Psychologists’ Psychotropic Drug Reference
Pharmacology Texts and Reference Books by the Pagliaros


Psychologists' Psychotropic Drug Reference

by

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Dedication

This book, the second in a series of pharmacopsychology texts specifically written for psychologists and graduate psychology students, is dedicated to the advancement of the profession of psychology with the hope and trust that this advancement will be accompanied by commensurate improvements in the psychological health of those who seek, require, and receive psychotropic pharmacotherapy as an integral adjunct to their psychotherapy.
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Preface

The purpose of the *Psychologists' Psychotropic Drug Reference* (or the PPDR) is to provide prescribing psychologists and psychology graduate students with an accurate and authoritative reference for the psychotropic drugs that are commonly available for prescription in North America. The authors believe strongly that all clinical, health, and school psychologists should have a knowledge of the therapeutic action of the psychotropics and their associated ADRs and toxicities, which can be confused with, or be exacerbated by, virtually every psychological disorder. This reference text is particularly directed for use by psychologists and psychology graduate students who already have, or who are currently developing their, professional expertise and responsibilities in the prescription and management of psychotropic pharmacotherapy as an adjunct to psychotherapy.

The PPDR presents, in alphabetical order, detailed drug monographs for over 100 different prescription psychotropic drugs available in North America. Thus, this reference is the most comprehensive, currently available, psychotropic drug reference designed for psychologists. The psychotropic drugs presented include the antidepressants, antianxietics, antipsychotics, CNS stimulants, opiate analgesics, and sedative-hypnotics. Monographs also are provided for the benzodiazepine and opiate analgesic antagonists. Emphasis is on current guidelines for the prescription of these psychotropics as adjucents to psychotherapy for the symptomatic management of psychological disorders. Anticonvulsants, antiparkinsonians, and nootropics (i.e., drugs that enhance learning and memory among patients who have neurological disorders) are not included in this reference volume because their prescription is not generally considered to be primarily within the general expertise of practicing psychologists. However, they will be included as the primary topic of another reference in this series, *Psychologists' Neuropsychotropic Drug Reference*.

Each psychotropic monograph is clearly and concisely written to reflect only essential and important data that are commonly required by prescribing psychologists. Monographs are organized by generic name in alphabetical order. Whenever available and appropriate, each monograph includes the following information: phonetic pronunciation guide; up to five common trade or brand names; pharmacologic or therapeutic classification and subclassification; United States Drug Enforcement Agency schedule designation for abuse potential (C-I, “high abuse potential,” through C-V, “limited abuse potential;” see Appendix B); specific indications for prescription by psychologists; recommended dosages for adults, women

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1 *Only* single active ingredient products have been included. The use of fixed-dosage combination psychotropics is not generally recommended because of the lack of flexibility in appropriately adjusting the dosage of the component drugs to meet individual patient requirements. However, relevant information regarding the fixed-dosage combination products can be obtained using this text by separately accessing required information for each drug.

2 See Appendix A for a pharmacologic classification of the psychotropics and a complete listing of the drugs for which monographs are included in the PPDR.

3 The generic names used in this text are those that have been officially designated by the United States Adopted Names Council. International drug names, such as those used by the British Pharmacopoeia (British Adopted Names), are cross-referenced for convenience as secondary headings.

4 The FDA allows physicians to prescribe approved drugs for any indication, whether or not the indication is part of the approved labeling. Thus, a physician could prescribe the antibiotic tetracycline for the treatment of depression if he or she so wished. In the absence of any scientific data to substantiate the efficacy of tetracycline for the treatment
who are pregnant, including Food and Drug Administration (FDA) pregnancy codes (see Appendix C), women who are breast-feeding, the elderly, and children and adolescents; guidelines for the initiation, maintenance, and discontinuation of psychotropic pharmacotherapy; available dosage forms and storage instructions; helpful and important notes regarding methods of administration; proposed mechanism(s) of drug action; pharmacokinetic/pharmacodynamic parameters, including therapeutic drug monitoring (TDM) parameters for specific drugs for which TDM is recommended; relative contraindications to use; cautions and comments to be considered when prescribing and managing adjunctive psychotropic pharmacotherapy; clinically significant drug interactions currently reported in the literature; the most commonly occurring ADRs and their general management; and signs and symptoms of overdose.5,6

