

Preface

The fields of *Acute* and *Critical Care Medicine* are relatively new. Over the past few decades, we have seen an enormous growth in the number of intensive care units (ICUs) and free standing Emergency Departments (EDs) in the USA. Thousands of medical students, residents, fellows, attending physicians, critical care nurses, pharmacists, respiratory therapists, and other healthcare providers (irrespective of their ultimate field of practice) spend several months or years of their professional lives, taking care of acutely ill or severely injured patients. Practitioners must be able to interpret clinical data obtained by many kinds of monitoring devices, apply formulas, understand laboratory values, and then integrate this information with their knowledge of the pathophysiology of disease.

This handbook is based on the first edition of the *ICU Handbook of Facts, Formulas, and Laboratory Values*, which we wrote more than a decade ago. The original handbook was written for everyone engaged in Critical Care Medicine. In this new book, we have attempted to present basic and generally accepted clinical formulas as well as laboratory values and tables, which we feel will be useful to the practitioner of Acute Care and Critical Care Medicine. In addition, formulas that help explain physiologic concepts or that underlie clinical measurements or diagnostic tests, even if not clinically useful themselves, are included. Multiple methods for deriving a particular quantity are included where appropriate. The formulas presented in the chapters of this book follow an outline format. The chapters are divided by organ system (i.e., neurologic disorders and cardiovascular disorders) as well as special topics (i.e., environmental disorders, trauma, and toxicology). A special chapter regarding laboratory values is provided. In addition, each chapter reviews some formulas systematically.

Acute and Critical Care Medicine are not static fields and changes occur every day. Therefore, this handbook is not meant to define the standard of care, but rather to be a general guide to current formulas and laboratory values used in the care of patients with Acute and Critical Care Medicine problems.

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