

Making Everything Easier!™

Probiotics

FOR
DUMMIES®

Learn to:

- Bolster your immune system against disease
- Alleviate allergies and asthma
- Keep a proper bacterial balance
- Improve the health of your digestive tract

Dr. Shekhar K. Challa

Board Certified Gastroenterologist



Get More and Do More at Dummies.com[®]



Start with **FREE** Cheat Sheets

Cheat Sheets include

- Checklists
- Charts
- Common Instructions
- And Other Good Stuff!

To access the Cheat Sheet created specifically for this book,
www.dummies.com/cheatsheet/probiotics

Get Smart at Dummies.com

Dummies.com makes your life easier with 1,000s of answers on everything from removing wallpaper to using the latest version of Windows.

Check out our

- Videos
- Illustrated Articles
- Step-by-Step Instructions

Plus, each month you can win valuable prizes by entering our Dummies.com sweepstakes.*

Want a weekly dose of Dummies? Sign up for Newsletters on

- Digital Photography
- Microsoft Windows & Office
- Personal Finance & Investing
- Health & Wellness
- Computing, iPods & Cell Phones
- eBay
- Internet
- Food, Home & Garden

Find out "HOW" at Dummies.com

*Sweepstakes not currently available in all countries; visit Dummies.com for official rules.



Praise For Dr. Shekhar K. Challa and “Probiotics For Dummies”

“With *Probiotics For Dummies*, Dr. Shekhar Challa once again simplifies a complicated subject in a way that will help readers improve their health. This book is an excellent resource identifying current research in the probiotics field, and is easily understood and informative. It’s a clear guide showing readers how and why it’s important to incorporate probiotics in their diets.”

— Dr. Michael Sorrell
Robert L. Grissom Professor of Medicine
Section of Gastroenterology and
Hepatology
Co-director of Solid Organ Transplant
Service
University of Nebraska College of
Medicine

“Don’t let the humorous title *Probiotics For Dummies* mislead you. Dr Challa’s very comprehensive primer will help you quickly grasp the vital importance of probiotics from both supplements and food. With easy-to-understand facts and the most recent medical research, you’ll see why probiotics and prebiotics are the foundation for a long, healthy life.”

— Donna Gates
Nutritional Consultant
Author of *The Body Ecology Diet*

“Dr. Shekhar Challa’s book, *Probiotics For Dummies*, provides an easy-to-understand, practical framework for learning about probiotics. Focusing on overall wellness, he demystifies the digestive realm of microflora, micronutrients, supplements, and medications, giving readers a ‘go to’ resource to make informed health decisions.”

— Mary Schluckebier, B.S., M.A.
Executive Director
Celiac Sprue Association

“Outstanding! Having read numerous books on probiotics in preparation for my new film on these ‘good bugs,’ I was extremely impressed with all the great and useful information provided in Dr. Challa’s new book. His experience as a board-certified gastroenterologist clearly makes a huge difference in explaining to the reader how important probiotics are, not only for gastrointestinal health but for overall excellent health and wellbeing. I would highly recommend *Probiotics For Dummies* for anyone wishing to learn about these beneficial bacteria!”

— David Knight
Executive Producer,
Microwarriors: The Power of Probiotics

“I can’t think of a better gastroenterologist than Dr. Challa to navigate the tour through the new and powerful world of probiotics — from GI conditions and women’s health issues to allergies and immunity. Certain probiotic strains can make the difference between health and illness, and *Probiotics For Dummies* covers it all in a user-friendly way.

— Elaine Magee, M.P.H., R.D.
Author of 25 books on nutrition, including *Tell Me What To Eat If I Have Acid Reflux* and *Tell Me What To Eat If I Have Irritable Bowel Syndrome*

Probiotics
FOR
DUMMIES®

**by Dr. Shekhar K. Challa, M.D.
Board-Certified Gastroenterologist**

**Foreword by
Eamonn M. M. Quigley, M.D.,
F.R.C.P., F.A.C.P., F.A.C.G.,
F.R.C.P.I.
Professor of Medicine and
Human Physiology**



John Wiley & Sons, Inc.

