) and subgroups of severity of asthma – steroid 'naïve' mild asthma (MA), severe asthma (SA), severe asthma dependent on oral corticosteroids (SACS) and 'type 1 brittle' asthma (BA1) was conducted. VD, VDBP, spirometry, Fractional exhaled nitric oxide (FeNO) and exacerbations requiring oral corticosteroids/year (E) were recorded in all the patients. The data were analysed by Kruskal Wallis and Spearmans rank correlation test. The study was conducted between July 2009 and April 2010.

Results Sixty subjects [16M; mean age: 39 years (19–57)] were recruited into this study. The parameters measured are shown in Abstract P14 Table 1. We observed no significant difference in serum VD between the healthy group and any of the asthma subgroups (p=0.52), or indeed between all asthmatics grouped together and

healthy controls. Similarly, there was no significant difference in serum VDBP between any of the above groups (p=0.52). VD or VDBP serum levels did not correlate with exacerbations (r_s=0.08, p=0.28 for VD and r_s=−0.04, p=0.76 for VDBP), FEV1, or FeNO.

Abstract P14 Table 1

Group(n)	Vit Dmcg/l*	vitDBPmg/dl*	FENOppb†	FEV1(l)†	FEV1%†	Exacerbations(n)†
H (15)	22.59 (14)	40.4 (23.42)	15.3 (6.4)	3.53 (0.56)	105.1 (29.1)	0
MA (15)	20.38 (12.6)	49.09 (21.91)	37.6 (24.2)	3.35 (0.97)	99.5 (15.8)	0.13 (0.52)
SA (10)	15.95 (15.5)	47.57 (16.73)	44.1 (39)	2.35 (1.14)	68.5 (24.2)	5.9 (5.5)
SACS(10)	20.35 (41.0)	37.41 (19.23)	65.8(81.4)	2.56 (0.92)	80.0 (8.06)	35.9 (43.6)
BA1 (10)	16.15 (13.9)	39.93 (25.58)	65.7 (55.8)	1.94 (0.73)	72.3 (25.1)	24.3 (39.7)

*median(IQR).
†mean(SD).

Conclusion VD and VDBP level in various asthma groups, did not differ significantly from healthy volunteers in this cohort, and did not correlate with lung function, asthma exacerbations, or exhaled nitric oxide. We conclude that vitamin D axis may not play a significant role in asthma severity or exacerbations although a small effect could not be excluded which would require a larger study for confirmation.

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P15 CONCERNS ABOUT CORTICOSTEROIDS AMONG PEOPLE WITH ASTHMA: IMPLICATIONS FOR CLINICAL INTERVENTIONS

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Introduction and Objectives Despite the effectiveness of inhaled and systemic corticosteroids in controlling and preventing asthma exacerbations, suboptimal rates of adherence to treatment have been well documented. Previous studies have highlighted the importance of patients' beliefs about their medicine in determining their adherence to inhaled corticosteroids. The aim of this study was to examine in-depth people's concerns about inhaled and systemic corticosteroids for asthma and their relation to treatment adherence, and to assess the use of and satisfaction with available sources of information about corticosteroids to inform the development of interventions to support patients.

Method Validated questionnaires measuring concerns about steroid inhalers and tablets (Beliefs about Medicine Questionnaire), satisfaction with information (Satisfaction with Information about Medicines Scale) and adherence (Medication Adherence Report Scale) were sent to Asthma UK members or completed online via the Asthma UK website.

Results 2659 people returned questionnaires. Respondents reported a range of concerns about steroid medicines. The most prevalent concerns about steroid inhalers were about potential long-term effects (60%) side effects (sore throat or oral thrush (43%); effects on the voice (37%)) and becoming dependent on the inhaler (36%). The most prevalent concerns about steroid tablets were about long-term effects (81%), side effects (concerns about weight gain (66%); weakened bones (65%)) and general worry about taking the tablets (62%). People had stronger concerns about steroid tablets compared to steroid inhalers (p<0.0001). Concerns about treatment were associated with lower adherence to steroid inhalers (p<0.0001) and steroid tablets (p<0.0001). The most frequent sources of information used by people to address their concerns were reading the patient information leaflet and consulting nurses and doctors. Two-thirds of the sample indicated that they were dissatisfied with the information they had received about steroid treatments.

Conclusion People with asthma had a range of concerns about steroid medicines which impacted negatively on adherence. For many, treatment concerns had not been alleviated by the available information sources. Developing and implementing interventions that address patients' concerns about the side effects of corticosteroids may improve adherence to asthma treatment and improve asthma control.

P16 FLUTICASONE PROPIONATE/FORMOTEROL FUMARATE COMBINATION THERAPY HAS AN EFFICACY AND SAFETY PROFILE SIMILAR TO THAT OF ITS INDIVIDUAL COMPONENTS ADMINISTERED CONCURRENTLY: A RANDOMISED CONTROLLED TRIAL

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Introduction and objectives A new asthma therapy combining fluticasone propionate (FP) and formoterol fumarate (FORM) in a single pressurised metered dose inhaler (FP/FORM) has been developed. The efficacy and safety of FP/FORM (500/20 μg) were compared with its components FP and FORM, administered concurrently (FP +FORM), with FP alone and with FP/FORM (100/10 μg).

Methods Adults with moderate–severe reversible asthma were randomised 1:1:1:1 to 8 weeks of treatment with FP/FORM (500/20 μg or 100/10 μg), FP+FORM (500 μg+24 μg), or FP 500 μg alone (all twice daily) in a double-blind, double-dummy, multicentre, parallel-group study. The primary endpoint was change in mean morning pre-dose FEV_1 from baseline to end of treatment for FP/FORM (500/20 μg) and FP+FORM. Results for FP/FORM (500/20 μg) and FP+FORM are presented.

Results FP/FORM was as effective as FP+FORM, with an increase in mean morning pre-dose FEV_1 of 0.345l (n=133) and 0.284l (n=140), respectively at the end of week 8 (per protocol groups; least squares (LS) mean of the treatment difference: 0.060l; non-inferiority 95% CI:−0.059 to 0.180; p<0.001). The co-primary objective of this study supported this finding. The mean change in FEV_1 from pre-morning dose on Day 0–2 h post-morning dose at end Week 8 was 0.518l in the FP/FORM group and 0.500l in the FP +FORM group (per protocol groups; LS mean of the treatment difference: 0.018l; non-inferiority 95% CI:−0.098 to 0.135; p<0.001). Six patients receiving FP/FORM and 11 patients receiving FP+FORM discontinued due to lack of efficacy (per protocol groups). In both treatment groups, mean asthma symptom scores and sleep disturbance scores were low (intent to treat groups, Day 0: mean asthma symptom scores <1.2; mean sleep disturbance scores <0.7) and improved from Day 0 to end week 8. Salbutamol rescue medication use was comparable (median percentage of study days used: FP/FORM: 23.95%; FP+FORM: 21.05%; Hodges Lehmann difference: 0.06; 95% CI:−4.29 to 4.44; p=0.835). 19.5% of FP/FORM and 19.9% of FP+FORM patients experienced at least one AE. Most AEs were mild or moderate.

Conclusion FP/FORM and FP+FORM had similar efficacy and safety profiles.