

THE 2002 OFFICIAL  
PATIENT'S SOURCEBOOK  
*on*

IRRITABLE  
BOWEL  
SYNDROME



JAMES N. PARKER, M.D.  
AND PHILIP M. PARKER, PH.D., EDITORS

---

ICON Health Publications  
 ICON Group International, Inc.  
 4370 La Jolla Village Drive, 4th Floor  
 San Diego, CA 92122 USA

Copyright ©2002 by ICON Group International, Inc.

Copyright ©2002 by ICON Group International, Inc. All rights reserved. This book is protected by copyright. No part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without written permission from the publisher.

Printed in the United States of America.

Last digit indicates print number: 10 9 8 7 6 4 5 3 2 1

Publisher, Health Care: Tiffany LaRochelle  
 Editor(s): James Parker, M.D., Philip Parker, Ph.D.

**Publisher's note: The ideas, procedures, and suggestions contained in this book are not intended as a substitute for consultation with your physician. All matters regarding your health require medical supervision.** As new medical or scientific information becomes available from academic and clinical research, recommended treatments and drug therapies may undergo changes. The authors, editors, and publisher have attempted to make the information in this book up to date and accurate in accord with accepted standards at the time of publication. The authors, editors, and publisher are not responsible for errors or omissions or for consequences from application of the book, and make no warranty, expressed or implied, in regard to the contents of this book. Any practice described in this book should be applied by the reader in accordance with professional standards of care used in regard to the unique circumstances that may apply in each situation, in close consultation with a qualified physician. The reader is advised to always check product information (package inserts) for changes and new information regarding dose and contraindications before taking any drug or pharmacological product. Caution is especially urged when using new or infrequently ordered drugs, herbal remedies, vitamins and supplements, alternative therapies, complementary therapies and medicines, and integrative medical treatments.

#### Cataloging-in-Publication Data

Parker, James N., 1961-  
 Parker, Philip M., 1960-

The 2002 Official Patient's Sourcebook on Irritable Bowel Syndrome: A Revised and Updated Directory for the Internet Age/James N. Parker and Philip M. Parker, editors

p. cm.

Includes bibliographical references, glossary and index.

ISBN: 0-597-83396-6

1. Irritable Bowel Syndrome-Popular works. I. Title.

## Disclaimer

This publication is not intended to be used for the diagnosis or treatment of a health problem or as a substitute for consultation with licensed medical professionals. It is sold with the understanding that the publisher, editors, and authors are not engaging in the rendering of medical, psychological, financial, legal, or other professional services.

References to any entity, product, service, or source of information that may be contained in this publication should not be considered an endorsement, either direct or implied, by the publisher, editors or authors. ICON Group International, Inc., the editors, or the authors are not responsible for the content of any Web pages nor publications referenced in this publication.

## Copyright Notice

If a physician wishes to copy limited passages from this sourcebook for patient use, this right is automatically granted without written permission from ICON Group International, Inc. (ICON Group). However, all of ICON Group publications are copyrighted. With exception to the above, copying our publications in whole or in part, for whatever reason, is a violation of copyright laws and can lead to penalties and fines. Should you want to copy tables, graphs or other materials, please contact us to request permission (e-mail: [iconedit@san.rr.com](mailto:iconedit@san.rr.com)). ICON Group often grants permission for very limited reproduction of our publications for internal use, press releases, and academic research. Such reproduction requires confirmed permission from ICON Group International Inc. **The disclaimer above must accompany all reproductions, in whole or in part, of this sourcebook.**

## Dedication

To the healthcare professionals dedicating their time and efforts to the study of irritable bowel syndrome.

## Acknowledgements

The collective knowledge generated from academic and applied research summarized in various references has been critical in the creation of this sourcebook which is best viewed as a comprehensive compilation and collection of information prepared by various official agencies which directly or indirectly are dedicated to irritable bowel syndrome. All of the *Official Patient's Sourcebooks* draw from various agencies and institutions associated with the United States Department of Health and Human Services, and in particular, the Office of the Secretary of Health and Human Services (OS), the Administration for Children and Families (ACF), the Administration on Aging (AOA), the Agency for Healthcare Research and Quality (AHRQ), the Agency for Toxic Substances and Disease Registry (ATSDR), the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), the Healthcare Financing Administration (HCFA), the Health Resources and Services Administration (HRSA), the Indian Health Service (IHS), the institutions of the National Institutes of Health (NIH), the Program Support Center (PSC), and the Substance Abuse and Mental Health Services Administration (SAMHSA). In addition to these sources, information gathered from the National Library of Medicine, the United States Patent Office, the European Union, and their related organizations has been invaluable in the creation of this sourcebook. Some of the work represented was financially supported by the Research and Development Committee at INSEAD. This support is gratefully acknowledged. Finally, special thanks are owed to Tiffany LaRochelle for her excellent editorial support.

## About the Editors

### **James N. Parker, M.D.**

Dr. James N. Parker received his Bachelor of Science degree in Psychobiology from the University of California, Riverside and his M.D. from the University of California, San Diego. In addition to authoring numerous research publications, he has lectured at various academic institutions. Dr. Parker is the medical editor for the *Official Patient's Sourcebook* series published by ICON Health Publications.

### **Philip M. Parker, Ph.D.**

Philip M. Parker is the Eli Lilly Chair Professor of Innovation, Business and Society at INSEAD (Fontainebleau, France and Singapore). Dr. Parker has also been Professor at the University of California, San Diego and has taught courses at Harvard University, the Hong Kong University of Science and Technology, the Massachusetts Institute of Technology, Stanford University, and UCLA. Dr. Parker is the associate editor for the *Official Patient's Sourcebook* series published by ICON Health Publications.

## About ICON Health Publications

In addition to irritable bowel syndrome, *Official Patient's Sourcebooks* are available for the following related topics:

- The Official Patient's Sourcebook on Appendicitis
- The Official Patient's Sourcebook on Autoimmune Hepatitis
- The Official Patient's Sourcebook on Bacteria and Foorborne Illness
- The Official Patient's Sourcebook on Barrett's Esophagus
- The Official Patient's Sourcebook on Celiac Disease
- The Official Patient's Sourcebook on Cirrhosis of the Liver
- The Official Patient's Sourcebook on Constipation
- The Official Patient's Sourcebook on Crohn Disease
- The Official Patient's Sourcebook on Cyclic Vomiting Syndrome
- The Official Patient's Sourcebook on Diarrhea
- The Official Patient's Sourcebook on Diverticular Disease
- The Official Patient's Sourcebook on Fecal Incontinence
- The Official Patient's Sourcebook on Gallstones
- The Official Patient's Sourcebook on Gas
- The Official Patient's Sourcebook on Gastritis
- The Official Patient's Sourcebook on Gastroparesis
- The Official Patient's Sourcebook on Hemolytic Uremic Syndrome
- The Official Patient's Sourcebook on Hemorrhoids
- The Official Patient's Sourcebook on Hepatitis A
- The Official Patient's Sourcebook on Hepatitis B
- The Official Patient's Sourcebook on Hepatitis C
- The Official Patient's Sourcebook on Hiatal Hernia
- The Official Patient's Sourcebook on Hirschsprung
- The Official Patient's Sourcebook on Indigestion
- The Official Patient's Sourcebook on Inguinal Hernia
- The Official Patient's Sourcebook on Intestinal Pseudo-obstruction
- The Official Patient's Sourcebook on Lactose Intolerance
- The Official Patient's Sourcebook on Ménétrier
- The Official Patient's Sourcebook on Pancreatitis
- The Official Patient's Sourcebook on Peptic Ulcer
- The Official Patient's Sourcebook on Porphyrria
- The Official Patient's Sourcebook on Primary Biliary Cirrhosis
- The Official Patient's Sourcebook on Primary Sclerosing Cholangitis
- The Official Patient's Sourcebook on Proctitis
- The Official Patient's Sourcebook on Rapid Gastric Emptying

- The Official Patient's Sourcebook on Short Bowel Syndrome
- The Official Patient's Sourcebook on Ulcerative Colitis
- The Official Patient's Sourcebook on Whipple Disease
- The Official Patient's Sourcebook on Wilson's Disease
- The Official Patient's Sourcebook on Zollinger-ellison Syndrome

To discover more about ICON Health Publications, simply check with your preferred online booksellers, including Barnes & Noble.com and Amazon.com which currently carry all of our titles. Or, feel free to contact us directly for bulk purchases or institutional discounts:

ICON Group International, Inc.  
4370 La Jolla Village Drive, Fourth Floor  
San Diego, CA 92122 USA  
Fax: 858-546-4341  
Web site: [www.icongrouponline.com/health](http://www.icongrouponline.com/health)





# Table of Contents

INTRODUCTION.....	1
<i>Overview</i> .....	1
<i>Organization</i> .....	3
<i>Scope</i> .....	3
<i>Moving Forward</i> .....	5
<b>PART I: THE ESSENTIALS .....</b>	<b>7</b>
CHAPTER 1. THE ESSENTIALS ON IRRITABLE BOWEL SYNDROME:	
GUIDELINES .....	9
<i>Overview</i> .....	9
<i>What Is Irritable Bowel Syndrome?</i> .....	11
<i>What Causes IBS?</i> .....	11
<i>What Are the Symptoms of IBS?</i> .....	13
<i>How Is IBS Diagnosed?</i> .....	13
<i>How Do Diet and Stress Affect IBS?</i> .....	13
<i>How Does a Good Diet Help IBS?</i> .....	14
<i>Can Medicines Relieve IBS Symptoms?</i> .....	15
<i>Is IBS Linked to Other Diseases?</i> .....	15
<i>More Guideline Sources</i> .....	15
<i>Vocabulary Builder</i> .....	27
CHAPTER 2. SEEKING GUIDANCE .....	31
<i>Overview</i> .....	31
<i>Associations and Irritable Bowel Syndrome</i> .....	31
<i>Finding More Associations</i> .....	36
<i>Finding Doctors</i> .....	38
<i>Selecting Your Doctor</i> .....	39
<i>Working with Your Doctor</i> .....	40
<i>Broader Health-Related Resources</i> .....	41
<i>Vocabulary Builder</i> .....	42
CHAPTER 3. CLINICAL TRIALS AND IRRITABLE BOWEL SYNDROME..	43
<i>Overview</i> .....	43
<i>Recent Trials on Irritable Bowel Syndrome</i> .....	46
<i>Benefits and Risks</i> .....	47
<i>Keeping Current on Clinical Trials</i> .....	50
<i>General References</i> .....	51
<i>Vocabulary Builder</i> .....	52
<b>PART II: ADDITIONAL RESOURCES AND</b>	
<b>ADVANCED MATERIAL.....</b>	<b>53</b>
CHAPTER 4. STUDIES ON IRRITABLE BOWEL SYNDROME .....	55
<i>Overview</i> .....	55

<i>The Combined Health Information Database .....</i>	55
<i>Federally-Funded Research on Irritable Bowel Syndrome .....</i>	66
<i>E-Journals: PubMed Central .....</i>	79
<i>The National Library of Medicine: PubMed .....</i>	80
<i>Vocabulary Builder .....</i>	89
<b>CHAPTER 5. PATENTS ON IRRITABLE BOWEL SYNDROME .....</b>	<b>95</b>
<i>Overview .....</i>	95
<i>Patents on Irritable Bowel Syndrome .....</i>	96
<i>Patent Applications on Irritable Bowel Syndrome .....</i>	103
<i>Keeping Current .....</i>	108
<i>Vocabulary Builder .....</i>	108
<b>CHAPTER 6. BOOKS ON IRRITABLE BOWEL SYNDROME .....</b>	<b>111</b>
<i>Overview .....</i>	111
<i>Book Summaries: Federal Agencies .....</i>	111
<i>Book Summaries: Online Booksellers .....</i>	116
<i>The National Library of Medicine Book Index .....</i>	120
<i>Chapters on Irritable Bowel Syndrome .....</i>	124
<i>Directories .....</i>	135
<i>General Home References .....</i>	136
<i>Vocabulary Builder .....</i>	137
<b>CHAPTER 7. MULTIMEDIA ON IRRITABLE BOWEL SYNDROME .....</b>	<b>141</b>
<i>Overview .....</i>	141
<i>Video Recordings .....</i>	141
<i>Audio Recordings .....</i>	145
<i>Bibliography: Multimedia on Irritable Bowel Syndrome .....</i>	145
<i>Vocabulary Builder .....</i>	148
<b>CHAPTER 8. PERIODICALS AND NEWS ON IRRITABLE BOWEL SYNDROME .....</b>	<b>151</b>
<i>Overview .....</i>	151
<i>News Services &amp; Press Releases .....</i>	151
<i>Newsletters on Irritable Bowel Syndrome .....</i>	156
<i>Newsletter Articles .....</i>	157
<i>Academic Periodicals covering Irritable Bowel Syndrome .....</i>	164
<i>Vocabulary Builder .....</i>	166
<b>CHAPTER 9. PHYSICIAN GUIDELINES AND DATABASES .....</b>	<b>169</b>
<i>Overview .....</i>	169
<i>NIH Guidelines .....</i>	169
<i>NIH Databases .....</i>	170
<i>Other Commercial Databases .....</i>	179
<i>Specialized References .....</i>	179
<i>Vocabulary Builder .....</i>	180
<b>CHAPTER 10. DISSERTATIONS ON IRRITABLE BOWEL SYNDROME ...</b>	<b>181</b>
<i>Overview .....</i>	181

<i>Dissertations on Irritable Bowel Syndrome .....</i>	181
<i>Keeping Current .....</i>	182
<b>PART III. APPENDICES .....</b>	<b>183</b>
<b>APPENDIX A. RESEARCHING YOUR MEDICATIONS.....</b>	<b>185</b>
<i>Overview.....</i>	185
<i>Your Medications: The Basics .....</i>	186
<i>Learning More about Your Medications .....</i>	188
<i>Commercial Databases.....</i>	189
<i>Contraindications and Interactions (Hidden Dangers) .....</i>	191
<i>A Final Warning .....</i>	192
<i>General References.....</i>	193
<i>Vocabulary Builder.....</i>	193
<b>APPENDIX B. RESEARCHING ALTERNATIVE MEDICINE .....</b>	<b>195</b>
<i>Overview.....</i>	195
<i>What Is CAM? .....</i>	195
<i>What Are the Domains of Alternative Medicine?.....</i>	196
<i>Can Alternatives Affect My Treatment? .....</i>	199
<i>Finding CAM References on Irritable Bowel Syndrome.....</i>	200
<i>Additional Web Resources.....</i>	211
<i>General References.....</i>	232
<b>APPENDIX C. RESEARCHING NUTRITION .....</b>	<b>233</b>
<i>Overview.....</i>	233
<i>Food and Nutrition: General Principles.....</i>	234
<i>Finding Studies on Irritable Bowel Syndrome .....</i>	238
<i>Federal Resources on Nutrition.....</i>	243
<i>Additional Web Resources.....</i>	244
<i>Vocabulary Builder.....</i>	254
<b>APPENDIX D. FINDING MEDICAL LIBRARIES.....</b>	<b>257</b>
<i>Overview.....</i>	257
<i>Preparation .....</i>	257
<i>Finding a Local Medical Library .....</i>	258
<i>Medical Libraries Open to the Public.....</i>	258
<b>APPENDIX E. MORE ON IRRITABLE BOWEL SYNDROME.....</b>	<b>265</b>
<i>Overview.....</i>	265
<i>Children with IBS.....</i>	265
<i>For More Information .....</i>	266
<i>Additional Information on Irritable Bowel Syndrome .....</i>	266
<b>ONLINE GLOSSARIES.....</b>	<b>269</b>
<i>Online Dictionary Directories.....</i>	273
<b>IRRITABLE BOWEL SYNDROME GLOSSARY .....</b>	<b>275</b>

<i>General Dictionaries and Glossaries .....</i>	<i>293</i>
<b>INDEX.....</b>	<b>295</b>

## INTRODUCTION

### Overview

Dr. C. Everett Koop, former U.S. Surgeon General, once said, “The best prescription is knowledge.”<sup>1</sup> The Agency for Healthcare Research and Quality (AHRQ) of the National Institutes of Health (NIH) echoes this view and recommends that every patient incorporate education into the treatment process. According to the AHRQ:

Finding out more about your condition is a good place to start. By contacting groups that support your condition, visiting your local library, and searching on the Internet, you can find good information to help guide your treatment decisions. Some information may be hard to find—especially if you don’t know where to look.<sup>2</sup>

As the AHRQ mentions, finding the right information is not an obvious task. Though many physicians and public officials had thought that the emergence of the Internet would do much to assist patients in obtaining reliable information, in March 2001 the National Institutes of Health issued the following warning:

The number of Web sites offering health-related resources grows every day. Many sites provide valuable information, while others may have information that is unreliable or misleading.<sup>3</sup>

---

<sup>1</sup> Quotation from <http://www.drkoop.com>.

<sup>2</sup> The Agency for Healthcare Research and Quality (AHRQ):  
<http://www.ahrq.gov/consumer/diaginfo.htm>.

<sup>3</sup> From the NIH, National Cancer Institute (NCI):  
<http://cancertrials.nci.nih.gov/beyond/evaluating.html>.

Since the late 1990s, physicians have seen a general increase in patient Internet usage rates. Patients frequently enter their doctor's offices with printed Web pages of home remedies in the guise of latest medical research. This scenario is so common that doctors often spend more time dispelling misleading information than guiding patients through sound therapies. *The 2002 Official Patient's Sourcebook on Irritable Bowel Syndrome* has been created for patients who have decided to make education and research an integral part of the treatment process. The pages that follow will tell you where and how to look for information covering virtually all topics related to irritable bowel syndrome, from the essentials to the most advanced areas of research.

The title of this book includes the word "official." This reflects the fact that the sourcebook draws from public, academic, government, and peer-reviewed research. Selected readings from various agencies are reproduced to give you some of the latest official information available to date on irritable bowel syndrome.

Given patients' increasing sophistication in using the Internet, abundant references to reliable Internet-based resources are provided throughout this sourcebook. Where possible, guidance is provided on how to obtain free-of-charge, primary research results as well as more detailed information via the Internet. E-book and electronic versions of this sourcebook are fully interactive with each of the Internet sites mentioned (clicking on a hyperlink automatically opens your browser to the site indicated). Hard copy users of this sourcebook can type cited Web addresses directly into their browsers to obtain access to the corresponding sites. Since we are working with ICON Health Publications, hard copy *Sourcebooks* are frequently updated and printed on demand to ensure that the information provided is current.

In addition to extensive references accessible via the Internet, every chapter presents a "Vocabulary Builder." Many health guides offer glossaries of technical or uncommon terms in an appendix. In editing this sourcebook, we have decided to place a smaller glossary within each chapter that covers terms used in that chapter. Given the technical nature of some chapters, you may need to revisit many sections. Building one's vocabulary of medical terms in such a gradual manner has been shown to improve the learning process.

We must emphasize that no sourcebook on irritable bowel syndrome should affirm that a specific diagnostic procedure or treatment discussed in a research study, patent, or doctoral dissertation is "correct" or your best option. This sourcebook is no exception. Each patient is unique. Deciding on

appropriate options is always up to the patient in consultation with their physician and healthcare providers.

## Organization

This sourcebook is organized into three parts. Part I explores basic techniques to researching irritable bowel syndrome (e.g. finding guidelines on diagnosis, treatments, and prognosis), followed by a number of topics, including information on how to get in touch with organizations, associations, or other patient networks dedicated to irritable bowel syndrome. It also gives you sources of information that can help you find a doctor in your local area specializing in treating irritable bowel syndrome. Collectively, the material presented in Part I is a complete primer on basic research topics for patients with irritable bowel syndrome.

Part II moves on to advanced research dedicated to irritable bowel syndrome. Part II is intended for those willing to invest many hours of hard work and study. It is here that we direct you to the latest scientific and applied research on irritable bowel syndrome. When possible, contact names, links via the Internet, and summaries are provided. It is in Part II where the vocabulary process becomes important as authors publishing advanced research frequently use highly specialized language. In general, every attempt is made to recommend “free-to-use” options.

Part III provides appendices of useful background reading for all patients with irritable bowel syndrome or related disorders. The appendices are dedicated to more pragmatic issues faced by many patients with irritable bowel syndrome. Accessing materials via medical libraries may be the only option for some readers, so a guide is provided for finding local medical libraries which are open to the public. Part III, therefore, focuses on advice that goes beyond the biological and scientific issues facing patients with irritable bowel syndrome.

## Scope

While this sourcebook covers irritable bowel syndrome, your doctor, research publications, and specialists may refer to your condition using a variety of terms. Therefore, you should understand that irritable bowel syndrome is often considered a synonym or a condition closely related to the following:

- Adaptive Colitis
- Colonic Neurosis
- Functional Colitis
- Functional Dyspepsia
- Intestinal Neurosis
- Irritable Colon
- Irritable Colon Syndrome
- Laxative Colitis
- Mucous Colitis
- Nervous Indigestion
- Pylorospasm
- Spastic Colitis
- Unstable Colon

In addition to synonyms and related conditions, physicians may refer to irritable bowel syndrome using certain coding systems. The International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) is the most commonly used system of classification for the world's illnesses. Your physician may use this coding system as an administrative or tracking tool. The following classification is commonly used for irritable bowel syndrome:<sup>4</sup>

- 564.1 irritable bowel syndrome
- 564.1 irritable colon

For the purposes of this sourcebook, we have attempted to be as inclusive as possible, looking for official information for all of the synonyms relevant to irritable bowel syndrome. You may find it useful to refer to synonyms when accessing databases or interacting with healthcare professionals and medical librarians.

---

<sup>4</sup> This list is based on the official version of the World Health Organization's 9th Revision, International Classification of Diseases (ICD-9). According to the National Technical Information Service, "ICD-9CM extensions, interpretations, modifications, addenda, or errata other than those approved by the U.S. Public Health Service and the Health Care Financing Administration are not to be considered official and should not be utilized. Continuous maintenance of the ICD-9-CM is the responsibility of the federal government."



## Moving Forward

Since the 1980s, the world has seen a proliferation of healthcare guides covering most illnesses. Some are written by patients or their family members. These generally take a layperson's approach to understanding and coping with an illness or disorder. They can be uplifting, encouraging, and highly supportive. Other guides are authored by physicians or other healthcare providers who have a more clinical outlook. Each of these two styles of guide has its purpose and can be quite useful.

As editors, we have chosen a third route. We have chosen to expose you to as many sources of official and peer-reviewed information as practical, for the purpose of educating you about basic and advanced knowledge as recognized by medical science today. You can think of this sourcebook as your personal Internet age reference librarian.

Why "Internet age"? All too often, patients diagnosed with irritable bowel syndrome will log on to the Internet, type words into a search engine, and receive several Web site listings which are mostly irrelevant or redundant. These patients are left to wonder where the relevant information is, and how to obtain it. Since only the smallest fraction of information dealing with irritable bowel syndrome is even indexed in search engines, a non-systematic approach often leads to frustration and disappointment. With this sourcebook, we hope to direct you to the information you need that you would not likely find using popular Web directories. Beyond Web listings, in many cases we will reproduce brief summaries or abstracts of available reference materials. These abstracts often contain distilled information on topics of discussion.

While we focus on the more scientific aspects of irritable bowel syndrome, there is, of course, the emotional side to consider. Later in the sourcebook, we provide a chapter dedicated to helping you find peer groups and associations that can provide additional support beyond research produced by medical science. We hope that the choices we have made give you the most options available in moving forward. In this way, we wish you the best in your efforts to incorporate this educational approach into your treatment plan.

*The Editors*



## **PART I: THE ESSENTIALS**

### **ABOUT PART I**

Part I has been edited to give you access to what we feel are “the essentials” on irritable bowel syndrome. The essentials of a disease typically include the definition or description of the disease, a discussion of who it affects, the signs or symptoms associated with the disease, tests or diagnostic procedures that might be specific to the disease, and treatments for the disease. Your doctor or healthcare provider may have already explained the essentials of irritable bowel syndrome to you or even given you a pamphlet or brochure describing irritable bowel syndrome. Now you are searching for more in-depth information. As editors, we have decided, nevertheless, to include a discussion on where to find essential information that can complement what your doctor has already told you. In this section we recommend a process, not a particular Web site or reference book. The process ensures that, as you search the Web, you gain background information in such a way as to maximize your understanding.



## **CHAPTER 1. THE ESSENTIALS ON IRRITABLE BOWEL SYNDROME: GUIDELINES**

### **Overview**

Official agencies, as well as federally-funded institutions supported by national grants, frequently publish a variety of guidelines on irritable bowel syndrome. These are typically called “Fact Sheets” or “Guidelines.” They can take the form of a brochure, information kit, pamphlet, or flyer. Often they are only a few pages in length. The great advantage of guidelines over other sources is that they are often written with the patient in mind. Since new guidelines on irritable bowel syndrome can appear at any moment and be published by a number of sources, the best approach to finding guidelines is to systematically scan the Internet-based services that post them.

### **The National Institutes of Health (NIH)<sup>5</sup>**

The National Institutes of Health (NIH) is the first place to search for relatively current patient guidelines and fact sheets on irritable bowel syndrome. Originally founded in 1887, the NIH is one of the world’s foremost medical research centers and the federal focal point for medical research in the United States. At any given time, the NIH supports some 35,000 research grants at universities, medical schools, and other research and training institutions, both nationally and internationally. The rosters of those who have conducted research or who have received NIH support over the years include the world’s most illustrious scientists and physicians. Among them are 97 scientists who have won the Nobel Prize for achievement in medicine.

