The Parasomnias and Other Sleep-Related Movement Disorders
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Edited by

Michael J. Thorpy
Director, Sleep-Wake Disorders Center, Montefiore Medical Center and Professor of Neurology,
Albert Einstein College of Medicine, Bronx, New York, USA

Giuseppe Plazzi
Assistant Professor of Neurology, Università di Bologna and Chief of the Sleep Laboratory,
Dipartimento di Scienze Neurologiche, Università di Bologna, Bologna, Italy
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Contributors

Imran M. Ahmed
Sleep-Wake Disorders Center, Montefiore Medical Center, Bronx, New York, USA.

Richard P. Allen
Neurology and Sleep Medicine, Johns Hopkins University, Asthma and Allergy Bldg, Hopkins Bayview Circle, Baltimore, Maryland, USA.

Carl W. Bazil
The Neurological Institute, Columbia University, New York, NY, USA.

Meredith Broderick
Stanford University Sleep Disorders Clinic, Stanford, California, USA.

Oliviero Bruni
Center for Pediatric Sleep Disorders, Department of Developmental Neurology and Psychiatry, University of Rome La Sapienza, Rome, Italy.

Christina J. Calamaro
Assistant Professor, University of Maryland School of Nursing, Department of Family and Community Health, Baltimore, Maryland, USA.

Rosalind D. Cartwright
Neuroscience Program, Graduate College, Rush University Medical Center, Chicago, Illinois, USA.

James Allan Cheyne
University of Waterloo, Ontario, Canada.

Sudhansu Chokroverty
JFK Medical Center, New Jersey Neuroscience Institute, Seton Hall University, Edison, New Jersey, USA.

Irshaad O. Ebrahim
The London Sleep Centre, London, UK.

Raffaele Ferri
Sleep Research Centre, Department of Neurology, Oasi Institute (IRCCS), Troina, Italy.

Elena Finotti
Sleep Disorders Center, Department of Neurological Sciences, University of Bologna, Italy.

Gina Graci
Northwestern University, Feinberg School of Medicine, Robert H. Lurie Comprehensive Cancer Center, Chicago, Illinois, USA.

Christian Guilleminault
Stanford University Sleep Disorders Clinic, Stanford, California, USA.

Divya Gupta
JFK Medical Center, New Jersey Neuroscience Institute, Seton Hall University, Edison, New Jersey, USA.

Shelby F. Harris
Sleep-Wake Disorders Center, Montefiore Medical Center, Bronx, New York, USA.

Timothy F. Hoban
The Michael S. Aldrich Sleep Disorders Center, Department of Pediatrics, Women's Hospital, Ann Arbor, Michigan, USA.

Nelly Huynh
Sleep Diagnostic Center, Stanford University, Stanford, California, USA.

Raffaele Manni
Unit of Sleep Medicine and Epilepsy, IRCCS C. Mondino, Institute of Neurology Foundation, Pavia, Italy.
Contributors

Anissa M. Maroof
Department of Psychiatry, Howard University, Washington, DC, USA.

Thornton B. A. Mason
Division of Neurology, Wood Center, The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, USA.

Thomas A. Mellman
Department of Psychiatry, Howard University, Washington, DC, USA.

Renee Monderer
Sleep-Wake Disorders Center, Montefiore Medical Center, Bronx, New York, USA.

Pasquale Montagna
Department of Neurological Sciences, University of Bologna Medical School, Bologna, Italy.

Jacques Montplaisir
Centre d'étude du sommeil, Hôpital du Sacré-Cœur, Université de Montréal, Montréal, Québec, Canada.

Eric A. Nofzinger
Sleep Neuroimaging Research Program, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, USA.

Luana Novelli
Center for Pediatric Sleep Disorders, Department of Developmental Neurology and Psychiatry, Sapienza University, Rome, Italy.

Maurice M. Ohayon
Stanford Sleep Epidemiology Research Center, Stanford University School of Medicine, Palo Alto, California, USA.

