

Preface

This first edition of *Dopamine and Sleep: Molecular, Functional, and Clinical Aspects* provides comprehensive, yet up-to-date information pertaining to the role of dopamine in sleep and wakefulness. The dopamine system is being increasingly studied in the sleep field due to its prominent role in normal and aberrant brain processes. Since dopamine plays a crucial role in brain processes such as alertness, attention, cognitive organization, and mood regulation, it is particularly relevant to understand how its actions affect sleep and wakefulness.

The study of dopamine has expanded markedly in recent years with the application of electrophysiological, neurochemical, genetic, and neuropharmacological techniques. These techniques are now being used successfully to help decipher the role of dopamine in the regulation of sleep and wakefulness in health and disease. The results are of great importance for the understanding and treatment of sleep disruption in neurological and psychiatric disorders.

The editors believe that there is a current need to increase the awareness of the latest developments in this multidisciplinary field. Hence, they have brought together in the chapters of this volume a number of key studies with the overall aim of summarizing and selectively presenting these developments. The contributors are leading scientists in their respective fields.

The chapters in the first part of the book deal with preclinical studies on the role of dopamine in the promotion of wakefulness and the inhibition of REM sleep. The chapters in the second part relate to the effect of melanin-concentrating hormone and orexin/hypocretin on dopaminergic neurons involved in the regulation of the behavioral state. The third part of the volume focuses on the role of dopamine in sleep disturbances in different disease conditions. These include Parkinson's disease, narcolepsy, schizophrenia, depression, and restless legs syndrome. An attempt is made also to see how a number of drugs that are used in these conditions produce their effect by modifying dopamine function.

We have made every effort to ensure that the dosage recommendations are accurate and in agreement with the standards and collective opinion accepted at the time of publication. The formulations and usage described do not necessarily have specific approval by the regulatory authorities of all countries. Since dosage

regimens may be modified as new clinical research accumulates, readers are strongly advised to check the prescribing information to see whether changes have been made to the recommended dosages and/or contraindications for use.

Despite the editors' best efforts, it is possible that certain errors may have occurred in this volume. The authors and editors would be grateful for any criticisms or comments to ensure that this volume continues to evolve in the future.

The volume is meant for specialized readers in the field of sleep medicine, neurology, psychiatry, and life sciences, as well as for basic researchers in their respective fields.

We hope that this multidisciplinary volume on dopamine will become yet another contribution to advancing translational neuroscience, CNS drug development, and the fields of clinical neurology and psychiatry.

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