---

<sup>5</sup> Adapted from the NIH: <http://www.nih.gov/about/NIHoverview.html>.

There is no guarantee that any one Institute will have a guideline on a specific disease, though the National Institutes of Health collectively publish over 600 guidelines for both common and rare diseases. The best way to access NIH guidelines is via the Internet. Although the NIH is organized into many different Institutes and Offices, the following is a list of key Web sites where you are most likely to find NIH clinical guidelines and publications dealing with irritable bowel syndrome and associated conditions:

- Office of the Director (OD); guidelines consolidated across agencies available at <http://www.nih.gov/health/consumer/conkey.htm>
- National Library of Medicine (NLM); extensive encyclopedia (A.D.A.M., Inc.) with guidelines available at <http://www.nlm.nih.gov/medlineplus/healthtopics.html>
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK); guidelines available at <http://www.niddk.nih.gov/health/health.htm>

Among these, the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) is particularly noteworthy. The NIDDK's mission is to conduct and support research on many of the most serious diseases affecting public health.<sup>6</sup> The Institute supports much of the clinical research on the diseases of internal medicine and related subspecialty fields as well as many basic science disciplines. The NIDDK's Division of Intramural Research encompasses the broad spectrum of metabolic diseases such as diabetes, inborn errors of metabolism, endocrine disorders, mineral metabolism, digestive diseases, nutrition, urology and renal disease, and hematology. Basic research studies include biochemistry, nutrition, pathology, histochemistry, chemistry, physical, chemical, and molecular biology, pharmacology, and toxicology. NIDDK extramural research is organized into divisions of program areas:

- Division of Diabetes, Endocrinology, and Metabolic Diseases
- Division of Digestive Diseases and Nutrition
- Division of Kidney, Urologic, and Hematologic Diseases

The Division of Extramural Activities provides administrative support and overall coordination. A fifth division, the Division of Nutrition Research Coordination, coordinates government nutrition research efforts. The Institute supports basic and clinical research through investigator-initiated

---

<sup>6</sup> This paragraph has been adapted from the NIDDK:

<http://www.niddk.nih.gov/welcome/mission.htm>. "Adapted" signifies that a passage is reproduced exactly or slightly edited for this book.

grants, program project and center grants, and career development and training awards. The Institute also supports research and development projects and large-scale clinical trials through contracts. The following patient guideline was recently published by the NIDDK on irritable bowel syndrome.

## **What Is Irritable Bowel Syndrome?<sup>7</sup>**

Irritable bowel syndrome (IBS) is a common disorder of the intestines that leads to crampy pain, gassiness, bloating, and changes in bowel habits. Some people with IBS have constipation (difficult or infrequent bowel movements); others have diarrhea (frequent loose stools, often with an urgent need to move the bowels); and some people experience both. Sometimes the person with IBS has a crampy urge to move the bowels but cannot do so.

Through the years, IBS has been called by many names--colitis, mucous colitis, spastic colon, spastic bowel, and functional bowel disease. Most of these terms are inaccurate. Colitis, for instance, means inflammation of the large intestine (colon). IBS, however, does not cause inflammation and should not be confused with another disorder, ulcerative colitis.

The cause of IBS is not known, and as yet there is no cure. Doctors call it a functional disorder because there is no sign of disease when the colon is examined. IBS causes a great deal of discomfort and distress, but it does not cause permanent harm to the intestines and does not lead to intestinal bleeding of the bowel or to a serious disease such as cancer. Often IBS is just a mild annoyance, but for some people it can be disabling. They may be unable to go to social events, to go out to a job, or to travel even short distances. Most people with IBS, however, are able to control their symptoms through medications prescribed by their physicians, diet, and stress management.

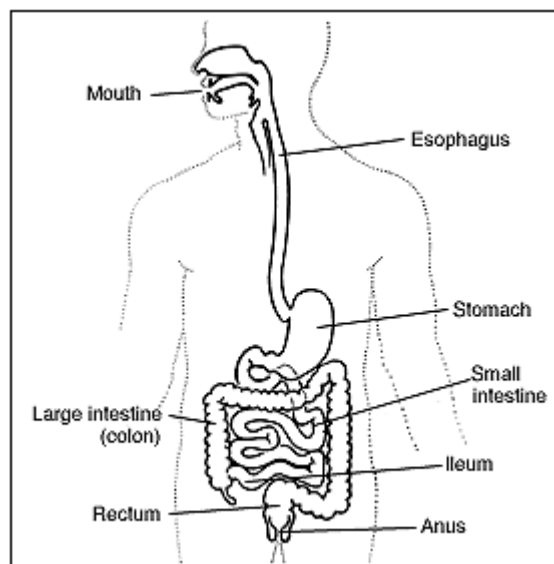
## **What Causes IBS?**

The colon, which is about 6 feet long, connects the small intestine with the rectum and anus. The major function of the colon is to absorb water and salts from digestive products that enter from the small intestine. Two quarts of

---

<sup>7</sup> Adapted from The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK): <http://www.niddk.nih.gov/health/digest/pubs/irrbowel/irrbowel.htm>.

liquid matter enter the colon from the small intestine each day. This material may remain there for several days until most of the fluid and salts are absorbed into the body. The stool then passes through the colon by a pattern of movements to the left side of the colon, where it is stored until a bowel movement occurs.



Colon motility (contraction of intestinal muscles and movement of its contents) is controlled by nerves and hormones and by electrical activity in the colon muscle. The electrical activity serves as a “pacemaker” similar to the mechanism that controls heart function.

Movements of the colon propel the contents slowly back and forth but mainly toward the rectum. A few times each day strong muscle contractions move down the colon pushing fecal material ahead of them. Some of these strong contractions result in a bowel movement.

Because doctors have been unable to find an organic cause, IBS often has been thought to be caused by emotional conflict or stress. While stress may worsen IBS symptoms, research suggests that other factors also are important. Researchers have found that the colon muscle of a person with IBS begins to spasm after only mild stimulation. The person with IBS seems to have a colon that is more sensitive and reactive than usual, so it responds strongly to stimuli that would not bother most people.

Ordinary events such as eating and distention from gas or other material in the colon can cause the colon to overreact in the person with IBS. Certain



medicines and foods may trigger spasms in some people. Sometimes the spasm delays the passage of stool, leading to constipation. Chocolate, milk products, or large amounts of alcohol are frequent offenders. Caffeine causes loose stools in many people, but it is more likely to affect those with IBS. Researchers also have found that women with IBS may have more symptoms during their menstrual periods, suggesting that reproductive hormones can increase IBS symptoms.

## **What Are the Symptoms of IBS?**

If you are concerned about IBS, it is important to realize that normal bowel function varies from person to person. Normal bowel movements range from as many as three stools a day to as few as three a week. A normal movement is one that is formed but not hard, contains no blood, and is passed without cramps or pain.

People with IBS, on the other hand, usually have crampy abdominal pain with painful constipation or diarrhea. In some people, constipation and diarrhea alternate. Sometimes people with IBS pass mucus with their bowel movements. Bleeding, fever, weight loss, and persistent severe pain are not symptoms of IBS but may indicate other problems.

## **How Is IBS Diagnosed?**

IBS usually is diagnosed after doctors exclude the presence of disease. To get to that point, the doctor will take a complete medical history that includes a careful description of symptoms. A physical examination and laboratory tests will be done. A stool sample will be tested for evidence of bleeding. The doctor also may do diagnostic procedures such as x-rays or endoscopy (viewing the colon through a flexible tube inserted through the anus) to find out if there is disease.

## **How Do Diet and Stress Affect IBS?**

The potential for abnormal function of the colon is always present in people with IBS, but a trigger also must be present to cause symptoms. The most likely culprits seem to be diet and emotional stress. Many people report that their symptoms occur following a meal or when they are under stress. No one is sure why this happens, but scientists have some clues.

Eating causes contractions of the colon. Normally, this response may cause an urge to have a bowel movement within 30 to 60 minutes after a meal. In people with IBS, the urge may come sooner with cramps and diarrhea.

The strength of the response is often related to the number of calories in a meal and especially the amount of fat in a meal. Fat in any form (animal or vegetable) is a strong stimulus of colonic contractions after a meal. Many foods contain fat, especially meats of all kinds, poultry skin, whole milk, cream, cheese, butter, vegetable oil, margarine, shortening, avocados, and whipped toppings.

Stress also stimulates colonic spasm in people with IBS. This process is not completely understood, but scientists point out that the colon is controlled partly by the nervous system. Stress reduction (relaxation) training or counseling and support help relieve IBS symptoms in some people. However, doctors are quick to note that this does not mean IBS is the result of a personality disorder. IBS is at least partly a disorder of colon motility.

## **How Does a Good Diet Help IBS?**

For many people, eating a proper diet lessens IBS symptoms. Before changing your diet, it is a good idea to keep a journal noting which foods seem to cause distress. Discuss your findings with your doctor. You also may want to consult a registered dietitian, who can help you make changes in your diet. For instance, if dairy products cause your symptoms to flare up, you can try eating less of those foods. Yogurt might be tolerated better because it contains organisms that supply lactase, the enzyme needed to digest lactose, the sugar found in milk products. Because dairy products are an important source of calcium and other nutrients that your body needs, be sure to get adequate nutrients in the foods that you substitute.

Dietary fiber may lessen IBS symptoms in many cases. Whole grain breads and cereals, beans, fruits, and vegetables are good sources of fiber. Consult your doctor before using an over-the-counter fiber supplement. High-fiber diets keep the colon mildly distended, which may help to prevent spasms from developing. Some forms of fiber also keep water in the stools, thereby preventing hard stools that are difficult to pass. Doctors usually recommend that you eat just enough fiber so that you have soft, easily passed, and painless bowel movements. High-fiber diets may cause gas and bloating, but within a few weeks, these symptoms often go away as your body adjusts to the diet.

Large meals can cause cramping and diarrhea in people with IBS. Symptoms may be eased if you eat smaller meals more often or just eat smaller portions. This should help, especially if your meals are low in fat and high in carbohydrates such as pasta, rice, whole-grain breads and cereals, fruits, and vegetables.

## **Can Medicines Relieve IBS Symptoms?**

Your doctor may prescribe fiber supplements or occasional laxatives if you are constipated. Some doctors prescribe drugs that control colon muscle spasms, drugs that slow the movement of food through the digestive system, tranquilizers, or antidepressant drugs, all of which may relieve symptoms.

It is important to follow the physician's instructions when taking IBS medications--particularly laxatives, which can be habit forming if not used carefully.

## **Is IBS Linked to Other Diseases?**

IBS has not been shown to lead to any serious, organic diseases. No link has been established between IBS and inflammatory bowel diseases such as Crohn's disease or ulcerative colitis. IBS does not lead to cancer. Some patients have a more severe form of IBS, and the pain and diarrhea may cause them to withdraw from normal activities. These patients need to work with their physicians to find the best combination of medicine, diet, counseling, and support to control their symptoms.

## **More Guideline Sources**

The guideline above on irritable bowel syndrome is only one example of the kind of material that you can find online and free of charge. The remainder of this chapter will direct you to other sources which either publish or can help you find additional guidelines on topics related to irritable bowel syndrome. Many of the guidelines listed below address topics that may be of particular relevance to your specific situation or of special interest to only some patients with irritable bowel syndrome. Due to space limitations these sources are listed in a concise manner. Do not hesitate to consult the following sources by either using the Internet hyperlink provided, or, in

cases where the contact information is provided, contacting the publisher or author directly.

### **Topic Pages: MEDLINEplus**

For patients wishing to go beyond guidelines published by specific Institutes of the NIH, the National Library of Medicine has created a vast and patient-oriented healthcare information portal called MEDLINEplus. Within this Internet-based system are "health topic pages." You can think of a health topic page as a guide to patient guides. To access this system, log on to <http://www.nlm.nih.gov/medlineplus/healthtopics.html>.

If you do not find topics of interest when browsing health topic pages, then you can choose to use the advanced search utility of MEDLINEplus at <http://www.nlm.nih.gov/medlineplus/advancedsearch.html>. This utility is similar to the NIH Search Utility, with the exception that it only includes material linked within the MEDLINEplus system (mostly patient-oriented information). It also has the disadvantage of generating unstructured results. We recommend, therefore, that you use this method only if you have a very targeted search.

### **The Combined Health Information Database (CHID)**

CHID Online is a reference tool that maintains a database directory of thousands of journal articles and patient education guidelines on irritable bowel syndrome and related conditions. One of the advantages of CHID over other sources is that it offers summaries that describe the guidelines available, including contact information and pricing. CHID's general Web site is <http://chid.nih.gov/>. To search this database, go to <http://chid.nih.gov/detail/detail.html>. In particular, you can use the advanced search options to look up pamphlets, reports, brochures, and information kits. The following was recently posted in this archive:

- **Guide to Controlling Irritable Bowel Syndrome**

Source: San Bruno, CA: StayWell Company. 1999. 7 p.

Contact: Available from Staywell Company. Order Department, 1100 Grundy Lane, San Bruno, CA 94066-9821. (800) 333-3032. Fax (650) 244-4512. Price: \$1.25 per copy; plus shipping and handling.

Summary: This brochure offers a user friendly approach to understanding and coping with irritable bowel syndrome (IBS). The

brochures stresses the importance of consulting a doctor for diagnosis, because symptoms similar to those of IBS can sometimes be caused by other more serious bowel conditions. IBS is the digestive tract's abnormal reaction to the stresses and strains of daily life, as well as to the routine activity of processing food. The brochure reviews normal digestion, including the role of the esophagus, stomach, small intestine, colon, sigmoid colon, and rectum. The symptoms of abdominal pain, constipation, and diarrhea are typical in patients with IBS. With IBS, the natural motility of the bowel muscle is disrupted; motility is the rhythmic wave like motion the bowel makes to move body waste along. Tension, eating, smoking, and alcohol all can alter normal motility. Treatment programs can include medication, changes in the diet, and lifestyle modifications to reduce stress (including exercise, biofeedback meditation, and counseling or support groups). The brochure stresses that continued medical followup is essential to monitor the success of the treatment program. Each concept in the brochure is illustrated with cartoon type line drawings featuring patients and a group of elf characters who are shown as the inner workings of the digestive tract.

- **Q and A. Crohn's Disease and Ulcerative Colitis: Emotional Factors**

Source: New York, NY: Crohn's and Colitis Foundation of America, Inc. 1999. 8 p.

Contact: Available from Crohn's and Colitis Foundation of America, Inc. (CCFA). 386 Park Avenue South, 17th Floor, New York, NY 10016-8804. (800) 343-3637 or (800) 932-2423 or (212) 685-3440. Fax (212) 779-4098. Website: [www.ccfa.org](http://www.ccfa.org). E-mail: [info@ccfa.org](mailto:info@ccfa.org) Price: Single copy free.

Summary: This pamphlet, written in question-and-answer format, answers some of the most commonly asked questions about the role of emotional factors in Crohn's disease and ulcerative colitis (known together as inflammatory bowel disease or IBD's). The authors point out that IBD's are biological disorders of unknown origin and are not caused by tension or anxiety, or more common in people with certain personality types. The brochure clarifies the difference between IBD's and a completely different condition, irritable bowel syndrome, the cause of which does seem to be related to emotional factors. The authors suggest that this brochure be used to explain to friends and family that IBD's are not caused by being 'overly emotional'. Specific topics addressed include the possible role of severe chronic stress in increasing inflammation; emotional difficulties caused by the challenges of living with an IBD; feelings of guilt; ways to cope with fears of relapse, attacks in public places, and travel; medications used to cope with psychological difficulties; psychiatric consultation; the special concerns of young

people; the emotional effects of ileostomy surgery; and discussion of attitudes which may help IBD patients to better cope with these diseases.

- **Irritable Bowel Syndrome: A Common Digestive Problem. [Síndrome de Colon Irritable: Un Problema Digestivo Comun]**

Source: San Bruno, CA: StayWell Company. 1998. [2 p.].

Contact: Available from StayWell Company. Order Department, 1100 Grundy Lane, San Bruno, CA 94066-9821. (800) 333-3032. Fax (650) 244-4512. E-mail: email@staywell.com. Website: www.staywell.com. Price: \$17.95 for pack of 50; plus shipping and handling.

Summary: This patient education brochure describes irritable bowel syndrome (IBS) and its care. Written in nontechnical language, the brochure first asks questions about common symptoms of IBS, including abdominal cramps and bloating, difficult bowel movements, and trouble getting to the bathroom fast enough (fecal incontinence, or involuntary loss of stool). The brochure notes that no one knows exactly what causes IBS, but smoking, eating certain foods, drinking alcohol or caffeinated drinks, or feeling stress or anxiety can alter the normal workings of the digestive tract and contribute to the motility problems that cause IBS. No test can confirm the presence of IBS, but physicians can work with their patients to rule out any underlying problem that may be causing symptoms similar to IBS. After testing, certain medications may help regulate the working of the digestive tract; readers are cautioned not to use any medication, especially laxatives, unless their doctor prescribes it. Lifestyle changes that may be useful include dietary changes and managing stress. One section of the brochure outlines the digestive tract and how it is affected by normal and disordered motility (movement of food through the digestive system). The last page of the brochure summarizes the recommendations for coping with IBS symptoms. The brochure is illustrated with full color line drawings and is available in English or Spanish. 6 figures.

- **International Foundation for Functional Gastrointestinal Disorders: Who We Are**

Source: Milwaukee, WI: International Foundation for Functional Gastrointestinal Disorders. 1997. 2 p.

Contact: Available from International Foundation for Functional Gastrointestinal Disorders (IFFGD). P.O. Box 170864, Milwaukee, WI 53217. (888) 964-2001 or (414) 964-1799. Fax (414) 964-7176. E-mail: iffgd@iffgd.org. Website: www.iffgd.org. Price: Single copy free.

Summary: The International Foundation for Functional Gastrointestinal Disorders (formerly the International Foundation for Bowel Dysfunction) is a nonprofit organization formed to address the issues surrounding life with bowel dysfunction. Functional gastrointestinal (GI) disorders include irritable bowel syndrome (IBS), incontinence, diarrhea, constipation, pelvic floor pain, anorectal pain, abdominal bloating or pain, esophageal disorders, gastroduodenal disorders, and biliary disorders. This brief brochure reviews the objectives and activities of the IFFGD, which offers educational services to affected people and works with the health and care provider community to research and share information. The brochure includes the names and locations of the organization's board of directors and advisory board.

- **Taking Care of Irritable Bowel Syndrome**

Source: Santa Cruz, CA: ETR Associates. 1997. 4 p.

Contact: Available from ETR Associates. P.O. Box 1830, Santa Cruz, CA 95061-1830. (800) 321-4407. Price: \$16.00 for 50 copies.

Summary: This patient education brochure explains the basics of living with irritable bowel syndrome (IBS). The brochure encourages readers to check with their health care provider for assistance in dealing with the discomfort and inconvenience of recurrent and chronic cramps, gas, bloating, diarrhea, or constipation. The brochure discusses causes of IBS, the physiology of normal digestion, how to discover individual triggers of symptoms, common dietary triggers of IBS symptoms (caffeine; dairy products; chocolate; alcohol; and acidic, fatty, or spicy foods), how to manage symptoms, the role of medications, and how to learn to manage stress (a common trigger of IBS symptoms). The brochure emphasizes the role of exercise and nutrition in managing IBS. The brochure also lists symptoms for which a health care provider should be consulted, including blood in the stool, continuous abdominal pain and fever, and when symptoms interfere with normal activities. The brochure concludes with a brief list of references and the contact information for the National Digestive Diseases Information Clearinghouse. 1 figure. 3 references. (AA-M).

- **IBS: Irritable Bowel Syndrome**

Source: Fort Worth, TX: Konsyl Pharmaceuticals, Inc. 1997. [2 p.].

Contact: Available from Konsyl Pharmaceuticals, Inc. 4200 South Hulen Street, Suite 513, Fort Worth, TX 76109-4912. (800) 356-6795 or (817) 763-8011. Fax (817) 731-9389. Website: [www.konsyl.com](http://www.konsyl.com). Price: Single copy free.

Summary: This brochure provides basic information about irritable bowel syndrome (IBS), a chronic digestive disease characterized by abdominal pain, diarrhea, and constipation. Other common symptoms are indigestion, nausea, gas, and bloating. The symptoms are usually intermingled to varying extents so that all patients' symptoms are relatively unique to them. Although IBS is not life threatening, accurate diagnosis and subsequent treatment are vital. Diagnostic tests, including a full patient history and colonoscopy, can determine if there is a structural abnormality or a functional disorder like IBS. The brochure focuses on the use of diet therapy for managing IBS, including the use of increased dietary fiber intake. Fiber is a general term for food which is not absorbed into the system and which stays in the stool, thereby increasing the stool bulk. The author emphasizes the use of fiber supplements, such as Konsyl (the manufacturer of which is the producer of this brochure). One sidebar comments on the impact of the nervous system on the digestive tract. The brochure is illustrated with full color drawings and photographs. 3 figures.

- **Irritable Bowel Syndrome. [El Síndrome del Intestino Irritable]**

Source: Camp Hill, PA: Chek-Med Systems, Inc. 1996. 2 p.

Contact: Available from Chek-Med Systems, Inc. 200 Grandview Avenue, Camp Hill, PA 17011. (800) 451-5797. Fax (717) 761-0216. Price: \$22 per pack of 50 pamphlets for order of 3-10 packs; 3 packet minimum.

Discounts available for larger quantities and complete kits of gastroenterology pamphlets.

Summary: This patient brochure, available in English and Spanish, provides information about the causes, diagnosis, and treatment of irritable bowel syndrome (IBS), a disorder that is characterized by the colon contracting in a disorganized, at times violent, manner. While the symptoms of IBS may be severe, the disorder itself is not a serious one. It can be caused by certain foods, infections, or illnesses, but by far the most common factors associated with IBS symptoms are interactions between the brain and the gut (i.e., a nervous disorder). Treatment of IBS, therefore, involves both the body and the psyche. Dietary modifications and certain medications also have shown to be useful treatment approaches.

- **Irritable Bowel Syndrome: Questions and Answers**

Source: Arlington Heights, IL: American Society of Colon and Rectal Surgeons. 1996. 2 p.



Contact: Available from American Society of Colon and Rectal Surgeons. 85 West Algonquin Road, Suite 550, Arlington Heights, IL 60005. (800) 791-0001 or (847) 290-9184. Fax (847) 290-9203. Price: Single copy free; bulk copies available.

Summary: This brochure, from the American Society of Colon and Rectal Surgeons, provides basic information about irritable bowel syndrome (IBS). People with IBS may experience constipation, diarrhea, or a combination; in addition, IBS may produce cramps, urgency, or a gassy, bloated feeling in the abdomen. The brochure outlines the symptoms of IBS, its causes, and treatment options. The underlying cause of this disorder is an abnormality in the way the intestinal muscles contract. The brochure notes that emotional stress may contribute to IBS. The brochure stresses that a careful medical history and physical examination are essential to a proper diagnosis. Tests performed to confirm IBS may include flexible sigmoidoscopy, colonoscopy, hemoocult testing to detect hidden blood in the stool, xray examination of the lower intestines, and a psychological evaluation. Therapeutic options include lowering stress levels, increasing fiber in the diet, avoiding certain foods including caffeine, milk products or alcohol, and quitting smoking. The brochure emphasizes that achieving relief of IBS symptoms is often a slow process. 1 figures. (AA-M).

- **Common Gastrointestinal Problems: A Consumer Health Guide. Volume II**

Source: Arlington, VA: American College of Gastroenterology. 1996. 23 p.

Contact: Available from American College of Gastroenterology. 4900B South 31st Street, Arlington, VA 22206. (703) 820-7400. Price: Single copy free.

Summary: This brochure provides an overview of common gastrointestinal problems, including constipation, gallstones, hemochromatosis, inflammatory bowel disease (IBD), irritable bowel syndrome (IBS), viral liver disease, and alcoholic liver disease. Each topic is addressed by a specialist in the field and the information is provided in a question and answer format. The section on constipation covers normal digestive function, normal bowel habits, a definition of constipation, how to know when to consult a health care provider, diagnostic tests that may be performed, treatment options, and dietary fiber. The section on gallstones describes the gallbladder and its functions, how gallstones are formed, risk factors for developing gallstones, the symptoms of gallstones, diagnostic tests used to confirm gallstones, treatment options, and prevention. The section on hemochromatosis describes the condition and its symptoms, diagnostic tests, treatment options, how

hemochromatosis can be confused with other liver diseases, and the indications for screening of family members. The chapter on IBD covers the difference between ulcerative colitis and Crohn's disease, how IBD differs from IBS, the causes of IBD, how stress affects IBD, diagnostic tests, complications of IBD, medication treatments available, complications from medical treatment, diet therapy for patients with IBD, and surgical options for IBD. The section on IBS focuses on recommended treatment strategies, including consulting a health care provider, reducing stress, watching dietary intake, and using medications. The section on viral liver disease describes the liver and its function, a definition of hepatitis and its symptoms, the different viruses and how they are transmitted, prevention issues, treatment options, and the longterm consequences of hepatitis. The final section, on alcoholic liver disease, covers the impact of alcohol consumption on the liver, gender differences in alcoholic liver disease, fatty liver, alcoholic hepatitis, alcohol-induced cirrhosis, differential diagnosis, complications of alcoholic liver disease, and treatment options. 3 figures. 1 table. (AA-M).

