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system -- 13. Pelizaeus-Merzbacher disease: molecular and cellular pathologies and associated phenotypes -- 14. Multiple sclerosis -- 15. Visualization of myelin for the diagnosis and treatment monitoring of multiple sclerosis -- 16. Roads to formation of normal myelin structure and pathological myelin structure -- 17. Therapeutic strategies for oligodendrocyte-mediated remyelination -- 18. Brain tumors of glial cell origin -- Part 4. Myelin pathology in the peripheral nervous system -- 19. Schwann cell and the pathogenesis of Charcot-Marie-Tooth disease -- 20. Guillain- Barré Syndrome -- 21. Chronic inflammatory demyelinating polyneuropathy -- 22. Schwann cells as crucial players in diabetic neuropathy -- 23. Drug-induced demyelinating neuropathies -- 24. Transthyretin amyloid neuropathy: the Schwann cell hypothesis.

Sommario/riassunto

This book presents the latest exciting advances in understanding of the structure and function of myelin in the central and peripheral nervous systems under normal and pathological conditions. Readers will find state of the art information from the perspectives of both basic neuroscience and clinical neurology and neuropathology. Detailed attention is paid to the findings and implications of recent research on the myelin-forming glial cells such as oligodendrocytes and Schwann cells. The discussion of myelin pathology encompasses a wide range of diseases and conditions, including, for example, multiple sclerosis, Pelizaeus-Merzbacher disease, traumatic brain and spinal cord injuries, brain tumors of glial cell origin, Charcot-Marie-Tooth disease, immune-mediated neuropathy, and diabetic neuropathy. The authors comprise researchers at the cutting edge of biotechnology and experts in the diseases discussed. The clearly written text is supported by numerous high-quality light and electron microscopy, CT, and MR images.