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Donald E. Greydanus, Joseph L. Calles, Jr, Dilip R. Patel
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**Pediatric
and Adolescent
Psychopharmacology**

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Pediatric and Adolescent Psychopharmacology

A Practical Manual for Pediatricians

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Every effort has been made in preparing this book to provide accurate and
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at the time of publication. Although case histories are drawn from actual cases,
every effort has been made to disguise the identities of the individuals involved.
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DEG dedicates this work to the memory of his parents, John S. and Margaret E. Greydanus. *Gratias tibi ago pro omnibus – requiescat in pace cum Deo.*

JLC dedicates this work to his wife and colleague, Helen Pintal MD, for her unending support and encouragement.

DRP dedicates this work to his wife, Ranjan, and their son, Neil, for having faith in and supporting DRP's academic adventures and misadventures alike.

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Forewords

Children and adolescents with mental health problems commonly first present to pediatricians and primary care providers. One of the major unmet healthcare needs for children and adolescents in the USA is for the treatment of serious mental health disorders. There are far too few child and adolescent psychiatrists in the USA, and access to subspecialty expertise is often challenging. Thus, both the assessment and treatment of mental health disorders often fall to pediatricians.

Pediatric and Adolescent Psychopharmacology, by Greydanus, Calles, and Patel is a welcome addition to the libraries of pediatricians. This is a practical, organized text which addresses the psychopharmacologic treatment of the prominent conditions in which medications are used in children and adolescents. It is accessible, useful, and well written.

The first three chapters set the stage for pharmacologic treatment being provided in the context of comprehensive care, and addressing prescribing principles. Primary care clinicians regularly treat attention deficit/hyperactivity disorder (ADHD), writing most of the prescriptions for psychotropic medications for ADHD in the USA. ADHD is the second most common chronic illness for which pediatricians provide care. Readers will find the chapter on ADHD helpful, adding to what they know about ADHD. Pediatricians also commonly treat depression. The familiarity and comfort of pediatricians in the assessment, diagnosis, and treatment of other mental health disorders in children and adolescents are less uniform. The chapters on other disorders provide what may be new information and will be helpful to clinicians in deciding whether to broaden their scope of practice to other mental health disorders. Especially valuable are the pragmatic algorithm on the pharmacological approach to Child and Adolescent Depression and “how to use” medication, in the chapter on Disruptive Behavior and Aggressive Disorders.

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This text will be of much benefit to pediatricians and all primary care clinicians.

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The twenty-first century is witness to a significant number of children and adolescents presenting to pediatricians and other primary care clinicians with a wide variety of mental health problems. The offices of clinicians can be overwhelmed with children and youth that present with symptoms or diagnoses of depression, anxiety, attention deficit hyperactivity disorder, conduct disorder, psychosis, substance abuse disorders, and others. A number of medications have been developed over the past half-century or more to help improve behavior in some of these conditions. However, a shortage of child and adolescent psychiatrists in many parts of the world has left the pediatrician in the precarious position of monitoring their pediatric patients on various psychopharmacologic agents often without the help of these psychiatric consultants who are very busy themselves with new and complex patients.

Pediatric and Adolescent Psychopharmacology has been written to provide valuable information on these medications for pediatricians and other primary care clinicians. It is written as a guide book or “survivor’s guide” for office practitioners to provide practical and very useful information on what psychopharmacologic agents are available for their pediatric patients. The authors succinctly discuss the pharmacology of these medications and include such critical information as pediatric dosages, side effects, drug interactions, which ones are FDA approved and what ages are covered by this approval, what tests must be monitored if a patient is taking them, and other data useful for such a primer of psychopharmacology. The authors are well-known experts in pediatrics, adolescent medicine, behavioral-developmental pediatrics, and child/adolescent psychiatry.

This is a very valuable book and I highly recommend it to pediatricians and other primary care clinicians who are caring for children and adolescents with mental health disorders. *Pediatric and Adolescent Psychopharmacology* will prove invaluable to help us all in providing optimal mental

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health care for our pediatric patients. It is a book long overdue to help in this effort!

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Preface

Current research suggests that 10–20% of children, adolescents, and adults suffer from mental illness, including mood disorders, anxiety disorders, attention-deficit/hyperactivity disorder, psychotic disorders, disruptive disorders (including conduct disorder), substance abuse disorders, and others. Pediatricians and other primary care clinicians are often consulted by parents for the mental health problems of their children and adolescents.

Research has occurred mainly with adults, and thus, data on children and teenagers are very limited – though now expanding. The shortage of child and adolescent psychiatrists in the world has placed considerable strain on pediatricians and primary care practitioners in helping these children and adolescents who are taking psychopharmacologic agents. The inadequate training pediatricians often receive in behavioral pediatrics and child/adolescent psychiatry is also worsened by the limited number of available books that have been written for them.

The purpose of *Pediatric and Adolescent Psychopharmacology: A Practical Manual for Pediatricians* is to provide a practical resource for pediatricians, family physicians, internists, physician assistants, nurse practitioners, and various therapists caring for millions of children and youth throughout the world, who are taking a variety of psychopharmacologic agents. Many of these medication issues are controversial and most are not officially approved for use in children or adolescents. It is essential that clinicians remain up-to-date with ever changing information and prescribing patterns.

The offices of pediatricians are flooded with patients needing, requesting, and already taking a variety of these medications. The increasing number of such medications that are being produced can place the clinician, patient, and family in a quandary about what medications, if any, to choose and how to monitor the child or adolescent already on one or several of these medications. The purpose of this book is to provide basic information and guidance on psychopharmacology in children and adolescents.

The first three chapters of this book provide an introduction to pediatric psychopharmacology, with discussions on the importance of psychological management, basics of pharmacology, and basics of prescribing psychopharmacologic agents. Then, we look at mental health disorders that pediatricians will see in their practice and that have psychopharmacologic treatments as part of their overall management plans. Thus, we provide information on medications used to manage anxiety disorders, attention-deficit/hyperactivity disorder, mood disorders, schizophrenia, autism spectrum disorders, tic disorders, and substance abuse disorders. We also provide guidance on medications used to manage children and adolescents with cognitive-adaptive disabilities and sleep disorders.

The approach we use is to provide brief comments on the definition, epidemiology, differential diagnosis, and comorbidity for each disorder. Then, we look at the psychopharmacologic medications used to manage the disorder, including classification of these medications with mechanisms of action, dosages of these medications, side-effects, and contraindications. Then, we provide information on how to use these medications and how to monitor them, noting what tests are necessary to perform while the child or adolescent is taking these psychopharmacologic agents. Each chapter ends with a limited, selected bibliography.

Much has been learned since the days of Hippocrates in regards to behavior and biology. It is the hope of the authors of this book that this information will be useful to pediatricians and primary care practitioners as they deal with children and adolescents who are taking and are in need of psychopharmacologic agents in hopes of improving the lives of our pediatric patients and successfully preparing them for adulthood.

The editors gratefully acknowledge the help of our excellent contributors in the preparation of this work: Helen D. Pratt, PhD (Chapter 1), Cynthia Feucht, Pharm D (Chapters 2 and 5), Eleni Tzima-Tsitsika, MD (Chapter 5), and Artemis K. Tsitsika, MD, PhD (Chapter 12). Finally, we also thank Deborah Russell at Cambridge University Press for her untiring faith in us and excellent expertise placing this work in print.

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