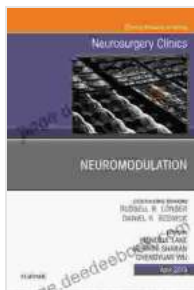


Neuromodulation: An Issue of Neurosurgery Clinics of North America

Guest Editors: Ali Rezai, MD, and Andres Lozano, MD, FRCSC

This issue of Neurosurgery Clinics, guest edited by Drs. Ali Rezai and Andres Lozano, provides a comprehensive overview of neuromodulation.



Neuromodulation, An Issue of Neurosurgery Clinics of North America, An Issue of Neurosurgery Clinics of North America (The Clinics: Surgery Book 30)

★★★★★ 5 out of 5

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Neuromodulation is the alteration of nerve activity through the delivery of electrical or chemical signals. It has been used for decades to treat a variety of neurological and psychiatric disorders, including Parkinson's disease, epilepsy, chronic pain, and depression.

This issue of Neurosurgery Clinics reviews the latest advances in neuromodulation, including:

- Deep brain stimulation (DBS) for Parkinson's disease, essential tremor, and dystonia

- Spinal cord stimulation (SCS) for chronic pain
- Vagus nerve stimulation (VNS) for epilepsy and depression
- Responsive neurostimulation (RNS) for epilepsy
- Closed-loop stimulation for Parkinson's disease and epilepsy
- Adaptive stimulation for chronic pain
- Personalized neuromodulation
- Brain-computer interface (BCI)
- Neuroprosthetics

This issue also discusses the future of neuromodulation, including the potential for new therapies and the integration of neuromodulation with other treatments.

Neuromodulation is a rapidly evolving field that has the potential to revolutionize the treatment of neurological and psychiatric disorders. This issue of Neurosurgery Clinics provides a comprehensive overview of the latest advances in neuromodulation and explores the future of this exciting field.

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Deep Brain Stimulation for Parkinson's Disease, Essential Tremor, and Dystonia

Deep brain stimulation (DBS) is a surgical procedure that involves implanting electrodes into the brain to deliver electrical stimulation. DBS has been shown to be effective in treating the symptoms of Parkinson's disease, essential tremor, and dystonia.

In this article, the authors review the latest advances in DBS for Parkinson's disease, essential tremor, and dystonia. They discuss the different targets for DBS, the programming of DBS devices, and the long-term outcomes of DBS.

Spinal Cord Stimulation for Chronic Pain

Spinal cord stimulation (SCS) is a surgical procedure that involves implanting electrodes into the spinal cord to deliver electrical stimulation. SCS has been shown to be effective in treating the symptoms of chronic pain.

In this article, the authors review the latest advances in SCS for chronic pain. They discuss the different types of SCS devices, the programming of SCS devices, and the long-term outcomes of SCS.

Vagus Nerve Stimulation for Epilepsy and Depression

Vagus nerve stimulation (VNS) is a surgical procedure that involves implanting electrodes around the vagus nerve to deliver electrical stimulation. VNS has been shown to be effective in treating the symptoms of epilepsy and depression.

In this article, the authors review the latest advances in VNS for epilepsy and depression. They discuss the different targets for VNS, the programming of VNS devices, and the long-term outcomes of VNS.

Responsive Neurostimulation for Epilepsy

Responsive neurostimulation (RNS) is a surgical procedure that involves implanting electrodes into the brain to deliver electrical stimulation in response to seizures. RNS has been shown to be effective in reducing the frequency and severity of seizures in patients with epilepsy.

In this article, the authors review the latest advances in RNS for epilepsy. They discuss the different targets for RNS, the programming of RNS devices, and the long-term outcomes of RNS.

Closed-Loop Stimulation for Parkinson's Disease and Epilepsy

Closed-loop stimulation is a type of neuromodulation that uses feedback from the brain or spinal cord to adjust the stimulation parameters. Closed-loop stimulation has been shown to be effective in improving the symptoms of Parkinson's disease and epilepsy.

In this article, the authors review the latest advances in closed-loop stimulation for Parkinson's disease and epilepsy. They discuss the different

types of closed-loop stimulation systems, the programming of closed-loop stimulation devices, and the long-term outcomes of closed-loop stimulation.

Adaptive Stimulation for Chronic Pain

Adaptive stimulation is a type of neuromodulation that uses algorithms to adjust the stimulation parameters based on the patient's needs. Adaptive stimulation has been shown to be effective in improving the symptoms of chronic pain.

In this article, the authors review the latest advances in adaptive stimulation for chronic pain. They discuss the different types of adaptive stimulation systems, the programming of adaptive stimulation devices, and the long-term outcomes of adaptive stimulation.

Personalized Neuromodulation

Personalized neuromodulation is a type of neuromodulation that is tailored to the individual patient. Personalized neuromodulation has been shown to be more effective than traditional neuromodulation in improving the symptoms of neurological and psychiatric disorders.

In this article, the authors review the latest advances in personalized neuromodulation. They discuss the different types of personalized neuromodulation systems, the programming of personalized neuromodulation devices, and the long-term outcomes of personalized neuromodulation.

Brain-Computer Interface

Brain-computer interface (BCI) is a type of neuromodulation that allows the brain to control external devices. BCI has been shown to be effective in

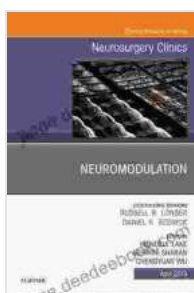
restoring function in patients with paralysis and other neurological disorders.

In this article, the authors review the latest advances in BCI. They discuss the different types of BCI systems, the programming of BCI devices, and the long-term outcomes of BCI.

Neuroprosthetics

Neuroprosthetics are devices that replace or restore the function of damaged or lost nerves. Neuroprosthetics have been shown to be effective in improving the quality of life for patients with paralysis and other neurological disorders.

In this article, the authors review the latest advances in neuroprosthetics. They discuss the different types of neuroprosthetics, the programming of neuroprosthetic devices, and the long-term outcomes of neuroprosthetics.



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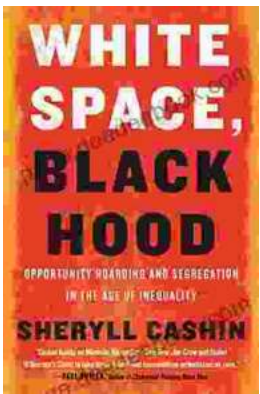
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Every Cowgirl Loves Rodeo: A Western Adventure

Every Cowgirl Loves Rodeo is a 2021 American Western film directed by Catherine Hardwicke and starring Lily James, Camila Mendes, and Glen...



Opportunity Hoarding and Segregation in the Age of Inequality

In an age marked by profound inequality, the concepts of opportunity hoarding and segregation have emerged as pressing concerns. These phenomena...