The PPDR integrates for each monograph important and essential information under these major headings in a specially designed taxonomy. For example, information that is helpful to prescribing psychologists for making decisions regarding the administration of a particular psychotropic is included under “Usual Dosage and Administration.” Dosage forms and storage considerations are identified in a specific “Available Dosage Forms, Storage, and Compatibility” section in each monograph. This integrated organization of these clinical psychotropic drug data should greatly facilitate the rapid retrieval of needed information. The use of the PPDR should enable prescribing psychologists to develop and enhance their abilities to prescribe, manage, and discontinue optimal, safe, and effective psychotropic pharmacotherapy as an important adjunct to psychotherapy.

Each of the monographs has been reviewed for form, style, and content by the members of the Editorial Advisory Committee for this series of texts. The members of this international group of distinguished psychologists from across North America have given freely of their time and expertise to improve and advance the clinical practice of psychology. We are extremely grateful for their valuable contributions and support. All psychologists, as well as their patients, who will benefit directly from the clinical application of the information and knowledge gained from this and the other texts in this series, owe the Editorial Advisory Committee a profound

of depression, we would consider this use to be irrational and professionally negligent. Therefore, indications for use, as adjunctive pharmacotherapy for psychological disorders, are limited to those indications that have received FDA and/or Health Protection Branch (HPB) approval and for which efficacy has been established in the published clinical literature. For example, although some sedative-hypnotics have received FDA and/or HPB approval for the symptomatic management of anxiety associated with depression, they all may cause depression as an adverse drug reaction. In fact, both the published literature and clinical experience indicate that sedative-hypnotics usually exacerbate the existing depression and that this action is much more pronounced and clinically significant than is the relief of any associated anxiety. In this clinical context, the appropriate selection of an antidepressant that is indicated for the symptomatic management of depression, the underlying disorder, and its associated anxiety would be considered to be a more rational therapeutic decision. Thus, for these sedative-hypnotics, the indication “anxiety associated with depression,” although officially approved, is not included in this reference text.

5Signs and symptoms of psychotropic overdosages are presented to assist prescribing psychologists to recognize possible overdosage among their patients so that pharmacotherapy can be appropriately discontinued and patients referred for emergency symptomatic medical management. The clinical management of overdosages is considered to be within the practice realm of medicine. Therefore, a discussion of the actual emergency symptomatic medical management of overdosage (e.g., selection and dosage of specific drugs used to facilitate elimination; use of adjunctive measures, such as hemodialysis; support of body systems [e.g., mechanical ventilation, provision of fluids and electrolytes]; and laboratory monitoring parameters) has not been included in this text. Whenever overdose is suspected, clinical psychologists should directly refer their patients for emergency medical evaluation and management.

6The data included in these monographs have been derived from several sources, including references listed in the first volume in this series, The Pharmacologic Basis of Psychotherapeutics: An Introduction for Psychologists (Pagliaro & Pagliaro, 1998); current (1998) official FDA- and HPB-approved drug monographs for each of the psychotropics listed; previous textbooks by the authors (see listing in the front material of this text); the authors’ current graduate lectures for the “Series of Hierarchical Graduate and Post-Graduate Courses in Pharmacopsychology;” and the authors’ clinical experiences. These available data were content analyzed and synthesized into the monographs presented.
debt of gratitude. In all cases, responsibility for the completeness and accuracy of the data in this and in the other texts in the series remains with the authors.7

