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Stahl's Illustrated

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# Mood Stabilizers

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## PREFACE

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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 Pocketbook 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 Pocketbook 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 Pocketbook 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 Abbreviation and Symbols legend in the back. 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*, 2nd Edition can be helpful supplementary tools for more in-depth information on particular topics in this Pocketbook. Now you can also search topics in psychopharmacology on the Neuroscience Education Institute's website ([www.neiglobal.com](http://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 minibook presents the symptoms, circuits, and pharmacologies relevant to bipolar disorders. It is divided into six chapters for easy browsing. Chapter 1 covers the symptoms of bipolar disorder and the spectrum from which this disorder presents. Chapter 2 introduces the brain circuits involved in depression and mania including the localization of aberrant neurotransmission involved in each symptom. Chapter 3 takes a closer look at the neurobiology of mania and depression, matching symptoms to malfunctioning mechanisms with a focus on ions, receptors and channels that correspond to the circuits illustrated in Chapter 2. Chapter 4 introduces lithium and various anticonvulsants as mood stabilizers for bipolar disorder, as well as their dosing strategies, side effect profiles, and drug-drug interactions that warrant caution. Chapter 5 provides an in-depth presentation of pharmacologic mechanisms of eight different mood stabilizers from the atypical antipsychotic drug class, as well as their dosing strategies, side effect profiles, and drug-drug interactions that warrant caution. Chapter 6 synthesizes knowledge from the previous five chapters to discuss individualized treatment plans, including rational use of polypharmacy and some alternative and supplementary treatments.

### 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 bipolar disorders were revealed following a vigorous assessment of activity feedback, expert faculty assessment, literature review, and through new medical knowledge:

- 30% of bipolar patients are misdiagnosed. Four key areas are important for discerning if a patient may have a bipolar spectrum disorder: sleep, treatment-response history, family history, talking to a relative. In addition, bipolar spectrum disorders are progressive illnesses, making diligent tracking of symptoms and treatment responses necessary.
- Physicians are not sufficiently informed of the evidence, treatment guidelines, and diagnostic criteria for ALL phases of bipolar illnesses, especially the mixed, maintenance, or depressed phases
- Because efficacy and tolerability of mood stabilizers, particularly atypical antipsychotic mood stabilizers, may vary depending on the phase of illness, treatment selection and dosing may need to be state-dependent in bipolar spectrum disorders



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:

- Describe the hypothetical neurobiology of bipolar disorders and the complex pharmacology of mood stabilizers used to treat them
- Recognize how different drugs affect the various disease states of bipolar disorders
- Develop an understanding of the best treatment practices and maintenance methods for optimizing individual patient outcome in bipolar disorders
- Identify mechanisms as well as therapeutic benefits and nuances of drugs commonly prescribed for bipolar disorders

### 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*<sup>™</sup>. 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*<sup>™</sup> (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.

### Instructions for CME Credit

To receive your certificate of CME credit or participation, please complete the posttest (you must score at least 70% to receive credit) and activity evaluation found at the end of the monograph and mail or fax them to the address/number provided.

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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

	BP
	Cardiac Impairment
	Children and Adolescents
	Dopamine
	Drug Interactions
	Electrical Activity
	Enzyme
	GABA
	Glutamate
	Hepatic Impairment

	Hypoactivation (blue)
	Hyperactivation (red)
	Life-threatening or Dangerous Side Effects
	Norepinephrine
	Pregnancy
	Psychotherapy
	Renal Impairment
	Scale
	Serotonin
	Tips and Pearls

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## Objectives

- Describe the hypothetical neurobiology of bipolar disorder and the complex pharmacology of mood stabilizers used to treat them
- Recognize how different drugs affect the various disease states of bipolar disorder
- Develop an understanding of the best treatment practices and maintenance methods for optimizing individual patient outcome in bipolar disorder
- Identify mechanisms as well as therapeutic benefits and nuances of drugs commonly prescribed for bipolar disorder