Probiotics For Dummies®

Published by
John Wiley & Sons, Inc.
111 River St.
Hoboken, NJ 07030-5774
www.wiley.com

Copyright © 2012 by John Wiley & Sons, Inc., Hoboken, New Jersey

Published by John Wiley & Sons, Inc., Hoboken, New Jersey

Published simultaneously in Canada

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as permitted under Sections 107 or 108 of the 1976 United States Copyright Act, without the prior written permission of the Publisher. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008, or online at <http://www.wiley.com/go/permissions>.

Trademarks: Wiley, the Wiley logo, For Dummies, the Dummies Man logo, A Reference for the Rest of Us!, The Dummies Way, Dummies Daily, The Fun and Easy Way, Dummies.com, Making Everything Easier, and related trade dress are trademarks or registered trademarks of John Wiley & Sons, Inc., and/or its affiliates in the United States and other countries, and may not be used without written permission. All other trademarks are the property of their respective owners. John Wiley & Sons, Inc., is not associated with any product or vendor mentioned in this book.

LIMIT OF LIABILITY/DISCLAIMER OF WARRANTY: THE CONTENTS OF THIS WORK ARE INTENDED TO FURTHER GENERAL SCIENTIFIC RESEARCH, UNDERSTANDING, AND DISCUSSION ONLY AND ARE NOT INTENDED AND SHOULD NOT BE RELIED UPON AS RECOMMENDING OR PROMOTING A SPECIFIC METHOD, DIAGNOSIS, OR TREATMENT BY PHYSICIANS FOR ANY PARTICULAR PATIENT. THE PUBLISHER AND THE AUTHOR MAKE NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF THE CONTENTS OF THIS WORK AND SPECIFICALLY DISCLAIM ALL WARRANTIES, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. IN VIEW OF ONGOING RESEARCH, EQUIPMENT MODIFICATIONS, CHANGES IN GOVERNMENTAL REGULATIONS, AND THE CONSTANT FLOW OF INFORMATION RELATING TO THE USE OF MEDICINES, EQUIPMENT, AND DEVICES, THE READER IS URGED TO REVIEW AND EVALUATE THE INFORMATION PROVIDED IN THE PACKAGE INSERT OR INSTRUCTIONS FOR EACH MEDICINE, EQUIPMENT, OR DEVICE FOR, AMONG OTHER THINGS, ANY CHANGES IN THE INSTRUCTIONS OR INDICATION OF USAGE AND FOR ADDED WARNINGS AND PRECAUTIONS. READERS SHOULD CONSULT WITH A SPECIALIST WHERE APPROPRIATE. THE FACT THAT AN ORGANIZATION OR WEBSITE IS REFERRED TO IN THIS WORK AS A CITATION AND/OR A POTENTIAL SOURCE OF FURTHER INFORMATION DOES NOT MEAN THAT THE AUTHOR OR THE PUBLISHER ENDORSES THE INFORMATION THE ORGANIZATION OR WEBSITE MAY PROVIDE OR RECOMMENDATIONS IT MAY MAKE. FURTHER, READERS SHOULD BE AWARE THAT INTERNET WEBSITES LISTED IN THIS WORK MAY HAVE CHANGED OR DISAPPEARED BETWEEN WHEN THIS WORK WAS WRITTEN AND WHEN IT IS READ. NO WARRANTY MAY BE CREATED OR EXTENDED BY ANY PROMOTIONAL STATEMENTS FOR THIS WORK. NEITHER THE PUBLISHER NOR THE AUTHOR SHALL BE LIABLE FOR ANY DAMAGES ARISING HEREFROM.

For general information on our other products and services, please contact our Customer Care Department within the U.S. at 877-762-2974, outside the U.S. at 317-572-3993, or fax 317-572-4002.

For technical support, please visit www.wiley.com/techsupport.

Wiley publishes in a variety of print and electronic formats and by print-on-demand. Some material included with standard print versions of this book may not be included in e-books or in print-on-demand. If this book refers to media such as a CD or DVD that is not included in the version you purchased, you may download this material at <http://booksupport.wiley.com>. For more information about Wiley products, visit www.wiley.com.

Library of Congress Control Number: 2012935730

ISBN: 978-1-118-16973-5

ISBN 978-1-118-22656-8 (ePDF); ISBN 978-1-118-23981-0 (ePub); ISBN 978-1-118-25488-2 (eMobi)

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1



About the Author

Dr. Shekhar Challa, M.D., is a board-certified gastroenterologist who has been at the forefront of gastroenterology and hepatology for 24 years. In private practice in Topeka, Kansas, since 1987, Dr. Challa is president of Kansas Medical Clinic and CEO of Osteoporosis Services, the largest mobile bone density testing company in the Midwest.

