

1. Record Nr.	UNINA9910254512003321
Titolo	Intraoperative Ultrasound (IOUS) in Neurosurgery : From Standard B-mode to Elastosonography // edited by Francesco Prada, Luigi Solbiati, Alberto Martegani, Francesco DiMeco
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-25268-2
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (196 p.)
Disciplina	610
Soggetti	Interventional radiology Neurosurgery Radiology Neurology Oncology Interventional Radiology Imaging / Radiology Neurology Oncology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	General aspects: Clinical US, historical aspects -- US physics, basic principles and clinical application -- B-mode ultrasound: Ultrasound system set up and general semeiology -- Echographic brain semeiology and topographic anatomy according to surgical approaches -- Intraoperative findings in brain tumor surgery -- IOUS B-mode intra-operative findings in spinal lesions -- IOUS B-mode intra-operative findings in peripheral nerve pathologies -- Multimodal imaging in glioma surgery -- Doppler imaging: Basic principles and clinical application.- Intra-operative Ultrasound, Fusion imaging and Virtual Navigation: Virtual navigation and interventional procedures. Navigable ultrasound, 3D ultrasound and fusion imaging in neurosurgery -- Contrast enhanced ultrasound (CEUS): Basic principles, general application and future trends -- CEUS in neurosurgery --

Sommario/riassunto

This book is intended as a practical manual on the use of intraoperative ultrasound (IOUS) as a tool for imaging guidance during cranial and spinal neurosurgical procedures. Full account is taken of the emergence of novel clinical applications and recent technical advances, with extensive coverage of the impact of developments such as improved probe technology, fusion imaging and virtual navigation, 3D ultrasound imaging, contrast-enhanced ultrasound, and elastosonography. Basic principles of ultrasound are elucidated in order to assist in the optimal use of IOUS and clear guidance is provided on the interpretation of imaging findings in various pathologies. Informative comparisons are also made of the use of techniques such as fusion imaging and contrast-enhanced ultrasound in general radiology and neurosurgery. The aim of the authors is to enhance the general knowledge regarding intra-operative ultrasound brain imaging, standardizing its use and exploring new techniques, leading in some way toward compensating the lack of specific training in the application of ultrasound among the neurosurgical community. IOUS is a sensitive tool that can improve surgical precision and help to reduce morbidity.

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