

Preface

The neurological and psychiatric disorders discussed in *Neurological and Psychiatric Disorders: From Bench to Bedside* are commonly treated with pharmacotherapies that target brain dopaminergic, serotonergic, or noradrenergic systems, either individually or in combination. Additional treatment strategies, including psychiatric, psychosocial, psychosurgical, and electrical/magnetic therapies are also available either as monotherapies or to augment drug treatments. Pharmacotherapies for neurological and psychiatric disorders are thought to be primarily palliative, and often they are prescribed to provide relief for only one of a range of symptoms encountered for each disorder. For example, antipsychotic drugs are prescribed for the treatment of agitation in Alzheimer's disease, aggression and self-injury in autism, mania in bipolar disorder, motor dysfunction in Huntington's disease, motor tics in Tourette's syndrome, and psychosis in schizophrenia. Anti-depressant drugs are employed in the treatment of depression in unipolar and bipolar depression and obsessive behaviors in obsessive-compulsive disorder. Such a range of treatments for different symptom modalities for different disorders owes to either the direct or indirect dysfunction of dopaminergic, serotonergic, and noradrenergic system(s). In addition, there is considerable overlap in selected portions of the extended brain pathways related to the pathophysiology and treatment of certain of these disorders. *Neurological and Psychiatric Disorders: From Bench to Bedside* provides the reader with a full appreciation for all such factors as they relate to preclinical research and to clinical diagnosis and treatment of the neurological and psychiatric disorders.

Neurological and Psychiatric Disorders: From Bench to Bedside aims to provide comprehensive and systematic coverage of the basic and clinical aspects of the core neurological and psychiatric disorders that are commonly taught to doctorate- and postdoctorate-level students. Until now, many texts were needed to cover the preclinical and clinical aspects of different disorders in sufficient breadth and depth to allow for MDs, PhDs, and PharmDs to master their qualifying (board) exams, and, at the same time, effectively and safely practice their future health care professions. Having a single text will not only facilitate cross-discipline teaching and learning by providing a uniform instructional platform, but will also satisfy student concerns about the costs and variable coverage generated by the need for multiple texts. The editors and contributing authors undertook a collaborative effort to produce such a textbook, which is based on the syllabus and content of an advanced graduate-level course concerning the neurological basis of diseases and disorders and their treatment that Dr. Schetz developed and continues to teach. The primary editorial responsibilities and the recruitment of authoritative authors for the chapters on the individual disorders were divided evenly between the editors:

Dr. Tarazi recruited authors for and edited the chapters on attention deficit hyperactivity disorder, bipolar disorder, Huntington's disease, Parkinson's disease, and schizophrenia, and Dr. Schetz recruited authors for and edited the chapters on Alzheimer's disease, autism, obsessive-compulsive disorder, Tourette's syndrome, and unipolar depression.

Neurological and Psychiatric Disorders: From Bench to Bedside opens with two introductory chapters that reintroduce the reader to the neural and pharmacotherapeutic principles of neurological and psychiatric disorders. These chapters also discuss theoretical and methodological parameters relevant to the appropriate interpretation of pharmacodynamic, pharmacokinetic, neuroanatomical, and imaging data presented throughout. Subsequent chapters provide a standard minimum content concerning each disorder along with a uniformity that is intended to promote not only the comparing and contrasting of the disorders discussed throughout, but also the cross-discipline training many health care industry experts believe is lacking. The standard minimum uniform content for each disorder can be divided into the following nine categories:

1. Incidence/prevalence
2. Etiology and general description
3. Molecular targets and mechanisms of action
4. Brain structures and pathways, and neurotransmitter systems
5. Animal models
6. Signs and symptoms in humans (diagnostics, markers, comorbidities, subclassifications)
7. Genetics
8. Treatments (pharmacological and other types of therapies)
9. Related medical terminology

Thus, the objective is to promote a systematic, comprehensive, and advanced understanding of each disorder from molecules to human behaviors. Our intended audience includes graduate- and postgraduate-level physicians and scientists, pre-clinical and clinical research scientists, and pharmacists with an intermediate to advanced understanding of neuroscience and pharmacology.

We extend our deepest gratitude to the chapter authors for their outstanding scholarly contributions. A special thanks goes to our advisors and mentors who have over the years generated in us an intense and perpetual desire to challenge ourselves and to instill in the next generation of young scientists, physicians and pharmacists the excitement and satisfaction that we experience from working in the health care profession and answering the call to public service. In particular, we wish to recognize the kind and astute influences that Dr. Ian Creese and Dr. Ross J. Baldessarini have had on Dr. Tarazi and that Dr. William G. Luttge, Dr. David R. Sibley, and Dr. Harel Weinstein have had on Dr. Schetz.

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