Alessandro Oldani
Sleep Disorders Center, Department of Clinical Neurosciences, H. San Raffaele Turro, Milan, Italy.

Rafael Pelayo
Department of Pediatrics, Psychiatry, and Behavioral Science, Stanford University School of Medicine, Stanford, California, USA.

Giuseppe Plazzi
Department of Neurological Sciences, University of Bologna, Bologna, Italy.

Satish C. Rao
Sleep Disorders Center, Mayo Clinic College of Medicine, Rochester, Minnesota, USA.

Michael Schredl
Central Institute of Mental Health, Mannheim, Germany.

Colin M. Shapiro
Sleep and Alertness Clinic, University Health Network, Toronto, Ontario, Canada.

Michael H. Silber
Sleep Disorders Center, Mayo Clinic College of Medicine, Rochester, Minnesota, USA.

Ravi Singareddy
Department of Psychiatry (H073), Penn State College of Medicine, Hershey, Pennsylvania, USA.

Deepti Sinha
Department of Pediatrics, Psychiatry, and Behavioral Science, Stanford University School of Medicine, Stanford, California, USA.

Gregory Stores
University of Oxford, c/o North Gate House, Dorchester on Thames, Oxon, UK.

Shannon S. Sullivan
Stanford University Sleep Disorders Clinic, Stanford, California, USA.

Michele Terzaghi
Unit of Sleep Medicine and Epilepsy, IRCCS C. Mondino, Institute of Neurology Foundation, Pavia, Italy.

Michael J. Thorpy
Sleep-Wake Disorders Center, Montefiore Medical Center, and Albert Einstein College of Medicine, Bronx, New York, USA.

Nikola N. Trajanovic
Sleep and Alertness Clinic, University Health Network, Toronto, Ontario, Canada.

Thomas W. Uhde
Department of Psychiatry (H073), Penn State College of Medicine, Hershey, Pennsylvania, USA.

Stefano Vandi
Department of Neurological Sciences, University of Bologna, Bologna, Italy.
Roberto Vetrugno
Department of Neurological Sciences, University of Bologna, Bologna, Italy.

John W. Winkelman
Division of Sleep Medicine, Brigham and Women’s Hospital, Harvard Medical School, Boston, Massachusetts, USA.

Antonio Zadra
Centre d’étude du sommeil, Hôpital du Sacré-Coeur, Université de Montréal, Montréal, Québec, Canada.

Marco Zucconi
Sleep Disorders Center, Department of Neurology, Scientific Institute and University Ospedale San Raffaele, Vita-Salute University, Milan, Italy.
Preface

Intense medical and scientific interest in an increasing number of topics in sleep medicine has led to the production of this volume on *Parasomnias and Other Sleep-Related Movement Disorders*. Although parasomnias are ubiquitous in childhood and occur across all ages, this is the first publication to focus on this topic in detail. There is growing recognition that sleep disorders represent a major public health concern, and understanding the basic, translational, clinical and psychosocial aspects of sleep disorders is essential to the process of becoming a skilled clinical practitioner.

The earliest reported descriptions of some of the parasomnias such as sleepwalking and nightmares have been known since antiquity; however, new parasomnias have been described, such as REM sleep behavior disorder and catathrenia [1]. There have been numerous developments in the field of abnormal movement disorders during sleep that have led to a better understanding of the clinical features, the diagnostic criteria and subsequently, treatments.

These developments have continually deepened our understanding of parasomnias as pathophysiological conditions and have also drawn attention to the impact on the lives of those who have these conditions. Parasomnias can be severe, chronic, debilitating and disabling neurological disorders, often having early age of onset [2]. They frequently involve abnormal involuntary behaviors during sleep, leading to injuries, emotional distress and even medico-legal liability [3]. Despite their prominent symptoms and impact on patients' health-related quality of life, parasomnias remain under-recognized and under-appreciated disorders, perhaps because of their predominantly nighttime occurrence. Patients with parasomnias often suffer from a constellation of other co-morbid medical and/or psychiatric conditions [4].

