

TITLE: Respiratory Spirometry Testing: Diagnostic Accuracy and Guidelines

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RESEARCH QUESTIONS:

1. What is the diagnostic accuracy of respiratory spirometers?
2. What are the guidelines associated with respiratory spirometry?

METHODS:

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 2, 2009), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI, EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between 2004 and June 2009. Filters were applied to limit the retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, controlled clinical trials, and guidelines. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

RESULTS:

HTIS reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, controlled clinical trials, and evidence-based guidelines.

Six evidence-based guidelines were identified pertaining respiratory spirometry. No relevant health technology assessment reports, systematic reviews, meta-analyses, randomized controlled trials, or controlled clinical trials were identified regarding the diagnostic accuracy of

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the respiratory spirometers of interest (EasyOne™ and KoKo™). Additional information that may be of interest has been included in the appendix.

OVERALL SUMMARY OF FINDINGS:

Of the six guidelines pertaining to the use of respiratory spirometry testing, three were for the screening, diagnosis, and management of chronic obstructive pulmonary disease (COPD).^{1,3-4} Overall, it is not recommended that respiratory spirometry be used for large population screening for COPD,^{1,3} but it is recommended that spirometry be used during the assessment and diagnosis of COPD and for the classification of disease severity.⁴

With respect to the diagnosis and management of chronic asthma, it is recommended that spirometry be used to confirm the diagnosis of asthma, as well as assess severity.²

Two of the six guidelines gave guidance with regard to the staffing qualifications and facility requirements associated with administering respiratory spirometry tests in Ontario.^{5,6} Full details regarding qualifications are available in the guidelines, but it is recommended that medical staff have a certificate of registration for independent practice, along with either specialty qualification in respirology; another specialty qualification combined with clinical experience; or in lieu of specialty training, at least 6 months prior clinical experience in pulmonary function testing.^{5,6} Technologists should be registered cardiopulmonary techologists, registered respiratory therapists, or health care professionals with a combination of formal cardiorespiratory training and both training and experience in spirometry.^{5,6}

No information regarding the diagnostic accuracy of the respiratory spirometers of interest (EasyOne™ and KoKo™) was identified.

REFERENCES SUMMARIZED:

Health technology assessments

No literature identified.

Systematic reviews and meta-analyses

No literature identified.

Randomized controlled trials

No literature identified.

Controlled clinical trials

No literature identified.

Guidelines and recommendations

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APPENDIX – FURTHER INFORMATION:

Observational studies

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Product information

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Additional references

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