- **Irritable Bowel Syndrome**

Source: Emeryville, CA: Parlay International. 1995. [4 p.].

Contact: Available from Parlay International. Box 8817, Emeryville, CA 94662-0817. (800) 457-2752. Website: [www.parlay.com](http://www.parlay.com). Price: \$20.00 per package of 50. Order number: 7052.

Summary: Irritable bowel syndrome (IBS) is diagnosed when someone suffers from abdominal cramps and changes in bowel habits (diarrhea, constipation, nausea) without signs of serious disease such as fever, weight loss, or bleeding. Before a diagnosis of IBS is made, the symptoms have usually been present for at least 6 months with all diagnostic tests normal. This brochure offers basic information about IBS, noting that it is a chronic condition that can be controlled, but is rarely cured. The brochure focuses on the causes of the illness and on strategies for easing the pain. In most cases, people with IBS can alleviate their symptoms by carefully monitoring their diets, managing stress, and maintaining a regular exercise program. The best way to control the associated muscle spasms is to increase the amount of bulk in the intestinal tract by increasing the amount of fiber in the diet. Fiber makes stools bulkier and softer so the colon does not have to work as hard. The increased bulk decreases the intensity and frequency of contractions and promotes a smoother passage through the intestine. The brochure lists specific strategies for increasing fiber in the diet. The brochure also briefly

discusses the role of stress in the management of IBS. The brochure is illustrated with full-color photographs.

- **IBS: Irritable Bowel Syndrome. Do You Have It? How Serious Is It? How Can You Get Rid of It?**

Source: Fort Worth, TX: Konsyl Pharmaceuticals, Inc. 1994. 2 p.

Contact: Available from Konsyl Pharmaceuticals, Inc. 4200 South Hulen Street, Fort Worth, TX 76109. (800)356-6795 or (817) 763-8011. Price: Single copy free.

Summary: This brochure provides a general introduction to irritable bowel syndrome (IBS). The brochure reviews primary symptoms, including abdominal pain, diarrhea, and constipation; complications; diagnostic tests; the role of lifestyle, including exercise; and the importance of adequate dietary fiber to control symptoms.

- **Soothing the Symptoms of Irritable Bowel Syndrome: Recognizing Symptoms, Relieving Discomfort**

Source: Cincinnati, OH: Procter and Gamble. 1994. 12 p.

Contact: Available from Metamucil-Procter and Gamble. P.O. Box 9032, Cincinnati, OH 45209-9970. Price: Single copy free; bulk copies available.

Summary: This brochure provides a general overview of irritable bowel syndrome (IBS) and gives recommendations on how to manage it. Topics include the typical symptoms of IBS; the physiology of the digestive system; the role of food and stress in IBS; diagnostic tests used to confirm IBS; treatment options, including diet, stress management, and medications; the role of a high fiber diet; and the use of fiber supplements, including the product Metamucil. The brochure is produced by the manufacturer of Metamucil. The brochure includes a reply card to obtain more information about Metamucil products. 4 figures. 1 table.

- **When Your Doctor Says You Have Irritable Bowel Syndrome**

Source: Milwaukee, WI: Schwarz Pharma. 1993. 6 p.

Contact: Available from Schwarz Pharma. P.O. Box 2038, Milwaukee, WI 53201. (800) 558-5114, (414) 354-4300. Price: Free (packs of 50); single copy also available. Order number SP0599B 5/93.

Summary: This brochure presents a brief overview for newly-diagnosed patients with irritable bowel syndrome (IBS). Topics include the symptoms of IBS; the normal function of the digestive system; how the digestive system works in IBS; managing IBS; IBS and the diet, including

common foods that may aggravate IBS; dietary fiber intake; and drug therapy for IBS. Simple line drawings illustrate some of the concepts presented.

- **All About Irritable Bowel Syndrome**

Source: London, England: British Digestive Foundation. 1993. 3 p.

Contact: Available from British Digestive Foundation. 7 Chandos Street, London W1A 2LN England. Price: Single copy free.

Summary: This patient education brochure provides basic information about irritable bowel syndrome. Written in a question-and-answer format. The brochure includes definitions of functional bowel disorders and irritable bowel syndrome (IBS) and addresses prevalence; symptoms; etiology; diagnostic tests; and treatment options, including diet therapy. The brochure outlines the need for more research on this area and asks readers to support research with financial assistance. The brochure includes an insert summarizing guidelines for the early diagnosis of digestive disorders. This insert, entitled 'When Should I See My Doctor' lists symptoms that suggest a health care provider should be consulted. The brochure concludes with a brief description of the activities of the British Digestive Foundation.

- **Irritable Bowel Syndrome: Tips on Controlling Your Symptoms**

Source: Kansas City, MO: American Academy of Family Physicians. 1993. 4 p.

Contact: Available from American Academy of Family Physicians. 11400 Tomahawk Creek Parkway, Leawood, KS 66211-2672. (800) 274-2237.

Website: [www.aafp.org](http://www.aafp.org). Price: \$22.00 for 100 copies for members, \$33.00 for 100 copies for nonmembers.

Summary: This patient education brochure helps readers understand irritable bowel syndrome (IBS) and how they can control the symptoms it may cause. In IBS, the intestines squeeze too hard or not hard enough and cause food to move too fast or too slowly through the gastrointestinal (GI) tract. IBS can cause diarrhea, constipation, or both. The symptoms may get worse when the patient experiences stress, including that associated with travel, social events, menstrual cycles, or a change in daily routine. The brochure outlines diagnostic and treatment options, the role of dietary fiber, the impact of diet on IBS symptoms, the role of milk and milk products and the issue of lactose intolerance, managing stress, and drug therapy. The brochure notes that because IBS is a chronic disease, health care providers are hesitant to prescribe long term drug therapy. However, for acute attacks, antispasmodic drugs, loperamide,

sedatives, or antidepressants may be prescribed. The brochure encourages readers to find new freedom from IBS by following a management plan that includes a healthy diet, learning new ways to deal with stress, and avoiding foods that make symptoms worse. 2 tables. (AA-M).

### **The National Guideline Clearinghouse™**

The National Guideline Clearinghouse™ offers hundreds of evidence-based clinical practice guidelines published in the United States and other countries. You can search their site located at <http://www.guideline.gov> by using the keyword “irritable bowel syndrome” or synonyms. The following was recently posted:

- **Medical position statement: irritable bowel syndrome.**

Source: American Gastroenterological Association.; 1996 November 10 (reviewed 2001); 20 pages

[http://www.guideline.gov/FRAMESETS/guideline\\_fs.asp?guideline=000530&sSearch\\_string=irritable+bowel+syndrome](http://www.guideline.gov/FRAMESETS/guideline_fs.asp?guideline=000530&sSearch_string=irritable+bowel+syndrome)

### **Healthfinder™**

Healthfinder™ is an additional source sponsored by the U.S. Department of Health and Human Services which offers links to hundreds of other sites that contain healthcare information. This Web site is located at <http://www.healthfinder.gov>. Again, keyword searches can be used to find guidelines. The following was recently found in this database:

- **Irritable Bowel Syndrome**

Summary: Irritable bowel syndrome (IBS) is a common disorder of the intestines that leads to crampy pain, gassiness, bloating, and changes in bowel habits.

Source: National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health

<http://www.healthfinder.gov/scripts/recordpass.asp?RecordType=0&RecordID=737>

- **Irritable Bowel Syndrome in Children**

Summary: Irritable bowel syndrome (IBS) is a digestive disorder that causes abdominal pain, bloating, gas, diarrhea, and constipation--or some combination of these problems.

Source: National Institute of Environmental Health Sciences, National Institutes of Health

<http://www.healthfinder.gov/scripts/recordpass.asp?RecordType=0&RecordID=6514>

- **Lotronex Information**

Summary: This page presents information for women using the prescription drug Lotronex (alosetron hydrochloride) for treatment of the diarrhea-predominant form of irritable bowel syndrome (IBS).

Source: Center for Drug Evaluation and Research, U.S. Food and Drug Administration

<http://www.healthfinder.gov/scripts/recordpass.asp?RecordType=0&RecordID=5504>

- **What I Need to Know About Irritable Bowel Syndrome**

Summary: This fact sheet describes irritable bowel syndrome (IBS) and its causes, symptoms, diagnosis, tests, and treatment.

Source: National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health

<http://www.healthfinder.gov/scripts/recordpass.asp?RecordType=0&RecordID=6549>

### **The NIH Search Utility**

After browsing the references listed at the beginning of this chapter, you may want to explore the NIH Search Utility. This allows you to search for documents on over 100 selected Web sites that comprise the NIH-WEB-SPACE. Each of these servers is "crawled" and indexed on an ongoing basis. Your search will produce a list of various documents, all of which will relate in some way to irritable bowel syndrome. The drawbacks of this approach are that the information is not organized by theme and that the references are often a mix of information for professionals and patients. Nevertheless, a large number of the listed Web sites provide useful background information. We can only recommend this route, therefore, for relatively rare or specific

disorders, or when using highly targeted searches. To use the NIH search utility, visit the following Web page: <http://search.nih.gov/index.html>.

### Additional Web Sources

A number of Web sites that often link to government sites are available to the public. These can also point you in the direction of essential information. The following is a representative sample:

- AOL: <http://search.aol.com/cat.adp?id=168&layer=&from=subcats>
- drkoop.com<sup>®</sup>: <http://www.drkoop.com/conditions/ency/index.html>
- Family Village: <http://www.familyvillage.wisc.edu/specific.htm>
- Google:  
[http://directory.google.com/Top/Health/Conditions\\_and\\_Diseases/](http://directory.google.com/Top/Health/Conditions_and_Diseases/)
- Med Help International: <http://www.medhelp.org/HealthTopics/A.html>
- Open Directory Project:  
[http://dmoz.org/Health/Conditions\\_and\\_Diseases/](http://dmoz.org/Health/Conditions_and_Diseases/)
- Yahoo.com: [http://dir.yahoo.com/Health/Diseases\\_and\\_Conditions/](http://dir.yahoo.com/Health/Diseases_and_Conditions/)
- WebMD<sup>®</sup>Health: [http://my.webmd.com/health\\_topics](http://my.webmd.com/health_topics)

### Vocabulary Builder

The material in this chapter may have contained a number of unfamiliar words. The following Vocabulary Builder introduces you to terms used in this chapter that have not been covered in the previous chapter:

**Abdomen:** That portion of the body that lies between the thorax and the pelvis. [NIH]

**Anorectal:** Pertaining to the anus and rectum or to the junction region between the two. [EU]

**Antidepressant:** An agent that stimulates the mood of a depressed patient, including tricyclic antidepressants and monoamine oxidase inhibitors. [EU]

**Anxiety:** The unpleasant emotional state consisting of psychophysiological responses to anticipation of unreal or imagined danger, ostensibly resulting from unrecognized intrapsychic conflict. Physiological concomitants include increased heart rate, altered respiration rate, sweating, trembling, weakness, and fatigue; psychological concomitants include feelings of impending

danger, powerlessness, apprehension, and tension. [EU]

**Biliary:** Pertaining to the bile, to the bile ducts, or to the gallbladder. [EU]

**Carbohydrate:** An aldehyde or ketone derivative of a polyhydric alcohol, particularly of the pentahydric and hexahydric alcohols. They are so named because the hydrogen and oxygen are usually in the proportion to form water,  $(CH_2O)_n$ . The most important carbohydrates are the starches, sugars, celluloses, and gums. They are classified into mono-, di-, tri-, poly- and heterosaccharides. [EU]

**Character:** In current usage, approximately equivalent to personality. The sum of the relatively fixed personality traits and habitual modes of response of an individual. [NIH]

**Cirrhosis:** Liver disease characterized pathologically by loss of the normal microscopic lobular architecture, with fibrosis and nodular regeneration. The term is sometimes used to refer to chronic interstitial inflammation of any organ. [EU]

**Colonoscopy:** Endoscopic examination, therapy or surgery of the luminal surface of the colon. [NIH]

**Diarrhea:** Passage of excessively liquid or excessively frequent stools. [NIH]

**Digestion:** The process of breakdown of food for metabolism and use by the body. [NIH]

**Distention:** The state of being distended or enlarged; the act of distending. [EU]

**Endocrinology:** A subspecialty of internal medicine concerned with the metabolism, physiology, and disorders of the endocrine system. [NIH]

**Endoscopy:** Visual inspection of any cavity of the body by means of an endoscope. [EU]

**Enzyme:** A protein molecule that catalyses chemical reactions of other substances without itself being destroyed or altered upon completion of the reactions. Enzymes are classified according to the recommendations of the Nomenclature Committee of the International Union of Biochemistry. Each enzyme is assigned a recommended name and an Enzyme Commission (EC) number. They are divided into six main groups; oxidoreductases, transferases, hydrolases, lyases, isomerases, and ligases. [EU]

**Gastroduodenal:** Pertaining to or communicating with the stomach and duodenum, as a gastroduodenal fistula. [EU]

**Gastrointestinal:** Pertaining to or communicating with the stomach and intestine, as a gastrointestinal fistula. [EU]

**Hematology:** A subspecialty of internal medicine concerned with morphology, physiology, and pathology of the blood and blood-forming tissues. [NIH]



**Hormones:** Chemical substances having a specific regulatory effect on the activity of a certain organ or organs. The term was originally applied to substances secreted by various endocrine glands and transported in the bloodstream to the target organs. It is sometimes extended to include those substances that are not produced by the endocrine glands but that have similar effects. [NIH]

**Ileostomy:** Surgical creation of an external opening into the ileum for fecal diversion or drainage. Loop or tube procedures are most often employed. [NIH]

**Incontinence:** Inability to control excretory functions, as defecation (faecal i.) or urination (urinary i.). [EU]

**Inflammation:** A pathological process characterized by injury or destruction of tissues caused by a variety of cytologic and chemical reactions. It is usually manifested by typical signs of pain, heat, redness, swelling, and loss of function. [NIH]

**Intestinal:** Pertaining to the intestine. [EU]

**Intestines:** The section of the alimentary canal from the stomach to the anus. It includes the large intestine and small intestine. [NIH]

**Molecular:** Of, pertaining to, or composed of molecules : a very small mass of matter. [EU]

**Mucus:** The free slime of the mucous membranes, composed of secretion of the glands, along with various inorganic salts, desquamated cells, and leucocytes. [EU]

**Nausea:** An unpleasant sensation, vaguely referred to the epigastrium and abdomen, and often culminating in vomiting. [EU]

**Pacemaker:** An object or substance that influences the rate at which a certain phenomenon occurs; often used alone to indicate the natural cardiac pacemaker or an artificial cardiac pacemaker. In biochemistry, a substance whose rate of reaction sets the pace for a series of interrelated reactions. [EU]

**Prevalence:** The number of people in a given group or population who are reported to have a disease. [NIH]

**Rectal:** Pertaining to the rectum (= distal portion of the large intestine). [EU]

**Sedative:** 1. allaying activity and excitement. 2. an agent that allays excitement. [EU]

**Sigmoid:** 1. shaped like the letter S or the letter C. 2. the sigmoid colon. [EU]

**Sigmoidoscopy:** Endoscopic examination, therapy or surgery of the sigmoid flexure. [NIH]

**Spastic:** 1. of the nature of or characterized by spasms. 2. hypertonic, so that the muscles are stiff and the movements awkward. 3. a person exhibiting

spasticity, such as occurs in spastic paralysis or in cerebral palsy. [EU]

**Spectrum:** A charted band of wavelengths of electromagnetic vibrations obtained by refraction and diffraction. By extension, a measurable range of activity, such as the range of bacteria affected by an antibiotic (antibacterial s.) or the complete range of manifestations of a disease. [EU]

**Stomach:** An organ of digestion situated in the left upper quadrant of the abdomen between the termination of the esophagus and the beginning of the duodenum. [NIH]

**Toxicology:** The science concerned with the detection, chemical composition, and pharmacologic action of toxic substances or poisons and the treatment and prevention of toxic manifestations. [NIH]

**Urology:** A surgical specialty concerned with the study, diagnosis, and treatment of diseases of the urinary tract in both sexes and the genital tract in the male. It includes the specialty of andrology which addresses both male genital diseases and male infertility. [NIH]

**Viruses:** Minute infectious agents whose genomes are composed of DNA or RNA, but not both. They are characterized by a lack of independent metabolism and the inability to replicate outside living host cells. [NIH]

## CHAPTER 2. SEEKING GUIDANCE

### Overview

Some patients are comforted by the knowledge that a number of organizations dedicate their resources to helping people with irritable bowel syndrome. These associations can become invaluable sources of information and advice. Many associations offer aftercare support, financial assistance, and other important services. Furthermore, healthcare research has shown that support groups often help people to better cope with their conditions.<sup>8</sup> In addition to support groups, your physician can be a valuable source of guidance and support. Therefore, finding a physician that can work with your unique situation is a very important aspect of your care.

In this chapter, we direct you to resources that can help you find patient organizations and medical specialists. We begin by describing how to find associations and peer groups that can help you better understand and cope with irritable bowel syndrome. The chapter ends with a discussion on how to find a doctor that is right for you.

### Associations and Irritable Bowel Syndrome

As mentioned by the Agency for Healthcare Research and Quality, sometimes the emotional side of an illness can be as taxing as the physical side.<sup>9</sup> You may have fears or feel overwhelmed by your situation. Everyone has different ways of dealing with disease or physical injury. Your attitude, your expectations, and how well you cope with your condition can all

---

<sup>8</sup> Churches, synagogues, and other houses of worship might also have groups that can offer you the social support you need.

<sup>9</sup> This section has been adapted from <http://www.ahcpr.gov/consumer/diaginf5.htm>.

influence your well-being. This is true for both minor conditions and serious illnesses. For example, a study on female breast cancer survivors revealed that women who participated in support groups lived longer and experienced better quality of life when compared with women who did not participate. In the support group, women learned coping skills and had the opportunity to share their feelings with other women in the same situation.

In addition to associations or groups that your doctor might recommend, we suggest that you consider the following list (if there is a fee for an association, you may want to check with your insurance provider to find out if the cost will be covered):

- **American Society of Colon and Rectal Surgeons**

Address: American Society of Colon and Rectal Surgeons 85 West Algonquin Road, Suite 550, Arlington Heights, IL 60005

Telephone: (847) 290-9184 Toll-free: (888) 964-2001

Fax: (847) 290-9203

Email: [ascrs@fascrs.org](mailto:ascrs@fascrs.org)

Web Site: <http://www.fascrs.org>

Background: The American Society of Colon and Rectal Surgeons (ASCRS) is a medical professional society representing more than 1,000 board certified colon and rectal surgeons and other surgeons. The Society's membership is dedicated to advancing and promoting the science and practice of the treatment of individuals with diseases and disorders affecting the colon, rectum, and anus. The Society's Standards Task Force is committed to developing practice parameters for the treatment of colon and rectal diseases and disorders including ambulatory anorectal surgery, treatment of hemorrhoids, management of anal fissure, treatment of rectal carcinoma, and detection of colorectal neoplasms. The Society's web site provides links to such practice parameters as well as to core subject updates on such topics as colonic volvulus, ostomies and stomal therapy, familial adenomatous polyposis, and colon and rectal cancer. The Society also publishes the 'Washington Report,' which offers updates on current federal legislative and regulatory actions, and provides professional publications including the 'ASCRS Newsletter' and the Society's official journal entitled 'Diseases of the Colon and Rectum.' The ASCRS also provides an email discussion group (listserv) for the benefit of ASCRS members and fellows in colon and rectal surgery. The primary purpose of the listserv is to provide a forum for the informal discussion of clinical cases and other issues of general interest to the colon and rectal surgeon community. The Society's web site also provides information on the Collaborative Group of the

Americas on Inherited Colorectal Cancer. The Group was established in 1995 to improve understanding of the basic science of inherited colorectal cancer and the clinical management of affected families. Its broad aims are to promote education of physicians, allied health care professionals, patients, and their families; provide linkage to clinical and chemoprevention trials; promote the integration of molecular and clinical research at local and national levels; and serve as a resource for developing similar genetic registers. The American Society of Colon and Rectal Surgeons also provides patient information on a variety of topics including anal abscess/fistula, anal fissure, anal warts, bowel incontinence, colonoscopy, colorectal cancer, constipation, Crohn's disease, diverticular disease, irritable bowel syndrome, ostomy, rectal prolapse, and ulcerative colitis.

- **Digestive Disorders Foundation (UK)**

Address: Digestive Disorders Foundation (UK) 3 St. Andrews Place, London, NW1 4LB, United Kingdom

Telephone: 0171 486 0341 Toll-free: (888) 964-2001

Fax: 0171 224 2012

Email: [ddf@digestivedisorders.org.uk](mailto:ddf@digestivedisorders.org.uk)

Web Site: <http://www.digestivedisorders.org.uk>

Background: The Digestive Disorders Foundation (DDF) is a voluntary organization in the United Kingdom dedicated to providing information to individuals with digestive disorders and their family members and funding research concerning these disorders. Since the DDF was founded in 1971, it has supported over 95 research fellowships. The Foundation also provides grants for equipment and travel fellowships, enabling researchers to visit laboratories abroad to improve their knowledge and expertise. In addition, the Digestive Disorders Foundation produces patient information leaflets discussing the symptoms, causes, and treatments of a wide range of digestive disorders including celiac disease; pancreatitis; peptic, gastric, and duodenal ulcers; diverticula; and Gilbert's syndrome. The Foundation is also committed to raising professional and public knowledge of digestive diseases through a series of events including scientific and public meetings. The DDF's web site on the Internet provides news updates, a glossary of medical terms, its series of patient information leaflets, and information concerning current research fellowships.

Relevant area(s) of interest: Celiac Disease, Diverticular Disease, Irritable Bowel Syndrome, Pancreatitis

- **International Foundation for Functional Gastrointestinal Disorders**

Address: International Foundation for Functional Gastrointestinal Disorders P.O. Box 17864, Milwaukee, WI 53217

Telephone: (414) 964-1799 Toll-free: (888) 964-2001

Fax: (414) 964-7176

Email: [iffgd@iffgd.org](mailto:iffgd@iffgd.org)

Web Site: <http://www.iffgd.org>

Background: The International Foundation for Functional Gastrointestinal Disorders (IFFGD) is a nonprofit educational and research organization dedicated to addressing the issues affecting individuals with functional gastrointestinal (GI) disorders. These disorders include irritable bowel syndrome (IBS), incontinence, diarrhea, constipation, pelvic floor pain, anorectal pain, abdominal bloating or pain, esophageal disorders, gastroduodenal disorders, and biliary disorders. Founded in 1990 and consisting of approximately 20,000 members, IFFGD offers support to affected individuals and their families. The Foundation also works with the medical, health care, and research communities to increase awareness of these disorders and to promote research efforts to improve diagnosis and treatment. Educational materials include a quarterly newsletter entitled 'Participate' and several fact sheets on various gastrointestinal disorders and their treatment alternatives. IFFGD also distributes a 'Personal Daily Diary' that is designed to help individuals with gastrointestinal disorders gain a more complete understanding of their condition through the regular recording of important details.

Relevant area(s) of interest: Constipation, Diarrhea, Irritable Bowel Syndrome

- **Intestinal Disease Foundation**

Address: Intestinal Disease Foundation 1323 Forbes Avenue, Suite 200, Pittsburgh, PA 15219

Telephone: (412) 261-5888 Toll-free: (888) 964-2001

Fax: (412) 471-272

Background: The Intestinal Disease Foundation (IDF) is an international not-for-profit organization dedicated to providing information, assistance, and mutual support to individuals with chronic intestinal illnesses including irritable bowel syndrome, diverticular disease, ulcerative colitis, Crohn's disease, and short-bowel syndrome. Established in 1986 and consisting of 1,400 members in the United States

and abroad, IDF promotes healing by encouraging individuals to assume an active role in their own treatment through a positive mental attitude founded on shared experiences. This is facilitated by a telephone network of individuals with intestinal illnesses who provide support, encouragement, and information. The Foundation publishes a quarterly newsletter entitled 'Intestinal Fortitude' as well as a variety of informational brochures and educational materials on chronic intestinal diseases and conditions.

Relevant area(s) of interest: Diarrhea, Diverticular Disease, Irritable Bowel Syndrome, Lactose Intolerance, Proctitis, Short Bowel Syndrome

- **Irritable Bowel Information and Support Association of Australia, Inc**

Address: Irritable Bowel Information and Support Association of Australia, Inc. PO Box 5044, Manly, Queensland, 4179, Australia

Telephone: 07 3893 1131 Toll-free: 1300 651131

Fax: 07 3396 4436

Email: [ibis@powerup.com.au](mailto:ibis@powerup.com.au)

Web Site: <http://www.powerup.com.au/~ibi>

Background: The Irritable Bowel Information and Support Association of Australia, Inc. (IBIS) is a support group consisting of individuals affected by irritable bowel syndrome (IBS) and their family members. IBS is a chronic noninflammatory condition characterized by abdominal pain and irregular bowel movements including constipation, diarrhea, or both, in the absence of any demonstrable disease. The Irritable Bowel Information and Support Association of Australia includes members from throughout Australia and New Zealand, many of whom belong to IBIS regional support groups that conduct regular meetings with guest speakers. The Association is also dedicated to cooperating with the medical profession when appropriate to supply information necessary for IBS research and disseminating information to members and the general public. IBIS members receive regularly updated listings of publications on IBS and a quarterly newsletter that includes articles on the care and control of IBS, meeting listings, and research updates. The Association also has a web site on the Internet.

