

## LUNG FUNCTION - A STEADY DECLINE?

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Longitudinal rather than the usually quoted cross-sectional data is preferable to describe lung function changes with time in normal individuals.

**Aim :** (1) To use repeated measurements of lung function in normal subjects to calculate the annual rate of change.(2) To examine the influence of age, height, and gender. **Method:** Biological control lung function data were gathered from 21 respiratory scientists, three of whom provided data from 2 separate instruments. Regression analysis was used to calculate mean annual change of FEV<sub>1</sub>, FVC, DL<sub>CO</sub>, KCO, RV and TLC. Subjects with more than 5 years of data (n=10) were analysed to determine if the rate of change varied with the age of the subject (age range 32-55 years). The data for 21 subjects were divided separately by gender and height (150-170 and 171-200 cm) and analysed for differences within groups using t-tests.

### Results:

	<b>FEV<sub>1</sub></b> n= 24	<b>FVC</b> n= 24	<b>DL<sub>CO</sub></b> n= 20	<b>KCO</b> n= 20	<b>RV</b> n= 19	<b>TLC</b> n= 19
Mean rate of change	-14.5 ml/yr	-16.3 ml/yr	-0.26 ml/min/mmHg /yr	-0.05 ml/min/mmHg/L /yr	1.42 ml/yr	-28.9 ml/yr

Age, gender and height demonstrated no significant statistical association with the annual rate of change.

**Conclusion:** The data supports previous study findings showing gradual deterioration in lung function with time. In this group of respiratory scientists, age, gender and height had no substantial relationship to the annual rate of change in lung function parameters. Larger scale longitudinal studies (as opposed to cross-sectional studies) would be necessary to better define lung function changes with time in normal subjects.