Discussion Laboratory animal workers may have specific IgE antibodies to either Mus m 1 or mouse epithelium. Diagnostic tests for mouse sensitisation may require testing to both Mus m 1 and mouse epithelium to ensure we do not miss any sensitised cases. Skin prick tests appear higher rates of false negative than anticipated and are therefore less reliable in clinical practice if used alone.

P54 RESPIRATORY SYMPTOMS, LUNG FUNCTION AND QUALITY OF LIFE IN BRITISH FOUNDRY WORKERS

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Introduction Foundry work is associated with exposure to potentially harmful substances that may cause occupational asthma (OA).

Aim To record respiratory symptoms, lung function and health-related quality of life (HRQoL) in a group of exposed British foundry workers, and investigate their associations and causes.

Method A workplace-based study was conducted, where participants were delivered a researcher-administered questionnaire in order to record individual job exposures, respiratory and general health, and HRQoL (the EQ-5D). Spirometry was performed using a --Ndd Easy on-PC Spirometer according to ATS/ERS guidelines. Fractional exhaled nitric oxide (FE_{NO}) was measured using a NOBreath device to ATS standards.

Results 351 (65%) of a possible 539 workers participated. 350 (99.7%) were men, with a mean age of 42.4 (SD 12.5) years. The average length of employment in the foundry industry was 14.8 (SD 12.7) years. Twenty-one (6%) workers self-reported a diagnosis of current asthma, and six (1.7%) self-reported COPD.

139 (40%) participants had at least one respiratory symptom, of which wheeze was the most prevalent (n = 114, 33%). One-in-five participants reported work-related respiratory symptoms (WRRS) (n = 69, 20%), of which work-related cough was the most prevalent (n = 45, 13%; Table 1). Significantly more workers reporting WRRS were ever smokers (chi squared = 5.1, p = 0.02).

Abstract P54 Table 1 Demographic data for British foundry workers with and without work-related respiratory symptoms (WRRS)

	WRRS (n = 69)	No WRRS (n = 282)
Age, years (SD)	41.1 (12.3)	42.7 (12.5)
Length of employment, years (SD)	15.4 (12.3)	14.7 (12.8)
Current smoker, n (%)	25 (36)	71 (25)
Ever smoker, n (%)	48 (70)	154 (55)*
Self-reported current asthma, n (%)	8 (12)	13 (5)
FEV_1/FVC <0.7, n (%)	3 (4)	31 (11)
Mean% predicted FEV_1 (SD)	98.3 (10.5)	98.4 (14.1)
Mean% predicted FVC (SD)	103.1 (9.8)	103.6 (12.8)
Mean% predicted PEF (SD)	106.2 (17.1)	108.3 (18.2)
Mean FE_{NO}, ppb (SD)	31.1 (24.2)	29.9 (29.0)
Mean EQ-5D VAS (SD)	76.6 (15.8)	83.5 (11.0)**

*p = < 0.05, **p = 0.001.

155 (44%) workers had a FE_{NO} above 25 ppb, the suggested ATS cut off for a low probability of eosinophilic airway inflammation. No difference in FE_{NO} was found between those with and without WRRS (chi squared for FE_{NO} above or below 25 ppb = 1.50, p = 0.22).

However, WRRS were associated with significantly lower mean scores on the EQ-5D visual analogue scale (VAS; 77 vs 84, p = 0.001, 95% CI 2.89 – 11.01). In contrast, no difference in VAS was observed between those with and without an obstructive lung defect (FEV_1/FVC <0.7), (mean 83 vs 82, p = 0.63, 95% CI -5.48 – 3.33).

Conclusion Work-related respiratory symptoms among foundry workers were common and associated with impaired HRQoL. More work is required to better understand the cause of such symptoms in foundry workers, and their relationship with workplace exposures.

P55 THE OCCUPATIONS ASSOCIATED WITH COPD RISK IN THE LARGE POPULATION-BASED UK BIOBANK COHORT STUDY

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Introduction and objectives COPD is one of the leading causes of morbidity and mortality worldwide. Exposure to occupational hazards is an important and preventable risk factor. However, the contribution of each occupation to COPD risk in a general population is uncertain. Our aim was to investigate the association of COPD with occupation in a large UK population-based study.

Methods Between 2006 and 2010 the UK Biobank cohort recruited 502,649 subjects aged 40–69 years. COPD cases were defined by spirometry-based FEV_1/FVC <LLN according to ATS/ERS guidelines. Individual current occupation was coded using the Standard Occupation Classification (SOC) 2000. Prevalence ratios (PRs) and 95% confidence intervals (CIs) of COPD for exposure to each SOC-coded job were estimated using a robust Poisson model adjusted for sex, age, study centre and lifetime tobacco smoking.

Results Of the 353 SOC-coded jobs reported by 228,614 current working participants several occupations showed a significantly increased COPD risk. The occupations at highest COPD risk were Seafarers (PR = 2.64;95% CI:1.59–4.38), Coal mine operatives (PR = 2.30;95% CI:1.00–5.31), Cleaners (Industrial: PR = 1.96;95% CI:1.16–3.31 and Domestic: PR = 1.43;95% CI:1.28–1.59), Roofers/tilers (PR = 1.86;95% CI:1.29–2.67), Packers/bottlers/canners/fillers (PR = 1.60;95% CI:1.15–2.22), Food, drink and tobacco process operatives (PR = 1.46;95% CI:1.11–1.93), Floorers and wall tillers (PR = 1.41;95% CI:1.00–2.00), Postal workers/couriers (PR = 1.35; 95% CI:1.15–1.59), Labourers in building and woodworking trades (PR = 1.32; 95% CI:1.04–1.68), School mid-day assistants (PR = 1.32; 95% CI:1.01–1.74), and Kitchen/catering assistants (PR = 1.30; 95% CI:1.10–1.53). Associations were similar in analyses restricted to never smokers and to subjects never reporting a doctor's diagnosis of asthma.

Conclusions Selected occupations are associated with increased COPD risk in a large cross-sectional population-based UK study. Further analyses to investigate the underlying occupational hazards are planned. Occupational health surveillance among these occupations should be strengthened.