Relevant area(s) of interest: Irritable Bowel Syndrome

- **Reach Out for Youth with Ileitis and Colitis, Inc**

Address: Reach Out for Youth with Ileitis and Colitis, Inc. 84 Northgate Circle, Melville, NY 11747

Telephone: (516) 293-3102 Toll-free: (888) 964-2001

Fax: (516) 293-3103

Email: [spell16@ix.netcom.com](mailto:spell16@ix.netcom.com)

Web Site: Non

Background: Reach Out for Youth with Ileitis and Colitis, Inc. is a non-profit support organization dedicated to assisting families whose children have Inflammatory Bowel Disease (IBD) such as Ileitis or Colitis. Ulcerative Colitis is an inflammatory disease of the large intestine and is characterized by diarrhea, abdominal pain, fever, and bleeding from the rectum. Decreased appetite and weight loss may also occur. Ileitis or Crohn's Disease, also an inflammatory bowel disorder, can affect any portion of the digestive system and has symptoms that are similar to those of Colitis. Established in 1979 and consisting of approximately 400 members, the organization has helped hundreds of families cope with the effects of IBD. The group's goals include providing educational materials and emotional support to affected individuals and their families and organizing fundraising efforts to promote research into the causes and treatment of IBD. Educational seminars and a quarterly newsletter entitled 'Inner Circle' assist members by keeping them informed of current activities. A hotline offers interested individuals the opportunity to communicate on a one-to-one basis, especially when acute symptoms are present. Reach Out also continues to support the IBD clinical database established 13 years ago as a crucial research tool.

Relevant area(s) of interest: Irritable Colon Syndrome

## **Finding More Associations**

There are a number of directories that list additional medical associations that you may find useful. While not all of these directories will provide different information than what is listed above, by consulting all of them, you will have nearly exhausted all sources for patient associations.

### **The National Health Information Center (NHIC)**

The National Health Information Center (NHIC) offers a free referral service to help people find organizations that provide information about irritable bowel syndrome. For more information, see the NHIC's Web site at <http://www.health.gov/NHIC/> or contact an information specialist by calling 1-800-336-4797.



## DIRLINE

A comprehensive source of information on associations is the DIRLINE database maintained by the National Library of Medicine. The database comprises some 10,000 records of organizations, research centers, and government institutes and associations which primarily focus on health and biomedicine. DIRLINE is available via the Internet at the following Web site: **<http://dirline.nlm.nih.gov/>**. Simply type in “irritable bowel syndrome” (or a synonym) or the name of a topic, and the site will list information contained in the database on all relevant organizations.

## The Combined Health Information Database

Another comprehensive source of information on healthcare associations is the Combined Health Information Database. Using the “Detailed Search” option, you will need to limit your search to “Organizations” and “irritable bowel syndrome”. Type the following hyperlink into your Web browser: **<http://chid.nih.gov/detail/detail.html>**. To find associations, use the drop boxes at the bottom of the search page where “You may refine your search by.” For publication date, select “All Years.” Then, select your preferred language and the format option “Organization Resource Sheet.” By making these selections and typing in “irritable bowel syndrome” (or synonyms) into the “For these words:” box, you will only receive results on organizations dealing with irritable bowel syndrome. You should check back periodically with this database since it is updated every 3 months.

## The National Organization for Rare Disorders, Inc.

The National Organization for Rare Disorders, Inc. has prepared a Web site that provides, at no charge, lists of associations organized by specific diseases. You can access this database at the following Web site: **<http://www.rarediseases.org/cgi-bin/nord/searchpage>**. Select the option called “Organizational Database (ODB)” and type “irritable bowel syndrome” (or a synonym) in the search box.

## Online Support Groups

In addition to support groups, commercial Internet service providers offer forums and chat rooms for people with different illnesses and conditions. WebMD®, for example, offers such a service at their Web site:

<http://boards.webmd.com/roundtable>. These online self-help communities can help you connect with a network of people whose concerns are similar to yours. Online support groups are places where people can talk informally. If you read about a novel approach, consult with your doctor or other healthcare providers, as the treatments or discoveries you hear about may not be scientifically proven to be safe and effective. The following Internet sites may be of particular interest:

- **Irritable Bowel Syndrome (IBS) Self Help and Support Group**  
<http://www.ibsgroup.org>
- **Irritable Bowel Syndrome Association**  
<http://www.ibsassociation.org>

## Finding Doctors

One of the most important aspects of your treatment will be the relationship between you and your doctor or specialist. All patients with irritable bowel syndrome must go through the process of selecting a physician. While this process will vary from person to person, the Agency for Healthcare Research and Quality makes a number of suggestions, including the following:<sup>10</sup>

- If you are in a managed care plan, check the plan's list of doctors first.
- Ask doctors or other health professionals who work with doctors, such as hospital nurses, for referrals.
- Call a hospital's doctor referral service, but keep in mind that these services usually refer you to doctors on staff at that particular hospital. The services do not have information on the quality of care that these doctors provide.
- Some local medical societies offer lists of member doctors. Again, these lists do not have information on the quality of care that these doctors provide.

Additional steps you can take to locate doctors include the following:

- Check with the associations listed earlier in this chapter.
- Information on doctors in some states is available on the Internet at <http://www.docboard.org>. This Web site is run by "Administrators in Medicine," a group of state medical board directors.

---

<sup>10</sup> This section is adapted from the AHRQ: [www.ahrq.gov/consumer/qntascii/qntdr.htm](http://www.ahrq.gov/consumer/qntascii/qntdr.htm).

- The American Board of Medical Specialties can tell you if your doctor is board certified. “Certified” means that the doctor has completed a training program in a specialty and has passed an exam, or “board,” to assess his or her knowledge, skills, and experience to provide quality patient care in that specialty. Primary care doctors may also be certified as specialists. The ABMS Web site is located at <http://www.abms.org/newsearch.asp>.<sup>11</sup> You can also contact the ABMS by phone at 1-866-ASK-ABMS.
- You can call the American Medical Association (AMA) at 800-665-2882 for information on training, specialties, and board certification for many licensed doctors in the United States. This information also can be found in “Physician Select” at the AMA’s Web site: <http://www.ama-assn.org/aps/amahg.htm>.

If the previous sources did not meet your needs, you may want to log on to the Web site of the National Organization for Rare Disorders (NORD) at <http://www.rarediseases.org/>. NORD maintains a database of doctors with expertise in various rare diseases. The Metabolic Information Network (MIN), 800-945-2188, also maintains a database of physicians with expertise in various metabolic diseases.

## Selecting Your Doctor<sup>12</sup>

When you have compiled a list of prospective doctors, call each of their offices. First, ask if the doctor accepts your health insurance plan and if he or she is taking new patients. If the doctor is not covered by your plan, ask yourself if you are prepared to pay the extra costs. The next step is to schedule a visit with your chosen physician. During the first visit you will have the opportunity to evaluate your doctor and to find out if you feel comfortable with him or her. Ask yourself, did the doctor:

- Give me a chance to ask questions about irritable bowel syndrome?
- Really listen to my questions?
- Answer in terms I understood?
- Show respect for me?
- Ask me questions?

---

<sup>11</sup> While board certification is a good measure of a doctor’s knowledge, it is possible to receive quality care from doctors who are not board certified.

<sup>12</sup> This section has been adapted from the AHRQ:  
[www.ahrq.gov/consumer/qntascii/qntdr.htm](http://www.ahrq.gov/consumer/qntascii/qntdr.htm).

- Make me feel comfortable?
- Address the health problem(s) I came with?
- Ask me my preferences about different kinds of treatments for irritable bowel syndrome?
- Spend enough time with me?

Trust your instincts when deciding if the doctor is right for you. But remember, it might take time for the relationship to develop. It takes more than one visit for you and your doctor to get to know each other.

## **Working with Your Doctor<sup>13</sup>**

Research has shown that patients who have good relationships with their doctors tend to be more satisfied with their care and have better results. Here are some tips to help you and your doctor become partners:

- You know important things about your symptoms and your health history. Tell your doctor what you think he or she needs to know.
- It is important to tell your doctor personal information, even if it makes you feel embarrassed or uncomfortable.
- Bring a “health history” list with you (and keep it up to date).
- Always bring any medications you are currently taking with you to the appointment, or you can bring a list of your medications including dosage and frequency information. Talk about any allergies or reactions you have had to your medications.
- Tell your doctor about any natural or alternative medicines you are taking.
- Bring other medical information, such as x-ray films, test results, and medical records.
- Ask questions. If you don’t, your doctor will assume that you understood everything that was said.
- Write down your questions before your visit. List the most important ones first to make sure that they are addressed.
- Consider bringing a friend with you to the appointment to help you ask questions. This person can also help you understand and/or remember the answers.

---

<sup>13</sup> This section has been adapted from the AHRQ:  
[www.ahrq.gov/consumer/qntascii/qntdr.htm](http://www.ahrq.gov/consumer/qntascii/qntdr.htm).

- Ask your doctor to draw pictures if you think that this would help you understand.
- Take notes. Some doctors do not mind if you bring a tape recorder to help you remember things, but always ask first.
- Let your doctor know if you need more time. If there is not time that day, perhaps you can speak to a nurse or physician assistant on staff or schedule a telephone appointment.
- Take information home. Ask for written instructions. Your doctor may also have brochures and audio and videotapes that can help you.
- After leaving the doctor's office, take responsibility for your care. If you have questions, call. If your symptoms get worse or if you have problems with your medication, call. If you had tests and do not hear from your doctor, call for your test results. If your doctor recommended that you have certain tests, schedule an appointment to get them done. If your doctor said you should see an additional specialist, make an appointment.

By following these steps, you will enhance the relationship you will have with your physician.

## Broader Health-Related Resources

In addition to the references above, the NIH has set up guidance Web sites that can help patients find healthcare professionals. These include:<sup>14</sup>

- Caregivers:  
<http://www.nlm.nih.gov/medlineplus/caregivers.html>
- Choosing a Doctor or Healthcare Service:  
<http://www.nlm.nih.gov/medlineplus/choosingadoctororhealthcareservice.html>
- Hospitals and Health Facilities:  
<http://www.nlm.nih.gov/medlineplus/healthfacilities.html>

---

<sup>14</sup> You can access this information at:

<http://www.nlm.nih.gov/medlineplus/healthsystem.html>.

## Vocabulary Builder

The following vocabulary builder provides definitions of words used in this chapter that have not been defined in previous chapters:

**Abscess:** A localized collection of pus caused by suppuration buried in tissues, organs, or confined spaces. [EU]

**Anal:** Pertaining to the anus. [EU]

**Carcinoma:** A malignant new growth made up of epithelial cells tending to infiltrate the surrounding tissues and give rise to metastases. [EU]

**Colorectal:** Pertaining to or affecting the colon and rectum. [EU]

**Fissure:** Any cleft or groove, normal or otherwise; especially a deep fold in the cerebral cortex which involves the entire thickness of the brain wall. [EU]

**Fistula:** An abnormal passage or communication, usually between two internal organs, or leading from an internal organ to the surface of the body; frequently designated according to the organs or parts with which it communicates, as anovaginal, brochocutaneous, hepatopleural, pulmonoperitoneal, rectovaginal, urethrovaginal, and the like. Such passages are frequently created experimentally for the purpose of obtaining body secretions for physiologic study. [EU]

**Hemorrhoids:** Varicosities of the hemorrhoidal venous plexuses. [NIH]

**Ileitis:** Inflammation of the ileum. [EU]

**Neoplasms:** New abnormal growth of tissue. Malignant neoplasms show a greater degree of anaplasia and have the properties of invasion and metastasis, compared to benign neoplasms. [NIH]

**Pancreatitis:** Inflammation (pain, tenderness) of the pancreas; it can make the pancreas stop working. It is caused by drinking too much alcohol, by disease in the gallbladder, or by a virus. [NIH]

**Peptic:** Pertaining to pepsin or to digestion; related to the action of gastric juices. [EU]

**Prolapse:** 1. the falling down, or sinking, of a part or viscus; procidentia. 2. to undergo such displacement. [EU]

**Warts:** Benign epidermal proliferations or tumors; some are viral in origin. [NIH]

## CHAPTER 3. CLINICAL TRIALS AND IRRITABLE BOWEL SYNDROME

### Overview

Very few medical conditions have a single treatment. The basic treatment guidelines that your physician has discussed with you, or those that you have found using the techniques discussed in Chapter 1, may provide you with all that you will require. For some patients, current treatments can be enhanced with new or innovative techniques currently under investigation. In this chapter, we will describe how clinical trials work and show you how to keep informed of trials concerning irritable bowel syndrome.

### What Is a Clinical Trial?<sup>15</sup>

Clinical trials involve the participation of people in medical research. Most medical research begins with studies in test tubes and on animals. Treatments that show promise in these early studies may then be tried with people. The only sure way to find out whether a new treatment is safe, effective, and better than other treatments for irritable bowel syndrome is to try it on patients in a clinical trial.

---

<sup>15</sup> The discussion in this chapter has been adapted from the NIH and the NEI: [www.nei.nih.gov/netrials/ctivr.htm](http://www.nei.nih.gov/netrials/ctivr.htm).

## What Kinds of Clinical Trials Are There?

Clinical trials are carried out in three phases:

- **Phase I.** Researchers first conduct Phase I trials with small numbers of patients and healthy volunteers. If the new treatment is a medication, researchers also try to determine how much of it can be given safely.
- **Phase II.** Researchers conduct Phase II trials in small numbers of patients to find out the effect of a new treatment on irritable bowel syndrome.
- **Phase III.** Finally, researchers conduct Phase III trials to find out how new treatments for irritable bowel syndrome compare with standard treatments already being used. Phase III trials also help to determine if new treatments have any side effects. These trials--which may involve hundreds, perhaps thousands, of people--can also compare new treatments with no treatment.

## How Is a Clinical Trial Conducted?

Various organizations support clinical trials at medical centers, hospitals, universities, and doctors' offices across the United States. The "principal investigator" is the researcher in charge of the study at each facility participating in the clinical trial. Most clinical trial researchers are medical doctors, academic researchers, and specialists. The "clinic coordinator" knows all about how the study works and makes all the arrangements for your visits.

All doctors and researchers who take part in the study on irritable bowel syndrome carefully follow a detailed treatment plan called a protocol. This plan fully explains how the doctors will treat you in the study. The "protocol" ensures that all patients are treated in the same way, no matter where they receive care.

Clinical trials are controlled. This means that researchers compare the effects of the new treatment with those of the standard treatment. In some cases, when no standard treatment exists, the new treatment is compared with no treatment. Patients who receive the new treatment are in the treatment group. Patients who receive a standard treatment or no treatment are in the "control" group. In some clinical trials, patients in the treatment group get a new medication while those in the control group get a placebo. A placebo is a harmless substance, a "dummy" pill, that has no effect on irritable bowel syndrome. In other clinical trials, where a new surgery or device (not a medicine) is being tested, patients in the control group may receive a "sham



treatment.” This treatment, like a placebo, has no effect on irritable bowel syndrome and does not harm patients.

Researchers assign patients “randomly” to the treatment or control group. This is like flipping a coin to decide which patients are in each group. If you choose to participate in a clinical trial, you will not know which group you will be appointed to. The chance of any patient getting the new treatment is about 50 percent. You cannot request to receive the new treatment instead of the placebo or sham treatment. Often, you will not know until the study is over whether you have been in the treatment group or the control group. This is called a “masked” study. In some trials, neither doctors nor patients know who is getting which treatment. This is called a “double masked” study. These types of trials help to ensure that the perceptions of the patients or doctors will not affect the study results.

### **Natural History Studies**

Unlike clinical trials in which patient volunteers may receive new treatments, natural history studies provide important information to researchers on how irritable bowel syndrome develops over time. A natural history study follows patient volunteers to see how factors such as age, sex, race, or family history might make some people more or less at risk for irritable bowel syndrome. A natural history study may also tell researchers if diet, lifestyle, or occupation affects how a disease or disorder develops and progresses. Results from these studies provide information that helps answer questions such as: How fast will a disease or disorder usually progress? How bad will the condition become? Will treatment be needed?

### **What Is Expected of Patients in a Clinical Trial?**

Not everyone can take part in a clinical trial for a specific disease or disorder. Each study enrolls patients with certain features or eligibility criteria. These criteria may include the type and stage of disease or disorder, as well as, the age and previous treatment history of the patient. You or your doctor can contact the sponsoring organization to find out more about specific clinical trials and their eligibility criteria. If you are interested in joining a clinical trial, your doctor must contact one of the trial’s investigators and provide details about your diagnosis and medical history.

If you participate in a clinical trial, you may be required to have a number of medical tests. You may also need to take medications and/or undergo

surgery. Depending upon the treatment and the examination procedure, you may be required to receive inpatient hospital care. Or, you may have to return to the medical facility for follow-up examinations. These exams help find out how well the treatment is working. Follow-up studies can take months or years. However, the success of the clinical trial often depends on learning what happens to patients over a long period of time. Only patients who continue to return for follow-up examinations can provide this important long-term information.

## Recent Trials on Irritable Bowel Syndrome

The National Institutes of Health and other organizations sponsor trials on various diseases and disorders. Because funding for research goes to the medical areas that show promising research opportunities, it is not possible for the NIH or others to sponsor clinical trials for every disease and disorder at all times. The following lists recent trials dedicated to irritable bowel syndrome.<sup>16</sup> If the trial listed by the NIH is still recruiting, you may be eligible. If it is no longer recruiting or has been completed, then you can contact the sponsors to learn more about the study and, if published, the results. Further information on the trial is available at the Web site indicated. Please note that some trials may no longer be recruiting patients or are otherwise closed. Before contacting sponsors of a clinical trial, consult with your physician who can help you determine if you might benefit from participation.

- **Treatment of Functional Bowel Disorders**

Condition(s): Irritable Bowel Syndrome; Constipation; Abdominal Pain; Functional Colonic Diseases

Study Status: This study is currently recruiting patients.

Sponsor(s): National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

Purpose - Excerpt: The primary purpose for this study is to compare clinical treatments for patients with functional bowel disorders (irritable bowel syndrome, abdominal pain, painful constipation) in women. We also plan to: 1) determine what clinical features (medical or psychological) determine which patients will improve to these treatments, and 2) understand if there are any physiological features that relate to improvement in symptoms and response to the treatments. We will compare a psychological treatment (cognitive-behavioral therapy - CBT) with education/attention placebo, and an antidepressant drug

---

<sup>16</sup> These are listed at [www.ClinicalTrials.gov](http://www.ClinicalTrials.gov).

(desipramine) with a pill placebo. This is the first large-scale study designed to determine the therapeutic effects of these methods, and to also determine interactions among physiologic measures, psychologic and sociodemographic factors, severity of symptoms, and therapeutic improvement including quality of life.

Phase(s): Phase III

Study Type: Interventional

Contact(s): see Web site below

Web Site:

<http://clinicaltrials.gov/ct/gui/show/NCT00006157;jsessionid=24C20026D48427A8713545261395E395>

## Benefits and Risks<sup>17</sup>

### What Are the Benefits of Participating in a Clinical Trial?

If you are interested in a clinical trial, it is important to realize that your participation can bring many benefits to you and society at large:

- A new treatment could be more effective than the current treatment for irritable bowel syndrome. Although only half of the participants in a clinical trial receive the experimental treatment, if the new treatment is proved to be more effective and safer than the current treatment, then those patients who did not receive the new treatment during the clinical trial may be among the first to benefit from it when the study is over.
- If the treatment is effective, then it may improve health or prevent diseases or disorders.
- Clinical trial patients receive the highest quality of medical care. Experts watch them closely during the study and may continue to follow them after the study is over.
- People who take part in trials contribute to scientific discoveries that may help other people with irritable bowel syndrome. In cases where certain diseases or disorders run in families, your participation may lead to better care or prevention for your family members.

---

<sup>17</sup> This section has been adapted from ClinicalTrials.gov, a service of the National Institutes of Health:  
[http://www.clinicaltrials.gov/ct/gui/c/a1r/info/whatis?JServSessionIdzone\\_ct=9jmun6f291](http://www.clinicaltrials.gov/ct/gui/c/a1r/info/whatis?JServSessionIdzone_ct=9jmun6f291).

## **The Informed Consent**

Once you agree to take part in a clinical trial, you will be asked to sign an “informed consent.” This document explains a clinical trial’s risks and benefits, the researcher’s expectations of you, and your rights as a patient.

## **What Are the Risks?**

Clinical trials may involve risks as well as benefits. Whether or not a new treatment will work cannot be known ahead of time. There is always a chance that a new treatment may not work better than a standard treatment. There is also the possibility that it may be harmful. The treatment you receive may cause side effects that are serious enough to require medical attention.

## **How Is Patient Safety Protected?**

Clinical trials can raise fears of the unknown. Understanding the safeguards that protect patients can ease some of these fears. Before a clinical trial begins, researchers must get approval from their hospital’s Institutional Review Board (IRB), an advisory group that makes sure a clinical trial is designed to protect patient safety. During a clinical trial, doctors will closely watch you to see if the treatment is working and if you are experiencing any side effects. All the results are carefully recorded and reviewed. In many cases, experts from the Data and Safety Monitoring Committee carefully monitor each clinical trial and can recommend that a study be stopped at any time. You will only be asked to take part in a clinical trial as a volunteer giving informed consent.

## **What Are a Patient’s Rights in a Clinical Trial?**

If you are eligible for a clinical trial, you will be given information to help you decide whether or not you want to participate. As a patient, you have the right to:

- Information on all known risks and benefits of the treatments in the study.
- Know how the researchers plan to carry out the study, for how long, and where.
- Know what is expected of you.

- Know any costs involved for you or your insurance provider.
- Know before any of your medical or personal information is shared with other researchers involved in the clinical trial.
- Talk openly with doctors and ask any questions.

After you join a clinical trial, you have the right to:

- Leave the study at any time. Participation is strictly voluntary. However, you should not enroll if you do not plan to complete the study.
- Receive any new information about the new treatment.
- Continue to ask questions and get answers.
- Maintain your privacy. Your name will not appear in any reports based on the study.
- Know whether you participated in the treatment group or the control group (once the study has been completed).

### **What about Costs?**

In some clinical trials, the research facility pays for treatment costs and other associated expenses. You or your insurance provider may have to pay for costs that are considered standard care. These things may include inpatient hospital care, laboratory and other tests, and medical procedures. You also may need to pay for travel between your home and the clinic. You should find out about costs before committing to participation in the trial. If you have health insurance, find out exactly what it will cover. If you don't have health insurance, or if your insurance company will not cover your costs, talk to the clinic staff about other options for covering the cost of your care.

### **What Should You Ask before Deciding to Join a Clinical Trial?**

Questions you should ask when thinking about joining a clinical trial include the following:

- What is the purpose of the clinical trial?
- What are the standard treatments for irritable bowel syndrome? Why do researchers think the new treatment may be better? What is likely to happen to me with or without the new treatment?

- What tests and treatments will I need? Will I need surgery? Medication? Hospitalization?
- How long will the treatment last? How often will I have to come back for follow-up exams?
- What are the treatment's possible benefits to my condition? What are the short- and long-term risks? What are the possible side effects?
- Will the treatment be uncomfortable? Will it make me feel sick? If so, for how long?
- How will my health be monitored?
- Where will I need to go for the clinical trial? How will I get there?
- How much will it cost to be in the study? What costs are covered by the study? How much will my health insurance cover?
- Will I be able to see my own doctor? Who will be in charge of my care?
- Will taking part in the study affect my daily life? Do I have time to participate?
- How do I feel about taking part in a clinical trial? Are there family members or friends who may benefit from my contributions to new medical knowledge?

## Keeping Current on Clinical Trials

Various government agencies maintain databases on trials. The U.S. National Institutes of Health, through the National Library of Medicine, has developed ClinicalTrials.gov to provide patients, family members, and physicians with current information about clinical research across the broadest number of diseases and conditions.

The site was launched in February 2000 and currently contains approximately 5,700 clinical studies in over 59,000 locations worldwide, with most studies being conducted in the United States. ClinicalTrials.gov receives about 2 million hits per month and hosts approximately 5,400 visitors daily. To access this database, simply go to their Web site ([www.clinicaltrials.gov](http://www.clinicaltrials.gov)) and search by "irritable bowel syndrome" (or synonyms).