As previously noted, the psychotropics discussed in this reference are referred to by their generic (nonproprietary) USAN names. However, psychologists who use brand or trade names may access needed information by consulting the general index located at the end of this reference. All dosages included in this reference are average dosages derived, using population-based statistical models, from data obtained from sample patient groups and groups of research subjects. Therefore, these dosages are approximate dosages. In all cases, variability in individual patient response may necessitate alterations in drug dosages or frequency of dosing. Accepted guidelines for the use of each psychotropic drug, including drug information centers, current manufacturer patient and product package inserts, or other authoritative references, should be consulted whenever there is further question about a particular use or dose of a drug. For example, psychologists who require additional information or review concerning the basic principles of clinical pharmacology are referred to the companion volume and first text in this series, The Pharmacologic Basis of Psychotherapeutics: An Introduction for Psychologists (Pagliaro & Pagliaro, 1998).8 In addition, psychologists who require additional information or review regarding the indications and use of the psychotropics as adjuncts to psychotherapy and other therapeutic modalities (e.g., biofeedback or electroconvulsive therapy) that are most appropriate for the symptomatic management of specific psychological disorders are referred to the companion volume and fourth text in this series, Clinical Psychopharmacotherapeutics for Psychologists (Pagliaro & Pagliaro, in preparation).9

When additional age-specific information regarding pharmacotherapy is required for children and adolescents or the elderly, psychologists are referred to Pagliaro and Pagliaro (1995), Problems in Pediatric Drug Therapy, 3rd edition, or to Pagliaro and Pagliaro (in preparation), Problems in Geriatric Drug Therapy, respectively. For a more detailed discussion of abusable psychotropic exposure and use among infants, children, and adolescents, psychologists are referred to Pagliaro and Pagliaro (1996), Substance Use Among Children and Adolescents: Its Nature, Extent, and Effects from Conception to Adulthood. Several appendices, including a list of abbreviations used in the PPDR can be found at the end of this text for further assistance.

It is hoped that, by using the information presented in the Psychologists' Psychotropic Drug Reference, prescribing psychologists and graduate psychology students, as they strive to significantly improve psychological health, will be better able to provide their patients with the maximum benefits of adjunctive pharmacotherapy with a minimum of adverse and toxic effects.

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7However, readers of this text have a professional responsibility to actively seek and obtain clarification whenever information seems to them to be unclear or incomplete.

8The Pharmacologic Basis of Psychotherapeutics: An Introduction for Psychologists is the first text in this series from both a temporal publication perspective and a pedagogical hierarchical perspective. For this reason, it is expected that readers of the PPDR are already familiar with the terms (e.g., akathisia, anorexiant), concepts (e.g., methods of drug administration, therapeutic drug monitoring), and basic principles of pharmacology (e.g., basic mechanisms of drug action, similarities and differences between and among the various classes of antidepressants). If not, they should first review The Pharmacologic Basis of Psychotherapeutics: An Introduction for Psychologists. See the Preface to The Pharmacologic Basis of Psychotherapeutics, which has been reproduced in the front material of this text, for further details and information about that text and the series.

9Clinical Psychopharmacotherapeutics for Psychologists discusses, in the context of specific psychological disorders that are amenable to adjunctive pharmacotherapy, the currently available treatment modalities (e.g., alternative, such as acupuncture; medical, such as surgery; and psychological, such as biofeedback, hypnotherapy, pharmacotherapy, and psychotherapy). The treatment modalities are evaluated in terms of their demonstrated efficacy. The criteria and parameters for selecting the best single or combination therapy for specific individual patients are presented with an emphasis upon empirically validated psychotherapeutic modalities.
Preface to *The Pharmacologic Basis of Psychotherapeutics: An Introduction for Psychologists*

We are in a time of significant economic, political, and social change. This time of change is affecting the professional practice of psychology in a variety of ways, as traditional disciplinary lines are dissolving and new boundaries are being drawn. Major practice issues, such as prescription and hospital admitting privileges for psychologists, need to be expediently and adequately addressed. Naturally, it is to be expected that some psychologists, perhaps because they are content with the status quo or because they are fearful of change, may wish that things be left as they are. Unfortunately, things cannot be left as they are. As noted by Chesterton almost 90 years ago, “If you leave a thing alone you leave it to a torrent of change” (*Orthodoxy*, 1908). Thus, our only logical and rational alternative is to become involved with the changes and to view the process of change not as a threat but as an opportunity to broaden the professional practice of psychology and, in so doing, improve the health and well-being of people who require psychological services.

