



## Stahl's Essential Psychopharmacology

# Prescriber's Guide – Children and Adolescents

Child and adolescent psychopharmacology is a rapidly growing field with psychotropic medications used widely in the treatment of this patient group. However, psychopharmacological treatment guidelines used for adults cannot simply be applied for children or adolescents, thus presenting clinicians and nurse practitioners with assessment and prescribing challenges. Based on the world's best-selling resource *Stahl's Prescriber's Guide*, this new book provides a user-friendly step-by-step manual on the range of psychotropic drugs prescribed for children and adolescents by clinicians and nurse practitioners.

Reviewed by expert Child and Adolescent Psychiatrists, the medications are presented in the same design format in order to facilitate rapid access to information. Each drug is broken down into a number of sections, each designated by a unique color background thereby clearly distinguishing information presented on therapeutics, safety and tolerability, dosing and use, what to expect, special populations, and the art of psychopharmacology, and followed by key references.

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Psychopharmacology Volume 1

Stephen M. Stahl

Frontmatter

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# **Stahl's Essential Psychopharmacology**

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## **Prescriber's Guide – Children and Adolescents**

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## Introduction

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This *Child and Adolescent Prescriber's Guide* is intended to complement both *Stahl's Essential Psychopharmacology: Neuroscientific Basis and Practical Application* and *Stahl's Essential Psychopharmacology: The Prescriber's Guide*. *Stahl's Essential Psychopharmacology* is a textbook that emphasizes mechanisms of action and how psychotropic drugs work upon receptors and enzymes in the brain, whereas *The Prescriber's Guide* provides practical information on how to use more than 140 specific psychotropic drugs in clinical practice.

Use of psychotropic drugs in children and adolescents is ever increasing, but information on how and when these agents are to be used differently in children and adolescents compared to adults can be hard to find. Notably, most psychotropic drugs used in children are not specifically approved by the FDA or other regulatory agencies for how they are used in children, but are mostly prescribed “off label” based upon information from controlled trials in adults, whatever literature may exist in pediatric populations, and clinical experience. The evidence base for use of psychotropic drugs in children and adolescents is surprisingly thin and not readily accessed, so we thought it would be useful for practitioners who see children and adolescents to have available a ready source of what information does exist for the use of psychotropic drugs in children and adolescents. The goal here is to combine in one guide the available regulatory approvals, when they exist for pediatric populations, along with not only the regulatory approvals and lessons learned from use of these same agents in adults, but also the experience base, often unpublished, for the use of psychotropic drugs in children by experts.

We have attempted in this first edition of our *Child and Adolescent Prescriber's Guide* to provide readers with relevant prescribing information for only a few dozen of the most essential psychotropic drugs used in children and adolescents. The goal is to bring together the existing literature and evidence base along with the experience base of two child psychiatrists, Dr. Desiree Shapiro and Dr. DeeAnn Wong, who have extensive “hands on” clinical practice experience and have served as consultant child psychiatry reviewers for this new book. It would be impossible to include all available information about any drug in a single work, and no attempt is made here to be comprehensive. The purpose of this *Guide* is instead to integrate the art of clinical practice with the science of psychopharmacology. That means including only essential facts in order to keep things short. Unfortunately, that also means excluding less-critical facts as well as extraneous information, which may nevertheless be useful to the reader but would make the book too long and dilute the most important information. In deciding what to include and what to omit, we have drawn upon common sense and many years of clinical experience of the author and reviewers. We have also consulted formally and informally with many other experienced clinicians who treat children and adolescents and have analyzed the evidence from controlled clinical trials and regulatory filings with government agencies.

In order to meet the needs of the clinician and to facilitate future updates of this *Guide*, the opinions of readers are sincerely solicited. Any important omitted materials, errors, suggestions, and requests to include more drugs in future editions are particularly important to us. Unique aspects of this *Guide* are the tips and



the pearls sections, so we also welcome suggestions for any additional clinical tips or pearls for use in future editions. Feedback can be emailed to [customerservice@niglobal.com](mailto:customerservice@niglobal.com).

All of the selected drugs are presented here in the same design format in order to facilitate rapid access to information. This format has been customized for prescribing in children and adolescents, so the organization of the various sections for each drug here will not correspond directly to the same sections in the adult *Guide* (for those of you familiar with that publication). Specifically, here each drug is broken down into six sections, each designated by a unique color background:

- Therapeutics,
- Safety and tolerability,
- Dosing and use,
- What to expect,
- Special populations, and
- The art of psychopharmacology,

followed by key references.

**Therapeutics** covers the brand names in major countries; the class and mechanism of action of each drug; the FDA-approved indications for pediatric use, the off-label pediatric uses for approved indications in adults, other off-label uses, and tests. New subsections are what to tell parents, children, and teachers about the drug's efficacy.

**Safety and tolerability** explains notable, life-threatening, or dangerous side effects; specific comments on growth and maturation, weight gain and sedation; advice on what to do about side effects; and what to say to parents and children about side effects. This section also contains warnings and precautions, contraindications, long-term use, whether habit-forming, and what happens in overdose.

