Aim To compare these two methods of CDI assessment in CF children
Methods Children with cystic fibrosis (CF; 67) and healthy controls (61) performed multiple breath washout with sulphur hexafluoride measured using mass spectrometry. Scond was calculated from 1.5 to 6 turnovers and Scond* from breath 2 to 3 turnovers.
Results All measures of VI were significantly higher for CF vs control, mean difference: LCI 4.0, Scond 0.054, Scond* 0.081.
In CF, LCI correlated better with Scond* than Scond (See figure: correlation coefficient LCI vs. Scond* 0.75; LCI vs. Scond 0.42). If children with moderate-severe VI (LCI > 11) were excluded there was an improved correlation for both relationships (correlation coefficient LCI vs. Scond 0.83; LCI vs. Scond* 0.86).
An asymptote for the Scond vs LCI relationship was at Scond 0.07 and Scond* 0.13.
Conclusion Scond* quantifies the mechanism of VI in moderate to severe lung disease, but it may reach asymptote in very severe VI.