

Preface

Our goal with putting together *Cardiovascular Hemodynamics: An Introductory Guide*, was to provide the reader with a broad and fundamental overview of basic cardiovascular hemodynamic principles. The importance of an excellent understanding of these principles cannot be overstated, particularly in the management of a patient with complex cardiovascular issues. As our patient population ages, we will be expected to diagnose and manage patients with more advanced coronary artery disease, ventricular dysfunction and more advanced valvular disease. As such, knowing what to measure, how to measure it, and how best to interpret that information becomes crucial.

In order to help accomplish our goal, we intentionally divided this book up into three different sections. The first four chapters fall under the section entitled “Components of Myocardial Performance.” In this section we introduce the reader to the very basic concepts of cardiovascular hemodynamics, including preload, afterload, myocardial contractility and cardiac output. At first glance, this may seem very basic to the experienced cardiovascular physician or allied health professional. Beyond the basic definitions, however, we attempt to delve into the subtleties of each of these concepts to provide the reader with an in depth understanding.

The second section is entitled “Methods of Hemodynamic Evaluation.” In these 4 chapters, there is an emphasis on the tools used for hemodynamic evaluation. Equally as important as understanding the hemodynamic principles is familiarity with the tools used to obtain hemodynamic information from the patient. Whether it’s as basic as the physical examination or so advanced such as MR derived hemodynamics, the importance of knowing what to look for and how to look for it cannot be overemphasized.

The third and final section entitled “Specific Disease States” is comprised of 8 chapters each examining a specific disease state in which the proper diagnosis, evaluation and management of patients is dependent on a solid grasp of the underlying hemodynamic data. Our hope with this last section, is that it is able to bring together many of the principles explored in the previous two sections.

In order to reinforce the principles of cardiovascular hemodynamics emphasized in this book we have included board-style questions at the end of every chapter. In addition, the use of clinical cases and vignettes where appropriate throughout the book will further emphasize the key concepts of cardiovascular hemodynamics.

We would be remiss if we did not recognize the hard work and efforts of all the contributors. For each chapter we paired a recognized expert in the field with a cardiovascular medicine fellow from the Cleveland Clinic. Having already worked alongside and trained with many of these fellows, it has been a great privilege having worked with them on this endeavor. They are a group of dedicated, highly accomplished, and hard working individuals whose passion for this subject matter is evidenced by the quality of the work at hand.

We sincerely hope that this book can be used as a valuable tool in not only understanding and applying the basic principles of cardiovascular hemodynamics but also to gain an appreciation of the importance of this topic in proper care of the patient with cardiovascular disease.

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