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Nota di contenuto	HISTORY OF CARDIAC CT: A PERSONAL STORY -- Evolution of Radiation Dose from Cardiac CT -- THE LONG MARCH INTO CLINICAL PRACTICE: CARDIAC CT AND ITS COMPETITORS -- Cardiac Computed Tomography: A Team Sport -- Cardiac CT: Credentialing and Accreditation -- Principles of Cardiac CT Image Acquisition -- Cardiac CT Platforms: State of the Art -- Dual Energy and Spectral CT Techniques in Cardiovascular Imaging -- Drugs in Cardiac CT -- Contrast Media Injection Protocols in CT Coronary Angiography -- Cardiovascular CT: Image Reconstruction -- The Challenging Patient -- Cardiac CT: Contemporary Clinical Image Data Display, Analysis, and Quantification -- Workflow Optimization -- Defining the Role and Benefits of a 3D Laboratory for Cardiovascular -- Structured Reporting for Cardiac CT -- Integration of CT Data into Clinical Workflows: Role of Modern IT Infrastructure including Cloud Technology -- Thoughts on Coding and Reimbursement -- Pathology and Pathophysiology of Coronary Atherosclerotic Plaques -- CT CARDIAC ANATOMY -- Patient Selection: When to Use Cardiac CT versus Other Imaging or Non-Imaging Tests -- Current Guidelines -- Clinical Application of the Coronary Artery Calcium Score and Implications for Cardiovascular Disease Prevention -- The Many Uses of Epicardial Fat Measurements -- Nonatherosclerotic Coronary Artery Disease -- The Many Faces of Atherosclerosis -- Use of Coronary Computed Tomography

Angiography in Cardiac Risk Assessment for Non-Cardiac Surgery -- Chronic Chest Pain -- Coronary CT Angiography for Evaluation of Acute Coronary Syndrome in the Emergency Department -- The Role of Cardiac CT in Patients with Metabolic Disorders -- CT for Guiding Successful Revascularization -- Multidetector CT Angiography for Coronary Bypass Graft Assessment and Reoperative Cardiac Surgery -- Stent Assessment -- CT of Cardiac Function and Wall Motion -- Three-Chamber Function with Cardiac CT -- Diseases of the Myocardium and Pericardium -- CT of Cardiac and Paracardiac Masses -- Valvular Heart Disease and Prostheses -- CT in the Context of Transcatheter Aortic Valve Replacement -- CT for Minimally Invasive Repair of Mitral Valve and Other Structural Heart Disease -- Cardiac CT: Electrophysiological Applications -- Cardiac Devices -- Special Technique Considerations for Congenital Heart Disease Imaging -- CT of Coronary Artery Anomalies -- CT Spectrum of Congenital Heart Disease -- The Use of Cardiovascular CT in repaired CHD -- Cardiac CT in the Setting of Heart Transplantation -- CT Imaging of the Heart-Lung Axis -- Ischemic Stroke: The Role of Cardiac CT -- Incidental Findings on CT angiography and How to Manage Them -- A Test on the Move: Cardiac CT in China as a Case Study -- Prognosis and Outcome: State of the Evidence -- Cardiac CT: Comparative Cost-Effectiveness -- Barriers to Greater Clinical Implementation -- Differences and Disparities in Cardiovascular Medicine Related to Gender, Race, and Ethnicity: The Role of Cardiac CT -- Cardiac CT Radiomics -- Coronary CT Angiography for Screening, Risk Stratification, and Management of Asymptomatic Patients: State of the Evidence -- Advanced Methods for Coronary Artery Plaque Analysis -- Transluminal Attenuation Gradient and Other CT Techniques for Gauging Lesion Significance -- CT Angiography Derived Fractional Flow Reserve -- CT Myocardial Perfusion Imaging: Arterial First Pass Imaging -- Myocardial Perfusion Imaging: Dual-Energy Approaches -- Dynamic Myocardial CT Perfusion Imaging -- CT's Role for Myocardial Viability Assessment -- Coronary CT Angiography as the Gatekeeper to the Cathlab: Where Are We? -- 3D Printing from Cardiac CT Images -- Future Technological Advances in Cardiac CT.

Sommario/riassunto

This book is a comprehensive and richly-illustrated guide to cardiac CT, its current state, applications, and future directions. While the first edition of this text focused on what was then a novel instrument looking for application, this edition comes at a time where a wealth of guideline-driven, robust, and beneficial clinical applications have evolved that are enabled by an enormous and ever growing field of technology. Accordingly, the focus of the text has shifted from a technology-centric to a more patient-centric appraisal. While the specifications and capabilities of the CT system itself remain front and center as the basis for diagnostic success, much of the benefit derived from cardiac CT today comes from avant-garde technologies enabling enhanced visualization, quantitative imaging, and functional assessment, along with exciting deep learning, and artificial intelligence applications. Cardiac CT is no longer a mere tool for non-invasive coronary artery stenosis detection in the chest pain diagnostic algorithms; cardiac CT has proven its value for uses as diverse as personalized cardiovascular risk stratification, prediction, and management, diagnosing lesion-specific ischemia, guiding minimally invasive structural heart disease therapy, and planning cardiovascular surgery, among many others. This second edition is an authoritative guide and reference for both novices and experts in the medical imaging sciences who have an interest in cardiac CT.
