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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Section I. Fundamental Principles of Monitoring -- 1. Overview of Clinical Monitoring -- 2. Monitoring in Acute Care Environments: Unique Aspects of Intensive Care Units, Operating Rooms, Recovery Rooms, Telemetry Floors -- 3. Introduction to Signals -- 4. Signal Analysis: Acquisition, Storage, and Analysis of Physiological Signals -- 5. Information Displays and Ergonomics -- 6. Decision Support and Closed-Loop Systems -- Section II. Hemodynamic Monitoring -- 7. Introduction to Hemodynamic Monitoring -- 8. Pulmonary Artery Catherization -- 9. Non-invasive Cardiac Output Monitoring -- 10. Transpulmonary Thermodilution -- 11. Echocardiography in the Acute Care Setting -- 12. Non-invasive Arterial Pressure Monitoring -- 13. Heart Rate Variability -- 14. Preload-Dependent Monitoring -- 15. Monitoring the Microcirculation in Critically Ill Patients -- 16. Hemodynamic Monitoring During Cardiopulmonary Bypass -- 17. Closed-Loop Fluid Management and Hemodynamic Optimization --

Section III. Respiratory Monitoring -- 18. Introduction to Respiratory Monitoring -- 19. Photoplethysmography: Analysis of the Pulse Oximeter Waveform -- 20. Time and Volumetric Capnography -- 21. Monitoring Diaphragmatic Function -- 22. The Anesthesia Machine as a Monitor -- 23. Ventilator Settings in Acute Care Environments -- 24. Monitoring Respiratory Rate -- 25. Closed-Loop Mechanical Ventilation -- Section IV. Neuromonitoring -- 26. Introduction to Neuromonitoring -- 27. Transcranial Doppler -- 28. Brain Oxygenation -- 29. Intracranial Pressure and SvjO<sub>2</sub> -- 30. Monitoring the EEG for Assessing Depth of Anesthesia -- 31. Monitoring Analgesia -- 32. Neuromonitoring during Spine Surgery -- 33. Closed-loop Anesthesia Based on Neuromonitoring -- 34. Target-Controlled Infusions -- Section V. Metabolic Monitoring -- 35. Glucometrics and Measuring Blood Glucose in Critically Ill Patients -- 36. Noninvasive Hemoglobin Monitoring -- 37. Monitoring of O<sub>2</sub> Uptake and CO<sub>2</sub> Elimination During Anesthesia and Surgery -- 38. Gastric Tonometry -- 39. Temperature Monitoring -- Section VI. Other Forms of Monitoring in the Acute Care Environment -- 40. Point-of-Care Coagulation Monitoring -- 41. Pediatric Monitoring -- 42. Fetal Monitoring -- 43. Other Forms of Monitoring in the Acute Care Environment -- Ultrasound -- Section VII. Information Technologies in the Acute Care Setting -- 44. Overview of Electronic Health Records -- 45. Benefits and Drawbacks of Health Information Technology -- 46. Special Case: Perioperative Information Management Systems -- Section VIII. New and Emerging Technologies -- 47. Intelligent Patient Monitoring and Clinical Decision-Making -- 48. Robotization.

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## Sommario/riassunto

This is an introduction to the patient monitoring technologies that are used in today's acute care environments, including the operating room, recovery room, emergency department, intensive care unit, and telemetry floor. To a significant extent, day-to-day medical decision-making relies on the information provided by these technologies, yet how they actually work is not always addressed during education and training. The editors and contributors are world-renowned experts who specialize in developing, refining, and testing the technology that makes modern-day clinical monitoring possible. Their aim in creating the book is to bridge the gap between clinical training and clinical practice with an easy to use and up-to-date guide.

- How monitoring works in a variety of acute care settings
- For any healthcare professional working in an acute care environment
- How to apply theoretical knowledge to real patient situations
- Hemodynamic, respiratory, neuro-, metabolic, and other forms of monitoring
- Information technologies in the acute care setting
- New and future technologies.

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