

Advances In Stereotactic And Functional Neurosurgery: A Comprehensive Guide to Transformative Techniques and Innovations

Stereotactic and functional neurosurgery represent rapidly evolving fields within neurosurgery, offering innovative and precise treatments for a wide range of neurological conditions. The book "Advances In Stereotactic And Functional Neurosurgery" provides a comprehensive overview of the latest advancements in these disciplines, encompassing both established techniques and emerging frontiers.



Advances in Stereotactic and Functional Neurosurgery 4: Proceedings of the 4th Meeting of the European Society for Stereotactic and Functional Neurosurgery, ... (Acta Neurochirurgica Supplement Book 30)

 4.3 out of 5

Language : English
File size : 7378 KB
Text-to-Speech : Enabled
Screen Reader : Supported
Enhanced typesetting : Enabled
Print length : 452 pages

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Section 1: Stereotactic Neurosurgery

This section delves into the principles and applications of stereotactic neurosurgery, a technique that uses three-dimensional imaging to guide surgical instruments with unparalleled accuracy. Chapters cover:

- Stereotactic targeting systems and their clinical applications
- Frame-based and frameless stereotaxy techniques
- Image-guided surgery for brain tumors, vascular malformations, and deep-seated lesions

↳ Minimally invasive stereotactic approaches, such as laser interstitial thermal therapy (LITT)

Section 2: Functional Neurosurgery

The second section focuses on functional neurosurgery, a specialized field that utilizes electrical stimulation and other neuromodulation techniques to treat neurological disorders. Chapters explore:

- Deep brain stimulation (DBS) for Parkinson's disease, dystonia, and tremor
- Vagus nerve stimulation (VNS) for epilepsy and depression
- Spinal cord stimulation (SCS) for chronic pain
- Closed-loop neuromodulation systems that adjust stimulation parameters based on brain activity

Section 3: Case Studies and Clinical Perspectives

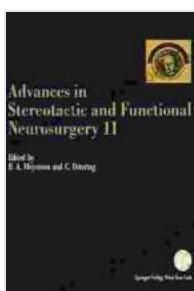
This section presents real-world case studies and clinical perspectives from leading neurosurgeons and neurologists. Chapters provide insights into the practical application of stereotactic and functional neurosurgical techniques for treating various neurological conditions. Readers gain invaluable experience from these case-based discussions.

Section 4: Emerging Technologies and Future Directions

The final section explores emerging technologies and future directions in stereotactic and functional neurosurgery. Chapters discuss:

- Robotic-assisted surgery
- Artificial intelligence (AI) in neurosurgery
- Novel neuromodulation techniques, such as optogenetics and transcranial magnetic stimulation (TMS)
- The role of stem cells and regenerative medicine in neurosurgery

"Advances In Stereotactic And Functional Neurosurgery" is an authoritative and comprehensive reference for neurosurgeons, neurologists, and students seeking to enhance their knowledge and skills in these rapidly advancing fields. Its in-depth coverage of established techniques, emerging innovations, and clinical perspectives provides a valuable resource for both experienced practitioners and those pursuing a career in neurosurgery.



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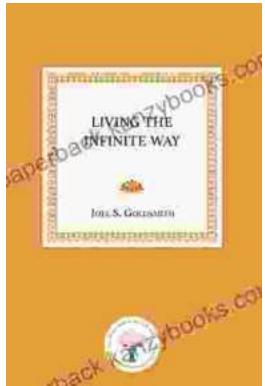
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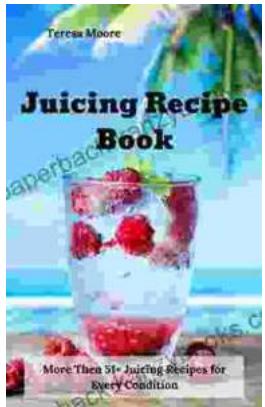
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