

Handbook of Parkinson's Disease

Third Edition

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We would like to thank our parents, Vidya and Badrinath Pahwa and Thomas and Elaine Lyons, for their many years of continued encouragement, understanding and support throughout our careers.

Foreword

Parkinson's disease is a common neurological condition that is becoming more common as the population ages. It is a chronic condition and can be a source of significant disability. Fortunately, for many decades there has been some understanding of the pathophysiology of Parkinson's disease, and useful therapies have been available. Better therapies and definitive curative therapies, however, are yet to come. For these reasons, Parkinson's disease has been the focus of considerable research effort, and we have seen a virtual explosion of progress in recent years.

The identification of genetic disorders that lead to Parkinson's disease has triggered the rush to research into molecular biology and cell biology of the basal ganglia and neurodegeneration. Imaging has led to greater insights about brain organization and neurotransmitter function. Physiological investigations have told us more about the genesis of the motor disorder of bradykinesia. New emphasis has been placed on the nonmotor aspects of parkinsonian symptomatology, which will help lead to a better quality of life for patients. All this new information has opened the door to new possibilities and to the development of new therapeutics.

However, the new therapies that have appeared in the last decade make the management of the patient with Parkinson's disease more complex, sophisticated, and difficult for the clinician. Which of the various alternatives is best for the individual patient at hand? How should therapy be initiated? Is there anything that will help prevent progression of the disorder as well as ameliorate symptoms? What should be done with

agonists, with COMT inhibitors? How should complications, such as dyskinesias, be managed? How should cognitive dysfunction or depression be managed? What is the role of the different surgical options? When should they be employed and which one is best for the individual patient?

To help basic scientists and clinicians to keep up to date, information must be current, authoritative, and cohesively presented. To this end, the third edition of the *Handbook of Parkinson's Disease* is a welcome addition to the literature. It deals with all the aspects of understanding and managing this multifaceted disorder, and should be read from cover to cover and consulted for specific problems. The book will serve as an ideal reference for those working with Parkinson's disease.

Mark Hallett

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Preface

Parkinson's disease is a progressive neurodegenerative condition with often devastating symptoms. In recent years, our knowledge of the disease has increased tremendously. We have achieved a greater understanding of its neurochemistry, neurophysiology, and neuropathology. Genes have been identified that are involved in the pathogenesis of some forms of familial autosomal dominant and autosomal recessive Parkinson's disease. Advancements in neuropsychological and neuroimaging techniques have led to improvements in diagnostic accuracy. Therapeutics have come a long way, too. New medications have been approved, new compounds and therapeutic approaches are under investigation, and we have a better understanding of the use of surgical procedures in Parkinson's disease, particularly deep brain stimulation. In spite of these advances, there continue to be many complications associated with the long-term management of both motor and nonmotor symptoms of the disease and treatment remains a challenge.

We present in this edition of the *Handbook of Parkinson's Disease* the most up-to-date information on the scientific and therapeutic aspects of the disease. The third edition offers a more integrated approach to managing parkinsonian symptoms. There is comprehensive coverage of the latest pharmacological and surgical therapeutics as well as the newest technologies in diagnostic imaging. It is our hope that this volume, in the tradition of the first two editions, will serve as a reference source for physicians, researchers, and other healthcare professionals seeking answers to the many questions related to the understanding and treatment of Parkinson's disease.

We thank each of the authors for their time and commitment in preparing state-of-the-art reviews of the most pertinent aspects of Parkinson's disease. We would also like to thank Jinnie Kim, Ann Pulido, and the other Marcel Dekker, Inc., staff who assisted in the preparation of this book.

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