

## The Neuroscience of Clinical Psychiatry: The Pathophysiology of Behavior and Mental Illness, 2nd ed

edited by Edmund S. Higgins, MD, and Mark S. George, MD.  
Wolters Kluwer Health/Lippincott Williams & Wilkins, Philadelphia,  
PA, 2013, 336 pages, \$99.99 (hardcover, with free online access).

In *The Neuroscience of Clinical Psychiatry, Second Edition*, Edmund Higgins and Mark George have threaded the needle, including all of the neuroscience findings relevant to the postulated mechanisms of psychiatric disorders and basic human behaviors without overwhelming the reader. This is not a reference text. Nor is it a comprehensive literature review on the neuroscience of each major psychiatric disorder. It is instead the perfect amount of information for students, residents, and psychiatrists who want to quickly get up to speed on the most important trends in psychiatric neuroscience. A searchable online version with supplementary materials is included, and an e-book version is also available.

The recently promulgated milestones for psychiatry residency training include a new subcompetency, Clinical Neuroscience.<sup>1</sup> This book covers the neurobiology and applied neuroscience threads in the subcompetency and can easily serve as the backbone of a clinical neuroscience course for psychiatry trainees.

The book is divided into 4 sections: The Neuroscience Model, including neuronal function, neuroanatomy and neurocircuits, neurotransmission and signaling, and genetics; Modulators, including hormones, development and plasticity, inflammatory and immune mechanisms, and the basis of EEG and neurostimulation; Behaviors, covering pain, pleasure, appetite, aggression, sleep, sex, attachment, memory, intelligence, and attention; and Disorders, reviewing research on depression, anxiety, schizophrenia, and Alzheimer disease. Each chapter includes just the right amount of history, animal research, definitions and reviews of scientific concepts, and applied neuroscience. The ample and consistent illustrations are clear and easy to follow. The text is peppered with colored boxes in which the authors provide relevant stories, quotations, curious findings, or inspiring correlations. A small

number of review questions are provided at the conclusion of each chapter, again pitched at just the right level.

As an example of what you will learn when you read this book, consider the chapter on genetics and epigenetics, an area in which many psychiatrists feel ill-prepared yet are aware they should update their knowledge. After explaining what is known about the heritability of mental disorders, and how the complex inheritance of the disorders differs from classic Mendelian genetics, the Human Genome Project is explained. A humorous colored box prepares the reader for the jargon to follow. The reader is taken from the concept of “junk DNA” (the non-protein-coding majority of our DNA) to the many non-protein-manufacturing functions of RNA to how genetic studies are done, from linkage studies, to use of single-nucleotide polymorphisms, and finally to the concept of copy number variation. The authors explain what is meant by *epigenetics* and discuss DNA folding, DNA methylation, and chromatin remodeling, leading up to the impact of environmental events on gene expression, including the fascinating studies demonstrating the impact of one’s own experience on one’s grandchildren. The chapter ends by telling the story of the relationship of telomere length to aging, cancer, and mental illness and noting that the contents of this chapter epitomize the neuroscience model.

Read this book cover to cover. In only 336 pages you will have sufficient background to understand future developments in psychiatric neuroscience.

### REFERENCE

1. Benjamin S, Widge A, Shaw K. Neuropsychiatry and neuroscience milestones for general psychiatry trainees. *Acad Psychiatry*. 2014;38(3):275–282.

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**Potential conflicts of interest:** Dr Benjamin is a partner in Brain Educators, LLC, and braineducators.com.

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