Results Patients who isolated NTM had higher exposure to intravenous antibiotic courses than comparison group: 53 vs. 21% having 3 or more courses per year (p-value 0.039). 77% of NTM positive patients vs. 47% of non-NTM were taking long-term azithromycin (p-value 0.07).
Conclusion Higher exposure to intravenous antibiotics courses is a risk factor for isolation of NTM in CF children. This highlights the importance of close monitoring until more is known about the long term health implications of this group of pathogens.

P81 LONG-TERM EFFECT OF COMBINED ANTERIOR AND POSTERIOR SPINAL FUSION ON PULMONARY FUNCTION AND QUALITY OF LIFE IN YOUNG PEOPLE WITH ADOLESCENT IDIOPATHIC SCOLIOSIS

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Background The deleterious effects of progressive adolescent idiopathic scoliosis (AIS) on lung function and quality of life are cause for concern. Although surgical correction of AIS aims to halt progression of restrictive lung disease, evidence from current literature is conflicting with minor improvement, no change, or minor decline in lung function all reported in case series 2–5 years post-operatively. The longer term follow-up of lung function and quality of life of those who underwent surgery for AIS in adolescence are not well documented with only one study extending beyond 2 years.
Aim To evaluate the long-term change in pulmonary function and quality of life in children with adolescent idiopathic scoliosis (AIS) following anterior and posterior spinal fusion (APSF).
Methods Subjects who underwent APSF for AIS in the period 2005–2007 at RHSC Edinburgh were prospectively studied during 2011/2012. Data were collected for lung function by forced spirometry (Jaeger Masterscreen), and measurement of quality of life using the SRS-22 questionnaire. Paired t-test was used to compare data pre- and post-APSF.
Results Paired pre- and post-operative data were available for 12 patients who underwent scoliosis correction at mean 13.8 (11.8–15) years. 9/12(75%) were female. Follow-up occurred 5.8(4.1–6.7) years after surgery.

Patients' height increased from mean (sd) 169(9) cm pre-operatively to 175(5)cm at follow-up ($p < 0.01$). Scoliosis corrected from 100(15) to 29(11) degrees ($p < 0.001$). FEV_1 was 60 (19)%predicted pre-operatively versus 62(19) post-operatively ($p = 0.32$); FVC was 62(19)%predicted before and 64(13) after surgery ($p = 0.67$).

Overall SRS-22 scores improved from mean (sd) 3.6(0.3) before surgery to 4.6(0.4) at follow-up ($p < 0.001$). Improvements in individual SRS-22 domains for function [3.9(0.2) vs. 4.9(0.2), $p < 0.001$], pain [3.5(0.4) vs. 4.5(0.5), $p < 0.001$], self-image [3.3(0.3) vs. 4.4(0.5), $p < 0.001$] and mental health [3.7(0.5) vs. 4.4(0.6), $p < 0.001$] were also noted. High rates of patient satisfaction [4.8(0.3)] were recorded. No correlation was noted between changes in FEV_1 ($r = 0.08$, $p = 0.8$) or FVC ($r = 0.01$, $p = 0.97$) with change in SRS-22 score.
Conclusion Long-term follow-up of a single surgeon's cohort of AIS patients suggests no deficit in pulmonary function, whilst quality of life and patient satisfaction are high 6 years after combined A/PSF.

P82 INDUCED SPUTUM IS A FEASIBLE DIAGNOSTIC TOOL IN CHILDREN WITH CHRONIC COUGH POSSIBLY DUE TO ASTHMA

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Background Chronic cough is a common childhood symptom, reported in 22% of preschool children. Many are misdiagnosed as asthmatic. Induced sputum (IS) using hypertonic saline (HTS) has been used as a diagnostic tool in patients with cough; its bronchoconstriction effects being used as a test for the bronchial hyper-reactivity (BHR) in asthma (ISSAC study). Conversely it is used as a bronchodilator in the treatment of bronchiolitis and pre-school wheeze. Sputum eosinophilia indicates airway inflammation in keeping with a diagnosis of asthma.

This study aimed to determine if IS is a feasible diagnostic tool in children with problem cough query asthma. In addition we wished to determine the relationship between BHR to HTS and the eosinophil count in sputum.
Methods A retrospective review of children with problem cough who underwent sputum induction with nebulised 3% HTS. Sputum samples were obtained for microbiology, virology and differential cell count. Spirometry was performed before and after administration of 3% HTS. Change in FEV_1 (Δ FEV_1 = FEV_1 post HTS minus FEV_1 pre HTS) was used as a measure of BHR. Correlation between Δ FEV_1 and sputum eosinophilia was calculated using Spearmen rank coefficient.
Results 146 patients referred for IS between 2001 and January 2013 were included. Mean age = 8 years (range = 2 to 13), mean cough duration = 4.25 years (range 0.17 to 11.5). Sputum induction was successful in 131 patients (89%). 12 children (8%) became symptomatic; 4% required test termination. 44 children increased FEV_1 with 12 having >9% FEV_1 increase. 63 children reduced FEV_1 with 21 having > 9% reduction.

Viral or bacterial pathogens were identified in 29% of samples obtained. Sputum eosinophilia (eosinophil count > 3%) was present in 66% of samples obtained. There was no correlation between FEV_1 and sputum eosinophilia ($R = 0.04$).
Conclusions IS is a feasible and safe tool in children with problem chronic cough, aiding diagnosis with spirometry and sputum analysis. However BHR induced with HTS does not correlate with sputum eosinophilia. Several children increased FEV_1 with HTS administration, suggesting it may have a therapeutic role in the treatment of some children with chronic cough.

P83 SHOULD CHILDREN FROM HHT FAMILIES UNDERGO SCREENING THORACIC CT SCANS FOR THE DIAGNOSIS OF PULMONARY ARTERIOVENOUS MALFORMATIONS? SURVEY DATA ON BREAST CANCER INCIDENCE

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Background Limiting thoracic radiation burden is a driving force for development of diagnostics, with the use of childhood CT scans particularly linked to increased cancer incidence [1]. Imaging of children with known or suspected hereditary