

# Movement Disorders

## A Clinical and Therapeutic Approach



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# Movement Disorders

## A Clinical and Therapeutic Approach

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***Movement Disorders: A Clinical and Therapeutic Approach***

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To

*My parents who have brought me on this earth  
and gave me the basic education*

*My maternal uncle and aunty who have supported my technical education  
and without their help I would not be a doctor*

*and*

*To my wife who has always helped me in my positive activity  
and stood by me in critical time*



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# Foreword

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There have been significant advances in our understanding of problems associated with movement disorders during the last decade. Movement disorders now have rightful claim to be considered as a subspecialty in Neurology.

Clinicians now recognize the importance of not only having a precise knowledge about different types of movement disorder but also to have a clear idea about the anatomical, physiological and biological processes behind these disorders.

With pouring in of huge amount of information about the disorder, it has become somewhat complicated and at times confusing particularly for the initiators.

*Movement Disorders: A Clinical and Therapeutic Approach* is an attempt to present a methodical approach towards understanding these disorders. Starting from the basics which include epidemiology, immunology and genetics along with anatomical, physiological and biochemical backgrounds, different movement disorders have been presented separately in separate chapters in a unique fashion. Few chapters such as eye movement disorders, gait disorders, sleep, depression and autonomic dysfunction have been included due to common clinical accompaniments with movement disorders.

Discussion about a place of a clinical approach to assess movement disorders will be found very useful to readers. Inclusion of a chapter on post-stroke movement disorder is a new idea and useful one.

Management of movement disorders is often difficult and unsatisfactory. A therapeutic approach of management of movement disorders with presently available treatment facility has been presented in the book. Inclusion of a chapter on use of botulinum toxin and discussion on alternative therapies in Parkinson's disease will be useful to readers.

Contributors of this book have done a commendable job in presenting up-to-date information about movement disorders—useful for general physicians, neurologists and specialists in the field of movement disorders.

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# Preface

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My interest in movement disorders grew when I was first confronted with managing a patient with blepharospasm to send her more than 1,300 kilometers away for botulinum toxin injection. I was initially posted in a district center which is about 300 kilometers away from the heart of eastern metropolis, Kolkata (erstwhile Calcutta), the nearest Neuro Centre. Since my new posting in the Premiere Institute of Neurosciences in the state of West Bengal, I realized the need to cater patients who need botulinum toxin injection and subsequently, I along with one of my colleagues started seeing patients with movement disorders and organizing a clinic for botulinum toxin injection. The hospital authority also approved the establishment of a Movement Disorders Clinic.

I am grateful to Prof D Sen, Ex-Director, Prof NN Sarangi, Prof B Maity and Prof Trishit Roy, all subsequent Heads of the Department of Neurology and my colleague Prof PK Ganguly for cooperation. My special thanks go to Prof MK Bhattacharya, Prof P Tripathy, Prof SP Ghorai, Dr P Deb from the Department of Neurosurgery, Prof Ajit Duttamunshi, from the Department of Neuroradiology and Prof A Goswami and Prof B Das from the Department of Neuroanesthesiology for cooperation in establishing the clinic.

Subsequently, my visit and training in the Institute of Neurology, London, UK and Movement Disorders Clinic, Department of Clinical Neurosciences, University of Calgary, Canada gave me the requisite expertise to practice movement disorders.

Development of movement disorders as a subspecialty of neurology is only about three decades old, which is almost parallel to the development of newer pharmacological agents such as botulinum toxin, tetrabenazine, etc. in the market and subsequently providing benefit to the ailing patients. The advent of molecular genetic has rapidly explored the basic understanding of the disease process and presymptomatic diagnosis is now possible and beneficial in some conditions such as Wilson's disease. I am happy that a dedicated Institute of Neurosciences under the University of Kolkata has recently been established in Kolkata and we are collaborating with this new institute for genetic study.

Most important aspect of the movement disorders is that it is clinical based and video-recording helps in rapid review and better understanding of the different phenomenology of abnormal movements. We have a very strong clinical bias and keep a record of all the interesting cases, seen in movement disorders clinic.

At present, there are very few available textbooks on movement disorders which are costly and elaborate and mostly reference books. During my regular teaching in clinic and ward round, I realized the need of a short textbook which will show the step-by-step approach clinically to diagnose a case with movement disorder and manage the patient. With this

principle, I have started writing this book and collecting manuscripts from my colleagues interested in this subject. I have tried to present the different conditions in a lucid way, providing increasing number of tables and figures. An Interactive DVD ROM has been provided and this contains few video-clips of common movement disorders. I feel that this will be extremely helpful for the postgraduates, post-doctoral residents and junior consultants.

This book contains chapters which will be primarily helpful for the neurologists, neurosurgeons, pediatricians, psychiatrists and internists. All the chapters have been written by persons who were involved in dealing with cases of movement disorders or have interest in movement disorders. Thus, the blending of experience and literature support has enhanced the value of this book. Some of my colleagues who are basic scientists have written few chapters and I am sure that those chapters will be very beneficial to the readers.

I am indebted to the overseas writers who have agreed to write for this book and I am grateful to Prof Mark Hallett and Prof Oksana Suchowersky particularly. My acknowledgement goes to Dr Ranjit Ranaway, Associate Professor, Department of Clinical Neurosciences, University of Calgary who has always constructively criticized and reviewed all the chapters for consistency.

I am indebted to Prof SK Shankar, Head of the Department of Neuropathology, National Institute of Mental Health and Neurosciences, Bangalore for supplying important photographs and to Dr Lele, Consultant Radiologist, Mumbai for supplying SPECT photographs.

I know that it will be beyond the capacity to include all updated information regarding movement disorders in this world of explosive information, because that is not my intention. So, I shall request the readers to consult journals, large textbooks and Internet for further up-to-date information if they want to learn more.

My gratitude goes to eminent neurologists in the city such as Prof Shyamal Sen, Prof A Dasgupta, Prof M Bhattacharya, Prof PK Basu, Prof A Mukherjee, and also various consultant neurologists from the city, who have helped me in sending cases of interest to this clinic and enriching me with newer and challenging experiences. I remember my teacher late Prof Bhaskar Raychaudhuri under whom I received my initial training and subsequently I owe to Prof JS Chopra, Ex-Head, Department of Neurology, PGIMER, Chandigarh for my post-doctoral training in Neurology.

I must admit the help rendered by my colleagues in the institute where I am working presently and the post-doctoral residents who are always keen to learn the different phenomenology and exploring underlying etiology. I must say that the desire to write this book also came from the difficulties I faced during teaching and realized the need of a book which will assist the students to learn the basics of movement disorders as well as the logic of treatment and explore the underlying etiology.

**Shyamal Kumar Das**

# Acknowledgements

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I am indebted to Dr Amit Vyas, Dr Ashis Dutta and Dr Moumita Bagchi—all DM residents in Neurology for literary assistance.

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I think that possibly this book would not have been published without the help of Jaypee Brothers Medical Publishers (P) Ltd, New Delhi.





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