As many psychologists have come to realize, appropriate pharmacotherapy can be a useful adjunct to appropriate psychotherapy and, as such, is a welcome tool for psychologists. Certainly, the optimal professional practice of psychology requires, if not prescription privileges for psychologists, at least a minimum significant degree of specialized knowledge about the propensity for psychotropics to affect behavior, cognition, learning, memory, and psychological health. Even those psychologists who choose not to prescribe psychotropics as part of their professional practice require an understanding of the use and effects of these drugs.

Such understanding is essential for all psychologists to meet more competently and comprehensively the needs of their patients, many of whom will be prescribed a psychotropic by a family physician or another prescriber (e.g., advanced practice nurse, cardiologist, clinical pharmacist, dentist, or psychiatrist). For example, even psychologists considered to be the best *psychotherapists* in the world would more than likely be unsuccessful in the treatment of a depression if they were unaware that the clinical depression was a direct adverse result of the use of a benzodiazepine (e.g., Ativan®, Halcion®, Valium®) with the adverse drug reaction of depression. In another example, school psychologists, considered to be the best learning specialists in the world, would be unable to plan optimal programs for learning disabled children if they were unaware that the children’s learning problems were a direct result of anticonvulsant drug therapy, which some children require for the treatment of seizure disorders, or too high a dosage of methylphenidate (Ritalin®), which is commonly prescribed to children for the treatment of attention-deficit/hyperactivity disorder (A-D/HD). This argument becomes even more relevant when it is recognized that virtually every psychological disorder, whether characterized by the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (American Psychiatric Association, 1994), or other relevant criteria (e.g., ICD), can have its signs and symptoms mimicked by the adverse drug reactions of the various psychotropics.

The preface of the first text in the series of pharmacopsychology texts for psychologists is reproduced here in order to place the current text, which is a continuation of that series, in both historical and pedagogical perspective.
Prescription privileges and related issues are being actively addressed by the profession of psychology in several countries, including Canada, South Africa, New Zealand, and the United Kingdom. In these countries, professional practice acts are increasingly being rewritten to incorporate a nonexclusive scope of practice for all health professions. By providing nonexclusive scopes of practice, these acts appropriately and correctly recognize that no one individual or group “owns” exclusively knowledge of a particular area of mental health practice (e.g., prescription authority). However, nowhere has this issue received more scrutiny and active debate within the profession of psychology than in the United States, where it has received the official endorsement of the American Psychological Association, the largest psychological association in the world. The Foreword to this text, written by Patrick DeLeon and Morgan Sammons, provides a historical overview of the debate and progress surrounding this crucial issue for psychologists.

The Ad Hoc Task Force on Psychopharmacology of the American Psychological Association has recommended the following three levels of psychopharmacology education: Level 1, “basic psychopharmacology education,” would provide a minimal level of psychopharmacology education for all psychologists in clinical practice. Level 2, “collaborative practice,” would provide additional education to enable psychologists to participate actively as partners with physicians and other prescribers in determining the need for and the monitoring of psychotropic therapy for patients they “share.” Level 3, “prescription privileges,” would provide the education necessary for psychologists to have independent psychotropic prescription privileges.

In accordance with these developments in psychology and the need for related formal advanced education, the authors of this text developed, at the University of Alberta, the “Hierarchical Integrated Series of Graduate/Postgraduate Courses in Pharmacopsychology,” which they have taught since 1990 to both graduate psychology students and postgraduate psychologists in private practice. The development of the “hierarchical series” was based on three basic assumptions: (1) that no single profession or group “owns” exclusively any given knowledge; (2) that psychologists, who as a group are the highest academically prepared health care professionals, are able to comprehend and to apply appropriately in clinical contexts the information and concepts of clinical pharmacology relevant to the promotion of mental health; and (3) that appropriate pharmacotherapy, when prescribed by psychologists, should be used only as an adjunct to appropriate psychotherapy.

