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Nota di contenuto	Intro -- Preface -- Contents -- 1: Deep Brain Stimulation and Magnetic Resonance Imaging: Introduction -- References -- 2: A Historical Perspective on the Role of Imaging in Deep Brain Stimulation -- Introduction -- Ventriculography -- Modern Neuroimaging Techniques: Magnetic Resonance Imaging and Computed Tomography -- Recent Advances in DBS Neuroimaging -- References -- 3: Overview of the Clinical Aspects of DBS -- Overview and History of DBS -- Brief History of Neurostimulation in Functional Neurosurgery -- DBS for Psychosurgery -- DBS for Pain -- DBS for Epilepsy -- DBS for Movement Disorders -- Other Indications -- Regulation of DBS Implants -- Patient Selection and Referral -- Neurology Screening -- Neurosurgical Evaluation -- Neuropsychiatric Testing -- Neuroimaging -- Contraindications to Surgery -- Clinical Considerations and Target Selection -- DBS for Essential Tremor -- DBS for Idiopathic Parkinson's Disease -- STN DBS -- GPi DBS -- ViM/cZi for Tremor-Dominant PD -- DBS for Dystonia -- DBS for Epilepsy -- DBS for Other Indications -- Surgical Considerations -- Intraoperative Considerations -- Postoperative Considerations -- Future Directions and Innovations -- References -- 4: Preoperative Planning of DBS Surgery with MRI -- Introduction -- Methods -- Search -- Sequence Evaluation -- Most Common DBS Targets -- Subthalamic Nucleus -- Visualizing the STN -- Globus Pallidus -- Visualizing the GP -- Thalamus -- Direct MRI

Visualization -- Limitations -- Future Directions -- Conclusions -- References -- 5: Safety of Magnetic Resonance Imaging in Patients with Deep Brain Stimulation -- Introduction -- Standards of Safety Testing -- Magnetic Field Components within the Suite -- Heterogeneity in Implanted Configurations and Positioning -- MR-Induced Heating Concerns -- The Unpredictable Nature of Heating -- Measuring Heating.

Other Potential MRI-Related Risks -- Unintended Stimulation -- Magnetically Induced Displacement or Vibrations -- Internal Pulse Generator Malfunctioning -- Magnetic Resonance Imaging Safety Studies with Humans -- Special Considerations -- The Impetus for Using High-Field MRI -- High-Performance Sequences -- Future Directions -- Magnetic Resonance Safety Innovations -- Possibilities for a New MR Safety Process -- Conclusion -- References -- 6: Postoperative MRI Applications in Patients with DBS -- Introduction -- Electrode Localisation and Mapping of Optimal DBS Target Using Pre- and Postoperative Imaging -- MNI Space and Investigating Potential Mechanisms of DBS -- Connectomics to Investigate Brain Networks of DBS -- Summary and Conclusion -- References -- 7: Acquiring Functional Magnetic Resonance Imaging in Patients Treated with Deep Brain Stimulation -- Introduction -- Challenges Associated with Acquiring fMRI in DBS Patients -- fMRI Study Results -- fMRI Acquisition, Experimental Design Paradigms and Analysis -- Movement Disorders -- Parkinson's Disease (PD) -- Essential Tremor (ET) -- Neuropsychiatric Disorders -- Obsessive-Compulsive Disorder (OCD) -- Depression, Anorexia, and Bipolar -- Pain -- Epilepsy -- Other DBS Indications -- Potential Applications and Future Directions -- References -- 8: MRI in Pediatric Patients Undergoing DBS -- Introduction -- Indications for Pediatric DBS -- Imaging Considerations for Children -- MR Imaging Acquisition for Planning DBS -- Neuroimaging and the Developing Brain -- Clinical Decision-Making for Children Based on Neuroimaging -- DBS Targeting in Children -- Postoperative DBS Imaging -- Ethics of Pediatric DBS and Neuroimaging -- Conclusions -- References -- 9: Deep Brain Stimulation and Magnetic Resonance Imaging: Future Directions -- References -- Index.
