CRITICAL CARE

BOOK REPORT

Pulmonary function testing & interpretation

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James E Hansen. *Pulmonary Function Testing & Interpretation.* 1st edition. New Delhi: Jaypee Brothers Medical Publishers, 2011, 261 pp., ISBN 978-93-5025-105-8

Among the 10 most important diseases in terms of mortality, morbidity and healthcare costs worldwide, the World Health Organization reported four respiratory diseases: chronic obstructive pulmonary disease, pneumonia, tuberculosis, and lung cancer [1]. The prevalence of chronic obstructive pulmonary disease has been shown to be fast growing, mainly in the older population [2]. Up to 20% of patients >65 years old are suffering from some kind of obstructive lung disease. Impairment of lung function is well known to be an important prognostic factor also for a number of nonrespiratory diseases (for example, myocardial infarction or patients on haemodialysis), and has been shown to be a risk factor for complications in almost every major surgical procedure [3].

However, respiratory diseases in total, and especially chronic obstructive pulmonary disease, are by far underdiagnosed and are an underestimated healthcare problem. Up to one-half of these patients are not diagnosed [4]. Lung function testing is the basis for diagnosing respiratory diseases, but is not a standard procedure in general practice. This nonstandardisation is mainly due to the fact that special experience is necessary to perform reliable pulmonary function testing and, more importantly, to interpret the results of the tests. In many countries, interpretation of pulmonary function tests is a minor part of physicians' training programmes and plays a role only for chest physicians.

Pulmonary Function Testing & Interpretation by James Hansen, an Emeritus Professor of Respiratory and Critical Care Physiology at Harbour UCLA Medical Center, Torrance, CA, USA, is therefore very welcome. The book offers a comprehensive review in 15 chapters, starting with respiratory physiology, followed by lung function testing methods including body plethysmography and diffusion capacity measurement, blood gas analysis, and exercise testing. New techniques to assess the effects of aerosolised bronchodilator drugs on obstructive airways disease are presented, since current practices fail to identify nearly one-half of the statistically significant responders. Highlights of the textbook are the chapters about new ways of interpreting spirometric values of cigarette smokers, to better identify and inform those who, although still within the wide range of normal, are at increased risk, and 10 interesting clinical cases to guide interpretation of pulmonary function tests.

Altogether, this textbook is up to date and offers a broad and detailed overview in the field of pulmonary function testing. The book is not easy to read and I am not sure whether graduate students or residents without any experience in the field might have benefit. This book will be of interest for physicians working in respiratory medicine who seek additional, more in-depth information about diagnostic techniques and possible pitfalls in interpretation. The case reports seem to be especially helpful to improve daily practice. For myself as a specialist in respiratory medicine, the chapter which describes the influence of ethnic differences in the target values and the lower limit of the normal provided new information and had an impact on my daily practice.

In conclusion, *Pulmonary Function Testing & Interpretation* may offer a possibility to deepen the knowledge of pulmonary function testing for those with a deep interest in the field. However, basic knowledge about the technique is necessary to receive benefit from this rather elaborate publication.

Competing interests
The author declares that he has no competing interests.

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