

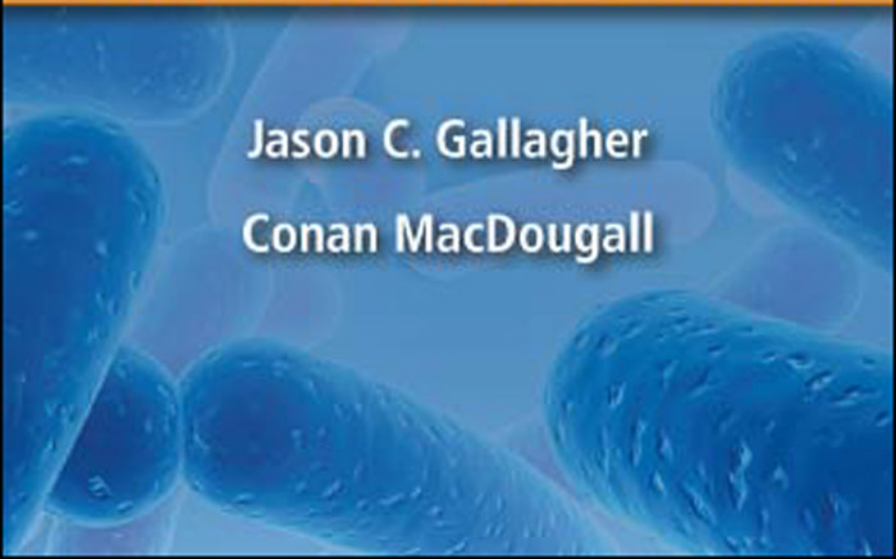


# **ANTIBIOTICS SIMPLIFIED**

**SECOND  
EDITION**

Jason C. Gallagher

Conan MacDougall



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Adjunct Assistant Professor of  
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# Introduction

*Antibiotics*—the word sends terror coursing through the veins of students and makes many healthcare professionals uncomfortable. The category of antibiotics actually contains many different classes of drugs that differ in spectrum of activity, adverse effect profiles, pharmacokinetics and pharmacodynamics, and clinical utility. These classes can seem bewildering and beyond comprehension. We believe that taking a logical, stepwise approach to learning the pharmacotherapy of infectious diseases can help burn away the mental fog preventing optimal use of these drugs.

Learning the characteristics of antibiotics simplifies learning infectious disease pharmacotherapy. Students and clinicians who attempt to learn the antibiotics of choice for different types of infections before knowing the characteristics of those drugs never truly understand the context of what they are attempting to learn. Once the characteristics of the antibiotics are known, making a logical choice to treat an infection is much easier. This approach takes some time up front, but it will be well worth the effort when the clinician realizes that the pharmacotherapy of all infections is fundamentally similar and logical.

## ■ How to Use This Book

We wrote this book in an effort to condense the many facts that are taught about antibiotics in pharmacology and pharmacotherapy courses into one quick reference guide. It is meant to supplement material learned in pharmacology, not to supplant it. Use this book as a reference when you encounter a class of antibiotics that you know you have heard about; it will remind you of key points you may have forgotten.

This book contains six parts. Part 1 reviews basic microbiology and how to approach the pharmacotherapy of a patient with a presumed infection. The chapters in Parts 2–6 provide concise reviews of various classes of antibacterial, antimycobacterial, antifungal, antiviral, and antiparasitic drugs. Again, this book is intended to supplement your other pharmacology textbooks. These chapters give key points about each class of antibiotics—they are not thorough reviews. The appendices contain references that may help in daily use.

## ■ Format of the Drug Class Reviews

Each drug class chapter follows the same basic format. The agents belonging to each class are listed first. The drugs used most commonly in practice are **bolded**.

### Spectrum

The spectra listed are not exhaustive. This section summarizes key organisms against which each class has or does not have activity.

### Adverse Effects

This section lists key adverse effects. This list is not exhaustive, but it gives the most common and/or concerning adverse effects of each class.

## Dosing Issues

This section discusses common problems or potential errors in drug dosing for select drug classes.

## Important Facts

This section provides a summary of significant facts for each drug class.

## What They're Good For

This section lists some of the most common and/or useful indications for the agents in the class. Often the agents discussed have not been approved for these indications by the Food and Drug Administration (FDA), but they are commonly used for them anyway. Conversely, many FDA indications that the antibiotics do have are not listed here, because they are often out-of-date.

## Don't Forget!

In this section, we list points that are often overlooked or especially important when dealing with the drug class.

As you read this book, try to think of situations in which the antibiotics would be useful to your patients. Think of *why* an antibiotic is useful for an indication; don't just learn *that* it is. It is our sincere hope that you too have that magic moment where the world of antibiotics and the study of infectious diseases click together. Let us know when it happens.



## **New to the *Second Edition***

The *Second Edition* of *Antibiotics Simplified* expands on the drug classes covered in the first while retaining the “key point” focus of the text that has made it successful. In addition to antibacterial and antifungal agents, the *Second Edition* includes antiviral agents (including antiretrovirals for HIV), antimycobacterial agents, and antiparasitic agents. A new appendix includes empiric regimens for common infections for quick reference.



# Acknowledgments

Our thanks go to those who helped to edit this text, and to our wives, who put up with us while we wrote it.

We dedicate this text to the pharmacy students of Temple University and University of California–San Francisco. We hope you find it useful.