The current series of textbooks, of which this text is the first, is based on the authors’ experience in teaching the hierarchical series of pharmacopsychology courses to a variety of graduate students in psychology and to postgraduate psychologists in independent practice in many different settings. The development of this series of textbooks also reflects the authors’ concern that psychologists be provided with reference texts that are pharmacologically correct and that specifically reflect the expanded professional practice of psychology. Although each of the three initial textbooks in the series can be used alone, they have been developed as a complementary set to delineate the pharmacopsychologic knowledge required for the optimal professional prac-

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1 Interested readers can contact the authors for a copy of the syllabus “A Hierarchical Integrated Series of Graduate/Postgraduate Courses in Pharmacopsychology.”

2 For example, when treating a depressed patient, a psychologist would use appropriate pharmacotherapy to complement or augment established psychotherapy (e.g., cognitive therapy). In this example, if the psychologist believed that psychotherapy was unnecessary and that only pharmacotherapy was required, then the patient should be referred to another prescriber (e.g., advanced practice nurse, family physician, or psychiatrist).

3 The third assumption is predicated upon the following rationale: First, psychotherapy is the core foundational aspect of clinical psychology treatment services (i.e., whereas psychologists may provide additional forms of treatment, such as biofeedback and hypnotherapy, psychotherapy remains the raison d'etre for the existence of clinical psychology as a distinct treatment-providing health care profession). Second, although research studies examining the relative therapeutic benefits of pharmacotherapy and psychotherapy have provided mixed results, a growing consensus is that combined pharmacotherapy and psychotherapy result in greater success (i.e., better therapeutic outcome) than the use of either modality alone.
tice of psychology (i.e., basic principles of pharmacotherapy, synopses of psychotropic drugs, and clinical psychopharmacotherapeutics).

The first volume in the series, *The Pharmacologic Basis of Psychotherapeutics: An Introduction for Psychologists*, introduces psychology students and psychologists to the basic principles and concepts of pharmacotherapy. As such, it assumes no prior knowledge of the principles and concepts of pharmacotherapy and should be readily amenable for use by the graduate psychology student or postgraduate psychologist in clinical practice. The second volume in the series, *Psychologists' Psychotropic Desk Reference*, provides psychologists with a valuable synopsis of all of the clinically relevant data currently available for each of the psychotropics marketed in North America. These data have been subsumed and arranged within individual drug monographs to facilitate the conceptualization and rapid retrieval of desired information when needed. The optimal use of this text requires a knowledge of the basic principles and concepts of psychotherapeutics, discussed in the first volume in the series. The third volume in the series, *Clinical Psychopharmacotherapeutics for Psychologists*, now in press, will critically discuss each of the major psychological disorders that is amenable to pharmacotherapy as an adjunct to psychotherapy. Thus, emphasis is on the validated effectiveness of these combined therapeutic approaches and related issues, including their empirical validation. The optimal use of this text requires mastery of the information presented in the first and second volumes in the series, which have been designed to facilitate retrieval and review of required material.

Thus, the present volume is the foundational text that provides the pharmacologic basis of psychotherapeutics that is required for optimal use of the second and third volumes in this series. Together, these three volumes reflect all three levels of pharmacopsychology education.

