Blood Gas Analysis: Shyam Sunder T, Roop Kishen (eds.)

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Arterial blood gas analysis plays an important role in managing critically ill patients as well as patients with various pulmonary and renal diseases. To understand the significance of parameters in blood gas analysis, one must have basic knowledge of acid-base physiology, blood buffers, respiratory and renal physiology, hemoglobin, and its role in transport of gases and so on.

The fourth edition of this handbook, written by authors who are intensivists, aims at imparting in-depth knowledge to understand acid-base disturbances in critically ill patients. The book has 15 chapters and contains relevant tables, flow charts, diagrams, and also explains important physiological equations used.

The authors start with basic definitions of acid and base, subsequently explaining about the terms used in the acid-base physiology, how the balance is maintained with the help of buffering systems with their amount of contribution to maintain homeostasis. The handbook explains the respiratory and renal compensatory mechanisms in detail when the acid-base balance is disturbed. This book also explains the sample collection procedure for blood gas analysis and common errors which are important to avoid to obtain accurate values of blood gas parameters.

The chapter on acid-base disturbances has a comprehensive review of classification of acid-base disturbances, types and

etiology, pathophysiology of common disorders with case scenarios and their management. The assessment and step-wise approach of the acid-base disorders with clinical cases help the physicians to understand the problems and importance of various physiological parameters. Blood gas abnormalities in critical care settings have been dealt separately with brief points on their management.

In addition to the traditional approach for the interpretation of blood gases, it also details about the Stewart approach with pros and cons. The case studies and self-assessment questions help the reader to evaluate him/her-self at the end. The answers to the case studies are given with step-wise approach to help the readers apply the same in clinical practice too. The book also addresses the frequently asked questions and each chapter contains references at the end.

This handbook is logical and comprehensive; it could serve as a practical guide at bedside and a must-read by physicians working in emergency room, critical care unit, and perioperative settings. It would definitely enhance the knowledge and understanding of the blood gas analysis.

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