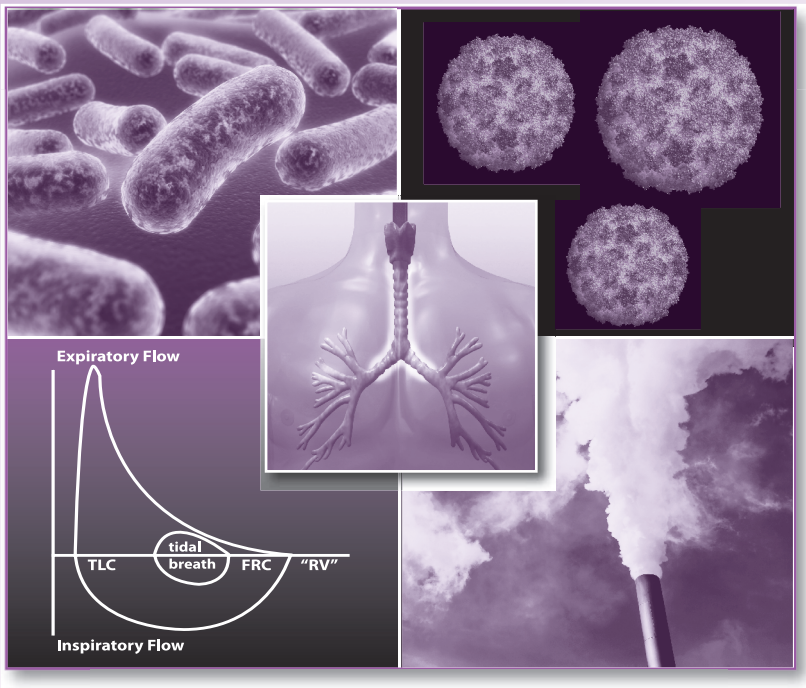


Lung Biology in Health and Disease

Volume 228

Executive Editor: Claude Lenfant

# Chronic Obstructive Pulmonary Disease Exacerbations



edited by

Jadwiga A. Wedzicha  
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# Chronic Obstructive Pulmonary Disease Exacerbations

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*The opinions expressed in these volumes do not necessarily represent the views of the National Institutes of Health.*

# Chronic Obstructive Pulmonary Disease Exacerbations

edited by

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## Introduction

The first, or certainly one of the first, definition of chronic obstructive pulmonary disease (or chronic obstructive lung disease as it is also called) was proposed in the 1959 Ciba Foundation Symposium on “the definition and classification of chronic obstructive pulmonary emphysema and related conditions.” Since, the journey of COPD (or COLD) has been remarkable; but the 1980s marked the beginning of a multinational research effort that has been most productive. Quite broad and diversified, this effort has focused on the pathology and possible treatments of this disease. Although it was recognized that the disease is irreversible and relentlessly progressive, delaying this progression and maintaining the best possible quality of life of the patients has been among the major goals.

As the editors of this volume point out in their Preface, it was reported “in the late 1990s that COPD exacerbations are an important determinant of health-related quality of life in COPD (patients)” and also of the speed and severity of the disease progression. Exacerbations are defined by a sudden worsening of the symptoms, and they may be life threatening in many instances. Yet, if appropriately managed, the patients may return to the same symptom and physiological levels as before the exacerbation. Much research at the fundamental as well as clinical levels has been conducted with the aim of understanding what triggers these exacerbations, how to prevent them, and how best to treat them. Indeed, much has been learned that can assist the practicing physicians and benefit the patients.

This volume titled *Chronic Obstructive Pulmonary Disease Exacerbations* and edited by Drs. Jadwiga A. Wedzicha and Fernando J. Martinez presents the most up-to-date knowledge about the mechanism and treatment of COPD exacerbations to the readership of this new volume. Contributors from North America, Europe, Asia, and the South Pacific report their experience on the basis of years of successful research and clinical care. All of the contributors to this volume are known and respected pioneers in their respective fields.

In their Preface, the editors predict that this volume will stimulate more investigations to better understand and manage COPD exacerbations. Of particular interest is the interdependency of COPD exacerbations and comorbid conditions. But, in addition, and most important, this book can help general practitioners make use of research outcomes, which can benefit their patients.

The series of monographs *Lung Biology in Health and Disease* has presented many volumes on COPD over the years, with the first monograph on this topic

published in 1978. Directly, or indirectly, the knowledge they have reported has contributed to better care of COPD patients. This volume, however, has very special messages that specifically address how to manage the worsening of the disease and, hopefully, maintain a better quality of life. As the Executive Editor of this series, I am grateful to the editors and the contributors for the opportunity to introduce this volume to our readership.

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## Preface

It is now recognized that exacerbations are a major cause of the global morbidity and mortality associated with chronic obstructive pulmonary disease (COPD). They are also a cause of hospital admission and readmission and thus lead to considerable health care costs. Following the observation in the late 1990s that exacerbations are an important determinant of health-related quality of life in COPD, there has been considerable interest in the study of exacerbations. Over the last few years, studies have shown that exacerbations contribute to disease progression and mortality and that they are an important outcome for new therapies in COPD.

For this book, we have assembled international experts, both clinicians and scientists with an interest in COPD exacerbations, to review critically the current literature and provide up-to-date reviews on the various issues as well as highlight the many controversies and bottlenecks in the study of exacerbations.

COPD exacerbations are episodes of worsening of symptoms, accompanied by inflammatory and physiological changes. In this book, we have firstly covered issues of definition, diagnosis, and epidemiology and then presented a number of chapters on the many diverse mechanisms, including the role of bacterial and viral infection to the development of respiratory failure, associated with COPD exacerbations, which are heterogeneous events. It is now recognized that systemic inflammation and comorbidity play a prominent role in COPD and affect exacerbation outcome. Environmental issues, including air pollution, are difficult to study, but there is considerable recent information on their relation to COPD exacerbation in this book.

Both management of the acute exacerbation and exacerbation prevention have been addressed in separate sections. We now have a wide variety of pharmacological and nonpharmacological interventions to treat and prevent exacerbations, yet many clinicians are confused about how to use these therapies and for which patients. The section on exacerbation management will also cover new models of care for COPD exacerbations, integration of home and hospital care for these patients, and, importantly, end-of-life issues. Studies investigating new therapies for either reducing severity or frequency of COPD exacerbations have proved problematic to design and often conduct, with specific statistical considerations, and we have addressed these issues in the last section of the book.



We know that you will very much enjoy reading this book and that it will stimulate many of you to further study this fascinating and important topic. In view of their significance, COPD exacerbations will be the subject of much future research and clinical trial activity. The book will be useful as a reference to all clinicians involved in the care of patients with COPD.

Finally, we would like to thank all the authors for agreeing to write the chapters and contributing to this high quality book. We also express our gratitude to Sandra Beberman and her team for allowing us to proceed with this project and supporting us throughout the commissioning and production.

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