*The Pharmacologic Basis of Psychotherapeutics: An Introduction for Psychologists* is divided into six chapters. The Foreword, "Prescription Privileges for Psychologists: A Historical Overview," coauthored by Patrick DeLeon, a champion of prescription drug privileges for psychologists, and Morgan Sammons, one of the first graduates of the Department of Defense Psychopharmacology Fellowship Program, provides a brief history of the major events leading to prescription privileges for psychologists. It also provides a precis of the arguments that have been made both for and against this expanded role for psychologists. Chapter 1, "Introduction to the Basic Principles of Pharmacotherapy," describes and discusses the various purposed mechanisms by which psychotropic drugs elicit their effects in the human body. Chapter 2, "The Psychotropics," introduces readers to the psychotropic drugs, including their differentiation according to abuse liability and pharmacologic classification. In addition, an overview of the remaining chapters in the textbook, in terms of their relevance to the central theme of the text and their application to clinical practice, is presented. Chapter 3, "Pharmacokinetics and Pharmacodynamics," deals with the processes of absorption, distribution, and elimination (i.e., metabolism and excretion) of psychotropic drugs from the human body. In addition, the concept of therapeutic drug monitoring and the influences of age and disease states on pharmacokinetic and pharmacodynamic processes are presented and discussed. Related mathematical modeling, including graphical representations and formulas, is included. Chapter 4, "Administration of Psychotropics," provides an overview of the various formulations of psychotropic drugs (e.g., injectables, tablets, transdermal delivery systems) and their methods of administration (e.g., intramuscular injection, oral ingestion). Attention is given to optimizing drug delivery and therapeutic response.

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4 The three-volume series of texts focuses exclusively on the therapeutic uses of the psychotropics. Psychologists who require additional specific information regarding the problematic patterns of abusable psychotropic use (i.e., those patterns associated with addiction and habituation) are referred to *Substance Use Among Children and Adolescents: Its Nature, Extent, and Consequences From Conception to Adulthood* (Pagliaro & Pagliaro, 1996) and *Substance Use Among Women* (Pagliaro & Pagliaro, in preparation).

5 We are extremely grateful to Patrick DeLeon and Morgan Sammons, who took time from extremely busy schedules to write the Foreword for this first text in the series.
Chapter 5, "Adverse Drug Reactions," discusses the nature and extent of adverse drug reactions involving the psychotropic drugs. Adverse drug reactions that mimic the various psychological disorders, including those related to the use of non-psychotropic drugs (e.g., antibiotics, antiulcer drugs), are also discussed. Several comprehensive tables have been included to facilitate retrieval of relevant information. Chapter 6, "Drug Interactions," discusses the general mechanisms and sites of drug interactions that are known to occur in the human body. Individual monographs for each clinically significant drug interaction known to involve the psychotropics are provided, with attention to the specific nature, mechanisms, and clinical consequences of the drug interactions. Methods used to prevent or manage each of these interactions also are discussed.

As a means for ensuring that each chapter is as comprehensive, well-written, and up-to-date as humanly possible, the chapters have been subjected to a rigorous process of writing and revision. This has been done by the authors' taking into consideration their extensive academic and clinical backgrounds, in terms of both clinical pharmacology and psychology, and the related, relevant published literature. In addition, an Editorial Advisory Committee, composed of distinguished academics, researchers, and clinical psychologists from across North America, was established to help to ensure that the focus and leveling of the series of textbooks was appropriately directed to the needs and abilities of graduate psychology students and psychologists. Each chapter has been independently reviewed by several members of the Editorial Advisory Committee, who have given freely of their time and expertise to help produce a series of textbooks that should become a proud standard for psychologists. The authors, and all psychology students and psychologists who use these texts, owe a profound debt of gratitude to the Advisory Committee members.

It is hoped that, by using the information presented in this specially developed three-volume series of pharmacopsychologic texts, psychologists will be better able to provide their patients who have various psychological disorders with optimal psychotropic pharmacotherapy as an appropriate adjunct to psychotherapy and, thus, optimize the benefit derived by all patients who seek professional treatment from psychologists. In our earnest attempt to provide the best possible series of pharmacopsychology texts for psychologists, we are humbly reminded of the following words and sentiment paraphrased from Adlai Stevenson:

We have not done as well as we would have liked to have done, but we have done our best, honestly and forthrightly. No one can do more and you (our colleague psychologists) are entitled to no less.

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6For example, to assist with this goal, the Editorial Advisory Committee identified terms with which psychologists might not be readily familiar. The most common terms were then defined and arranged in a glossary that can be found in Appendix 2 at the end of this text. In relation to leveling, it should be noted that the three-volume series, although in many regards introductory to the subject matter, was written for psychologists at a graduate level of education. Therefore, the "series" is significantly more comprehensive and at a higher scholarly level than will be found in related undergraduate texts, including those generally written for medical students.