While ClinicalTrials.gov is the most comprehensive listing of NIH-supported clinical trials available, not all trials are in the database. The database is updated regularly, so clinical trials are continually being added. The

following is a list of specialty databases affiliated with the National Institutes of Health that offer additional information on trials:

- For clinical studies at the Warren Grant Magnuson Clinical Center located in Bethesda, Maryland, visit their Web site:  
<http://clinicalstudies.info.nih.gov/>
- For clinical studies conducted at the Bayview Campus in Baltimore, Maryland, visit their Web site:  
<http://www.jhbmc.jhu.edu/studies/index.html>
- For trials on diseases of the digestive system and kidneys, and diabetes, visit the National Institute of Diabetes and Digestive and Kidney Diseases: <http://www.niddk.nih.gov/patient/patient.htm>

## General References

The following references describe clinical trials and experimental medical research. They have been selected to ensure that they are likely to be available from your local or online bookseller or university medical library. These references are usually written for healthcare professionals, so you may consider consulting with a librarian or bookseller who might recommend a particular reference. The following includes some of the most readily available references (sorted alphabetically by title; hyperlinks provide rankings, information and reviews at Amazon.com):

- **A Guide to Patient Recruitment : Today's Best Practices & Proven Strategies** by Diana L. Anderson; Paperback - 350 pages (2001), CenterWatch, Inc.; ISBN: 1930624115;  
<http://www.amazon.com/exec/obidos/ASIN/1930624115/icongroupinterna>
- **A Step-By-Step Guide to Clinical Trials** by Marilyn Mulay, R.N., M.S., OCN; Spiral-bound - 143 pages Spiral edition (2001), Jones & Bartlett Pub; ISBN: 0763715697;  
<http://www.amazon.com/exec/obidos/ASIN/0763715697/icongroupinterna>
- **The CenterWatch Directory of Drugs in Clinical Trials** by CenterWatch; Paperback - 656 pages (2000), CenterWatch, Inc.; ISBN: 0967302935;  
<http://www.amazon.com/exec/obidos/ASIN/0967302935/icongroupinterna>
- **The Complete Guide to Informed Consent in Clinical Trials** by Terry Hartnett (Editor); Paperback - 164 pages (2000), PharmSource Information Services, Inc.; ISBN: 0970153309;  
<http://www.amazon.com/exec/obidos/ASIN/0970153309/icongroupinterna>

- **Dictionary for Clinical Trials** by Simon Day; Paperback - 228 pages (1999), John Wiley & Sons; ISBN: 0471985961;  
<http://www.amazon.com/exec/obidos/ASIN/0471985961/icongroupinterna>
- **Extending Medicare Reimbursement in Clinical Trials** by Institute of Medicine Staff (Editor), et al; Paperback 1st edition (2000), National Academy Press; ISBN: 0309068886;  
<http://www.amazon.com/exec/obidos/ASIN/0309068886/icongroupinterna>
- **Handbook of Clinical Trials** by Marcus Flather (Editor); Paperback (2001), Remedica Pub Ltd; ISBN: 1901346293;  
<http://www.amazon.com/exec/obidos/ASIN/1901346293/icongroupinterna>

## Vocabulary Builder

The following vocabulary builder gives definitions of words used in this chapter that have not been defined in previous chapters:

**Desipramine:** A tricyclic dibenzazepine compound that potentiates neurotransmission. Desipramine selectively blocks reuptake of norepinephrine from the neural synapse, and also appears to impair serotonin transport. This compound also possesses minor anticholinergic activity, through its affinity to muscarinic receptors. [NIH]



## **PART II: ADDITIONAL RESOURCES AND ADVANCED MATERIAL**

### **ABOUT PART II**

In Part II, we introduce you to additional resources and advanced research on irritable bowel syndrome. All too often, patients who conduct their own research are overwhelmed by the difficulty in finding and organizing information. The purpose of the following chapters is to provide you an organized and structured format to help you find additional information resources on irritable bowel syndrome. In Part II, as in Part I, our objective is not to interpret the latest advances on irritable bowel syndrome or render an opinion. Rather, our goal is to give you access to original research and to increase your awareness of sources you may not have already considered. In this way, you will come across the advanced materials often referred to in pamphlets, books, or other general works. Once again, some of this material is technical in nature, so consultation with a professional familiar with irritable bowel syndrome is suggested.



## CHAPTER 4. STUDIES ON IRRITABLE BOWEL SYNDROME

### Overview

Every year, academic studies are published on irritable bowel syndrome or related conditions. Broadly speaking, there are two types of studies. The first are peer reviewed. Generally, the content of these studies has been reviewed by scientists or physicians. Peer-reviewed studies are typically published in scientific journals and are usually available at medical libraries. The second type of studies is non-peer reviewed. These works include summary articles that do not use or report scientific results. These often appear in the popular press, newsletters, or similar periodicals.

In this chapter, we will show you how to locate peer-reviewed references and studies on irritable bowel syndrome. We will begin by discussing research that has been summarized and is free to view by the public via the Internet. We then show you how to generate a bibliography on irritable bowel syndrome and teach you how to keep current on new studies as they are published or undertaken by the scientific community.

### The Combined Health Information Database

The Combined Health Information Database summarizes studies across numerous federal agencies. To limit your investigation to research studies and irritable bowel syndrome, you will need to use the advanced search options. First, go to <http://chid.nih.gov/index.html>. From there, select the “Detailed Search” option (or go directly to that page with the following hyperlink: <http://chid.nih.gov/detail/detail.html>). The trick in extracting studies is found in the drop boxes at the bottom of the search page where “You may refine your search by.” Select the dates and language you prefer,

and the format option "Journal Article." At the top of the search form, select the number of records you would like to see (we recommend 100) and check the box to display "whole records." We recommend that you type in "irritable bowel syndrome" (or synonyms) into the "For these words:" box. Consider using the option "anywhere in record" to make your search as broad as possible. If you want to limit the search to only a particular field, such as the title of the journal, then select this option in the "Search in these fields" drop box. The following is a sample of what you can expect from this type of search:

- **'It's Not All in Your Head': Irritable Bowel Syndrome**

Source: AJN. American Journal of Nursing. 101(1): 26-34. January 2001.

Contact: Available from Lippincott Williams and Wilkins. AJN, P.O. Box 50480, Boulder, CO 80322-0480. (800) 627-0484 or (303) 604-1464.

Summary: This continuing education article reviews the nursing care for patients with irritable bowel syndrome (IBS). The authors note that it is now believed that IBS has a basis in visceral hypersensitivity (of the bowel wall) and abnormal gut motor function, possibly caused by anomalies in the gut brain connection. The syndrome is neither life threatening nor associated with the development of gastrointestinal diseases such as cancer, but IBS accounts for a significant number of medical visits and prescribed medications, as well as lost work time and reduced productivity. The syndrome tends to manifest with either diarrhea or constipation or with an alternating pattern of the two. Other common symptoms include mucus in the stool, a sensation of incomplete evacuation, looser or more frequent stools with pain, and relief of abdominal pain after defecation. It has been postulated that there are differences related to sex in motility patterns, symptom and psychological profiles, pain sensitivity, and access to health care. No one factor appears to be responsible for the symptoms in all patients with IBS. Diet, stressful events, and psychological distress may also exacerbate symptoms in vulnerable patients. Diagnosis of IBS occurs by exclusion; there is no biologic marker. Therapy usually focuses on the patient's predominant symptoms and can include patient education and reassurance, nonpharmacologic interventions, and pharmacologic (drug) interventions. One sidebar explores the connection between emotional (sexual) abuse and IBS, notably assessing the effect of self blame and self silencing. A posttest for receiving continuing education credits is appended to the article. 3 figures. 1 table. 50 references.

- **Management of the Irritable Bowel Syndrome**

Source: Gastroenterology. 120(3): 652-668. February 2001.

Contact: Available from W.B. Saunders Company. 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452. Website: [www.gastrojournal.org](http://www.gastrojournal.org).

Summary: Irritable bowel syndrome (IBS) is the most common disorder diagnosed by gastroenterologists and one of the more common ones encountered in general practice. This article reviews the management of IBS, focusing on the definitions, epidemiology, and pathophysiology as a means of understanding strategies for optimal management; the natural history and 'safety' of the disorder that justifies a conservation and reassuring approach to patients; and consideration of conventional and newer treatments of IBS. The overall prevalence rate is similar (approximately 10 percent) in most industrialized countries; the illness has a large economic impact on health care use and indirect costs, chiefly through absenteeism. IBS is a biopsychosocial disorder in which 3 major mechanisms interact: psychosocial factors, altered motility, and heightened sensory function of the intestine. Subtle inflammatory changes suggest a role for inflammation, especially after infectious enteritis, but this has not yet resulted in changes in the approach to patient treatment. Treatment of patients is based on positive diagnosis of the symptom complex, limited exclusion of underlying organic disease, and institution of a therapeutic trial. If patient symptoms are intractable, further investigations are needed to exclude specific motility (movement) or other disorders. Symptoms tend to fluctuate over time; treatment is often restricted to times when patients experience symptoms. Symptomatic treatment includes supplementing fiber to achieve a total intake of up to 30 grams in those with constipation, those taking loperamide or other opioids for diarrhea, and those taking low dose antidepressants or infrequently using antispasmodics for pain. Older conventional therapies do not address pain in IBS. Behavioral psychotherapy and hypnotherapy are also being evaluated. Novel approaches include alosetron; a 5 HT<sub>3</sub> antagonist, tegaserod, a partial 5 HT<sub>4</sub> agonist, K opioid agonists, and neurokinin antagonists to address the remaining challenging symptoms of pain, constipation, and bloating. The author concludes that understanding the brain gut connection is the key to the eventual development of effective therapies for IBS. 7 figures. 7 tables. 176 references.

- **Chronic Diarrhea: Differential Diagnosis and Management**

Source: Consultant. 41(1): 53-57. January 2001.

Contact: Available from Cliggott Publishing Company. 55 Holly Hill Lane, Box 4010, Greenwich, CT 06831-0010. (203) 661-0600.

Summary: Diarrhea that lasts longer than 4 weeks is considered chronic. This article reviews the differential diagnosis and management of patients with chronic diarrhea. Physicians are advised to first examine the patient for signs of fluid and nutritional depletion. Patients should be asked about exacerbating and alleviating factors, diet, drug use, recent travel, abdominal pain, weight loss, and stool characteristics. Blood in the diarrhea may implicate malignancy or chronic inflammatory bowel disease; food particles or oil in the stool may indicate maldigestion or malabsorption. Fecal leukocytes suggest inflammation, and eosinophilia is seen with neoplasms, allergy, collagen vascular diseases, parasitic infestation, and colitis. Stool analysis for fecal weight, osmotic gap, fat, occult blood, pH, and laxative abuse is often important in making the diagnosis. A 24 hour stool collection weighing less than 200 grams suggests incontinence, irritable bowel syndrome (IBS), or rectal disease, but not true diarrhea. Stool weight of more than 500 grams is rare with IBS; weight of less than 1,000 grams rules out pancreatic cholera syndrome. When the weight exceeds 2,000 grams per day, patients usually require intravenous fluids. Treatment options include bismuth subsalicylate, opiates, bulking agents, kaolin attapulgite, anticholinergics, and cholestyramine. 1 figure. 3 tables. 15 references.

- **Meta-Analysis of Smooth Muscle Relaxants in the Treatment of Irritable Bowel Syndrome**

Source: *Alimentary Pharmacology and Therapeutics*. 15(3): 355-361. March 2001.

Contact: Available from *Alimentary Pharmacology and Therapeutics*. Blackwell Science Ltd., Osney Mead, Oxford OX2 OEL, UK. +44(0)1865 206206. Fax +44(0)1865 721205. E-mail: journals.cs@blacksci.co.uk. Website: [www.blackwell-science.com](http://www.blackwell-science.com).

Summary: This review article updates previous overviews of placebo controlled double blind trials assessing the efficacy and tolerance of smooth muscle relaxants used to treat irritable bowel syndrome (IBS). A total of 23 randomized clinical trials were selected for meta analyses of their efficacy and tolerance. Six drugs were analyzed: cimetropium bromide (five trials), hyoscine butyl bromide (three trials), mebeverine (five trials), otilium bromide (four trials), pinaverium bromide (two trials), and trimebutine (four trials). The total number of patients included was 1,888, of which 945 received an active drug and 943 a placebo. The mean percentage of patients with global improvement was 38 percent in the placebo group (n = 925) and 56 percent in the myorelaxant group (n = 927). The percentage of patients with pain improvement was 41 percent in the placebo group (n = 568) and 53

percent in the myorelaxant group (n = 567). There was no significant difference for adverse events. The authors conclude that myorelaxants are superior to placebo in the management of IBS. These drugs showed significant efficacy on the global assessment despite a high placebo effect (38 percent global improvement), with a range of difference from 31 percent for cimetropium to 11 percent for hyoscin. The efficacy was also significant and in the same range for pain relief, as well as for abdominal distension relief, although lower. There was no significant difference for transit abnormalities, diarrhea, or constipation. 4 figures. 1 table. 37 references.

- **Slow Transit Constipation**

Source: Gastroenterology Clinics of North America. 30(1): 77-95. March 2001.

Contact: Available from W.B. Saunders Company. 6277 Sea Harbor Drive, Orlando, FL 32821-9816. (800) 654-2452.

Summary: This article reviews slow transit constipation, a clinical syndrome characterized by intractable constipation poorly responsive to dietary fiber and laxatives. Other gastrointestinal manifestations include abdominal pain, bloating, malaise, nausea, anorectal symptoms suggestive of difficult fecal expulsion, and delayed colonic transit without megacolon. Extragastrintestinal symptoms in this syndrome include painful or irregular menses, hesitancy in initiating micturition (urination), and somatic symptoms such as cold hands or blackout. The authors briefly discuss terminology and stress that slow transit constipation is the term used to define a disorder of colonic motor function, and is generally used for patients with delayed colonic transit but no underlying systemic disorder or pelvic floor dysfunction that explains their symptoms. The authors discuss epidemiology, pathophysiology, histology, clinical features, differential diagnosis, radiopaque marker diagnostic methods, scintigraphic techniques, medical treatments, surgical treatment, and the special situation of colonic dysfunction after spinal cord injury. The authors note that the disorder spans a spectrum of variable severity, ranging from patients who have relatively mild delays in transit but who are otherwise indistinguishable from irritable bowel syndrome patients at one extreme, to patients with colonic inertia or chronic megacolon at the other extreme. Potential mechanisms for impaired colonic propulsion include fewer colonic HAPCs (high amplitude propagated contractions) or a reduced colonic contractile response to a meal. The treatment is primarily medical; surgery is reserved for patients with severe disease or colonic inertia. 3 figures. 1 table. 85 references.

- **Food Hypersensitivity and Irritable Bowel Syndrome**

Source: *Alimentary Pharmacology and Therapeutics*. 15(4): 439-449. April 2001.

Contact: Available from *Alimentary Pharmacology and Therapeutics*. Blackwell Science Ltd., Osney Mead, Oxford OX2 OEL, UK. +44(0)1865 206206. Fax +44(0)1865 721205. E-mail: journals.cs@blacksci.co.uk. Website: [www.blackwell-science.com](http://www.blackwell-science.com).

Summary: Irritable bowel syndrome (IBS) is a common condition but its pathophysiology remains poorly understood. Many IBS patients give a history of food intolerance, but data from dietary elimination and good challenge studies are inconclusive. In this article, the evidence for the role of food hypersensitivity in IBS is reviewed and the authors propose a possible pathophysiological hypothesis. The gut has an extensive immune system but the current understanding of processing of food antigens in health and disease is limited. There is no clinically useful marker available to test for food hypersensitivity in IBS. Researchers have employed both skin tests and serum immunoglobulins (IgG and IgE) as markers of food hypersensitivity in various disorders including IBS, but published data are equivocal. The authors contend that data from dietary elimination and food challenge studies support the role of diet in the pathogenesis of a sub group of IBS patients. This hypothesis is supported by the response to disodium cromoglicate in such patients. Mast cells, with their ability to alter various aspects of gut physiology, are emerging as an integral component in this process. First, their close anatomical proximity to the neurons of the enteric nervous system makes them ideally suited for this role. Second, gut mucosal mast cell degranulation has been observed following direct challenge with food antigen, as an objective measure of food hypersensitivity. The authors call for further work on the exact mechanisms by which the gastrointestinal immune system handles food and microbial antigens in health and disease. 1 figure. 2 tables. 115 references.

- **Health-Related Quality of Life and Health Care Costs in Severe, Refractory Irritable Bowel Syndrome**

Source: *Annals of Internal Medicine*. 134(9 Part 2): 860-868. May 1, 2001.

Contact: Available from American College of Physicians. American Society of Internal Medicine. 190 North Independence Mall West, Philadelphia, PA 19106-1572. Website: [www.acponline.org](http://www.acponline.org).

Summary: The irritable bowel syndrome (IBS) may lead to considerable impairment of health related quality of life (HRQOL) and high health care costs. It is not clear whether these poor outcomes directly result from



severe bowel symptoms or if they reflect a coexisting psychiatric disorder. This article reports on a study undertaken to determine whether bowel symptom severity and psychological symptoms directly influence HRQOL and health care costs. The cross sectional survey took place at secondary and tertiary gastroenterology clinics and included 257 patients with severe IBS who did not respond to usual treatments and who were recruited for a trial of psychological treatment. Predictors were abdominal pain, entries in a diary of 10 IBS symptoms, and measures of psychological symptoms. Outcomes were inability to work, HRQOL, and health care and productivity costs. Abdominal pain occurred on average 24 days per month and activities were restricted on 145 days of the previous 12 months. The mean Hamilton depression score was 11.3 plus or minus 6.1. The physical component summary score was low and the patients had incurred high health care costs over the previous year. Global severity and somatization scores on the Symptom Checklist, abdominal pain, and Hamilton depression scores independently contributed to the physical component score, but only psychological scores were associated with disability due to ill health. These variables did not accurately predict health care or other costs. History of sexual abuse was not an independent predictor of outcome. The authors conclude that both abdominal and psychological symptoms are independently associated with impaired health related quality of life in patients with severe IBS. Optimal treatment is likely to require a holistic approach. Since health care and loss of productivity costs are not clearly associated with these symptoms, alleviation of them will not necessarily lead to reduced costs. 2 figures. 3 tables. 28 references.

- **Characteristics of Patients with Irritable Bowel Syndrome Recruited from Three Sources: Implications for Clinical Trials**

Source: *Alimentary Pharmacology and Therapeutics*. 15(7): 959-964. July 2001.

Contact: Available from *Alimentary Pharmacology and Therapeutics*. Blackwell Science Ltd., Osney Mead, Oxford OX2 OEL, UK. +44(0)1865 206206. Fax +44(0)1865 721205. E-mail: journals.cs@blacksci.co.uk. Website: [www.blackwell-science.com](http://www.blackwell-science.com).

Summary: Variation in the characteristics of irritable bowel syndrome (IBS) patients recruited for clinical trials from different sources could affect their response and the generalizability of trial results. This article reports on a study undertaken to describe and compare the characteristics of three different groups of IBS patients recruited into a 'mock clinical trial.' The authors enrolled 245 irritable bowel syndrome patients from three sources: 121 patients from British primary

practitioners; 72 patients from California newspaper advertisements; and 52 from a California gastroenterologist's practice. The authors obtained demographic, clinical, and Hospital Anxiety and Depression (HAD) Scale data for each patient. Most patients were young to middle aged women; in all three groups, the majority reported symptoms for longer than 5 years. Subject characteristics varied among the groups. Typically, primary care patients were anxious, smokers, and daily alcohol drinkers who had sought care recently for IBS and had tried antispasmodic drugs. Their symptoms were intermediate in severity between those of the other two groups. Advertisement subjects were the oldest, most highly educated, most often depressed, and were least likely to have sought care recently for symptoms, which were almost uniformly only moderate in severity. Gastroenterologist patients tended to be anxious and had nearly all sought care recently for symptoms, which were the most severe and most likely to include all three pain related Rome I criteria. The authors conclude that recruitment methodology affects important characteristics of an IBS study group. Trial reports should describe as completely as possible the recruitment method and the relevant subject characteristics to aid clinicians in deciding how the results might apply to their patients. 1 table. 26 references.

- **Does a Physically Active Lifestyle Improve Symptoms in Women with Irritable Bowel Syndrome?**

Source: *Gastroenterology Nursing*. 24(3): 129-137. May-June 2001.

Contact: Available from Williams and Wilkins. 351 West Camden Street, Baltimore, MD 21201-2436. (410) 528-8555.

Summary: It has been proposed that physical activity moderates physiological or psychological responses to chronic conditions. This article reports on a study undertaken to determine if women with a chronic functional gastrointestinal (GI) disorder (irritable bowel syndrome, or IBS) had less active lifestyles than healthy controls. The study also tested whether active women with IBS had less severe recalled or daily reports of GI, psychological, and somatic symptoms than inactive women with irritable bowel syndrome. Questionnaires were used to measure GI and psychological distress and somatic symptoms in 89 women who participated in the study. A daily symptom and activity diary was kept for one menstrual cycle. Women with IBS were significantly less likely to be active (48 percent) than control women (71 percent). Within the IBS group, active women were less likely to report a feeling of incomplete evacuation following a bowel movement than inactive women, yet active women did not have less severe recalled psychological or somatic symptoms than inactive women. Active women

with IBS reported less severe daily somatic symptoms, which were accounted for by a lower level of fatigue, but not daily GI or psychological symptoms. These results suggest that physical activity may produce select symptom improvement in women with IBS. 4 tables. 55 references.

- **Management of Irritable Bowel Syndrome: A European, Primary and Secondary Care Collaboration**

Source: European Journal of Gastroenterology and Hepatology. 13(8): 933- 939. August 2001.

Contact: Available from Rapid Science Publishers. 400 Market Street, Suite 750, Philadelphia, PA 19106. (800) 552-5866 or (215) 574-2210.

Summary: This article reports on the development of recommendations for the diagnosis and management of irritable bowel syndrome (IBS) for European doctors delivering primary medical care. These recommendations can be adapted by local medical groups according to their language, custom, and health care systems. The workshop, planned by a steering committee, was attended by 21 general practitioners and gastroenterologists from Europe. After a state of the art symposium, four working groups considered the following aspects of IBS management: what to tell the patient, diagnosis, non medical treatment, and psychosocial management. Current and future drug management was reviewed by the steering committee. The process permitted a unique dialog between general practitioners and gastroenterologists, in which it was necessary to reconcile the specialists' emphasis on thoroughness with the practical, epidemiological, and economic realities of primary care. The recommendations emphasize education of the patient, a positive symptom based diagnosis, dietary and lifestyle advice, psychological support, and a critical analysis of current specific psychological and pharmacological (drug) treatments. Patient education should be tailored to the patient's ideas, fears and expectations and should take into account their understanding of their IBS symptoms. The information can include the following elements: the symptoms are real, not imagined or merely psychological; IBS is chronic and fluctuates in severity and duration; factors that trigger symptoms are multiple and vary among patients and over time; the mind-gut link explains how stress, emotions, perceptions and thoughts can affect the symptoms; and the symptoms are not life threatening. The recommendations remind readers that some symptoms cannot be explained by IBS and should trigger further diagnosis; these include: fever, anemia, bleeding from the gut, significant weight loss, family history of cancer or inflammatory bowel disease, recent change in

bowel habit, over 45 years of age, and physical findings (e.g., an abdominal mass). 2 tables. 48 references.

- **Irritable Bowel Syndrome in Twins: Heredity and Social Learning Both Contribute to Etiology**

Source: *Gastroenterology* 121(4): 799-804. October 2001.

Contact: Available from W.B. Saunders Company. 6277 Sea Harbor Drive, Orlando, FL 32887-4800. (800) 654-2452. Website: [www.gastrojournal.org](http://www.gastrojournal.org).

Summary: The irritable bowel syndrome is a chronic functional gastrointestinal disorder characterized by abdominal discomfort or pain that begins with a change in the frequency or consistency of stool (diarrhea or constipation), that is relieved by defecation, and that is present in the absence of other diseases that could explain the symptoms. Heredity has been suggested to explain the finding that irritable bowel syndrome (IBS) tends to run in families. This article reports on a study undertaken to assess the relative contribution of genetic and environmental (social learning) influences on the development of IBS by comparing concordance rates in monozygotic (identical) and dizygotic (fraternal) twins to concordance between mothers and their children. Questionnaires soliciting information on the occurrence of more than 80 health problems, including IBS, in self and other family members were sent to both members of 11,986 twin pairs. The authors' analysis is based on 10,699 respondents representing 6,060 twin pairs. Concordance for IBS was significantly greater in monozygotic (17.2 percent) than in dizygotic (8.4 percent) twins, supporting a genetic contribution to IBS. However, the proportion of dizygotic twins with IBS who have mothers with IBS (15.2 percent) was greater than the proportion of dizygotic twins with IBS who have co-twins with IBS (6.7 percent). Logistic regression analysis showed that having a mother with IBS and having a father with IBS are independent predictors of irritable bowel status; both are stronger predictors than having a twin with IBS. Addition of information about the other twin accounted for little additional predictive power. The authors conclude that heredity contributes to development of IBS, but social learning (what an individual learns from those in his or her environment) has an equal or greater influence. 1 figure. 2 tables. 18 references.

- **Treatment of Irritable Bowel Syndrome: New Approaches for a New Century**

Source: *Practical Gastroenterology*. 25(8): 13-14. August 2001.

Contact: Available from Shugar Publishing. 12 Moniebogue Lane, Westhampton Beach, NY 11978. (516) 288-4404. Fax (516) 288-4435.

Summary: This editorial serves as an introduction to a series of articles on irritable bowel syndrome (IBS). The authors note that major events have occurred in the last five years that demonstrate the role of heightened sensation to visceral pain in patients with IBS. This work has been followed by a rapidly enlarging body of knowledge using PET scanning and functional MRI imaging to detect alterations in brain activation in IBS patients. The authors emphasize that IBS does not occur in a biological vacuum, i.e., patients who seek treatment for IBS are more psychologically disturbed than patients with IBS who do not choose to seek medical care, and patients with functional GI disorders are more likely to have suffered physical or sexual abuse than patients with structurally originated GI conditions. It has become clear that gender, psychosocial trauma, concomitant psychiatric disorders, and a patient's health beliefs all can influence the acceptance of, adherence to, and improvement on a treatment regimen for IBS. The development of psychotherapeutic approaches, improvements in our understanding of the impact of gender and family history on treatment response, and the importance of screening for psychological disorders and psychosocial stress are all now recognized as key elements of optimal treatment. The series of articles (published in the same journal issue) reviews recent developments in the treatment of IBS using serotonergically active agents, antidepressants and antispasmodics, as well as the psychosocial dimensions that have an impact on optimal care of patients with IBS. 4 references.

