

Monitoring in
Anesthesia and
Critical Care Medicine
SECOND EDITION



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Monitoring in Anesthesia and Critical Care Medicine SECOND EDITION

Edited by

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To family, parents, teachers, colleagues, friends, students and industry: all have played some part in this educational effort; to my partners at Old Pueblo Anesthesia who teach me amazing things about monitoring; to my mother and father, Sarah and Aaron, without whom this would not have been possible; to my children, Rachel and Joshua, who understand why I am not always available. Extraordinary thanks to my wife, Kathryn, for her patience, encouragement, and understanding.

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Preface to the Second Edition

The second edition of *Monitoring in Anesthesia and Critical Care Medicine* continues to have as its goal the dissemination of complete state of the art information regarding monitoring the anesthetized patient and the patient in the critical care or intensive care unit. The book continues to be a general reference and as such can be used by all practitioners and clinicians who deal with critically ill or anesthetized patients. This general reference modality and the completeness of this text set it apart from other books on the topics of monitoring.

All chapters have been updated to reflect clinical advances in each area. New chapters have been added to bring the book up to date. These chapters include transesophageal echocardiography, monitoring and patient safety, pulse oximetry, cost-benefit analysis in monitoring, monitoring in the intensive care setting, and monitoring in unusual clinical circumstances. These new chapters add a great deal to the depth and scope of the book.

Since numerous organizations and groups have established monitoring standards it is even more important now that all clinicians dealing with anesthetized patients, critically ill patients or patients who are undergoing sedation for various diagnostic or therapeutic procedures be familiar with the monitoring modalities available to them. I again hope that the result of this text will be to improve patient care.

I would like to thank the contributors to this second edition because their experience and knowledge have allowed this text to be outstanding. The staff and management at Churchill Livingstone have been terrific to work with during this second edition, and I wish to thank them for all their energy and support. I would also like to thank my family and colleagues for encouraging me to proceed with a second edition and my office staff for their diligent work in preparing this edition. A special thank you to my wife, Kathryn, and my mother, Sarah, for their encouragement.

Casey D. Blitt, M.D.

Preface to the First Edition

This book has been written to fulfill several purposes. Foremost was the need I saw for a complete, state-of-the-art text on monitoring, with an emphasis on the fields of anesthesia and critical care medicine. In addition, the book is designed to be a general reference on monitoring, and as such, differs from other publications on the subject of monitoring.

The authors who have contributed to this book are not only experienced and knowledgeable researchers, but also consummate clinicians, familiar with the problems faced by the practicing anesthesiologist. Since one of the purposes of monitoring is to aid the clinician in evaluating the patient, they have approached their topics from the points of view of physiology and clinical experience. They have done their work well. This book assembles a great amount of information of daily importance in the care of the anesthetized patient, and should be useful to the medical student, the clinician, and the medical professor.

Monitoring has become vital in many areas of medicine—internal medicine, surgery, obstetrics and gynecology, emergency medicine, critical care medicine, cardiology, pulmonary medicine, and of course anesthesiology. This book discusses virtually every conceivable monitoring modality, from the simplest to the most complex and from the nontechnical to the highly technical. The text starts with a discussion of some basic principles, then considers the monitoring of major body systems, and finally discusses aspects of monitoring that involve multiple organ systems. The concluding chapter discusses monitoring modalities of the future.

A major reason for writing this book was the thought that it might help improve patient care. If it does, I will indeed have succeeded in my mission. I have devoted a large portion of my career in anesthesiology to the field of monitoring. This book represents the culmination of these efforts.

I would like to thank the contributors to this book for their efforts in producing a fine text. I would also like to thank my family and colleagues for encouragement throughout this endeavor. Only time will tell if this book has fulfilled its goals.

Casey D. Blitt, M.D.

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