In children and adolescents, the psychological and social complications of parasomnias can be widespread and potentially severe. Parasomnias can affect patients' academic and vocational performance, as well as social and recreational activities. Accordingly, this volume addresses issues in the etiology, pathophysiology, diagnosis, differential diagnoses and management of parasomnias including psychosocial ramifications and effects on quality of life.

In the last decade, significant advances in elucidating the pathophysiology of some of the parasomnias have been made. However, effective treatments are often lacking, and there is the need for specific and effective treatments for many of the disorders. A large number of medications have been effective in some patients, even though few are FDA-approved in the USA for most of the parasomnias. Behavioral interventions, hypnosis and psychiatric treatments can be effective for some. Strategies for the management of the risk for injury of both the patient or bed partner, such as securing the environment, are discussed in this volume.

The nature and mechanisms of parasomnias remain largely unknown; however, the latest research evidence is covered here. The parasomnias are often misdiagnosed because similar symptoms exist and overlap with some of the movement disorders [5]. Those disorders that should be considered in the differential diagnoses are discussed in detail with an emphasis on the differentiating features.

The volume is broadly divided into six main sections: *Section I: Introductory chapters; Section II: Disorders of arousal; Section III: Parasomnias usually associated with REM sleep; Section IV: Other parasomnias; Section V: Sleep-related movement disorders and other variants, and Section VI: Therapy of parasomnias.*

In its first section, the basic, translational, and clinical background of parasomnias is reviewed. In this regard, the first three introductory chapters cover the historical, epidemiological, and neuroimaging of parasomnias.

In the second section of the book, the clinical aspects of the disorders of arousal that commonly
occur in children, including confusional arousals, sleepwalking and sleep terrors, are discussed.

The third section deals with the parasomnias usually associated with REM sleep. Issues relating to the REM sleep behavior disorder, recurrent isolated sleep paralysis and nightmare disorder are presented.

The fourth section deals with a group of parasomnias under the group heading of "other parasomnias". This section addresses less commonly recognized and less understood parasomnias such as sleep-related dissociative disorders, sleep-related groaning and sleep-related eating disorder.

The fifth section deals with sleep-related movement disorders and other variants that are often included in the differential diagnosis of the parasomnias.

The sixth section discusses the pharmacologic, behavioral and psychiatric management of the parasomnias.

The reader will find that in addition, this volume contains detailed discussions of important secondary issues including the importance of medico-legal aspects, safety, education, counselling and recognition of psychiatric and cognitive comorbidities.

It has been the editors’ objective to provide a comprehensive and authoritative guide for clinicians that is presented in a manner which is both readable and easily understood. It is our hope that we have succeeded in accomplishing this goal.

This volume is intended primarily for sleep disorders specialists and sleep researchers. However, it is suitable for psychiatrists, neurologists, and any professionals and researchers interested in the interdisciplinary field of sleep medicine. It will be of considerable interest to general practitioners, and physicians who evaluate and treat sleep disorders. It will also be equally interesting to psychiatry and neurology residents and fellows, clinical psychologists, advanced graduate medical students, neuropsychologists, house officers, and other mental health and social workers who want to get an overall understanding of abnormal behaviors during sleep. Additionally, because of the growing medico-legal aspects of the parasomnias, this book has interest to the legal profession.

In as much as research findings in many areas are rapidly broadening our understanding of parasomnias, it is anticipated that future editions of this volume of Parasomnias and Other Sleep-Related Movement Disorders will take these developments into account.

Michael J. Thorpy
Giuseppe Plazzi

References
Credits and Acknowledgments

Parasomnias and Other Sleep-Related Movement Disorders provides scientific and clinical information on abnormal movement disorders during sleep for all health care workers interested in disorders of sleep. It is our pleasure to acknowledge the contributions of those who were instrumental in the production of this book.