- **Use of Endoscopy in Patients with Gastrointestinal Motility Problems**

Source: Journal of Clinical Gastroenterology. 33(3): 185-190. 2001.

Contact: Available from Lippincott Williams and Wilkins, Inc. 12107 Insurance Way, Hagerstown, MD 21740. (800) 638-3030 or (301) 714-2300.

Summary: Gastrointestinal motility (movement) disorders are a commonly encountered problem. Although some are associated with organic alterations, others are defined by their symptoms, and no anatomic or histological organic changes are to be found. In most cases, the etiology (cause) is completely unclear. This article reviews the use of endoscopy in patients with gastrointestinal motility problems. Endoscopy, with the option of obtaining biopsies for histopathologic evaluation, plays the most important role in the diagnostic workup, as it can exclude such lesions as tumors, ulcers, inflammatory processes, and diverticula and it helps to define the grade and extent of motility-associated diseases (such as gastroesophageal reflux disease or GERD).

Furthermore, endoscopic interventional procedures offer sufficient treatment of several motility-related disorders, including achalasia, GERD, and secondary constipation. The authors discuss the use of endoscopy for cricopharyngeal dysfunction, spastic disorders of the esophagus, achalasia, GERD, gastroparesis (delay in gastric emptying, often a complication of diabetes mellitus), functional dyspepsia (heartburn), irritable bowel syndrome (IBS), and chronic constipation. 6 figures. 57 references.

## Federally-Funded Research on Irritable Bowel Syndrome

The U.S. Government supports a variety of research studies relating to irritable bowel syndrome and associated conditions. These studies are tracked by the Office of Extramural Research at the National Institutes of Health.<sup>18</sup> CRISP (Computerized Retrieval of Information on Scientific Projects) is a searchable database of federally-funded biomedical research projects conducted at universities, hospitals, and other institutions. Visit the site at [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket). You can perform targeted searches by various criteria including geography, date, as well as topics related to irritable bowel syndrome and related conditions.

For most of the studies, the agencies reporting into CRISP provide summaries or abstracts. As opposed to clinical trial research using patients, many federally-funded studies use animals or simulated models to explore irritable bowel syndrome and related conditions. In some cases, therefore, it may be difficult to understand how some basic or fundamental research could eventually translate into medical practice. The following sample is typical of the type of information found when searching the CRISP database for irritable bowel syndrome:

- **Project Title: Cilansetron in Non-Constipated Pts w/ Irritable Bowel Syndrome**

Principal Investigator & Institution: Whitehead, William E.; University of North Carolina Chapel Hill Box 2688, 910 Raleigh Rd Chapel Hill, Nc 27515

---

<sup>18</sup> Healthcare projects are funded by the National Institutes of Health (NIH), Substance Abuse and Mental Health Services (SAMHSA), Health Resources and Services Administration (HRSA), Food and Drug Administration (FDA), Centers for Disease Control and Prevention (CDCP), Agency for Healthcare Research and Quality (AHRQ), and Office of Assistant Secretary of Health (OASH).

Timing: Fiscal Year 2000; Project Start 1-OCT-1974; Project End 0-NOV-2002

Summary: The study is a double-blinded, placebo-controlled, randomized, multicenter, parallel-group dose finding study to investigate the efficacy and safety of four different doses of Cilansetron (1mg, 2mg, 8mg and 16 mg TID) to placebo in non-constipated patients with established irritable bowel syndrome. The primary efficacy parameter is the responder rate for IBS symptoms based on a weekly assessment of adequate relief of IBS symptoms (abdominal pain/discomfort, abnormal bowel habits.)

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: Gradual Exposure Treatment for Irritable Bowel Syndrome**

Principal Investigator & Institution: Decola, Joseph P.; Psychology; University of California Los Angeles Box 951361, 405 Hilgard Ave Los Angeles, Ca 90095

Timing: Fiscal Year 2000; Project Start 1-APR-2000

Summary: The most commonly used non-medical treatment for Irritable Bowel Syndrome (IBS) is a combination of traditional stress management techniques and non-specific cognitive therapy methods. This general approach is used to treat patients with divergent target symptoms (i.e., constipation and diarrhea). A limitation of this approach is that the treatment is not derived from a clear theoretical model that identifies a specific process underlying the disorder or treatment. The present study is based on a strong theoretical model that offers specific predictions and treatment methods. The model assumes that hypervigilance and hypersensitivity to internal sensations in the gut are the critical perceptual mechanisms underlying IBS. These perceptual filters are the result of learning and conditioning processes and can be reversed with a cognitive-behavioral treatment that incorporates gradual exposure to internal sensations. Subject recruitment will be limited to IBS patients with diarrhea as the predominant symptom and the treatment will be implemented with a multiple baseline across subject design. The treatment will consist of several phases: education about the role of learning in the development of IBS symptoms; relaxation training; cognitive restructuring for overestimation and catastrophization errors; exposure to the feared internal sensations; and exposure to avoided situations. The goal of this treatment is to reverse the hypersensitivity and hypervigilance through gradual exposure to these stimuli. The broad objective of this research is to enhance the treatment for IBS and to test the predictions of this theoretical model.

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: SB 207266 A w/Placebo in Treatment of Irritable Bowel Syndrome**

Principal Investigator & Institution: Drossman, Douglas A.; University of North Carolina Chapel Hill Box 2688, 910 Raleigh Rd Chapel Hill, Nc 27515

Timing: Fiscal Year 2000

Summary: To establish the efficacy of SB-207266-A (20mg, 5mg and 1mg od) in the treatment of Irritable Bowel Syndrome (IBS) over a 12 week treatment period. Secondly, to compare the dose/response relationship of SB-207266-A at doses of 20mg, 5mg, and 1mg per day. Lastly to compare the safety and tolerability of SB-207266-A (20mg, 5mg, and 1mg od) with placebo.

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: SB-207266-A in Irritable Bowel Syndrome w/ HIV Infection**

Principal Investigator & Institution: Dalton, Christine; University of North Carolina Chapel Hill Box 2688, 910 Raleigh Rd Chapel Hill, Nc 27515

Timing: Fiscal Year 2000

Summary: This abstract is not available.

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: A Twin Study of Chronic Fatigue Syndrome in Sweden**

Principal Investigator & Institution: Pedersen, Nancy L.; Karolinska Institute Tomtebodavagen 11F Stockholm,

Timing: Fiscal Year 2001; Project Start 5-AUG-2001; Project End 1-JUL-2004

Summary: Despite considerable research, fundamental questions about CFS remain at best partially answered. These questions include its definition, validity, the degree to which it results from genetic versus environmental factors, the nature of the substantial comorbidity observed with other conditions, and the basis of the female preponderance. The overarching aim of this project is to shed light on a number of basic questions about CFS via a large, population-based classical twin study. First, we will collect data on approximately 32,000 adults aged 42-65 years (13,000 complete twin pairs) who are members of the population-based Swedish Twin Registry for persistent fatigue, several overlapping conditions (fibromyalgia, irritable bowel syndrome, tension headache,



allergy/eczema, generalized anxiety disorder, and major depression), and a detailed medical history. Second, the medical records of all twins who appear to have CFS-like illness and a subset of those with "CFS-explained" will be requested via an efficient national retrieval system. Following expert review, these individuals will be classified in regard to the CDC CFS criteria. Obtaining these unique data will allow us to address a set of critical questions regarding CFS. First, we will estimate the prevalence of CFS and its common comorbidities (fibromyalgia, irritable bowel syndrome, tension headache, allergy/eczema, generalized anxiety disorder, and major depression) in one of the largest samples yet studied. Second, we will use a variety of multivariate techniques to derive an empirical typology of prolonged fatigue and to assess how this typology compares to the CFS definition. Third, we will quantify the genetic and environmental sources of variation for CFS and its comorbid conditions. Fourth, critically, we will examine the influence of gender on these sources of variation. Finally, we will analyze the patterns of comorbidity between CFS and fibromyalgia, irritable bowel syndrome, tension headache, allergy/eczema, generalized anxiety disorder, and major depression using multivariate twin analyses and thereby to estimate the extent of overlap between the shared and unique genetic and environmental sources of variation. In concert with other twin studies being conducted by the investigators and their collaborators, we hope to hasten progress in understanding the etiology of CFS by parallel studies in multiple populations. The current proposal has several unique aims and represents a cost-effective means to extend this work in an epidemiological sample that is arguably the best twin registry in the world.

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: Alpha-2 Adrenergic Control of Colonic Function in IBS**

Principal Investigator & Institution: Camilleri, Michael L.; Professor of Medicine and Physiology; Mayo Clinic Rochester 200 1st St Sw Rochester, Mn 55905

Timing: Fiscal Year 2000; Project Start 1-DEC-1976; Project End 0-NOV-2004

Summary: Our hypotheses are that alpha-2 adrenergic mechanisms modulate colonic sensation in health and in patients with irritable bowel syndrome associated with increased frequency of bowel movements and urgency; and that lower doses of the alpha-2 agonist, clonidine, are required to reduce colonic sensation in IBS compared to health; these antinociceptive effects are achieved without altering colonic compliance or motor function in patients with irritable bowel syndrome. The specific

aims of the study are to study the alpha-2 adrenergic modulation of colonic compliance, tone and sensation in healthy human volunteers; to study the alpha-2 adrenergic modulation of gastrointestinal and colonic transit time in healthy human volunteers; and to study the alpha-2 adrenergic modulation of colonic transit, tone, compliance, and sensation in patients with well-characterized autonomic function who have irritable bowel syndrome associated with increased frequency of bowel movements and/or urgency.

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: Central Mechanisms Modulating Visceral Hypersensitivity**

Principal Investigator & Institution: Greenwood-Van Meerveld, Beverl; Scientific Director; Oklahoma Foundation for Digestive Res Digestive Research Oklahoma City, Ok 73104

Timing: Fiscal Year 2000; Project Start 0-SEP-2000; Project End 1-AUG-2002

Summary: Irritable bowel syndrome (IBS) symptoms are due in part to alterations in visceral sensation. IBS symptoms are frequently exacerbated by stress and anxiety, which suggests a link between cognitive and peripheral autonomic activity. The amygdala has been implicated as a key limbic structure involved in anxiety and activation of the hypothalamic-pituitary-adrenocortical axis. It has been demonstrated that administration of glucocorticoids in the area of the amygdala increases anxiety in rats. Furthermore, rats genetically predisposed to heightened levels of anxiety display a hypersensitive response to colonic distention. The PI hypothesizes that manipulation of amygdala function by glucocorticoids induces colonic hypersensitivity through modulation of spinal neuronal activity. The PI proposes to modulate anxiety by manipulating amygdala function directly with corticosterone and specific glucocorticoid antagonists to determine mechanisms by which the CNS regulates visceral sensitivity. Visceromotor reflexes in response to colorectal distention will be used to determine visceral hypersensitivity in rats with normal and "hypersensitive" colons. It is proposed that chronic stress resulting in elevated glucocorticoid levels could, through the amygdala, modulate the function of critical spinal neurons involved in the colonic stimuli. To further explore the mechanisms involved the PI will modulate amygdala function with glucocorticoids and its effect on spinal cord neuronal activity. Recordings will be made from rat lumbosacral spinal nerves in response to colonic distention following treatment with corticosterone or specific antagonists delivered to the amygdala. This R21 proposal will develop collaborations among

scientists in GI neurophysiology, pharmacology, and neuroendocrinology.

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: Gender Related Difference in Visceral Sensitivity in IBS**

Principal Investigator & Institution: Naliboff, Bruce D.; None; University of California Los Angeles Box 951361, 405 Hilgard Ave Los Angeles, Ca 90095

Timing: Fiscal Year 2000; Project Start 5-SEP-1998; Project End 1-JUL-2002

Summary: Based on clinical studies, women are more likely than men to experience a variety of chronic, recurrent visceral pain syndromes such as interstitial cystitis or irritable bowel syndrome (IBS). However, in contrast to well-characterized sex differences in animal models, experimental evidence to support gender differences in human pain perception remains inconclusive and mechanisms remain poorly understood. Potential mechanisms that may underlie gender-related differences in perception of visceral pain included fixed sexual dimorphism of brain regions concerned with central processing of noxious stimuli, and transient hormone-related cyclic modifiers of central pain processing. Since women are more likely than men to experience pain affecting pelvic viscera during copulation, pregnancy and labor, it is hypothesized that women exhibit differences in at least two type of responses to potential harmful sensations arising from the pelvic organs: altered activation of endogenous pain inhibition systems and altered attentional processes including hyper-vigilance. In the current proposal, the investigators will test the general hypothesis by determining gender-related differences in healthy control subjects and in IBS patients using H21502 PET imaging of the brain together with measurement of perceptual, autonomic, and neuroendocrine responses to noxious rectosigmoid stimulation. They will utilize two visceral stimulus paradigms based on previous work, one tests visceral sensitization from sigmoid colon conditioning and the other anticipatory responses to expected high and low intensity visceral sensation. This will allow for direct comparison of perceptual and sensory gender-related factors in IBS. The investigators will also separately examine stable, non-hormonal factors (in women on oral contraceptives) and hormonal factors (in ovulating women during the luteal and perimenstruation periods).

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: Intergenerational Transmission of Illness Behavior**

Principal Investigator & Institution: Levy, Rona L.; Professor; None; University of Washington Seattle, Wa 98195

Timing: Fiscal Year 2000; Project Start 1-APR-1999; Project End 1-MAR-2003

Summary: U.S. health care costs may reach \$2 trillion by the year 2000. Over- utilization is one of the major reasons given for rising health care costs. Illness behavior patterns, including health care utilization and disability days, run in families, and parental modeling and reinforcement have been proposed as likely mechanisms to explain family aggregation patterns. However, studies of parental reinforcement of illness behavior have been limited by retrospective reports from adults about their childhood experiences. The first aim of this study is to assess the way parents respond to their children's somatic complaints and to assess the relationship of parental reinforcement and modeling to various measures of illness behavior in their children. The long term goal is the development of an intervention model for prevention or reducing inappropriate illness behavior. A second aim is to determine whether the effects of modeling and reinforcement are independent of the psychosocial variables of family stress, competence, and parent and child psychological symptoms in determining child illness behavior. The proposed study will focus on gastrointestinal illness behavior in the children of adults with irritable bowel syndrome (IBS). Subjects will consist of children aged 8-16 years whose mothers have sought care for IBS from a defined managed care (HMO) population, control children whose mothers have sought care for asthma. All families will be randomly selected from the same population. For the IBS and non-IBS controls, questionnaire, interview and diary data will be obtained from parents and children on illness behavior, reinforcement, psychological symptoms, stress coping, and beliefs about illness, and school attendance data will be obtained from the schools. For all subjects, data will be collected from the HMO database on number, cost, type, and diagnosis for all parent and child health care visits. Data from the HMO and schools will be obtained prospectively for two years after entering the study and retrospectively for the two years prior to entering the study.

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: Mechanisms and Modulation of Visceral Pain**

Principal Investigator & Institution: Gebhart, G F.; Professor and Chair; Pharmacology; University of Iowa Iowa City, Ia 52242

Timing: Fiscal Year 2000; Project Start 1-JUL-1983; Project End 0-JUN-2005

Summary: (adapted from applicant's abstract): Visceral pain, particularly visceral hyperalgesia such as is associated with the functional bowel disorders like irritable bowel syndrome, is poorly understood. Because

functional bowel disorders are characterized by increased sensitivity to gastrointestinal stimulation, pain and discomfort, they represent a visceral hyperalgesia. Increasing interest over the past decade or more has contributed significant knowledge about visceral pain mechanisms. The current application proposes to build on this base of knowledge to develop and characterize models of visceral hyperalgesia that relate closely to clinical conditions typified by irritable bowel syndrome. Specifically, this proposal will focus on examination and characterization of peripheral contributions to the development and maintenance of visceral hyperalgesia. The first aim will be to develop appropriate models of irritable bowel syndrome and contrast those models with a model of colonic inflammation/colitis. It is hypothesized that changes in the excitability of visceral sensory fibers contribute significantly to development of visceral hyperalgesia and the second aim of this proposal will be in vivo electrophysiological examination of pelvic nerve afferent fiber excitability. Because increases in excitability of pelvic nerve sensory fibers must arise from changes in the function of ion channels or receptors in their cell bodies and terminals, the third aim of this proposal is to study the excitability of identified colon sensory neurons. These aims are a logical extension of the current project and will continue important investigations into the mechanisms of visceral hyperalgesia. The proposed experiments comprise a quantitative study of visceral hyperalgesia, pelvic nerve sensory afferent fibers and colon sensory neurons that will lead to better understanding of the mechanisms responsible for visceral hyperalgesia.

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: Mechanisms of Chronic Visceral Hyperalgesia**

Principal Investigator & Institution: Al-Chaer, Elie D.; Internal Medicine; University of Texas Medical Br Galveston 301 University Blvd Galveston, Tx 77555

Timing: Fiscal Year 2001; Project Start 5-APR-2001; Project End 1-MAR-2005

Summary: Visceral hyperalgesia is a hallmark of the irritable bowel syndrome (IBS), an extremely common disorder, affecting up to 15 percent of the US population with a major socioeconomic impact. Our understanding of the hyperalgesia in functional pain syndromes such as IBS lags behind our knowledge of the mechanisms of other types of visceral pain that are mechanically-induced or caused by inflammatory reactions mainly because of the lack of a valid animal model. Recently, it was shown that functional abdominal pain can be modeled in animals. Colon irritation (CI) in neonatal but not adult rats, can cause a long

lasting visceral hyperalgesia that persists long after the initial injury has resolved. In this study, the central hypothesis is that persistent colonic hyperalgesia, residual to neonatal colon irritation, is associated with central neural sensitization maintained by an interactive exchange of information between the spinal cord and thalamus. HYPOTHESIS 1: There exists a postnatal window of time when minimal colon irritation can induce permanent changes in the nervous system that leads to chronic visceral hyperalgesia. SPECIFIC AIM] will define this window of time in postnatal development using noxious mechanical distension or chemical irritation of the colon to cause chronic visceral hyperalgesia. HYPOTHESIS 2: The persistent visceral hyperalgesia residual to neonatal CI is maintained by central plastic changes in neuronal sensitivity. SPECIFIC AIM 2 will demonstrate with immunocytochemistry and electrophysiology, that the chronic visceral hyperalgesia is associated with neuronal sensitization in the spinal cord and the thalamus. HYPOTHESIS 3: The sensitization is maintained in part by neuronal mechanisms involving glutamatergic and peptidergic processes. SPECIFIC AIM 3 will determine if blockade of glutamate or neurokinin receptors by specific antagonists will reduce the central sensitization. HYPOTHESIS 4: The central sensitization is maintained by an intact dorsal column (DC) participating in a feed-forward dynamic exchange of information between the dorsal horn of the spinal cord and the thalamus. SPECIFIC AIM 4 will demonstrate, using electrophysiology and behavior studies, that the sensitization is mediated by an intact DC-thalamus communication that maintains thalamic sensitization and amplifies spinal neuronal sensitivity via descending pathways. The long-term objective of the proposed study is to define the neurophysiological correlates of chronic visceral hyperalgesia and hence to identify novel therapeutic targets for the relief of pain in patients with functional bowel disorders.

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: Neuroendocrine Alterations in Fibromyalgia and IBS**

Principal Investigator & Institution: Chang, Lin; Medicine; University of California Los Angeles Box 951361, 405 Hilgard Ave Los Angeles, Ca 90095

Timing: Fiscal Year 2000; Project Start 3-SEP-1999; Project End 1-AUG-2004

Summary: The long-range goal of this proposal is to develop an understanding of the etiology of chronic functional pain syndromes, such as fibromyalgia (FM) and irritable bowel syndrome (IBS). The constellation of symptoms in the FM and IBS suggest a failure to

appropriately activate pain modulatory mechanisms, a failure to activate neuroendocrine stress mechanisms, and an alteration in the autonomic response. Our general hypothesis is that a neurobiological model exists in patients with FM and IBS, which includes as its primary components alterations in the following CNS responses to stressors: inadequate antinociceptive response, blunted hypothalamic-pituitary-adrenal (HPA) axis response and altered autonomic balance and responsiveness. By applying similar methodologies across two functional pain syndromes (FM, IBS, and IBS plus FM), we will elucidate if altered CNS circuits are shared by these functional disorders or are site-specific and may explain the differences in symptom expression in the somatic or visceral domains. The first aim is compare the visceral and somatic pain thresholds before and after a noxious conditioning stimulus in three female patient populations (IBS, FM and IBS plus FM) with female controls, which would allow us to determine if altered perceptual responses are due to hypersensitive afferent pathways, or to a failure to activate antinociceptive systems. To further characterize alterations in the activation of specific antinociceptive pathways in response to conditioning stimuli, we will assess the effect of pharmacological manipulations of the opioid system (fentanyl, naloxone), and the noradrenergic system (corticotropin-releasing hormone (CRH), dexamethasone) on pain thresholds. Finally, we will compare brain activation in regions known to play central roles in antinociception in the 4 study populations with H215O PET brain imaging during visceral and somatic stimuli before and after the conditioning stimulus. In the second aim, we will test the responsiveness of the HPA axis, which has been shown to be altered in patients with FM, in the 4 study populations and address the potential mechanisms to explain these HPA axis alterations. To characterize these alterations, we will obtain serial measurements of plasma cortisol and ACTH over a 24-hour period to assess baseline alterations in the diurnal pulsatile rhythm and synchrony of ACTH and cortisol. We will also assess HPA axis responsiveness to acute stress by comparing ACTH and cortisol levels before and after a visceral or somatic conditioning stimulus. Finally, in our third aim, we will compare autonomic responses to visceral and somatic stimuli during visceral and somatic conditioning paradigms. In order to determine if the response of central autonomic networks to visceral or somatic stimulation differ between the study groups, regional brain activation will be correlated to autonomic responses during the visceral and somatic stimuli in the PET studies using covariate analysis. The combination of experimental approaches should improve our understanding of the CNS mechanisms underlying functional pain syndromes.

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: Neuroimmune Mechanisms of Visceral Hyperalgesia**

Principal Investigator & Institution: Pezzone, Michael A.; Medicine; University of Pittsburgh at Pittsburgh 4200 5Th Ave Pittsburgh, Pa 15260

Timing: Fiscal Year 2000; Project Start 5-APR-1999; Project End 1-JAN-2004

Summary: The applicant for this Mentored Clinical Scientist Development Award is currently completing a Fellowship in Gastroenterology and Hepatology at the University of Pittsburgh Medical Center. During his training to obtain combined M.D. and Ph.D. degrees under the mentorship of Bruce Rabin, M.D., Ph.D., the candidate investigated extensively the neural and neuroendocrine mechanisms of stressor-induced immune alterations in the rat, focusing specifically on stress-activated CNS pathways that may modulate lymphocyte function. In these studies, the candidate identified stress-activated neurons in the rat CNS by using c-FOS expression as a marker of neuronal stimulation following acute footshock and conditioned stress. To further his career in academic medicine and to further develop his expertise in neuro-immune interactions and stress, the candidate has designed this research proposal to assess the roles of stress and intestinal inflammation in the development of visceral hyperalgesia in the gut. This model of colonic inflammation (trinitrobenzenesulfonic acid in ethanol) appears to be propagated by cells of the immune system and is subsequently modulated by stress. Understanding the pathophysiologic roles of these factors in the sensitization of gastrointestinal afferents will help further provide important information regarding the etiology and clinical course (including relapse) of painful bowel disorders such as irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD). Methods encompassing intestinal electrophysiology, neuropharmacology, histology, and mast cell growth factors will be used to evaluate, in a hapten-induced model of colonic inflammation, the chemical dialog between afferent nerves and inflammatory/immune cells is likely to contribute to the sensitization of gastrointestinal afferents in pathological conditions such as IBS and IBD. This dialog may be modulated by activity in autonomic pathways to the gut and/or by chemicals released from the pituitary gland during stress. Combining these new skills with those previously acquired, the applicant will be well-suited to study a variety of gastrointestinal disease states in addition to characterization of the neuroimmune mechanisms of visceral hyperalgesia.

