

1. Record Nr.	UNINA9910337489403321
Autore	Westerhof Nicolaas
Titolo	Snapshots of Hemodynamics : An Aid for Clinical Research and Graduate Education // by Nicolaas Westerhof, Nikolaos Stergiopoulos, Mark I.M. Noble, Berend E. Westerhof
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-319-91932-6
Edizione	[3rd ed. 2019.]
Descrizione fisica	1 online resource (306 pages)
Disciplina	616.10754
Soggetti	Cardiology Biomedical engineering Biomedical Engineering and Bioengineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Viscosity -- Law of Poiseuille -- Bernoulli's Equation -- Turbulence -- Arterial Stenosis -- Resistance -- Inertance -- Oscillatory Flow Theory -- Law of Laplace -- Elasticity -- Compliance -- Wave Travel and Reflection -- Cardiac Muscle Mechanics -- The Pressure-Volume Relation -- The Pump Function Graph -- Cardiac Work, Energy and Power -- Cardiac Oxygen Consumption and Hemodynamics -- Cardiac Power and Ventriculo-Arterial Coupling -- Coronary Hemodynamics -- Assessing Ventricular Function -- Wave Travel and Pulse Wave Velocity -- Wave Separation and Waveform Analysis -- Wave Intensity Analysis -- Arterial Input Impedance -- The Arterial Windkessel -- Distributed Models and Tube Models -- Transfer of Pressure -- Pulmonary Hemodynamics -- Mechanotransduction and Vascular Remodeling -- Blood Flow and Arterial Disease -- Determinants of Pressure and Flow -- Comparative Physiology -- Appendices.
Sommario/riassunto	This new edition reviews recent developments in genetics and molecular biology and new noninvasive measurement techniques that have enabled vast improvements in the measurement and understanding of cardiovascular hemodynamics. It is written in the same quick reference style as its predecessor to help the reader understand how hemodynamics can quantitatively characterize the

function of the heart and arterial system, both separately and in combination, thereby revealing information about what genetic and molecular processes are of importance for cardiovascular function. The authors of *Snapshots of Hemodynamics* have designed each chapter to provide a succinct overview of an individual topic in a concise and understandable format. Existing chapters have been extensively updated while new chapters have been included on pulmonary system hemodynamics and wave intensity analysis to ensure that it remains current in this ever-changing field. This important new edition therefore provides a thorough grounding in the discipline that will help graduate students as well as any clinical and basic researchers in the field. .

---