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Nota di contenuto	Part I - ANATOMY, PHYSIOLOGY, CONGENITAL DEFECTS, and DISEASE -- The anatomy and function of the atrioventricular valves -- The anatomy and function of the semilunar valves -- Congenital heart defects that include cardiac valve abnormalities -- Acquired valve disease and processes -- Part II - VALVE REPAIR AND REPLACEMENT -- History of heart valve repair -- Heart valve disease -- Advanced 3D imaging and transcatheter valve repair/ implantation -- Transcatheter mitral repair and replacement -- Percutaneous pulmonary valve implantation: the first transcatheter valve -- Transcatheter aortic valve implantation -- Tissue engineered heart valves -- Part III - TESTING AND REGULATORY ISSUES -- In vitro testing of heart valve substitutes -- Numerical methods for design and evaluation of prosthetic heart valves -- Animal models for cardiac valve research -- The use of isolated heart models and anatomic specimens as means to enhance the design and testing of cardiac valve therapies -- Successful development and regulatory approval of replacement cardiac valves -- Clinical trial requirements for cardiac valves -- Index.
Sommario/riassunto	Cardiovascular disease is the major cause of morbidity and mortality worldwide. While the past 40 years have brought major progress in cardiac valve repair and replacement, there remain large patient populations that do not receive such therapies. This, in turn, implies a great need for future basic, applied, and clinical research and,

ultimately, therapeutic developments. Heart Valves is a state-of-the-art handbook dedicated to: 1) cardiac valve anatomy, 2) models for testing and research methods; 3) clinical trials; and 4) clinical needs and applications.