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)



- **Project Title: NK Cell Activity and IBS Across the Menstrual Cycle**

Principal Investigator & Institution: Motzer, Sandra A.; Assistant Professor; Biobehavioral Nrsng/Hlth Sys; University of Washington Seattle, Wa 98195

Timing: Fiscal Year 2000; Project Start 1-APR-2000; Project End 1-MAR-2003

Summary: The purpose of this study is to compare natural killer (NK) cell percentage and activity across the menstrual cycle in women with and without irritable bowel syndrome (IBS). NK cells are unique amongst immune cells because their percentage and activity vary in response to many emotional, cognitive and physiological stressor (e.g., anxiety, depression, perceived lack of personal control, bereavement, and exercise). Cognitive/emotional stressors are often experienced by persons with chronic health disturbances. Further, NK function may be amenable to change with interventions targeting distress in normal persons, ill persons, or their caregivers. This study will compare a sample of women with a chronic health disturbance Further, NK function may be amenable to change with interventions targeting distress in normal persons, ill persons, or their caregivers. This study will compare a sample of women with a chronic health disturbance, IBS, with control women without chronic gastrointestinal (GI) symptoms. Differences in physiological arousal and immune function will be examined within the context of menstrual cycle phase. This study is innovative in that it is designed to examine the relationship between stress-related psychological and physiological variables and immune function within the context of menstrual cycle phase in 2 groups of women, one symptomatic without an identified underlying inflammatory component but with evidence of physiological arousal (HPA axis and SNS activation) and another as control. Prior research by others has documented elevated stress hormone levels in women with IBS. Preliminary data suggest innate immune function differs in women with and without symptomatic IBS. Specific aims are to: 1) describe the levels of specific immune function markers across menstrual cycle phases, and test for cycle phase and group difference sin normally menstruating women with and without IBS; 2) extend and affirm the work of others by describing levels of stress and ovarian hormones, and self-report distress across 3 menstrual cycle phases, and by testing for cycle phase and group differences in these variables; and 3) examine the relationship of immune function to measures of physiological arousal, physical and psychological distress, and ovarian hormones during each menstrual cycle phase. Descriptive and correlational statistical and repeated measures ANOVA will be used in data analysis. If a relationship exists between chronic

distress and NK cell function, there would be important clinical implications for identifying women at risk for experiencing chronic distress, and for developing and testing interventions targeting distress reduction in vulnerable populations.

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

- **Project Title: Perception and Modulation of Visceral Sensations**

Principal Investigator & Institution: Mayer, Emeran A.; Medicine; University of California Los Angeles Box 951361, 405 Hilgard Ave Los Angeles, Ca 90095

Timing: Fiscal Year 2001; Project Start 0-SEP-1996; Project End 1-MAY-2006

Summary: (Applicant's Abstract):The long range goal of this proposal is to develop a better understanding of CNS mechanisms involved in the generation of altered bowel habits and abdominal pain in Irritable Bowel Syndrome (IBS). The current proposal is based on the general hypothesis that these symptoms result from an enhanced responsiveness of central stress circuits, which manifests in altered autonomic responses, and alteration in endogenous pain modulation systems in responses to stressors. The investigator will test the following 3 main hypotheses: 1) IBS patients show enhanced perceptual, attentional, emotional and autonomic responses to acute psychological stress and to learned (conditioned) fear; 2) In response to acute psychological stress and to learned fear, IBS patients, compared to healthy controls, show decreased activation of brain regions which have noradrenergic (NE) innervation and which are part of central stress circuits (incl. amygdala, hippocampus, perigenual cingulate cortex, thalamus and periaqueductal grey); 3) The difference in regional brain activation is related to differences in central NE release between IBS patient and controls. Enhanced regional NE release in IBS patients is related to enhanced responsiveness of ascending NE pathways, which plays a central role in the mediation of responses to stress. We will compare responses of non-constipated IBS patients and healthy controls, using validated measures of autonomic function (skin conductance, heart rate variability, plasma epinephrine), psychophysical measures of viscera sensitivity, and functional brain imaging techniques (H2 150-PET, fMRI and EEG) with different spatial and temporal resolution. We will also test specific hypotheses related to gender differences in central and peripheral responses. In Aim 1, the investigator will characterize the effect of two acute, validated laboratory stressors on perceptual, emotional, autonomic and regional brain responses to rectal distension. In Aim 2, the PI will evaluate the differential effect of conditioned fear to visceral and somatic

stimuli on these responses. In Aim 3, the investigator will determine the effect of pharmacologically (yohimbine) induced enhanced central NE release, on regional brain metabolism, cerebral blood flow and electrical response during conditioned fear. The investigator expects that in LBS patients, the greater NE release in response to psychological stressors, learned fear and to yohimbine will be reflected in a biphasic brain activation pattern: An enhanced early response (detected by EEG, and reflecting enhanced activity of arousal systems), and a reduced later response, secondary to postsynaptic inhibition by excessive NE release (detected by fMRI and PET).

Website: [http://commons.cit.nih.gov/crisp3/CRISP.Generate\\_Ticket](http://commons.cit.nih.gov/crisp3/CRISP.Generate_Ticket)

## E-Journals: PubMed Central<sup>19</sup>

PubMed Central (PMC) is a digital archive of life sciences journal literature developed and managed by the National Center for Biotechnology Information (NCBI) at the U.S. National Library of Medicine (NLM).<sup>20</sup> Access to this growing archive of e-journals is free and unrestricted.<sup>21</sup> To search, go to <http://www.pubmedcentral.nih.gov/index.html#search>, and type “irritable bowel syndrome” (or synonyms) into the search box. This search gives you access to full-text articles. The following is a sample of items found for irritable bowel syndrome in the PubMed Central database:

- **Do published guidelines for evaluation of Irritable Bowel Syndrome reflect practice?** by Barbara P. Yawn, , Eva Lydick, , G Richard. Locke, Peter C. Wollan, Susan L. Bertram, and Margary J. Kurland; 2001  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=59674>
- **In the Literature: Irritable bowel syndrome: Could it be celiac disease?** by John Hoey; 2002 February 19  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=99362&renderertype=external>

---

<sup>19</sup> Adapted from the National Library of Medicine:

<http://www.pubmedcentral.nih.gov/about/intro.html>.

<sup>20</sup> With PubMed Central, NCBI is taking the lead in preservation and maintenance of open access to electronic literature, just as NLM has done for decades with printed biomedical literature. PubMed Central aims to become a world-class library of the digital age.

<sup>21</sup> The value of PubMed Central, in addition to its role as an archive, lies the availability of data from diverse sources stored in a common format in a single repository. Many journals already have online publishing operations, and there is a growing tendency to publish material online only, to the exclusion of print.

- **Increased risk of irritable bowel syndrome after bacterial gastroenteritis: cohort study** by Luis A Garcia Rodriguez and Ana Ruigomez; 1999 February 27  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=27756>

## The National Library of Medicine: PubMed

One of the quickest and most comprehensive ways to find academic studies in both English and other languages is to use PubMed, maintained by the National Library of Medicine. The advantage of PubMed over previously mentioned sources is that it covers a greater number of domestic and foreign references. It is also free to the public.<sup>22</sup> If the publisher has a Web site that offers full text of its journals, PubMed will provide links to that site, as well as to sites offering other related data. User registration, a subscription fee, or some other type of fee may be required to access the full text of articles in some journals.

To generate your own bibliography of studies dealing with irritable bowel syndrome, simply go to the PubMed Web site at **[www.ncbi.nlm.nih.gov/pubmed](http://www.ncbi.nlm.nih.gov/pubmed)**. Type "irritable bowel syndrome" (or synonyms) into the search box, and click "Go." The following is the type of output you can expect from PubMed for "irritable bowel syndrome" (hyperlinks lead to article summaries):

- **Individual and group hypnotherapy in treatment of refractory irritable bowel syndrome.**  
 Author(s): Harvey RF, Hinton RA, Gunary RM, Barry RE.  
 Source: Lancet. 1989 February 25; 1(8635): 424-5.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2563797&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2563797&dopt=Abstract)
- **Irritable bowel syndrome and dietary fiber.**  
 Author(s): Achord JL.  
 Source: J Am Diet Assoc. 1979 October; 75(4): 452-3.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=113444&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=113444&dopt=Abstract)

---

<sup>22</sup> PubMed was developed by the National Center for Biotechnology Information (NCBI) at the National Library of Medicine (NLM) at the National Institutes of Health (NIH). The PubMed database was developed in conjunction with publishers of biomedical literature as a search tool for accessing literature citations and linking to full-text journal articles at Web sites of participating publishers. Publishers that participate in PubMed supply NLM with their citations electronically prior to or at the time of publication.

- **Irritable bowel syndrome in Nigerians.**  
 Author(s): Atoba MA.  
 Source: Digestive Diseases and Sciences. 1988 April; 33(4): 414-6.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3349888&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3349888&dopt=Abstract)
- **Irritable bowel syndrome in women: the physician-patient relationship evolving.**  
 Author(s): Foxx-Orenstein AE, Clarida JC.  
 Source: J Am Osteopath Assoc. 2001 December; 101(12 Suppl Pt 2): S12-6. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11794749&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11794749&dopt=Abstract)
- **Irritable Bowel Syndrome.**  
 Author(s): Sach JA, Chang L.  
 Source: Curr Treat Options Gastroenterol. 2002 August; 5(4): 267-278.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=12095474&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12095474&dopt=Abstract)
- **Irritable bowel syndrome. An exploration of the patient perspective.**  
 Author(s): Meadows LM, Lackner S, Belic M.  
 Source: Clinical Nursing Research. 1997 May; 6(2): 156-70.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=9188288&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9188288&dopt=Abstract)
- **Irritable bowel syndrome: an update on therapeutic modalities.**  
 Author(s): Farhadi A, Bruninga K, Fields J, Keshavarzian A.  
 Source: Expert Opinion on Investigational Drugs. 2001 July; 10(7): 1211-22. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11772245&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11772245&dopt=Abstract)
- **Irritable bowel syndrome: clinical and psychopathological correlations.**  
 Author(s): Slepoy VD, Pezzotto SM, Kraier L, Burde L, Wohlwend K, Razzari E, Poletto L.  
 Source: Digestive Diseases and Sciences. 1999 May; 44(5): 1008-12.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10235611&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10235611&dopt=Abstract)

- **Irritable bowel syndrome: clinical presentations, enema users and dosage schedules of Ispaghula.**  
 Author(s): Agarwal BD.  
 Source: J Assoc Physicians India. 1990 August; 38(8): 604. No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2246220&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2246220&dopt=Abstract)
- **Irritable bowel syndrome: diagnosis and treatment.**  
 Author(s): Spollett GR.  
 Source: The Nurse Practitioner. 1989 August; 14(8): 32, 34, 37, Passim. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2671825&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2671825&dopt=Abstract)
- **Irritable bowel syndrome: therapeutic evaluation of indigenous drugs.**  
 Author(s): Yadav SK, Jain AK, Tripathi SN, Gupta JP.  
 Source: The Indian Journal of Medical Research. 1989 December; 90: 496-503.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2697693&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2697693&dopt=Abstract)
- **Irritable bowel syndrome: treatment update.**  
 Author(s): Goldsmith G, Patterson M.  
 Source: American Family Physician. 1985 January; 31(1): 191-5.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3966308&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3966308&dopt=Abstract)
- **Ispaghula therapy in irritable bowel syndrome: improvement in overall well-being is related to reduction in bowel dissatisfaction.**  
 Author(s): Jalihal A, Kurian G.  
 Source: Journal of Gastroenterology and Hepatology. 1990 September-October; 5(5): 507-13.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2129822&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2129822&dopt=Abstract)
- **Long-term treatment of irritable bowel syndrome: results of a randomized controlled trial.**  
 Author(s): Misra SP, Thorat VK, Sachdev GK, Anand BS.

Source: The Quarterly Journal of Medicine. 1989 October; 73(270): 931-9.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2697886&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2697886&dopt=Abstract)

- **Management of irritable bowel syndrome.**

Author(s): Prior A, Whorwell PJ.

Source: Biomedicine & Pharmacotherapy = Biomedecine & Pharmacotherapie. 1986; 40(1): 4-5.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3011142&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3011142&dopt=Abstract)

- **Management of the irritable bowel syndrome.**

Author(s): Camilleri M.

Source: Gastroenterology. 2001 February; 120(3): 652-68. Review.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11179242&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11179242&dopt=Abstract)

- **Management of the irritable bowel syndrome: a personal view.**

Author(s): Sullivan SN.

Source: Journal of Clinical Gastroenterology. 1983 December; 5(6): 499-502.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=6663041&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6663041&dopt=Abstract)

- **Menthol-beta-D-glucuronide: a potential prodrug for treatment of the irritable bowel syndrome.**

Author(s): Nolen HW 3rd, Friend DR.

Source: Pharmaceutical Research. 1994 December; 11(12): 1707-11.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=7899232&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7899232&dopt=Abstract)

- **Non-pharmacological treatments in the irritable bowel syndrome.**

Author(s): Leahy A, Epstein O.

Source: World Journal of Gastroenterology : Wjg. 2001 June; 7(3): 313-6. Review. No Abstract Available.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11819782&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11819782&dopt=Abstract)

- **Optimum dosage of ispaghula husk in patients with irritable bowel syndrome: correlation of symptom relief with whole gut transit time and stool weight.**

Author(s): Kumar A, Kumar N, Vij JC, Sarin SK, Anand BS.

Source: Gut. 1987 February; 28(2): 150-5.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3030900&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3030900&dopt=Abstract)

- **Patients with irritable bowel syndrome: health status and use of health care services.**

Author(s): Donker GA, Foets M, Spreeuwenberg P.

Source: Br J Gen Pract. 1999 October; 49(447): 787-92.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10885081&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10885081&dopt=Abstract)

- **Peppermint oil and irritable bowel syndrome.**

Author(s): Koch TR.

Source: The American Journal of Gastroenterology. 1998 November; 93(11): 2304-5. No Abstract Available.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=9820429&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9820429&dopt=Abstract)

- **Peppermint oil does not relieve the pain of irritable bowel syndrome.**

Author(s): Nash P, Gould SR, Bernardo DE.

Source: Br J Clin Pract. 1986 July; 40(7): 292-3. No Abstract Available.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3527248&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3527248&dopt=Abstract)

- **Peppermint oil for irritable bowel syndrome: a critical review and metaanalysis.**

Author(s): Pittler MH, Ernst E.

Source: The American Journal of Gastroenterology. 1998 July; 93(7): 1131-5.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=9672344&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9672344&dopt=Abstract)

- **Peppermint oil for the irritable bowel syndrome: a multicentre trial.**

Author(s): Dew MJ, Evans BK, Rhodes J.

Source: Br J Clin Pract. 1984 November-December; 38(11-12): 394, 398. No Abstract Available.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=6397219&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6397219&dopt=Abstract)

- **Perceptual hyperreactivity to auditory stimuli in patients with irritable bowel syndrome.**

Author(s): Blomhoff S, Jacobsen MB, Spetalen S, Dahm A, Malt UF.



Source: Scandinavian Journal of Gastroenterology. 2000 June; 35(6): 583-9.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10912657&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10912657&dopt=Abstract)

- **Pharmacologic treatment of the irritable bowel syndrome: a systematic review of randomized, controlled trials.**

Author(s): Jailwala J, Imperiale TF, Kroenke K.

Source: Annals of Internal Medicine. 2000 July 18; 133(2): 136-47. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10896640&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10896640&dopt=Abstract)

- **Prediction of outcome from cognitive-behavioral treatment of irritable bowel syndrome.**

Author(s): Blanchard EB, Scharff L, Payne A, Schwarz SP, Suls JM, Malamood H.

Source: Behaviour Research and Therapy. 1992 November; 30(6): 647-50.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=1417691&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1417691&dopt=Abstract)

- **Prevalence of irritable bowel syndrome in chronic fatigue.**

Author(s): Gomborone JE, Gorard DA, Dewsnap PA, Libby GW, Farthing MJ.

Source: J R Coll Physicians Lond. 1996 November-December; 30(6): 512-3.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=8961203&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8961203&dopt=Abstract)

- **Prognosis in the irritable bowel syndrome: a 5-year prospective study.**

Author(s): Harvey RF, Mauad EC, Brown AM.

Source: Lancet. 1987 April 25; 1(8539): 963-5.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2882351&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2882351&dopt=Abstract)

- **Psychologic considerations in the irritable bowel syndrome.**

Author(s): Whitehead WE, Crowell MD.

Source: Gastroenterology Clinics of North America. 1991 June; 20(2): 249-67. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2066151&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2066151&dopt=Abstract)

- **Psychologic Therapies for Irritable Bowel Syndrome.**

Author(s): Boyce P.

Source: Curr Treat Options Gastroenterol. 2001 August; 4(4): 323-331.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11469991&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11469991&dopt=Abstract)

- **Psychological aspects of irritable bowel syndrome.**  
Author(s): Langeluddecke PM.  
Source: The Australian and New Zealand Journal of Psychiatry. 1985 September; 19(3): 218-26. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3910018&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3910018&dopt=Abstract)
- **Psychological changes associated with self-regulatory treatments of irritable bowel syndrome.**  
Author(s): Blanchard EB, Radnitz C, Schwarz SP, Neff DF, Gerardi MA.  
Source: Biofeedback Self Regul. 1987 March; 12(1): 31-7.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3663736&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3663736&dopt=Abstract)
- **Psychological treatments for irritable bowel syndrome: a critique of controlled treatment trials.**  
Author(s): Talley NJ, Owen BK, Boyce P, Paterson K.  
Source: The American Journal of Gastroenterology. 1996 February; 91(2): 277-83. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=8607493&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8607493&dopt=Abstract)
- **Psychosocial aspects of assessment and treatment of irritable bowel syndrome in adults and recurrent abdominal pain in children.**  
Author(s): Blanchard EB, Scharff L.  
Source: J Consult Clin Psychol. 2002 June; 70(3): 725-38.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=12090379&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12090379&dopt=Abstract)
- **Psyllium and the irritable bowel syndrome.**  
Author(s): Greenbaum DS, Stein GE.  
Source: Annals of Internal Medicine. 1981 November; 95(5): 660. No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=7294571&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7294571&dopt=Abstract)

- **Psyllium therapy in the irritable bowel syndrome. A double-blind trial.**  
 Author(s): Longstreth GF, Fox DD, Youkeles L, Forsythe AB, Wolochow DA.  
 Source: Annals of Internal Medicine. 1981 July; 95(1): 53-6.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=7018336&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7018336&dopt=Abstract)
  
- **Quality of life in irritable bowel syndrome.**  
 Author(s): Lea R, Whorwell PJ.  
 Source: Pharmacoeconomics. 2001; 19(6): 643-53. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11456212&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11456212&dopt=Abstract)
  
- **Reaching a consensus on irritable bowel syndrome.**  
 Author(s): Lepine P.  
 Source: Cmaj : Canadian Medical Association Journal = Journal De L'association Medicale Canadienne. 1999 November 16; 161(10): 1237. No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10584078&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10584078&dopt=Abstract)
  
- **Reflexology and irritable bowel syndrome.**  
 Author(s): Wilkinson M.  
 Source: Br J Gen Pract. 2002 March; 52(476): 238. No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=12030678&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12030678&dopt=Abstract)
  
- **Relaxation training as a treatment for irritable bowel syndrome.**  
 Author(s): Blanchard EB, Greene B, Scharff L, Schwarz-McMorris SP.  
 Source: Biofeedback Self Regul. 1993 September; 18(3): 125-32.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=8218507&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8218507&dopt=Abstract)
  
- **Review article: clinical evidence to support current therapies of irritable bowel syndrome.**  
 Author(s): Camilleri M.  
 Source: Alimentary Pharmacology & Therapeutics. 1999 May; 13 Suppl 2: 48-53. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10429740&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10429740&dopt=Abstract)

- **Review article: irritable bowel syndrome.**  
 Author(s): Camilleri M, Choi MG.  
 Source: Alimentary Pharmacology & Therapeutics. 1997 February; 11(1): 3-15. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=9042970&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9042970&dopt=Abstract)
- **Role of ispaghula husk in the management of irritable bowel syndrome (a randomized double-blind crossover study).**  
 Author(s): Golechha AC, Chadda VS, Chadda S, Sharma SK, Mishra SN.  
 Source: J Assoc Physicians India. 1982 June; 30(6): 353-5. No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=6302072&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6302072&dopt=Abstract)
- **Selective dysfunction of mechanosensitive intestinal afferents in irritable bowel syndrome.**  
 Author(s): Accarino AM, Azpiroz F, Malagelada JR.  
 Source: Gastroenterology. 1995 March; 108(3): 636-43.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=7875466&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7875466&dopt=Abstract)
- **Stress management for irritable bowel syndrome: a controlled trial.**  
 Author(s): Shaw G, Srivastava ED, Sadlier M, Swann P, James JY, Rhodes J.  
 Source: Digestion. 1991; 50(1): 36-42.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=1804731&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1804731&dopt=Abstract)
- **Symptomatology, quality of life and economic features of irritable bowel syndrome--the effect of hypnotherapy.**  
 Author(s): Houghton LA, Heyman DJ, Whorwell PJ.  
 Source: Alimentary Pharmacology & Therapeutics. 1996 February; 10(1): 91-5.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=8871448&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8871448&dopt=Abstract)
- **The effects of relaxation response meditation on the symptoms of irritable bowel syndrome: results of a controlled treatment study.**  
 Author(s): Keefer L, Blanchard EB.

Source: Behaviour Research and Therapy. 2001 July; 39(7): 801-11.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11419611&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11419611&dopt=Abstract)

- **The irritable bowel syndrome.**  
 Author(s): Francis CY, Whorwell PJ.  
 Source: Postgraduate Medical Journal. 1997 January; 73(855): 1-7. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=9039402&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9039402&dopt=Abstract)
  
- **The irritable bowel syndrome: a disease or a response? Discussion paper.**  
 Author(s): Eastwood MA, Eastwood J, Ford MJ.  
 Source: Journal of the Royal Society of Medicine. 1987 April; 80(4): 219-21.  
 No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3585889&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3585889&dopt=Abstract)
  
- **The non-effect of pirenzepine in dietary resistant irritable bowel syndrome.**  
 Author(s): Gilvarry J, Kenny A, Fielding JF.  
 Source: Ir J Med Sci. 1989 October; 158(10): 262.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2559903&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2559903&dopt=Abstract)

## Vocabulary Builder

**Absenteeism:** Chronic absence from work or other duty. [NIH]

**ACTH:** Adrenocorticotrophic hormone. [EU]

**Adrenergic:** Activated by, characteristic of, or secreting epinephrine or substances with similar activity; the term is applied to those nerve fibres that liberate norepinephrine at a synapse when a nerve impulse passes, i.e., the sympathetic fibres. [EU]

**Alimentary:** Pertaining to food or nutritive material, or to the organs of digestion. [EU]

**Amygdala:** Almond-shaped group of basal nuclei anterior to the inferior horn of the lateral ventricle of the brain, within the temporal lobe. The amygdala is part of the limbic system. [NIH]

**Anatomical:** Pertaining to anatomy, or to the structure of the organism. [EU]

**Anemia:** A reduction in the number of circulating erythrocytes or in the quantity of hemoglobin. [NIH]

**Anomalies:** Birth defects; abnormalities. [NIH]

**Anticholinergic:** An agent that blocks the parasympathetic nerves. Called also parasympatholytic. [EU]

**Antigens:** Substances that cause an immune response in the body. The body "sees" the antigens as harmful or foreign. To fight them, the body produces antibodies, which attack and try to eliminate the antigens. [NIH]

**Autonomic:** Self-controlling; functionally independent. [EU]

**Bereavement:** Refers to the whole process of grieving and mourning and is associated with a deep sense of loss and sadness. [NIH]

**Biphasic:** Having two phases; having both a sporophytic and a gametophytic phase in the life cycle. [EU]

**Bismuth:** A metallic element that has the atomic symbol Bi, atomic number 83 and atomic weight 208.98. [NIH]

**Cholera:** An acute diarrheal disease endemic in India and Southeast Asia whose causative agent is vibrio cholerae. This condition can lead to severe dehydration in a matter of hours unless quickly treated. [NIH]

**Collagen:** The protein substance of the white fibres (collagenous fibres) of skin, tendon, bone, cartilage, and all other connective tissue; composed of molecules of tropocollagen (q.v.), it is converted into gelatin by boiling. collagenous pertaining to collagen; forming or producing collagen. [EU]

**Comorbidity:** The presence of co-existing or additional diseases with reference to an initial diagnosis or with reference to the index condition that is the subject of study. Comorbidity may affect the ability of affected individuals to function and also their survival; it may be used as a prognostic indicator for length of hospital stay, cost factors, and outcome or survival. [NIH]

**Concomitant:** Accompanying; accessory; joined with another. [EU]

**Contraceptive:** An agent that diminishes the likelihood of or prevents conception. [EU]

**Copulation:** Sexual contact of a male with a receptive female usually followed by emission of sperm. Limited to non-human species. For humans use coitus. [NIH]

**Cortex:** The outer layer of an organ or other body structure, as distinguished from the internal substance. [EU]

**Cyclic:** Pertaining to or occurring in a cycle or cycles; the term is applied to chemical compounds that contain a ring of atoms in the nucleus. [EU]

**Cystitis:** Inflammation of the urinary bladder. [EU]

**Defecation:** The normal process of elimination of fecal material from the rectum. [NIH]

**Diarrhoea:** Abnormal frequency and liquidity of faecal discharges. [EU]

**Dorsal:** 1. pertaining to the back or to any dorsum. 2. denoting a position more toward the back surface than some other object of reference; same as posterior in human anatomy; superior in the anatomy of quadrupeds. [EU]

**Dyspepsia:** Impairment of the power of function of digestion; usually applied to epigastric discomfort following meals. [EU]

**Eczema:** A pruritic papulovesicular dermatitis occurring as a reaction to many endogenous and exogenous agents, characterized in the acute stage by erythema, edema associated with a serous exudate between the cells of the epidermis (spongiosis) and an inflammatory infiltrate in the dermis, oozing and vesiculation, and crusting and scaling; and in the more chronic stages by lichenification or thickening or both, signs of excoriations, and hyperpigmentation or hypopigmentation or both. Atopic dermatitis is the most common type of dermatitis. Called also eczematous dermatitis. [EU]

