

A PILOT STUDY FOR A QUALITY CONTROL PROGRAM IN SOUTH EAST QUEENSLAND RESPIRATORY LABORATORIES

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INTRODUCTION: Interlaboratory variation has been well documented by a number of authors and has been linked to many causes. Implementing standardized techniques can further reduce variation in results. **AIMS:** To reevaluate interlaboratory variability in five Brisbane Respiratory Laboratories using a standardized approach, with a view to establishing an ongoing testing regimen.

METHOD: Lung function tests were performed once in each laboratory by the same accredited operator on the same trained subject over four days. Prior to testing, all equipment was calibrated with the same 3L syringe. Spirometry, lung volumes and gas transfer were measured. Differences in equipment type and calculation were also noted. **RESULTS:** The interlaboratory coefficient of variations (COV's %) obtained from lung function measurements included FEV₁ (1.8%) and TLCO (2.5%). In comparison with previous studies, these results demonstrate a notable improvement. COV% from this Brisbane study and that of Brown et al in 2001¹ are as follows:

	Brown 2001			Present 2003
	Subject 1	Subject 2	Subject 3	
FEV ₁	3.4	5.6	5.9	1.8
TLCO	3.4	7.1	9.5	2.5

This comparison was made in relation to the same five laboratories.

DISCUSSION: These results demonstrate that interlaboratory variation is within acceptable limits. Results from respiratory investigations play a key role in the diagnosis, clinical treatment and medico-legal assessments of patients. Patients are often investigated at more than one laboratory in the course of their illness, emphasizing the importance of interlaboratory concordance.

1 Brown M, Lynn P and Tonks J. ANZSRS 2003 Annual Scientific Meeting