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978-0-521-13315-9 — Stahl's Illustrated Attention Deficit Hyperactivity Disorder

Stephen M. Stahl, Laurence Mignon, Illustrated by Nancy Muntner

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Stahl's Illustrated
Attention Deficit
Hyperactivity Disorder

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PREFACE

These books are designed to be fun. All concepts are illustrated by full-color images. The text can be used as a supplement to figures, images, and tables. The visual learner will find that this book makes psychopharmacology concepts easy to master, while the non-visual learner may enjoy a shortened text version of complex psychopharmacology concepts. Each chapter builds upon previous chapters, synthesizing information from basic biology and diagnostics to building treatment plans and dealing with complications and comorbidities.

Novices may want to approach this book by first looking through all the graphics, gaining a feel for the visual vocabulary on which our psychopharmacology concepts rely. After this once-over glance, we suggest going back through the book to incorporate the images with text from figure legends. Learning from visual concepts and textual supplements should reinforce one another, providing you with solid conceptual understanding at each step along the way.

Readers more familiar with these topics should find that going back and forth between images and text provides an interaction with which to vividly conceptualize complex psychopharmacology. You may find yourself using this book frequently to refresh your psychopharmacological knowledge. You may also find yourself referring your colleagues to this desk reference.

This book is intended as a conceptual overview of different topics; we provide you with a visual-based language to incorporate the rules of psychopharmacology at the sacrifice of discussing the exceptions to these rules. A Suggested Readings section at the end of this book gives you a good start for more in-depth learning about particular concepts presented here.

When you come across an abbreviation or figure you don't understand, you can refer to the Abbreviations and Visual Vocabulary legends. After referring to these several times you will begin to develop proficiency in the visual vocabulary of psychopharmacology. *Stahl's Essential Psychopharmacology*, 3rd Edition, and *Stahl's Essential Psychopharmacology: The Prescriber's Guide*, 3rd Edition, can be helpful supplementary tools for more in-depth information on particular topics in this book. Now you can also search topics in psychopharmacology on the Neuroscience Education Institute's website (www.neiglobal.com) for lectures, courses, slides, and related articles.

Whether you are a novice or an experienced psychopharmacologist, hopefully this book will lead you to think critically about the complexities involved in psychiatric disorders and their treatments.

Best wishes for your educational journey into the fascinating field of psychopharmacology!

Stephen M. Stahl



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CME Information

Overview

This book aims to visually explain the underlying pathophysiology of attention deficit hyperactivity disorder (ADHD), give an overview of the evolution of symptoms and the comorbidities present with ADHD, and provide information on best treatment approaches for children, adolescents, and adults with ADHD. The book is divided into four chapters for ease of reading and referencing. Chapter 1, "Neurobiology, Circuits, and Genetics," focuses on the known and hypothetical causes underlying the pathophysiology of ADHD. Chapter 2, "ADHD Across the Ages," explains how the symptoms of ADHD can evolve over time and gives an overview of different rating scales for children, adolescents, and adults. Chapter 3, "Comorbidities of ADHD," examines the different comorbidities that can be present with patients of all ages with ADHD. Chapter 4, "ADHD Treatments," describes the different medications that are used for the treatment of ADHD and elaborates on their mechanisms of action. The visual component of this book is designed to allow the reader to easily grasp concepts.

Target Audience

This CME activity has been developed for MDs specializing in psychiatry. There are no prerequisites for this activity. Physicians in all specialties who are interested in psychopharmacology, as well as nurses, psychologists, and pharmacists, are welcome for advanced study.

Statement of Need

The following unmet needs regarding attention deficit hyperactivity disorder were revealed following a vigorous assessment of activity feedback, expert faculty assessment, literature review, and through new medical knowledge:

- Attention deficit hyperactivity disorder (ADHD) is a chronic disorder, which (1) does not fade away with time, (2) can remain undiagnosed until adulthood, or (3) can start in adulthood. Appropriate understanding of symptom evolution is required to make a proper diagnosis at any age.
- Patients with ADHD have comorbid psychiatric disorders as well as weight issues, all of which can have an important impact on treatment selection.
- The different rating scales available to aid diagnosis and tracking of symptoms of ADHD may not be used as often as they should be; at the same time, the diagnosis of adult ADHD may need a separate set of rating scales that reflect the differences in symptoms compared to childhood ADHD.
- A number of new formulations of current stimulant medications, as well as new non-stimulant treatments with different mechanisms of action, are being tested and integrated into the market; these, in conjunction with patient education and therapy, may help improve treatment adherence.



To help fill these unmet needs, quality improvement efforts need to increase understanding of the neurobiology of psychiatric disease states and the pharmacology of available, new, and in-development medications.

Learning Objectives

After completing this activity, participants should be better able to fulfill the following learning objectives:

- Explain the symptoms of ADHD and the circuits involved
- Compare and contrast the diagnosis of ADHD in children versus adolescents versus adults
- Understand the importance of dopamine and norepinephrine in the pathophysiology and treatment of ADHD, with emphasis on the symptom of executive dysfunction
- Recognize the difference between pulsatile versus tonic neuronal firing and the importance of it in ADHD
- Understand the difference in the mechanisms of action of stimulant versus non-stimulant drugs
- Identify comorbidities in children, adolescents, and adults with ADHD
- Individualize treatment strategies for ADHD in children versus adolescents versus adults

Accreditation and Credit Designation Statements

The Neuroscience Education Institute is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The Neuroscience Education Institute designates this educational activity for a maximum of 3.0 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Nurses in most states may claim full credit for activities approved for *AMA PRA Category 1 Credits™* (for up to half of their recertification credit requirements). This activity is designated for 3.0 *AMA PRA Category 1 Credits*.

Also available will be a certificate of participation for completing this activity.

Activity Instructions

This CME activity is in the form of a printed monograph and incorporates instructional design to enhance your retention of the information and pharmacological concepts that are being presented. You are advised to go through the figures in this activity from beginning to end, followed by the text, and then complete the posttest and activity evaluation. The estimated time for completion of this activity is 3.0 hours.

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To receive your certificate of CME credit or participation, please complete the post-test (you must score at least 70% to receive credit) and activity evaluation found at the end of the book and mail or fax them to the address/number provided. Once received, your posttest will be graded and a certificate sent if a score of 70% or more was attained. Alternatively, **you may complete the posttest and activity evaluation online and immediately print your certificate.** There is a fee for the posttest (waived for NEI members).

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These materials have been peer-reviewed to ensure the scientific accuracy and medical relevance of information presented and its independence from commercial bias. The Neuroscience Education Institute takes responsibility for the content, quality, and scientific integrity of this CME activity.

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Visual Vocabulary
 Legend

	Cardiac Impairment		Life-threatening or Dangerous Side Effects
	Children and Adolescents		Norepinephrine
	Dopamine		Pregnancy
	Dopamine Transporter		Psychotherapy
	Drug Interactions		Renal Impairment
	Hepatic Impairment		Tips and Pearls

Stahl's Illustrated

Objectives

-
- Explain the symptoms of attention deficit hyperactivity disorder (ADHD) and the circuits involved
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