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Understanding Mechanical Ventilation

A Practical Handbook

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Springer

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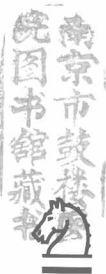
A Practical Handbook

Second Edition



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'To my parents'

Preface to the Second Edition

Simplify, simplify!

Henry David Thoreau

For writers of technical books, there can be no better piece of advice.

Around the time of writing the first edition – about a decade ago – there were very few monographs on this subject: today, there are possibly no less than 20.

Based on critical inputs, this edition stands thoroughly revamped. New chapters on ventilator waveforms, airway humidification, and aerosol therapy in the ICU now find a place. Novel software-based modes of ventilation have been included. Ventilator-associated pneumonia has been separated into a new chapter. Many new diagrams and algorithms have been added.

As in the previous edition, considerable energy has been spent in presenting the material in a reader-friendly, conversational style. And as before, the book remains firmly rooted in physiology.

My thanks are due to Madhu Reddy, Director of Universities Press – formerly a professional associate and now a friend, P. Sudhir, my tireless Pulmonary Function Lab technician who found the time to type the bits and pieces of this manuscript in between patients, A. Sobha for superbly organizing my time, Grant Weston and Cate Rogers at Springer, London, Balasaraswathi Jayakumar at Spi, India for her tremendous support, and to Dr. C. Eshwar Prasad, who, for his words of advice, I should have thanked years ago.

Above all, I thank my wife and daughters, for understanding.

Hyderabad, India

Ashfaq Hasan

Preface to the First Edition

In spite of technological advancements, it is generally agreed upon that mechanical ventilation is as yet not an exact science: therefore, it must still be something of an art. The science behind the art of ventilation, however, has undergone a revolution of sorts, with major conceptual shifts having occurred in the last couple of decades.

The care of patients with multiple life-threatening problems is nothing short of a monumental challenge and only an envied few are equal to it. Burgeoning information has deluged the generalist and placed increasing reliance on the specialist, sometimes with loss of focus in a clinical situation. Predictably, this has led to the evolution of a team approach, but, for the novice in critical care, beginning the journey at the confluence of the various streams of medicine makes for a tempestuous voyage. Compounding the problem is the fact that monographs on specialized areas such as mechanical ventilation are often hard to come by. The beginner has often to sail, as it were, “an uncharted sea,” going mostly by what he hears and sees around him.

It is the intent of this book to familiarize not only physicians, but also nurses and respiratory technologists with the concepts that underlie mechanical ventilation. A conscious attempt has been made to stay in touch with medical physiology throughout this book, in order to specifically address the hows and whys of mechanical ventilation. At the same time, this book incorporates currently accepted strategies for the mechanical ventilation of patients with specific disorders; this should be of some value to specialists practicing in their respective ICUs. The graphs presented in this book are representative and are not drawn to scale.

This book began where the writing of another was suspended. What was intended to be a short chapter in a handbook of respiratory diseases outgrew its confines and expanded to the proportions of a book.

No enterprise, however modest, can be successful without the support of friends and well wishers, who in this case are too numerous to mention individually. I thank my wife for her unflinching support and patience and my daughters for showing maturity and understanding beyond their years; in many respects, I have taken a long time to write this book. I also acknowledge Mr. Samuel Alfred for his excellent secretarial assistance and my colleagues, residents, and respiratory therapists for striving tirelessly, selflessly, and sometimes thanklessly to mitigate the suffering of others.

Ashfaq Hasan, 2003

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