Dr. Challa also is the author of *Winning the Hepatitis C Battle*, which was a finalist for the Independent Book Publishers Association's Benjamin Franklin Awards, and *Spurn the Burn: Treat the Heat (Everything You Need to Know about Acid Reflux Disease)*. As a passionate advocate of education as a way to help people achieve the best quality of life, Dr. Challa has been interviewed extensively by national media, including *Seventeen* magazine, *Girl's Life*, and numerous radio and TV shows.

He has been a featured speaker for several pharmaceutical companies and has served on national and international boards, including those for West Central Osteoporosis-Proctor and Gamble, US Bank, AmSurg, and My Medical Records.com. He has been the principal investigator for several clinical trials for various pharmaceutical companies.

Dedication

To my dad, Somrajram Challa, who is going through a tough time right now with medical problems: It is from you that I learned the work ethic and dedication I bring to my career. Thank you for your loving guidance.

To my mother, Anantha Lakshmi: Thank you for the ability to cut to the heart of the matter that you bring to my life. I have never met anyone with more common sense than you have.

To Jaya, my patient wife, who supported me as I spent time writing this book, which was time I “took away” from you. To Akhila and Shruti, my beautiful daughters who mean the world to me.

Acknowledgments

Thank you to Morgan, Lily, and Akhila for countless meetings, emails, and hours of hard work and research putting this book together.

To Dr. Jessica Brown, a future gastroenterologist, for your research contributions. Wishing you good luck in your career path.

To Mark Brudnak, Ph.D, for being a great technical editor . . . and for keeping me in line, and to the Wiley “For Dummies” team, including CC, Tracy, Kim, and Meg.

To my nephews, Dr. Karthik Challa, Dr. Abishek Challa, Dr. Nitin Chandra Pendyala, and med school students Rudra Pampati, Abhinay Challa, Vinayak Pampati, and Abhiram Challa.

To aspiring physicians, undergraduate student Ms. Stephanie Downes and high school students Sahil Rattan, Nitish S. Chimalakonda, and Aparna Dasaraju, for helping to research.

To Cori and Quintin for playing devil’s advocate on this project. To Julie Drick for transcribing many, many tapes over the last 14 months.

To all my staff at Kansas Medical Clinic and the Endoscopy Center of Topeka for re-orienting me when I was going crazy juggling work and this project.

Publisher's Acknowledgments

We're proud of this book; please send us your comments at <http://dummies.custhelp.com>. For other comments, please contact our Customer Care Department within the U.S. at 877-762-2974, outside the U.S. at 317-572-3993, or fax 317-572-4002.

Some of the people who helped bring this book to market include the following:

Acquisitions, Editorial, and Vertical Websites

Editor: CC Powell

Acquisitions Editor: Tracy Boggier

Assistant Editor: David Lutton

Editorial Program Coordinator:
Joe Niesen

Technical Editor: Mark Brudnak, Ph.D.

Nutrition Analyst: Patty Santelli

Senior Editorial Manager:
Jennifer Ehrlich

Editorial Manager: Carmen Krikorian

Editorial Assistant: Alexa Koschier

Art Coordinator: Alicia B. South

Cover Photos: Front: © iStockphoto.com / Sebastian Kaulitzki
Back: © iStockphoto.com / Carolyn Woodcock

Cartoons: Rich Tennant (www.the5thwave.com)

Composition Services

Project Coordinator: Nikki Gee

Layout and Graphics: Melanee Habig,
Joyce Haughey, Corrie Niehaus

Proofreader: John Greenough

Indexer: Slivoskey Indexing Services

Illustrator: Kathryn Born

Publishing and Editorial for Consumer Dummies

Kathleen Nebenhaus, Vice President and Executive Publisher

Kristin Ferguson-Wagstaffe, Product Development Director

Ensley Eikenburg, Associate Publisher, Travel

Kelly Regan, Editorial Director, Travel

Publishing for Technology Dummies

Andy Cummings, Vice President and Publisher

Composition Services

Debbie Stailey, Director of Composition Services

Contents at a Glance

.....