7The responsibility for the completeness and accuracy of all information provided within this text remains with the authors.
Acknowledgment

The authors gratefully acknowledge the assistance of a number of people whose concerted efforts made this text and this series of texts possible. First, Herb Reich, for bringing us together with the publisher, Brunner/Mazel (a member of the Taylor & Francis group). What began as a working relationship several books ago has developed into a wonderful friendship. Next, we would again like to thank the members of the Editorial Advisory Committee for their help and encouragement throughout this entire process. A deep expression of gratitude is extended both to the Dean of Nursing, Marilynn J. Wood, for her continuing support of our textbook writing, particularly in an era of diminishing academic resources, and to Leona B. Laird for her typing of seemingly countless revisions. Last, but certainly not least, we would like to formally acknowledge the assistance and extend our sincerest thanks to all at Brunner/Mazel, including Bernadette Capelle and Alison Labbate, for their faith in us and this series of new textbooks for psychologists, for their commitment to excellence in publishing, and for their continuing assistance and support at every phase of this project.
Psychotropic Drug Monographs
ALPRAZOLAM
(al pray'zoe lam)

TRADE NAMES
Apo-Alpraz®
Novo-Alprazol®
Xanax®

CLASSIFICATION
Sedative-hypnotic (benzodiazepine) (C-IV)

See also Benzodiazepines General Monograph

APPROVED INDICATIONS FOR PSYCHOLOGICAL DISORDERS
Adjunctive pharmacotherapy for the short-term symptomatic management of:

- Anxiety Disorders: Acute anxiety. Note: Alprazolam pharmacotherapy is not indicated for the management of everyday anxiety or tension or for that anxiety that can be managed with psychotherapy alone. Alprazolam also is not recommended for the management of anxiety associated with depression because it has the potential to exacerbate the depression while alleviating the anxiety. The anxiety associated with depression generally resolves with appropriate adjunctive pharmacotherapy (i.e., the use of antidepressants) and psychotherapy.
- Anxiety Disorders: Panic disorder with or without agoraphobia.

USUAL DOSAGE AND ADMINISTRATION

Acute Anxiety

Adults: Initially, 0.75 to 1.5 mg daily orally in three divided doses. Increase the dosage at three- or four-day intervals to achieve maximal therapeutic benefit.

MAXIMUM: 4 mg daily orally

Women who are, or who may become, pregnant: FDA Pregnancy Category D. Safety and efficacy of alprazolam pharmacotherapy for women who are pregnant have not been established. Benzodiazepine pharmacotherapy during pregnancy has been associated with teratogenic effects (i.e., birth defects). Although alprazolam has not been directly implicated with fetal harm, it is assumed that alprazolam also may cross the placenta and cause teratogenic effects if
References \textsuperscript{1,2}


\textsuperscript{1}The references cited in this appendix were used in the writing of this text. They were integrated with over 30 years of clinical experience and academic knowledge of each of the coauthors. As noted in the Preface, this text and the others in this series were based on the “Hierarchical Series of Graduate and Postgraduate Courses in Pharmacopsychology.” This series was developed by the coauthors in 1989 and continues to be taught by the coauthors. Thus, the references are not meant to provide an exhaustive review of the related literature, but may be better interpreted as a starting point. Additional comprehensive referencing, particularly to earlier classical and initial foundational works in the field can be found in previous textbooks by the coauthors.

\textsuperscript{2}The references are meant to provide readers with examples that document ADRs and drug interactions cited in the body of this text. For this reason, secondary reviews have been cited where possible. Readers are encouraged to perform current CD-ROM searches of relevant computerized databases (e.g., Medline, PsychLit) to obtain additional references. Although the Internet provides databases reporting ADRs and drug interactions, these reports generally have not been externally reviewed and, therefore, should be interpreted with caution.


References


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