

# Respiratory Emergencies

Edited by  
S. Nava and T. Welte



# **Respiratory Emergencies**

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Editor in Chief  
K. Larsson

This book is one in a series of European Respiratory Monographs. Each individual issue provides a comprehensive overview of one specific clinical area of respiratory health, communicating information about the most advanced techniques and systems needed to investigate it. It provides factual and useful scientific detail, drawing on specific case studies and looking into the diagnosis and management of individual patients. Previously published titles in this series are listed at the back of this book with details of how they can be purchased.

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# Preface

Access to free airways is the first consideration in emergency situations, such as at the scene of an accident, and respiratory emergencies represent an important part of acute medicine in general. Respiratory problems also play a crucial part in critical care medicine and constitute an important share of the numerous problems in an intensive care unit. As breathing difficulties are experienced with anguish, these symptoms can generally be very frightening, particularly to those suffering from them. It seems reasonable to assume that respiratory emergencies are mostly handled by physicians specialised in respiratory diseases. However, this is far from the case and the tradition in this regard varies from country to country. In some countries, there is close collaboration between respiratory and intensive care units, whereas in other countries this collaboration occurs less frequently. It may also be problematic finding novel scientific achievements within the field of respiratory emergencies since there is no clear forum for these kinds of publications. The number of scientific papers emphasising respiratory emergencies finding their way into respiratory journals is not overwhelming, which is a pity and is something that we could, and should, try to change in the future.

As a result, those interested in respiratory emergencies who are searching for compiled information focused in this field have to put in a great deal of work seeking information from various sources. Therefore, it is very satisfying and a great pleasure to announce this issue of *European Respiratory Monograph* on respiratory emergencies. In this issue of the monograph, different aspects of respiratory emergencies have been covered by the best specialists in the field. The Monograph gives insights into acute respiratory events due to exacerbations of obstructive pulmonary diseases, infections, accidents, neuromuscular disorders, acute respiratory distress syndrome, and much else. It is my hope that it will reach many readers and that it may help to throw a bridge across between specialists in respiratory and intensive care medicine.

**K. Larsson**  
Editor in Chief

## **INTRODUCTION**

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Emergency medical admissions constitute a substantial proportion of the workload of the respiratory and cardiology wards, and of the emergency departments. Mortality among these patients is significant and may be determined by the quality of care provided. According to the risk stratification of the patients, the mortality rate may vary from 1% to >30%. Interestingly enough, among the numerous variables associated with in-hospital mortality, two of the most powerful independent predictors are respiratory rate and oxygen saturation, suggesting that the respiratory system is very often involved either as a primary trigger of the emergency or as a secondary target of another organ's acute dysfunction.

Most pulmonologists or intensivists, when asked about what they consider to be a respiratory emergency, are likely to suggest the occurrence of acute respiratory failure, either "purely hypoxic" or hypercapnic.

It follows that the main causes of acute respiratory problems are considered to be an exacerbation of chronic obstructive pulmonary disease or a restrictive disease, pulmonary infections, acute respiratory distress syndrome and cardiogenic pulmonary oedema. Consequently, the larger part of books, monographs and reviews on acute respiratory problems deal with these specific topics.

However, in our daily practice, we have to face other important, although less frequent, respiratory emergencies, such as haemoptysis, ingestion of foreign bodies, pneumothorax, drowning and inhalation injury. Indeed, some peculiar aspects, such as paediatric respiratory emergencies and the occurrence of respiratory failure during pregnancy, are very seldom assessed if they are not covered in specific publications.

The idea of this Monograph, published by the European Respiratory Society, was to fill this gap, giving the readers the opportunity to have a complete overview of the respiratory emergencies that account for ~20–30% of all the emergency admissions to hospital.

The guest editors have asked international experts to not only write an up-to-date review of their specialist subject, but also, when feasible, to give some personal insights based on their long experience in the field.

A great amount of effort has been put in by everyone involved in the project, from the publishers to the authors. Have we succeeded? The answer is down to the readers!