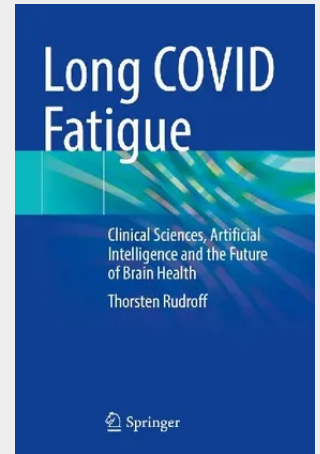


Long COVID Fatigue

Clinical Sciences, Artificial Intelligence and the Future of Brain Health

This book offers the first comprehensive analysis of long COVID fatigue using advanced neuroimaging and artificial intelligence (AI). It bridges the gap between basic science and patient care in post-viral syndromes. The volume guides readers from fundamental concepts to future innovations, making complex neurobiological mechanisms accessible to researchers and clinicians. Each chapter builds on the previous, connecting molecular mechanisms to clinical manifestations. The integration of AI in diagnosis and treatment is a pioneering approach in long COVID literature. The book provides detailed analysis of brain metabolic patterns in long COVID fatigue, insights into protective mechanisms like metabolic heterogeneity in the basal ganglia, practical guidelines for AI-enhanced diagnostic and treatment approaches, and pathways for translating research into clinical practice. It combines rigorous scientific analysis with practical applications, serving as both a reference and a roadmap for future developments in long COVID research and treatment. The main objectives are to provide a comprehensive understanding of long COVID fatigue mechanisms, present evidence-based approaches for diagnosis and treatment, showcase innovative AI applications in medical imaging, establish a framework for future research, and offer practical clinical management guidelines. This book is tailored for neurologists, neuroscientists, COVID-19 specialists, radiologists, healthcare providers, AI researchers, and graduate students in related fields.

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