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Nota di contenuto	Part I. Human Peripheral Nerve -- 1. Ultrastructure of Myelinated and Unmyelinated Axons -- 2. Macrophages, Mastocytes, and Plasma Cells -- 3. Ultrastructure of the Endoneurium -- 4. Ultrastructure of the Perineurium -- 5. Ultrastructure of the Epineurium -- 6. Origin of the Fascicles and Intraneural Plexus -- 7. Macroscopic View of the Cervical Plexus and Brachial Plexus -- 8. Anna Carrera, Francisco Reina -- 9. Macroscopic View of the Lumbar Plexus and Sacral Plexus -- 10. Cross-sectional Microscopic Anatomy of the Sciatic Nerve and its Dissected Branches -- 11. Cross-sectional Microscopic Anatomy of the Sciatic Nerve and Paraneural Sheaths -- 12. Computerized Tomographic Images of Unintentional Intraneural Injection -- 13. Ultrasound View of

Unintentional Intraneural Injection -- 14. Histologic Features of Needle-Nerve and Intraneural Injection Injury as Seen on Light Microscopy -- 15. Structure of Nerve Lesions after “In Vitro” Punctures -- 16. Scanning Electron Microscopy View of In Vitro Intraneural Injections -- 17. Injection of Dye Inside the Paraneural Sheath of the Sciatic Nerve in the Popliteal Fossa -- 18. High-Definition and Three-Dimensional Volumetric Ultrasound Imaging of the Sciatic Nerve -- Part II. Component of the Spinal Canal -- 19. Spinal Dural Sac, Nerve Root Cuffs, Rootlets, and Nerve Roots -- 20. Ultrastructure of Spinal Dura Mater -- 21. Ultrastructure of the Spinal Arachnoid Layer -- 22. Three-Dimensional Reconstruction of Spinal Dural Sac -- 23. Three-dimensional Reconstruction of Spinal Epidural Fat -- 24. Ultrastructure of Human Spinal Trabecular Arachnoid -- 25. Ultrastructure of Spinal Pia Mater -- 26. Ultrastructure of Spinal Subdural Compartment: Origin of Spinal Subdural Space -- 27. Unintentional Subdural and Intradural Placement of Epidural Catheters -- 28. Ultrastructure of Human Spinal Nerve Roots -- 29. Three-dimensional Reconstruction of Cauda Equine Nerve Roots -- 30. Spinal Nerve Root Lesions after “In Vitro” Needle Puncture -- 31. Nerve Root Cuff Lesions after “In Vitro” Needle Puncture and Model of “In Vitro” Nerve Stimuli Caused by Epidural Catheters -- 32. Ligamentum Flavum and Related Spinal Ligaments -- 33. The Ligamentum Flavum -- 34. Subarachnoid (Intrathecal) Ligaments -- 35. Displacement of the Nerve Roots of Cauda Equina in Different Positions -- 36. Nerve Root and Types of Needles Used in Transforaminal Injections -- 37. Three-Dimensional Visualization of Spinal Cerebrospinal Fluid and Cauda Equina Nerve Roots, and Estimation of a Related Vulnerability Ratio -- 38. Ultrastructure of Nerve Root Cuffs: Dura-Epineurium Transition Tissue -- 39. Ultrastructure of Nerve Root Cuffs: Arachnoid Layer–Perineurium Transition Tissue at Preganglionic, Ganglionic, and Postganglionic Levels -- 40. Spinal Cord Stimulation -- 41. Ultrastructure of Dural Lesions Produced in Lumbar Punctures -- 42. Injections of Particulate Steroids for Nerve Root Blockade: Ultrastructural Examination of Complicating Factors -- 43. Nerve Root and Types of Needles Used in Transforaminal Injections -- Part III. Materials -- 44. Needles in Regional Anesthesia -- 45. Catheters in Regional Anesthesia -- 46. Epidural Filters and Particles from Surgical Gloves -- Part IV. Research Techniques -- 47. Three-dimensional Reconstruction of Spinal Cerebrospinal Fluid, Roots, and Surrounding Structures -- 48. Cerebrospinal Fluid and Root Volume Quantification from Magnetic Resonance Images -- 49. Scanning Electron Microscopy -- 50. Transmission Electron Microscopy. .

Sommario/riassunto

This is the first atlas to depict in high-resolution images the fine structure of the spinal canal, the nervous plexuses, and the peripheral nerves in relation to clinical practice. The Atlas of Functional Anatomy for Regional Anesthesia and Pain Medicine contains more than 1500 images of unsurpassed quality, most of which have never been published, including scanning electron microscopy images of neuronal ultrastructures, macroscopic sectional anatomy, and three-dimensional images reconstructed from patient imaging studies. Each chapter begins with a short introduction on the covered subject but then allows the images to embody the rest of the work; detailed text accompanies figures to guide readers through anatomy, providing evidence-based, clinically relevant information. Beyond clinically relevant anatomy, the book features regional anesthesia equipment (needles, catheters, surgical gloves) and overview of some cutting edge research instruments (e.g. scanning electron microscopy and transmission electron microscopy). Of interest to regional

anesthesiologists, interventional pain physicians, and surgeons, this compendium is meant to complement texts that do not have this type of graphic material in the subjects of regional anesthesia, interventional pain management, and surgical techniques of the spine or peripheral nerves.