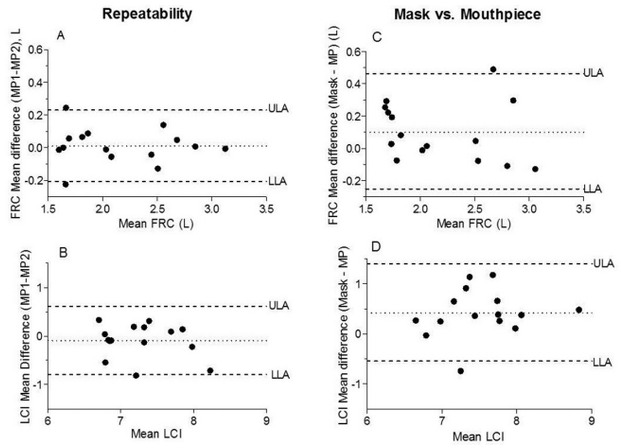

Abstract P101 Figure 1 A-D: Bland and Altman graphs for FRC and LCI showing within-test repeatability using the mouthpiece (Figure 1A and B) and comparison between Mask vs. Mouthpiece (Figure 1C and D). Dotted line denotes the mean difference and the dashed lines either side denote the upper and lower limits of agreement (ULA, LLA)

influence interpretation of results especially if different patient interfaces are used when collecting data in younger children.

P102 RECOVERY OF BASELINE LUNG FUNCTION AFTER A PULMONARY EXACERBATION IN CHILDREN WITH PRIMARY CILIARY DYSKINESIA (PCD)

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10.1136/thoraxjnl-2014-206260.243

Rationale Spirometry in children with cystic fibrosis (CF) frequently fails to return to baseline after treatment for a pulmonary exacerbation [Am J Respir Crit Care Med 2010; 182: 627–32]. It is unclear however how often lung function returns to previous baseline levels after treatment of a pulmonary exacerbation with intravenous antibiotics in children with PCD.
Objectives To determine in children with PCD: (1) the proportion treated for a pulmonary exacerbation who recover to baseline FEV_1 within 3 months and at 12 months and (2) to try to identify factors which are associated with failure to recover spirometry.
Methods Cohort study using the PCD database for children at the Royal Brompton Hospital from 2003 to 2013. We selected the first clinically diagnosed pulmonary exacerbation treated with intravenous antibiotics. The best FEV_1 in the 3 months after treatment and at 12 months was compared to the best FEV_1 in the 12 months before treatment (baseline). Recovery to baseline was defined as any FEV_1 after treatment that was greater than or equal to 90% of the baseline FEV_1.
Results Of the 30 children treated for pulmonary exacerbations, 77% recovered to baseline lung function within 3 months and 73% at 12 months. There were no significant differences between the responders and non-responders in terms of age, sex, ethnicity, BMI, baseline FEV_1, persistent sputum infection or use of antibiotic prophylaxis or mucolytic agent (Table).
Conclusions Similar to findings in CF, around 25% PCD patients fail to recover to baseline lung function after treatment of a pulmonary exacerbation with intravenous antibiotics. Better treatment strategies are needed, and the results also suggest that prevention of exacerbations would be a useful end-point in clinical trials.

Abstract P102 Table 1 Characteristics of patient cohort

Characteristic	Responder (n=23) N (%)	Non responder (n=7) N (%)
Median age, yr	11.4	12.2
Median BMI, kg/m^2	17.7	16.8
Female sex	14 (60)	4 (57)
Caucasian	12 (52)	4 (57)
FEV_1 < 40%	2 (9)	0
Persistent infection		
Haemophilus influenzae	5 (22)	1 (14)
Staphylococcus aureus	1 (4)	1 (14)
Streptococcus pneumoniae	2 (9)	0
Pseudomonas aeruginosa	0	2 (9)
Prophylactic antibiotic	17 (74)	6 (86)
Mucolytic agent	7 (30)	1 (14)

P103 DO CHILDREN WITH PRIMARY CILIARY DYSKINESIA HARBOUR THE SAME PATHOGENS IN THE UPPER AND LOWER AIRWAY?

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10.1136/thoraxjnl-2014-206260.244

Background Primary ciliary dyskinesia (PCD) is characterised by chronic nasal discharge and lower respiratory tract infections. We aimed to assess the prevalence and concordance of pathogens present in samples from the upper (UA) and lower airway (LA) of children with PCD.
Method Microbiology samples from UA (naso-sinal lavage or nasal swab) and LA (sputum or cough swabs) were taken at the same time from children attending a specialist PCD centre, diagnosed on standard criteria (Eur Respir J 2009:34:1264–1276).
Results 70 children (30 male), median age 10.7 yrs (range 1–18), were studied. 36/70 were prescribed long term prophylactic oral antibiotics. 42 (60%) of UA samples were culture positive compared to 21 (30%) positive LA samples. The UA positive group were not statistically different in age or FEV_1% pred (11.1 vs 10 yrs and 78% vs 75%). 14 patients were culture positive in both UA and LA, 10 of which had matched pathogens and 4 were unmatched. 20 were matched culture negative. The range of pathogens and where they were isolated are shown in the Table, some samples had more than one isolate.

Note the Table shows concordance for same pathogens
Conclusion In PCD, pathogens are isolated far more commonly from the UA than the LA. The clinical impact of these pathogens in the long term is unknown. 11 (16%) had PA in UA with only 2 of these having PA in their LA. We speculate that the UA may be, at least in some children, the source of LA infection. Clinical trials of eradication therapy after positive nasal cultures are indicated

Abstract P103 Table 1

Micro-organism	UA+, LA+	UA+, LA-	UA-, LA+
Strep pneumoniae	4	14	1
H Influenzae	*4*	*11*	*8*
Staph. Aureus	*2*	*0*	*2*
Ps. Aeruginosa	*2*	*9*	*1*
Moraxella	*2*	*4*	*0*
Other	*0*	*3*	*0*