



ERS | *handbook*

Self-Assessment  
in Respiratory  
Medicine

2nd Edition

Editors

Konrad E. Bloch

with Thomas Brack and

Anita K. Simonds

261

questions and  
comments





ERS | handbook

# **Self-Assessment in Respiratory Medicine**

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Anita K. Simonds

## **PUBLISHED BY THE EUROPEAN RESPIRATORY SOCIETY**

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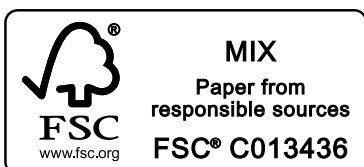
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# Table of contents

<b>Contributors</b>	<b>ii</b>
<b>Introduction</b>	<b>iv</b>
<b>How to use this book</b>	<b>vi</b>
<b>List of abbreviations</b>	<b>vii</b>
<b>Multiple Choice Questions with explanations</b>	<b>1</b>
<b>Index: the HERMES Syllabus in Respiratory Medicine</b>	<b>545</b>
<b>Blueprint of HERMES examination</b>	<b>547</b>

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# Introduction

In recognition of the increasing demand for education and revalidation in respiratory medicine, the European Respiratory Society (ERS) has initiated the Harmonised Education in Respiratory Medicine for European Specialists (HERMES) project. The aim is to promote the highest possible standards of practice in the specialty and to improve harmonisation of training across European countries. The HERMES project has been implemented by ERS Education through a task force coordinating inputs from representatives of more than 52 countries. After describing the knowledge and skills a European Respiratory Specialist should have (see the index to this book)<sup>1</sup> and delineating requirements for the core training curriculum<sup>2,3</sup>, the further phases of the project include assessments and accreditation of training centres<sup>4,5</sup>.

The European Examination in Adult Respiratory Medicine is one of the assessments developed within the HERMES project<sup>4,5</sup>. It is a knowledge-based test evaluating topics outlined in the European syllabus. The examination consists of 90 multiple-choice questions (MCQs) to be solved within a 3-h examination session. Practising respiratory specialists holding a national accreditation and aiming to receive a European Diploma are eligible to take the examination. An increasing number of trainees undergoing specialist education, as well as postgraduates who wish to evaluate their knowledge, have now taken the examination. All participants receive a detailed analysis of their performance in different areas of the field, but the Diploma is reserved for nationally accredited practising specialists in respiratory medicine.

The MCQs selected for the HERMES examination are created by a panel of authors from various countries and settings, *i.e.* from academic centres, community hospitals and specialist practice. The authors undergo special training in order to produce valid questions. The HERMES examination committee evaluates each new question during workshops and selects those meeting high standards in terms of clinical relevance, unambiguous scientific accuracy and formal aspects. Only questions passing this evaluation are subsequently incorporated into examinations. Questions are further assessed for their difficulty, selectivity and formal suitability. The pass/fail limit of each year's HERMES examination is set according to predefined rules. They incorporate difficulty scores given by committee members for each question reflecting the likelihood of a minimally qualified examinee answering any particular question correctly (Angoff method); a calibration is also performed by comparison of performance in a set of previously used questions (Rasch equating). Thus, rather than targeting any particular pass rate, the pass limit is set at a level that assures that successful candidates demonstrate a high level of knowledge.

In response to requests from candidates preparing for the HERMES examination as well as from practising respiratory physicians, the ERS Education Council has prepared this handbook. It is a collection of MCQs with answers and comments intended to be a self-assessment companion to the ERS Handbook of Respiratory Medicine<sup>5,6</sup>, which contains a systematic discussion of topics relevant for the specialist in adult respiratory medicine. We are fully aware that many respiratory professionals at all levels from senior specialists to junior trainees wish to test their knowledge personally without necessarily embarking on the HERMES examination. The MCQ handbook meets that need in a constructive didactic way. The broad range of topics is selected from the syllabus and the relative representation reflects the weights attributed by the examination committee to the different topics,

according to clinical relevance and importance in specialist education as listed in the 'blueprint' (see appendix).

