function reports. Those choosing reference values must be aware of implications for patients.

P249 COMPARISON OF PHYSIOLOGICAL VERSUS MATHEMATICAL METHODS FOR QUALITY CONTROL IN MBW NORMALISED PHASE III ANALYSIS

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Background Breathing pattern cannot be controlled in small children, so multiple breath washout SnIII analysis has to exclude inadequate volume breaths.

Aim To compare an existing mathematical breath exclusion algorithm with a physiological method.

Methods School age children with CF (30) and controls (30) performed SF6MBW with mass spectrometer, with uncontrolled tidal breathing. Two different breath exclusion methods were compared, with exclusion based on:

1) Expired tidal volume (VT) deviating by >25% of the median VT

2) VT <1 Langley dead space volume or 90% bigger than the median VT

Runs with >33% excluded breaths were removed. Volume corrected Scond was calculated from subjects with 3 valid runs.

Results Far fewer subjects were excluded by the physiological Langley method, than by the mathematical method (Table). The mean and SD for Scond was identical by both methods, implying that the mathematical algorithm excludes valid data.

Conclusion A physiological approach to data cleaning prior to SnIII analysis allows retention of data that would be inappropriately excluded mathematically.

REFERENCES


P250 REAL FLIGHT SPO2 COMPARES WITH HYPOXIC CHALLENGE TESTING IN ADULTS WITH CYSTIC FIBROSIS

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Introduction Limited data are available comparing air travel with the hypoxic challenge test (HCT) in adults with cystic fibrosis (CF). The aim of this study was to assess the predictive capability the HCT to in-flight hypoxaemia in adult passengers with CF.

Methods Fifteen subjects (three male) volunteered for this study. Lung function measurements (FEV1) were performed pre and post flight. Oxygen saturation measured by pulse oximetry (SpO2) and symptoms were recorded in-flight on both outward and inward flights. The HCT was performed post flight and the in-flight oxygenation response was compared to the HCT and lung function results.