<i>Introduction</i>	1
<i>Part I: Living in the Microbial World</i>	7
Chapter 1: Getting a Handle on the True Nature of Bacteria.....	9
Chapter 2: Looking at Bacterial Behavior in Your Body	19
Chapter 3: Discovering Prebiotics and Probiotics	31
<i>Part II: Preserving and Improving</i>	
<i>Health with Probiotics</i>	45
Chapter 4: Starting with the Obvious: Digestive Health.....	47
Chapter 5: Exploring Allergies and Probiotics	65
Chapter 6: Getting to the Bottom of Urinary Infections	75
Chapter 7: Using Probiotics in Women’s Health	81
Chapter 8: Understanding Children’s Health and Probiotics	87
Chapter 9: Applying Probiotics to Other Health Issues	93
Chapter 10: Exploring the Promise of Probiotics.....	105
<i>Part III: Adding Probiotics to Your Lifestyle</i>	113
Chapter 11: Filling Your Diet with Probiotics	115
Chapter 12: Cooking Up Delicious Probiotic-Rich Meals	125
<i>Part IV: The Part of Tens</i>	153
Chapter 13: Ten (Or So) Ways Probiotics Promote Good Health	155
Chapter 14: Ten Misconceptions about Probiotics	161
Chapter 15: Ten (Or So) Famous Bacteria	167
<i>Index</i>	175

Contents

.....

***Introduction*..... 1**

About This Book	1
Conventions Used in This Book	2
What You're Not to Read	2
Foolish Assumptions	3
How This Book Is Organized	3
Part I: Living in the Microbial World	3
Part II: Preserving and Improving Health with Probiotics	4
Part III: Adding Probiotics to Your Lifestyle	4
Part IV: The Part of Tens.....	4
Icons Used in This Book.....	4
Where to Go from Here	5

***Part I: Living in the Microbial World*..... 7**

Chapter 1: Getting a Handle on the True Nature of Bacteria 9

Exploring the History of Bacteria Theories and Practices	10
Understanding germ theory	11
Discovering probiotics' benefits.....	12
Looking at Bacteria and the Brain	14
Controlling Mood and Anxiety	15
Stressing out your immune system.....	16
Exploring the brain-bacteria link.....	16
Changing behavior by changing gut bacteria	17

Chapter 2: Looking at Bacterial Behavior in Your Body..... 19

Exploring Your Digestive System	20
Understanding Good and Bad Bacteria.....	22
Keeping the proper bacterial balance.....	23
Seeing how good bacteria work.....	24
Beating back bad bacteria.....	25
Considering the Digestive System's Immune Functions	26
Controlling inflammation.....	26

Gut barrier: Excluding and eliminating harmful elements	27
Discovering How Things Can Go Wrong	27
Pointing fingers at environmental factors	29
Age and gut microbiota.....	29

Chapter 3: Discovering Prebiotics and Probiotics31

Defining the Terms: What Prebiotics and Probiotics Are... ..	32
Looking at the Role of Prebiotics	32
Understanding what prebiotics are.....	32
How prebiotics work	33
Understanding the Functions of Probiotics.....	34
Boosting the immune system.....	34
Protecting the gut's lining	35
Improving digestive health.....	36
Promoting general health and wellbeing.....	37
Seeing How Prebiotics and Probiotics Work Together	37
Understanding why your body needs fiber.....	38
Looking at synbiotics	39
Exploring the Ideal Probiotic	39
Considering genus, species, and strain	40
Combating gastric acidity.....	41
Sticking to it: Adherence and persistence.....	41
Manufacturing processes and storage methods	42
Looking at labeling standards	43
What to Expect When You Start Taking Probiotics.....	43

Part II: Preserving and Improving Health with Probiotics..... 45

Chapter 4: Starting with the Obvious: Digestive Health47

Considering the Use of Antibiotics	48
Understanding how antibiotics work.....	48
Exploring antibiotics	48
Following the evolution of antibiotics	49
Looking at the dark side of antibiotics	49
Doing the Potty Dance: Probiotics and Diarrhea.....	50
Fighting an epidemic: C. difficile diarrhea.....	51
Looking at standard medical treatments	53
Using probiotics for C. difficile diarrhea.....	53
Looking at other types of diarrhea.....	54
Gastroenteritis	54
Traveler's diarrhea.....	55