**Dosing and use** gives the usual dosing range, dosage forms, how to dose, options for administration, pharmacokinetics, drug interactions, dosing tips, how to switch, how to stop, and when not to prescribe. In addition, drugs for which switching between medications can be complicated, such as antipsychotics, have a special section called The Art of Switching, which includes clinical pearls and graphical representations to help guide the switching process.

**What to expect** covers onset of action, duration of action, primary target symptoms, what is considered a positive result, how long to treat, what to do if it stops working, and what to do if it doesn't work.

**Special populations** gives specific information about comorbid psychiatric disorders and managing comorbidity, comorbid intellectual/developmental disabilities/brain injury, "highly vulnerable" population/foster children, comorbid medical conditions, renal impairment, hepatic impairment, and cardiac impairment.

**The art of psychopharmacology** gives the author's opinions on issues such as the potential advantages and disadvantages of any one drug, clinical pearls to get the best out of a drug, and several special sections unique to the pediatric population, including: not just little adults: developmental aspects of treatment; hold on to your seat: what is different about treating children and adolescents compared to adults; practical notes; potential ethical issues and informed assent; and engaging primary care with mental health professionals.



There is a list of the icons used in this *Guide* following this Introduction, and at the back of the *Guide* are several indices. The first is an index by drug name, giving both generic names (uncapitalized) and trade names (capitalized and followed by the generic name in parentheses). The second is an index of common uses for the generic drugs included in the *Guide* and is organized by disorder/symptom. Agents that are approved by the FDA for a particular use in children or adolescents are shown in bold. The third index is organized by drug class and lists all the agents that fall within each particular class. In addition to these indices there is a list of abbreviations.

Readers are encouraged to consult standard references (1) and comprehensive psychiatry and pharmacology textbooks for more in-depth information. They are also reminded that “The art of psychopharmacology” section is the author’s opinion. It is strongly advised that readers familiarize themselves with the standard use of these drugs before attempting any of the more exotic uses discussed, such as unusual drug combinations and doses. Reading about both drugs before augmenting one with the other is also strongly recommended. Today’s child and adolescent psychopharmacologist should also regularly track blood pressure, weight, and body mass index as indicated for his or her patients. The dutiful clinician will also check out the drug interactions of non-central nervous system (CNS) drugs with those that act in the CNS, including any prescribed by other clinicians. Certain drugs may be for experts only and might include clozapine and pimozide, among others. Off-label uses not approved by the FDA and inadequately studied doses or combinations of drugs may also be for the expert only, who can weigh risks and benefits in the presence of sometimes vague and conflicting evidence. Children or adolescents with two or more psychiatric illnesses, substance abuse, and/or a concomitant medical illness may be suitable patients for the expert only. Use your best judgment as to your level of expertise and realize that we are all learning in this rapidly advancing field. The practice of medicine is often not so much a science as it is an art. It is important to stay within the standards of medical care for the field, and also within your personal comfort zone, while trying to help extremely ill and often difficult patients with medicines that can sometimes transform their lives and relieve their suffering.

Finally, this book is intended to be genuinely helpful for practitioners of psychopharmacology by providing them with the mixture of facts and opinions selected by the author. Ultimately, prescribing choices are the reader’s responsibility. Every effort has been made in preparing this book to provide accurate and up-to-date information in accord with accepted standards and practice at the time of publication. Nevertheless, the psychopharmacology field is evolving rapidly and the author and publisher make no warranties that the information contained herein is totally free from error, not least because clinical standards are constantly changing through research and regulation. Furthermore, the author and publisher disclaim any responsibility for the continued currency of this information and disclaim all liability for any and all damages, including direct or consequential damages, resulting from the use of information contained in this book. Doctors recommending and patients using these drugs are strongly advised to pay careful attention to and consult information provided by the manufacturer.

<sup>1</sup> *Physician’s Desk Reference* and *Martindale: The Complete Drug Reference*.



## List of icons

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Class and mechanism of action



US FDA approved for use



What to tell parents about efficacy



What to tell children and adolescents about efficacy



What to tell teachers about the medication



Notable side effects



Life-threatening or dangerous side effects



What to do about side effects



What to tell parents about side effects



What to tell children and adolescents about side effects



Warnings and precautions



Contraindications



Dosing



Drug interactions that may occur



Tips for dosing based on the clinical expertise of the author



The art of switching





How to stop



When not to prescribe



Onset of action



Primary target symptoms



What is considered a positive result?



What if it doesn't work?



Comorbid psychiatric disorders/managing comorbidity



Comorbid intellectual/developmental disabilities/brain injury



“Highly vulnerable” population/foster children



Renal impairment



Hepatic impairment



Cardiac impairment



Pregnancy and breast feeding



Potential advantages



Potential disadvantages



Pearls



Not just little adults





Hold On to your seat



Practical notes



Potential ethical issues and informed assent



Engaging primary care with mental health professionals



Unusual



Not unusual



Common



Problematic