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Nota di contenuto	Cover; Title page; Copyright page; Contents; List of Contributors; Preface; Acknowledgments; One: Ultrasound Vascular Imaging (UVI); 1: Basic Principles of Ultrasound Sonography; Introduction; Sound; Medium; Interface of reflection; Doppler ultrasound; Instrumentation; Doppler display; Doppler spectral display; Color Doppler imaging; Color Doppler energy (power mode); Causes of artifacts; Frequency; Spectral broadening; Scattering and acoustic shadowing; Mirror artifact; Aliasing; Doppler angle; Gain; Wall filters; Hemodynamics; Types of flow; Laminar flow; Plug flow; Disturbed blood flow Turbulent flowFlow resistance; High-resistance blood vessels; Low-resistance blood vessels; Flow parameters; Further reading; 2: Clinical Applications of Ultrasound Vascular Imaging; Introduction; Imaging protocols; Clinical applications; Extracranial vascular applications; Intracranial vascular applications; Further reading; 3: Novel Applications of Ultrasound Vascular Imaging; Overview; Cervical

vascular ultrasound; Atherosclerotic and degenerative artery disease; Transcranial ultrasound; Effects of cervical artery steno-occlusive disease in intracranial arteries  
Intracranial vasculopathies; Microembolic signals; Cerebral hemodynamic monitoring; Intracranial hypertension and cerebral circulatory arrest; Cerebral vasoreactivity studies; Venous disease; Real-time 3D ultrasound; Microbubbles and ultrasound contrast agents; Enhanced macrocirculation examination; Ultrasonographic brain perfusion imaging; Molecular imaging with targeted contrast ultrasound; Conclusion and summary; Further reading; Two: Computed Tomography Angiography (CTA); 4: Basic Principles of Computed Tomography Angiography (CTA); Introduction; Fundamentals of the CTA imaging technique  
Artifacts and pitfalls; Pitfalls; Imaging protocols; Clinical applications; Research applications; Summary; 5: Intracranial Computed Tomography Angiography (CTA); Introduction; CT angiography; Imaging protocols; Artifacts and pitfalls; Clinical indications for CTA; Intracranial aneurysms; Central nervous system (CNS) vasculitis and non-atherosclerotic vasculopathy; Acute stroke; Brain death; Maxillofacial vascular pathology; Traumatic vascular injuries; CT venography; Imaging protocols; Artifacts and pitfalls; Clinical indications for CTV; Anatomic variants; Cerebral venous thrombosis  
Current research on CTA and CTV; 4D CT angiography; Dual-energy CT angiography; Further reading; References; 6: Extracranial Computed Tomography Angiography (CTA); Introduction; Imaging principles; Introduction; CT angiography technique; Visualization technique; Clinical applications; Atherosclerotic disease; Dissection; Fibromuscular dysplasia; Blunt cerebrovascular injuries; Posttreatment CTA for the cervical arteries; Further reading; References; Three: Magnetic Resonance Vascular Imaging (MRV); 7: Basic Principles of Time-of-Flight Magnetic Resonance Angiography (TOF MRA) and MRV  
Introduction

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### Sommario/riassunto

The first book-length reference to thoroughly describe diagnostic and therapeutic advances in the development of vascular radiology over the last decade. The last ten years has seen vascular imaging of the central nervous system (CNS) evolve from fairly crude, invasive procedures to more advanced imaging methods that are safer, faster, and more precise—with computed tomographic (CT) and magnetic resonance (MR) imaging methods playing a special role in these advances. Vascular Imaging of the Central Nervous System is the first full-length reference text that shows radiologists

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