

DIAGNOSTIC SPIROMETERS FOR PRIMARY CARE IN AUSTRALIA: HOW 'GOOD' ARE THEIR CURRENT FEATURES?

Debbie Burton¹, David P Johns² and Maureen P Swanney³

¹*School of Biomedical Sciences, Charles Sturt University, NSW, 2678,* ²*Clinical School, University of Tasmania, TAS, 7000,* ³*Respiratory Physiology Laboratory, Christchurch Hospital, NZ*

The ANZSRS and TSANZ were contracted by the Commonwealth Department of Health and Ageing to develop a Spirometer Buyer's Guide. The aims of this guide were to 1) promote the measurement of quality spirometry, 2) provide a summary of the specifications and features of diagnostic spirometers currently on the market in Australia, and 3) assist purchasers to select the most appropriate spirometer.

Methods: Spirometer suppliers were identified via ANZSRS members and web searching. A questionnaire was developed to collect information on spirometer features. Suppliers were encouraged to liaise with the spirometer manufacturer in completion of the questionnaire.

Results: Completed questionnaires were received from 10 spirometer suppliers for 28 spirometer models (90% response rate). All spirometers met acceptable minimal performance standards (ATS/ERS) for diagnostic spirometers. Flow sensor types were Turbine vane (39%), Pneumotachograph (39%), Ultrasonic (7%), Volume displacement (7%) and Pitot tube (7%). The frequencies of other important features being met are shown in the table.

Calibration verification	100%	Daily calibration	36%
Real-time display	68%	Feedback on test quality	93%
Multiple ref equations	93%	Australian ref equation	21%
Recommend viral filter / disposable sensor / mouthpiece			86%
Cost of spirometer	mean \$3076, mode \$2995, range \$700 - \$7980		

Conclusions: The response from spirometer suppliers was outstanding. Most spirometers provided feedback on spirometry test quality and offered multiple reference equations. Calibration verification was consistently recommended, but only 36% suggested daily calibration.

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