Understanding Inflammatory Bowel Disease (IBD)	56
Ulcerative colitis and Crohn’s disease.....	56
Exploring symptoms, signs, diagnosis, and treatment.....	57
Seeing how probiotics can help.....	57
Discovering the Mechanisms of Irritable Bowel Syndrome	58
Defining IBS.....	58
Diagnosing IBS.....	58
Looking at bacterial overgrowth in the small intestine	59
Adding probiotics to the IBS mix.....	60
Looking at Other Gastrointestinal Disorders	61
Celiac disease.....	62
Peptic ulcers.....	62
Colon Cancer	62
Lactose intolerance	63
Chapter 5: Exploring Allergies and Probiotics	65
Understanding the Causes of Allergic Reactions.....	66
Looking at Asthma and Respiratory Allergies.....	68
Seeing what happens with asthma	68
Nothing to sneeze at: Hay fever	69
Using probiotics to promote respiratory health	70
Tackling Eczema.....	70
Chewing on Food Allergies	71
Chapter 6: Getting to the Bottom of Urinary Infections.	75
Understanding Your Urinary System	75
Looking at infections	77
Treating UTIs.....	78
Bringing Probiotics to the Fight	79
Chapter 7: Using Probiotics in Women’s Health	81
Probiotics and Pregnancy.....	81
Rebalancing mom’s digestive system	82
Gaining weight after birth.....	83
Giving baby’s health a boost	83
Using Probiotics in Urogenital Infections	84
Battling bacterial vaginosis	85
Tamping down yeast infections	85
Squelching urinary tract infections.....	86

Chapter 8: Understanding Children's Health and Probiotics	87
Looking at Infants' Special Needs	88
Battling Acute Pediatric Diarrhea	89
Keeping Children Well.....	90
Breathing easy: Asthma and probiotics.....	91
Autism and probiotics.....	92
Childhood obesity	92
Chapter 9: Applying Probiotics to Other Health Issues	93
Exploring Cancer Prevention.....	93
Understanding current cancer theory	94
Seeing how probiotics may prevent cancer.....	95
Combating colon cancer.....	95
Considering bladder cancer.....	96
Treating cervical cancer	96
Slowing down lung cancer	97
Treating Heart Disease.....	97
Lowering blood pressure.....	97
Keeping cholesterol in balance.....	98
Using Probiotics in Fighting Kidney and Liver Disease	98
Breaking down kidney stones	98
Improving liver function	99
Promoting Immune Function.....	100
Diabetes	101
Rheumatoid arthritis.....	102
Managing Weight.....	102
Chapter 10: Exploring the Promise of Probiotics. . . .	105
Exploring More Gastrointestinal Uses for Probiotics	106
Routine use with antibiotics.....	106
Probiotics, prebiotics, and vitamins	107
Foreign travel	107
Suppositories	108
Infant formulas	108
Checking out Other Uses for Probiotics	108
Tampons and douches	109
Oral health: Lozenges, mints, gum, and toothpaste	109
Skin care.....	110
Straws and bottle caps.....	110
Treating anxiety	111

Weight management..... 111
 Aging and wellbeing 112

Part III: Adding Probiotics to Your Lifestyle..... 113

Chapter 11: Filling Your Diet with Probiotics..... 115

Identifying Probiotic-rich Foods 115
 Going dairy: Yogurt, kefir, and other
 dairy products 117
 Finding fermentation: Sauerkraut, miso, pickles,
 and more 118
 Finding Prebiotic-Rich Foods 119
 Supplementing Your Diet 119
 Understanding how probiotics are made 120
 Choosing a probiotic supplement 121
 Deciding on the right dose 122
 Looking at contraindications 122
 Using Probiotic Snacks and Drinks 123
 Looking at Other Probiotic Products 124

