This book’s intention with its many illustrations, tables and videos is to give the reader an overview of the clinical use of neurosonology and of a current understanding of cerebral hemodynamics. It is based on scientific contributions to the 16th Meeting of the European Society of Neurosonology and Cerebral Hemodynamics (ESNCH) in Munich, May 2011. Written by international experts this book reflects the development in the field of neurosonology during the past two decades. In addition to covering the current state of the art in traditional neurosonographic topics, such as extra- and transcranial Doppler- and duplex sonography, emboli detection, cerebral autoregulation, functional testing, this book presents the newest imaging and therapeutic technologies, such as imaging of plaque perfusion, cerebral perfusion techniques, or sonothrombolysis. The reader will find a comprehensive overview of the latest discoveries and knowledge in neurosonology and of therapeutic strategies in this field. The concept of this book is very modern due to its additional online access. It enables the reader to view ultrasound images and videos that were included in the scientific contributions.

Following chapters are included in the book:

1. Advances in Neurosonology - Brain Perfusion, Sonothrombolysis, Plaque Perfusion
2. Novel Technologies
3. Stroke Prevention, Diagnostics and Therapy
4. Atherosclerotic Plaque, Intima–Media Thickness
5. Cerebral Hemodynamics in Ischemic Stroke
7. Non Atherosclerotic Stroke Etiology
8. Cerebral Autoregulation and Functional Testing
9. Transcranial Duplex Ultrasonography
10. Cerebral and Cervical Venous Ultrasonography
11. Nonvascular Neurosonography - Muscle, Nerve and Eye
12. Case Reports