

## HEAVY MEALS DO NOT AFFECT LUNG FUNCTION IN HEALTHY SUBJECTS

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**Background:** Clinical practice guidelines (ATS & AARC) recommend patients abstain from heavy meals prior to measurement of lung volumes and diffusing capacity. However this recommendation appears to lack supporting clinical data. Patients instructed to abstain from heavy meals often fast inappropriately resulting in hypoglycaemia and feelings of faintness.

**Purpose:** This study aims to detect significant change in lung function after the ingestion of a heavy meal.

**Methods:** 6 healthy, non-smoking subjects performed spirometry, lung volumes (plethysmography), and single breath DLCO. Tests were performed as per ATS guidelines at 0800, 0930 and 1130 after fasting from midnight the previous day. Participants fasted or had a large breakfast (at 0830) in random order. Analysis was performed by a linear mixed model to assess the effect of time, meal and meal vs time interaction.

**Results:** 4 males, (aged between 28 and 54 years) and 2 females, (20 and 59 years) completed the study. Results for main diagnostic parameters are shown below:

	FEV <sub>1</sub>		TLC		DLCO	
Time	Meal	Fasting	Meal	Fasting	Meal	Fasting
0800	3.3 ± 0.8	3.3 ± 0.8	6.5 ± 1.3	6.4 ± 1.3	26.7 ± 6.2	25.8 ± 6.0
0930	3.3 ± 0.7	3.4 ± 0.8	6.5 ± 1.2	6.4 ± 1.2	27.5 ± 6.6	25.6 ± 6.0
1130	3.3 ± 0.8	3.4 ± 0.8	6.5 ± 1.4	6.5 ± 1.2	25.7 ± 5.5	25.2 ± 5.6

All results are mean values ± standard deviation. There were no significant effects of meal or of meal vs time interaction (all P values >0.6)

**Conclusions:** The present data indicate lung function measurements are unchanged by a heavy meal when compared to fasting values in healthy subjects. The expansion of this study to patient groups will determine if it is necessary for patients to abstain from heavy meals prior to routine lung function testing.

**Key Words:** pulmonary function testing, meal effect, patient preparation, randomised controlled trial **Nomination for Award:** Young Investigator