**Chapter 12: Cooking Up Delicious
 Probiotic-Rich Meals..... 125**

Fermenting with Whey: Sweet Potato Fly 126
 Vinagre de Piña (Mexican Pineapple Vinegar)..... 127
 Kimchi 128
 Sauerkraut..... 129
 Fermented Almond Hummus..... 130
 Butternut Squash and Potato Mash Recipe..... 131
 Claire’s Classy Carrots Recipe 132
 Raita..... 133
 Another Delicious Cultured Veggie Recipe..... 134
 Sweet Whipped Cream Recipe 136
 Basil Vveggie Stew Recipe 137
 EZ Traditional Miso Soup..... 138
 Dill-icious Cultured Beet Salad 139
 Green Bean Salad Recipe 140
 Summer Spaghetti Salad 141
 Purple & Green Cabbage Salad with Sweet &
 Sour Tempeh 142
 Body Ecology Turkey Loaf..... 143
 Chicken Breasts Roasted in Fresh Garden Herbs 144
 Red Bell Peppers Stuffed..... 145
 Stuffed Zucchini Boats 146
 Tempeh Cubes with Ginger Vegetables 147

Grilled Gruyere Sandwich with Sauerkraut	148
Delicious Tart Lemony Parfait with Whipped Cream.....	149
Key Lime Ice Cream	150
Lemon Cherry Yogurt Parfait	151
Triple Berry Sorbet.....	152

Part IV: The Part of Tens..... 153

Chapter 13: Ten (Or So) Ways Probiotics Promote Good Health 155

Replenishing Good Bacteria in the Gut	156
Crowding Out Bad Bacteria	156
Enhancing Your Immune System	156
Preventing Allergies.....	157
Eliminating Yeast Infections	157
Producing Essential Vitamins.....	158
Strengthening Natural Defenses.....	158
Preventing Antibiotic-Related Diarrhea	158
Reducing Constipation, Bloating, and Diarrhea.....	159

Chapter 14: Ten Misconceptions about Probiotics . . . 161

All Bacteria Are Bad for You.....	161
A Yogurt a Day Keeps the Doctor Away.....	162
The United States Leads the World in Probiotic Use and Education	162
The Number of Strains in Probiotic Supplements Doesn't Matter	163
All Probiotic Supplements Are the Same	163
Prebiotics Are an Inessential Extra.....	164
You Can't Take Probiotics with Antibiotics	164
Traveler's Diarrhea Is an Unavoidable Part of Overseas Travel	164
Probiotics May Not Be Safe for Some People.....	165
Probiotics Don't Help the Immune System.....	165

Chapter 15: Ten (Or So) Famous Bacteria 167

Bifidobacteria (Good).....	167
B. animalis	168
B. breve	168
B. lactis	169
B. longum.....	169
Clostridium Difficile (Bad and Ugly).....	170
Escherichia Coli (Bad).....	170

Helicobacter Pylori (Bad) 171
Lactobacillus (Good)..... 171
L. Acidophilus (Good) 172
Salmonella (Bad)..... 172
Shigella (Bad) 173

Index..... 175

Foreword

.....

A medical historian of the future looking back at medical progress may well highlight the discovery of antibiotics as the great medical breakthrough of the 20th century; when that same historian looks back at the 21st century he or she may well come to recognize it as the era when the bugs fought back! What I am referring to is the *microbiome revolution*: the very exciting and ever-increasing knowledge being accumulated on how certain bacteria are a normal and, indeed, essential component of the human body. Bacteria contribute to our growth, development, and health to such an extent that some have come to refer to the microbiome (the collection of bugs in our gut) as the “hidden” or “ignored” organ.

As medical science, aided by rapid advances in technology, comes to recognize the true size and diversity of this microbiome and appreciate how it participates actively in such essential bodily functions as immunity and metabolism, the possibility that approaches that change the microbiota may be useful in treating disease has emerged. Indeed, the concept of giving “good” bacteria to alleviate common complaints as well as prevent or treat illness is not a new one, but has been practiced by communities around the world for centuries.

A number of approaches can be taken to impacting the bacteria in the gut; the first, of course, is by using antibiotics. This occurs inadvertently every time we take an antibiotic by mouth to treat a chest or urinary infection, for example, when the very same antibiotic that zaps the bad bug also suppresses the good bacteria in the gut, albeit transiently. This is a blunderbuss strategy; much subtler is the approach that aims to selectively increase the numbers of certain good bacteria by either administering them directly (as a probiotic supplement) or attempting to promote their growth by giving specific foods (prebiotics) that achieve this.