The current, second edition of the ERS handbook *Self-Assessment in Respiratory Medicine* contains a completely revised and considerably expanded selection of questions that have been prepared by experienced authors and have undergone a rigorous evaluation according to the principles outlined above. The majority of questions are introduced by a case vignette describing a clinical problem to be solved. The purpose is not merely to test the knowledge of facts (which could be looked up in a text book or in the Internet) but rather to evaluate the ability of a candidate to apply knowledge and critically weigh different options in a clinical context. Accordingly, the choice of answers often contains more than one reasonable alternative, from which the candidate has to select the most appropriate one. As a welcome change, other, short questions without vignette are interspersed to test specific knowledge in selected areas. In the comments to each question, evidence in favour and against the various answers is discussed and literature references are provided for further reading.

We hope that all readers of this handbook will enjoy solving the problems presented in the case vignettes and questions, and benefit from assessing and refreshing their knowledge in respiratory medicine.

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# How to use this book

This handbook may be used in several ways: for self-assessment; to identify areas of strengths and weaknesses as a guide for further studies; and to refresh and update your knowledge in respiratory medicine. Those who wish to experience how it feels to undergo the HERMES examination may set themselves the challenge of solving 90 of the multiple-choice questions (MCQs) collected in this book within 3 h. The answers should be recorded on a separate sheet of paper without looking up the comments on the back of each question page. Another way of using the book is to solve the MCQs step by step, reading the comments at your convenience. The literature references listed with the comments on the reverse of each MCQ allow further reading to obtain more in-depth information. Still another approach is to use the index to locate and solve MCQs according to a particular syllabus topic of interest in order to test and consolidate knowledge in a specific area.

The MCQs in this handbook are presented according to two different formats: in the single-choice MCQ, the reader is asked to select the only correct answer, or the most appropriate answer, from five options (alternatively, in negatively formulated questions, the only exception or incorrect statement, or the least appropriate of five answers has to be selected). In the HERMES examination, a correct answer to this type of MCQ is awarded 1 point. If more than one answer is marked on the answer sheet, 0 points are given. In the second format of MCQ, four answers or statements are listed and the reader must decide whether each one is correct (true) or incorrect (false). In the HERMES examination, four correct true/false decisions are awarded with 1 point, three correct true/false decisions are awarded with 0.5 points and fewer than three with 0 points.

# List of abbreviations

<b>AHI</b>	apnoea-hypopnoea index
<b>BMI</b>	body mass index
<b>COPD</b>	chronic obstructive pulmonary disease
<b>CPAP</b>	continuous positive airway pressure
<b>CT</b>	computed tomography
<b>ECG</b>	electrocardiography
<b>FEV<sub>1</sub></b>	forced expiratory volume in 1 s
<b>FVC</b>	forced vital capacity
<b>HRCT</b>	high-resolution computed tomography
<b>Hb</b>	haemoglobin
<b>K<sub>co</sub></b>	transfer coefficient of the lung for carbon monoxide
<b>MRI</b>	magnetic resonance imaging
<b>NIV</b>	noninvasive ventilation
<b>OSA(S)</b>	obstructive sleep apnoea (syndrome)
<b>P<sub>a</sub>CO<sub>2</sub></b>	arterial carbon dioxide tension
<b>P<sub>a</sub>O<sub>2</sub></b>	arterial oxygen tension
<b>P<sub>t</sub>cCO<sub>2</sub></b>	transcutaneous carbon dioxide tension
<b>S<sub>a</sub>O<sub>2</sub></b>	arterial oxygen saturation
<b>S<sub>p</sub>O<sub>2</sub></b>	arterial oxygen saturation measured by pulse oximetry
<b>TLC</b>	total lung capacity
<b>T<sub>l</sub>CO</b>	transfer factor of the lung for carbon monoxide
<b>V<sub>E</sub></b>	minute ventilation