Our sincere appreciation goes to Elio Lugaresi, Professor Emeritus, University of Bologna, Italy, who agreed to write the foreword. We wish to express our appreciation for his contribution.

We would like to express our deep appreciation to all the contributors for their scholarly contributions that facilitated the development of this book. The expertise of contributors to Parasomnias and Other Sleep-Related Movement Disorders reflects the broad diversity and knowledge concerning parasomnia research, which has continued to grow over the last several decades. These authors represent the cutting edge of basic and applied parasomnia research as well as providing the most recent information regarding how such knowledge can be used in clinical settings. Their informed opinions and insights have significantly contributed to our scientific understanding of parasomnias and have provided important interpretations regarding future research directions.

The highly talented publishing team at Cambridge University Press made this project an especially pleasurable one. Their guidance, technical expertise, and commitment to excellence were invaluable.

Finally, and most importantly, we want to thank our spouses, families and colleagues for their support, and understanding during the development of this book.

Michael J. Thorpy
Giuseppe Plazzi
Foreword

Henry Roger, a French neurologist based in Marseilles, published a monograph of the lessons he gave in the academic years 1900–31 (H. Roger, Troubles du Sommeil. Paris: Masson et Cie éditeurs, 1932). The two main chapters of his book concerned the insomnias and hypersomnias, while a short chapter was devoted to what Roger termed the parasomnias, “les petits troubles de la fonction hypnique” (unusual, but common sleep events of little clinical relevance). Among the parasomnias, Roger included nocturnal episodes known for centuries, such as sleep terror, sleepwalking, nightmares and enuresis, as well as disturbing dreams giving rise to agitated loud comments (réves parlés) and episodes of violent motor agitation recurring nightly.

I think the dreams accompanied by somniloquy correspond to what we nowadays call REM behavior disorder (RBD), whereas the violent nocturnal motor attacks resemble the epileptic nocturnal frontal lobe seizures described by my group in the early 1980s by the name of nocturnal paroxysmal dystonia.

The same chapter also describes the muscle jerks arising on falling asleep. Roger noted that these movements may occur sporadically and be of little clinical relevance, but may also recur at very short intervals preventing sleep onset. Plainly, Roger’s detailed description of myoclonias arising on falling asleep refers to what we currently call hypnic jerks, nocturnal myoclonus and propriospinal myoclonus.

This preamble serves to make my point that a neurologist working early in the last century and basing his observations on accurate history-taking alone had described the majority of unusual events related to sleep. It was decades before the multiform semiological, etiopathogenetic and clinical aspects of these events were identified and investigated by countless sophisticated sleep laboratories.

The objective and systematic study of the parasomnias only got underway after Dement and Kleitman first described the polygraphic features of human sleep in 1957. In the 1960s, this was followed by the discovery of nocturnal myoclonus and the demonstration that arousal disorders are a benign condition. However, landmark breakthroughs were to come in the 1970s–1980s when polysomnographic recordings performed under audiovisual control became a routine means of sleep investigation. Use of this technique led to the discovery of RBD, nocturnal frontal lobe seizures, and many other sleep disorders previously ignored or misinterpreted.

The 33 chapters of this extraordinary book document the striking development of sleep medicine in recent decades. We now know, for example, that the term “parasomnias” does not cover all the unusual events arising during sleep. Some sleep-related movement disorders and nocturnal variants of epilepsy, in fact, cannot be included among the “petits troubles de la fonction hypnique.”

For these reasons, I am sure this book will be useful to neurologists, psychiatrists, psychologists, child neurologists and all those hoping to broaden their knowledge of these fascinating topics.

The book’s editors, Michael Thorpy and Giuseppe Plazzi, are to be complimented for having entrusted each chapter to a leading expert in the field. They also have the merit for the difficult task of editing to bridge the stylistic gaps typical of multi-author works.

Wishing the volume the success it deserves, I also congratulate the publisher for taking on this task at such a difficult time.

Elio Lugaresi