While the science behind probiotics is now considerable, the consumer who goes into a store seeking help continues to face many challenges. When should I consider a probiotic? What one should I take? Does a given product contain what it claims? Does it really work? What is the best way to take it? When

attempting to answer these questions, the consumer is confronted by much hype — unsupported claims presented as sound evidence. Until regulatory processes are put in place which assist the consumer and the health care professional in choosing the right probiotic for a given problem, confusion will be inevitable. This is where this book by Dr. Challa — an eminent clinician and expert in gastrointestinal disorders and the field of probiotics — steps in by providing an accessible, critical, yet practical guide to the perplexing topic of probiotics.

In this book he provides a very helpful background to probiotics in general and then takes the reader on a journey through the many areas in medicine and health where probiotics may have a place, concluding with helpful hints on the use of probiotics in daily life. His discussion of each area of potential use of a probiotic is set clearly in the context of a specific clinical problem, the rationale for the use of a probiotic is presented, and the merits and shortcomings of probiotic therapy are discussed. What emerges is a balanced and eminently readable book that should be of value to all those who wish to learn more about this exciting topic.

Dr. Eamonn M. M. Quigley,
Professor of Medicine and Human Physiology,
Alimentary Pharmabiotic Centre,
University College Cork, Ireland

Introduction



Most people have experienced occasional digestive trouble — diarrhea, constipation, and so on. Between 15 million and 30 million Americans suffer from *irritable bowel syndrome* (see Chapter 2), and many millions more are affected by a range of other digestive disorders. For many years, such people either got by with no treatment at all or used prescription and over-the-counter medications that, too often, either didn't work or didn't work well enough.

Fortunately, researchers now understand much more about how your body's digestive system actually works. As it turns out, your intestines are populated by hundreds of different kinds of bacteria — some of which cause problems, but most of which are *good* bacteria, keeping the bad guys under control and performing vital functions for your immune system and overall health.

As this body of knowledge has grown, so have efforts to create products that help your body keep that critical balance of good bacteria alive and thriving. *Probiotics* are good bacteria, and they're showing up more and more frequently in foods and in dietary supplements.

About This Book

This book is intended to be a handy primer on how probiotics work, why they help keep you healthy, and how they can affect certain health problems. One chapter even covers the most recent findings on the role probiotics may play in preventing or treating diseases such as colon cancer and cardiovascular disease.

Although various societies throughout history have used probiotics in one form or another (more on this in Chapter 1), their use in the United States is relatively recent, and reliable, easy-to-understand information about probiotics can be hard to come by.

This book is designed to help fill the need for good information about probiotics and to answer basic questions about how they may benefit you.

In some cases, the research about probiotics is promising but incomplete. I explain the promise and the possibilities, but when those promises and possibilities aren't yet proven, I caution that more research is needed.

Conventions Used in This Book

For the sake of consistency and readability, I use the following conventions throughout the text:

- ✓ Technical terms appear in *italics*, with a plain-English definition or explanation nearby.
- ✓ Keywords in bulleted lists and the action part of numbered steps are in **bold**.

When this book was printed, some Web addresses may have been split into two lines of text. If that happened, rest assured that I haven't inserted any extra characters (such as hyphens) to indicate the break. So, when using one of these Web addresses, just type exactly what you see in this book as though the line break doesn't exist.

What You're Not to Read

Occasionally, you'll see sidebars — shaded boxes of text that go into detail on a particular topic. You don't have to read them if you're not interested; skipping them won't hamper your understanding the rest of the text.

You also can skip any information next to the Technical Stuff icon. I explain most technical information in simple language and reserve the Technical Stuff icon for details that are interesting but not crucial to understanding the topic.

sample content of Probiotics For Dummies

- [download online *Biosecurity and Bioterrorism: Containing and Preventing Biological Threats* \(Butterworth-Heinemann Homeland Security Series\)](#)
- [read A Theory of Adaptation online](#)
- [download Bad Intentions pdf, azw \(kindle\), epub](#)
- [click Writing for Video Game Genres: From FPS to RPG for free](#)

- <http://honareavalmusic.com/?books/Bhri-gu-Samhita--Predictive-Techniques-Deciphered.pdf>
- <http://aneventshop.com/ebooks/Handbook-of-Psychological-Assessment--5th-Edition-.pdf>
- <http://interactmg.com/ebooks/Between-the-Woods-and-the-Water--On-Foot-to-Constantinople--From-The-Middle-Danube-to-the-Iron-Gates.pdf>
- <http://www.satilik-kopek.com/library/Writing-for-Video-Game-Genres--From-FPS-to-RPG.pdf>