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6.3 Modeling and Collapsible Vessel Properties 7. The Microcirculation; 7.1 Structure of the Microcirculation; 7.2. Pressure-Flow Relation and Microcirculatory Mechanics; 7.3. Pulse Transmission and Modeling Aspects; 8. Hemodynamic Measurements and Dynamics of the Assisted Circulation; 8.1 Pressure, Flow and Dimension Measurements; 8.2 The Assisted Circulation and the Intra-Aortic Balloon Pump; Bibliography; Index

Sommario/riassunto

This book begins with the historical discoveries of the features of the vascular system and its importance in the overall circulatory function. Modern aspects of vascular biology in terms of structure and function are then described, followed by the introduction of physical principles and basic fluid mechanics for quantitative analysis. The hemodynamics of large arteries, the optimal structure of vascular branching and the pulsatile energy transmission and modeling aspects are elaborated. These are extended to analyze the function of the venous system and the microcirculation. Finally, the integrated