**Electrophysiological:** Pertaining to electrophysiology, that is a branch of physiology that is concerned with the electric phenomena associated with living bodies and involved in their functional activity. [EU]

**Endogenous:** Developing or originating within the organisms or arising from causes within the organism. [EU]

**Enema:** A clyster or injection; a liquid injected or to be injected into the rectum. [EU]

**Enteritis:** Inflammation of the intestine, applied chiefly to inflammation of the small intestine; see also enterocolitis. [EU]

**Eosinophilia:** The formation and accumulation of an abnormally large number of eosinophils in the blood. [EU]

**Epidemiological:** Relating to, or involving epidemiology. [EU]

**Epinephrine:** The active sympathomimetic hormone from the adrenal medulla in most species. It stimulates both the alpha- and beta- adrenergic systems, causes systemic vasoconstriction and gastrointestinal relaxation, stimulates the heart, and dilates bronchi and cerebral vessels. It is used in asthma and cardiac failure and to delay absorption of local anesthetics. [NIH]

**Ethanol:** A clear, colorless liquid rapidly absorbed from the gastrointestinal tract and distributed throughout the body. It has bactericidal activity and is used often as a topical disinfectant. It is widely used as a solvent and preservative in pharmaceutical preparations as well as serving as the primary ingredient in alcoholic beverages. [NIH]

**Fatigue:** The state of weariness following a period of exertion, mental or physical, characterized by a decreased capacity for work and reduced efficiency to respond to stimuli. [NIH]

**Gastroenteritis:** An acute inflammation of the lining of the stomach and intestines, characterized by anorexia, nausea, diarrhoea, abdominal pain, and weakness, which has various causes, including food poisoning due to infection with such organisms as *Escherichia coli*, *Staphylococcus aureus*, and *Salmonella* species; consumption of irritating food or drink; or psychological factors such as anger, stress, and fear. Called also enterogastritis. [EU]

**Heartburn:** Substernal pain or burning sensation, usually associated with regurgitation of gastric juice into the esophagus. [NIH]

**Heredity:** 1. the genetic transmission of a particular quality or trait from parent to offspring. 2. the genetic constitution of an individual. [EU]

**Hypersensitivity:** A state of altered reactivity in which the body reacts with an exaggerated immune response to a foreign substance. Hypersensitivity reactions are classified as immediate or delayed, types I and IV, respectively, in the Gell and Coombs classification (q.v.) of immune responses. [EU]

**Hypertension:** Persistently high arterial blood pressure. Various criteria for its threshold have been suggested, ranging from 140 mm. Hg systolic and 90 mm. Hg diastolic to as high as 200 mm. Hg systolic and 110 mm. Hg diastolic. Hypertension may have no known cause (essential or idiopathic h.) or be associated with other primary diseases (secondary h.). [EU]

**Innervation:** 1. the distribution or supply of nerves to a part. 2. the supply of nervous energy or of nerve stimulus sent to a part. [EU]

**Interstitial:** Pertaining to or situated between parts or in the interspaces of a tissue. [EU]

**Lesion:** Any pathological or traumatic discontinuity of tissue or loss of function of a part. [EU]

**LH:** A small glycoprotein hormone secreted by the anterior pituitary. LH plays an important role in controlling ovulation and in controlling secretion of hormones by the ovaries and testes. [NIH]

**Limbic:** Pertaining to a limbus, or margin; forming a border around. [EU]

**Megacolon:** An abnormally large or dilated colon; the condition may be congenital or acquired, acute or chronic. [EU]

**Naloxone:** A specific opiate antagonist that has no agonist activity. It is a competitive antagonist at mu, delta, and kappa opioid receptors. [NIH]

**Neural:** 1. pertaining to a nerve or to the nerves. 2. situated in the region of the spinal axis, as the neutral arch. [EU]



**Neuroendocrinology:** The study of the anatomical and functional relationships between the nervous system and the endocrine system. [NIH]

**Neuronal:** Pertaining to a neuron or neurons (= conducting cells of the nervous system). [EU]

**Neurons:** The basic cellular units of nervous tissue. Each neuron consists of a body, an axon, and dendrites. Their purpose is to receive, conduct, and transmit impulses in the nervous system. [NIH]

**Neuropharmacology:** The branch of pharmacology dealing especially with the action of drugs upon various parts of the nervous system. [NIH]

**Neurophysiology:** The scientific discipline concerned with the physiology of the nervous system. [NIH]

**Occult:** Obscure; concealed from observation, difficult to understand. [EU]

**Opiate:** A remedy containing or derived from opium; also any drug that induces sleep. [EU]

**Osmotic:** Pertaining to or of the nature of osmosis (= the passage of pure solvent from a solution of lesser to one of greater solute concentration when the two solutions are separated by a membrane which selectively prevents the passage of solute molecules, but is permeable to the solvent). [EU]

**Parasitic:** Pertaining to, of the nature of, or caused by a parasite. [EU]

**Particle:** A tiny mass of material. [EU]

**Pediatrics:** A medical specialty concerned with maintaining health and providing medical care to children from birth to adolescence. [NIH]

**Pirenzepine:** An antimuscarinic agent that inhibits gastric secretion at lower doses than are required to affect gastrointestinal motility, salivary, central nervous system, cardiovascular, ocular, and urinary function. It promotes the healing of duodenal ulcers and due to its cytoprotective action is beneficial in the prevention of duodenal ulcer recurrence. It also potentiates the effect of other antiulcer agents such as cimetidine and ranitidine. It is generally well tolerated by patients. [NIH]

**Psychiatry:** The medical science that deals with the origin, diagnosis, prevention, and treatment of mental disorders. [NIH]

**Psychology:** The science dealing with the study of mental processes and behavior in man and animals. [NIH]

**Psychophysiology:** The study of the physiological basis of human and animal behavior. [NIH]

**Psychotherapy:** A generic term for the treatment of mental illness or emotional disturbances primarily by verbal or nonverbal communication. [NIH]

**Receptor:** 1. a molecular structure within a cell or on the surface

characterized by (1) selective binding of a specific substance and (2) a specific physiologic effect that accompanies the binding, e.g., cell-surface receptors for peptide hormones, neurotransmitters, antigens, complement fragments, and immunoglobulins and cytoplasmic receptors for steroid hormones. 2. a sensory nerve terminal that responds to stimuli of various kinds. [EU]

**Sarin:** An organophosphorous ester compound that produces potent and irreversible inhibition of cholinesterase. It is toxic to the nervous system and is a chemical warfare agent. [NIH]

**Sensitization:** 1. administration of antigen to induce a primary immune response; priming; immunization. 2. exposure to allergen that results in the development of hypersensitivity. 3. the coating of erythrocytes with antibody so that they are subject to lysis by complement in the presence of homologous antigen, the first stage of a complement fixation test. [EU]

**Serum:** The clear portion of any body fluid; the clear fluid moistening serous membranes. 2. blood serum; the clear liquid that separates from blood on clotting. 3. immune serum; blood serum from an immunized animal used for passive immunization; an antiserum; antitoxin, or antivenin. [EU]

**Somatic:** 1. pertaining to or characteristic of the soma or body. 2. pertaining to the body wall in contrast to the viscera. [EU]

**Symptomatic:** 1. pertaining to or of the nature of a symptom. 2. indicative (of a particular disease or disorder). 3. exhibiting the symptoms of a particular disease but having a different cause. 4. directed at the allaying of symptoms, as symptomatic treatment. [EU]

**Thalamus:** Either of two large, ovoid masses, consisting chiefly of grey substance, situated one on each side of and forming part of the lateral wall of the third ventricle. It is divided into two major parts : dorsal and ventral, each of which contains many nuclei. [EU]

**Trimebutine:** Proposed spasmolytic with possible local anesthetic action used in gastrointestinal disorders. [NIH]

**Vascular:** Pertaining to blood vessels or indicative of a copious blood supply. [EU]

**Yohimbine:** A plant alkaloid with alpha-2-adrenergic blocking activity. Yohimbine has been used as a mydriatic and in the treatment of impotence. It is also alleged to be an aphrodisiac. [NIH]

## CHAPTER 5. PATENTS ON IRRITABLE BOWEL SYNDROME

### Overview

You can learn about innovations relating to irritable bowel syndrome by reading recent patents and patent applications. Patents can be physical innovations (e.g. chemicals, pharmaceuticals, medical equipment) or processes (e.g. treatments or diagnostic procedures). The United States Patent and Trademark Office defines a patent as a grant of a property right to the inventor, issued by the Patent and Trademark Office.<sup>23</sup> Patents, therefore, are intellectual property. For the United States, the term of a new patent is 20 years from the date when the patent application was filed. If the inventor wishes to receive economic benefits, it is likely that the invention will become commercially available to patients with irritable bowel syndrome within 20 years of the initial filing. It is important to understand, therefore, that an inventor's patent does not indicate that a product or service is or will be commercially available to patients with irritable bowel syndrome. The patent implies only that the inventor has "the right to exclude others from making, using, offering for sale, or selling" the invention in the United States. While this relates to U.S. patents, similar rules govern foreign patents.

In this chapter, we show you how to locate information on patents and their inventors. If you find a patent that is particularly interesting to you, contact the inventor or the assignee for further information.

---

<sup>23</sup> Adapted from The U. S. Patent and Trademark Office:  
<http://www.uspto.gov/web/offices/pac/doc/general/whatis.htm>.

## Patents on Irritable Bowel Syndrome

By performing a patent search focusing on irritable bowel syndrome, you can obtain information such as the title of the invention, the names of the inventor(s), the assignee(s) or the company that owns or controls the patent, a short abstract that summarizes the patent, and a few excerpts from the description of the patent. The abstract of a patent tends to be more technical in nature, while the description is often written for the public. Full patent descriptions contain much more information than is presented here (e.g. claims, references, figures, diagrams, etc.). We will tell you how to obtain this information later in the chapter. The following is an example of the type of information that you can expect to obtain from a patent search on irritable bowel syndrome:

- **Methods for treating irritable bowel syndrome using optically pure (+) norcisapride**

Inventor(s): Rubin; Paul D. (Sudbury, MA), Barberich; Timothy J. (Concord, MA)

Assignee(s): Sepracor, Inc. (Marlborough, MA)

Patent Number: 6,369,079

Date filed: February 29, 2000

Abstract: Methods for the prevention, treatment, or management of apnea, apnea disorders, bulimia nervosa, irritable bowel syndrome, urinary incontinence, bradycardia, bradyarrhythmia, syncope, other disorders, or symptoms thereof using (+) norcisapride, or a pharmaceutically acceptable salt thereof, substantially free of its (-) stereoisomer.

Excerpt(s): The present invention encompasses the use of the optically pure (+) norcisapride, or a pharmaceutically acceptable salt thereof, substantially free of its (-) stereoisomer, in preventing, treating, or managing apnea, apnea disorders, bulimia, irritable bowel syndrome, asthma, urinary incontinence, syncope, bradycardia, bradyarrhythmia, or symptoms thereof. It should be understood that the invention encompasses any combination of preventing, treating, or managing each disorder or multiple disorders. ... This invention further relates to pharmaceutical compositions adapted for the prevention, treatment, or management of bulimia, irritable bowel syndrome, asthma, urinary incontinence, bradycardia, bradyarrhythmia, syncope, related disorders, and symptoms thereof in a mammal, which comprises a therapeutically effective amount of (+) norcisapride, or a pharmaceutically acceptable

salt thereof substantially free of its (-) stereoisomer, said amount being sufficient to alleviate symptoms of said conditions while reducing or avoiding adverse effects associated with administration of racemic cisapride. ... The invention also encompasses single unit dosage forms of optically pure (+) norcisapride, or a pharmaceutically acceptable salt thereof, substantially free of its (-) stereoisomer, which comprise from about 0.5 mg to about 500 mg of active ingredient in a compressed tablet. This dosage form is particularly suitable for the prevention, treatment, or management of apnea, apnea disorders, bulimia, irritable bowel syndrome, asthma, urinary incontinence, bradycardia, bradyarrhythmia, syncope, related disorders, or symptoms thereof.

Web site: [http://www.delphion.com/details?pn=US06369079\\_\\_](http://www.delphion.com/details?pn=US06369079__)

- **Pharmaceutical composition for the treatment of functional dyspepsia and/or irritable bowel syndrome and new use of substances therein**

Inventor(s): Hellstrom; Per (Svardsjovagen 1, 16775 Bromma, SE),  
Efendic; Suad (Stjarnvagen 16B, 18134 Lidingo, SE)

Assignee(s): none reported

Patent Number: 6,348,447

Date filed: February 3, 2000

Abstract: The invention relates to the new use of gastrointestinal peptide hormones selected from the class consisting of glucagon-like peptide-1 (GLP-1) and derivatives thereof having anti-secretory effects and smooth muscle relaxatory properties in the gastrointestinal tract for the manufacture of a pharmaceutical composition for the treatment of functional dyspepsia and/or irritable bowel syndrome. The invention also relates to a pharmaceutical composition comprising a combination of at least one member selected from said class consisting of GLP-1 and derivatives thereof with one or more other gastrointestinal peptide hormone(s) or derivative(s) thereof together with pharmacologically acceptable additives and to a method of treating functional dyspepsia or irritable bowel syndrome or both by administering an effective amount of at least one member of said class consisting of GLP-1 and derivatives thereof having effects and properties as mentioned above.

Excerpt(s): The present invention relates to a new use of a gastrointestinal peptide hormone or a derivative thereof, to a pharmaceutical composition for the treatment of functional dyspepsia and/or irritable bowel syndrome, and to a method for such treatment. ... In the gastrointestinal tract the two most common functional disorders are functional dyspepsia and disordered gastrointestinal motility, commonly

known as irritable bowel syndrome (IBS). These two terms are not exclusive determinants for separate disease entities, but instead the most common expressions for various overlapping symptoms emerging from the upper and lower gastrointestinal tract. ... During symptomatic periods a pattern of hypermotility, consisting of high-amplitude pressure waves are ten times as common in pain-dominant IBS than in normal subjects, whereas patients with the diarrhea-predominant disorder have normal or lower than normal pressure waves. These observations fit with basic data from recordings of colonic motility of normal subjects and patients with constipation or diarrhea. Such studies have demonstrated that the predominant form of motor activity from the colon consists of segmental contractions, which impede the propulsion of stool and promote mixing and absorption of water. These segmental contractions appear for more than 90% of the recorded time. Augmentation of segmental contractions produces constipation and inhibition of segmentation motor activity produces diarrhea. Studies indicate that contractions over a long segment of the colon may be accompanied by abdominal pain, analogous to diffuse esophageal spasm, the nutcracker syndrome of the esophagus and chest pain. Such high-amplitude contractions over long segments of the gut are often recorded in patients with IBS under episodes of crampy abdominal pain, i.e. the "gut-cracker syndrome". Hypermotility of the small intestine also has been found in association with pain. Anecdotal evidence speak in favor of spasmodic cramping as the major source of symptoms in irritable bowel syndrome. Thus, regarding the pathophysiology of irritable bowel syndrome, disordered gastrointestinal motility or disturbances in the sensory system, or both, are suggested to be most important factors. However, there are many reports demonstrating disturbed small intestinal motility in patients with IBS in terms of the migrating motor complex activity. In the fasted state this activity includes phase I, displaying quiescence with no motor activity, phase II with sporadic contractions that become more intense over time and precede the characteristic phase III with high amplitude contractions to a level of about 40-50 mm Hg. In irritable bowel syndrome, increased phase II contraction frequency, increased contraction amplitude, and increased clustered contractions have been described (Kellow et al, 1987; Kellow et al, 1990; Lind, 1991; Kellow et al, 1992; Schmidt et al, 1996; Evans et al, 1996; Small et al, 1997). Radiologic studies demonstrate small bowel motor hyperactivity under stress and support the contention that IBS can involve also other parts of the gastrointestinal tract than the colon. Reports also exist which fail to detect any disturbance in intestinal motility in patients with IBS (Gorard et al, 1994).

Web site: [http://www.delphion.com/details?pn=US06348447\\_\\_](http://www.delphion.com/details?pn=US06348447__)

- **Dietary supplement and method for use as a probiotic, for alleviating the symptoms associated with irritable bowel syndrome**

Inventor(s): Perry; Stephen C. (205 Churchill Dr., Longwood, FL 32779)

Assignee(s): none reported

Patent Number: 6,203,797

Date filed: January 7, 2000

Abstract: A dietary supplement for use as a probiotic and for alleviating symptoms of irritable bowel syndrome, comprising freeze-dried aloe, fructo-oligosaccharides, and dahlia inulin juice mixture and optionally vitamin B6 (pyridoxine) manganese and L-glutamine. An additional alternate embodiments specifically for alleviation of symptoms of irritable bowel syndrome, including in the base formula bromelain and papain. Also for specific probiotic functions the following friendly bacteria: Lactobacillus bulgaricus, lactobacillus acidophilus, lactobacillus plantarum, and Bifidobacterium bifidum could be added to the base formula.

Excerpt(s): The present invention relates to a dietary supplement and method for use as a probiotic(immuno-stimulant) and for alleviating the symptoms associated with irritable bowel syndrome. ... The human condition known as irritable bowel syndrome can best be defined as a chronic disorder of the bowels, resulting in variable abdominal discomfort or pain, constipation, diarrhea, cramps, nausea, belching, excess flatus, spasm, abdominal distention, tired and weak feeling, and mechanical irritation of the bowel. Medical treatment has traditionally entailed bland diet, mild sedatives, hydrophilic colloid laxatives, anti-cholinergics, and anti-diarrhea agents and are often associated with numerous side effects such as drowsiness, dry mouth, visual disturbances, and food intolerances. ... The aloe plant and extracts from aloe, aloe vera, and various specific aloe extracts from the natural plant can alleviate symptoms related to irritable bowel syndrome as shown in the following literature.

Web site: [http://www.delphion.com/details?pn=US06203797\\_\\_](http://www.delphion.com/details?pn=US06203797__)

- **Method for prophylaxis and treatment of irritable bowel syndrome**

Inventor(s): Asano; Kiyoshi (Chikugo-gun, JP), Kino; Shigemi (Chikugo-gun, JP), Yasumatsu; Hiroshi (Chikugo-gun, JP)

Assignee(s): Yoshitomi Pharmaceuticals Industries, Ltd. (Osaka, JP)

Patent Number: 5,965,557

Date filed: October 7, 1998

Abstract: A method for the prophylaxis and treatment of irritable bowel syndrome, which comprises administering a pharmaceutically effective amount of at least one compound selected from the group consisting of (.+-.)-2-(4-chlorophenyl)-5,6-dihydro-[1]benzothiepine [5,4-c]pyridazin-3(2H)-one 7-oxide, optical isomers thereof and 2-(4-chlorophenyl)-5,6-dihydro-[1]benzothiepine[5,4-c]pyridazin-3(2H)-one 7,7-dioxide to a subject in need of such prophylaxis or treatment.

Excerpt(s): The present invention relates to a method for the prophylaxis and treatment of irritable bowel syndrome. ... Incidentally, irritable bowel syndrome has been drawing attention as a disease presenting intestinal symptoms, such as altered bowel habits, abdominal pain, abdominal distension, abdominal dysphoria, borborygmus and the like, due to motility disorder and abnormal secretion of the colon, which are caused by dystonia of autonomic nervous system. These symptoms can be improved by normalizing the time of passage through the large intestine, and a medicament having a prokinetic activity has been used in clinical situations. ... The present invention aims at providing a method for the prophylaxis and treatment of irritable bowel syndrome, particularly various symptoms of altered bowel habits, abdominal pain, abdominal distension, abdominal dysphoria, anorexia, borborygmus, emesis, belching, heartburn and the like.

Web site: [http://www.delphion.com/details?pn=US05965557\\_\\_](http://www.delphion.com/details?pn=US05965557__)

- **Isoxazole derivatives for the treatment of irritable bowel syndrome**

Inventor(s): Gidda; Jaswant S. (Carmel, IN), Schaus; John M. (Zionsville, IN)

Assignee(s): Eli Lilly and Company (Indianapolis, IN)

Patent Number: 5,434,174

Date filed: April 20, 1993

Abstract: Methods of treating Irritable Bowel Syndrome (IBS) using a series of isoxazole derivatives that have both 5-HT<sub>1A</sub> agonist and M<sub>1</sub>



muscarinic activities, and formulations adapted for the treatment of IBS comprising those derivatives.

Excerpt(s): Irritable Bowel Syndrome (IBS) is a motor disorder consisting of altered bowel habits, abdominal pain, and the absence of detectable pathology. IBS is recognized by its symptoms, which are markedly influenced by psychological factors and stressful life situations. ... Irritable Bowel Syndrome is the most suitable and accurate term currently available for the disorder that can be treated by the methods of this invention. The term IBS emphasizes that the condition is a motor disorder manifesting irritability, that it is not a single disease but a syndrome, and that many areas of the gut are involved. Many of the other commonly used terms for the disorder, such as nervous, unstable, or spastic colon or colitis, are inadequate, inaccurate, or both. ... Therefore, it will be understood that the compounds of this invention treat the Irritable Bowel Syndrome, however now or later defined, as manifested by its symptoms or cluster of symptoms.

Web site: [http://www.delphion.com/details?pn=US05434174\\_\\_](http://www.delphion.com/details?pn=US05434174__)

- **Method for treatment of irritable bowel syndrome**

Inventor(s): Day; Charles E. (1224 Bear Creek Rd., Leitchfield, KY 42754)

Assignee(s): none reported

Patent Number: 5,380,522

Date filed: August 11, 1992

Abstract: A method of treating irritable bowel syndrome, including diarrhea, constipation, and pain aspects thereof, in a human patient, whereby the method involves the step of orally administering to the human patient an amount of an anion-binding polymer and a hydrophilic polymer, either simultaneously, concurrently, or in the form of a pharmaceutical composition wherein the anion-binding polymer and the hydrophilic polymer alleviate irritable bowel syndrome.

Excerpt(s): Method of treating and preventing irritable bowel syndrome employing combination therapy using an anion-binding polymer and a hydrophilic polymer. Pharmaceutical compositions, consisting essentially of an anion-binding polymer and a hydrophilic polymer, which are effective for treating and preventing the symptoms of irritable bowel syndrome. ... This invention relates to a method and means for treating or preventing irritable bowel syndrome with a combination of polymeric substances or materials comprising as essential components an anion-binding polymer and a hydrophilic polymer. Irritable bowel syndrome is

a complex of gastrointestinal symptoms manifested by abdominal pain and distention and by altered bowel habits. It is the most common symptom complex encountered by gastroenterologists and may account for 50% of outpatient gastroenterological complaints. There are no known organic causes for the disease, and it is frequently associated with stress and emotional disturbance. Irritable bowel syndrome occurs most frequently in the age group from 20 to 50 years old and occurs two to five times more frequently in females than in males. This painful disease is prevalent in approximately 20% of the adult population of the USA. The consequences of the disease can be socially debilitating and induce severe sexual dysfunction in many patients, especially females. Although not life threatening, irritable bowel syndrome (IBS) is a major health problem from the standpoint of decreased quality of life and reduction of productivity. ... There is presently no effective treatment for irritable bowel syndrome (K. B. Klein, Controlled treatment trials in the irritable bowel syndrome: a critique, *Gastroenterology* 95: 232-241, 1988). Although largely ineffective, current treatment is multifactorial and consists of stress management, diet, and drugs, in that order. The patient is reassured that the disease is not life threatening and is advised to reduce or eliminate any controllable stress in his or her life. Relaxation exercises and biofeedback may be attempted to alter the psychogenic components of the illness. With respect to diet, the patient is advised to avoid any food to which he or she possesses a known sensitivity with respect to exacerbating the problem. A high fiber diet, either insoluble wheat bran or soluble psyllium, is almost routinely recommended, but with little if any positive benefit (Dietary fiber, food intolerance, and irritable bowel syndrome, *Nutrition Reviews* 48: 343-346, 1990).

Web site: [http://www.delphion.com/details?pn=US05380522\\_\\_](http://www.delphion.com/details?pn=US05380522__)

- **Triazinones for treating irritable bowel syndrome**

Inventor(s): Kuhla; Donald E. (Doylestown, PA), Studt; William L. (Harleysville, PA), Campbell; Henry F. (Lansdale, PA), Yelnosky; John (Warrington, PA)

Assignee(s): William H. Rorer, Inc. (Fort Washington, PA)

Patent Number: 4,562,188

Date filed: January 13, 1984

Abstract: A method for the treatment of irritable bowel syndrome using a 1,3,5-triazin-2-one and a class of 6-amino and 6-mercaptol-1,3,5-triazin-2-one compounds.

Excerpt(s): This invention relates to a method for treating gastrointestinal disorders and in particular the disorder known as irritable bowel syndrome (IBS). ... Irritable bowel syndrome is one of the most common physical disorders observed in the practice of gastroenterology. It is typically a chronic condition characterized by abdominal pain and an alteration in bowel habits which are not due to any identifiable anatomical abnormality. Gross symptoms include either diarrhea or constipation or periods wherein patients experience both conditions. Furthermore, IBS patients frequently suffer from a heightened level of anxiety. ... In human clinical studies, anticholinergic drugs such as clidinium bromide have been found to moderate the abnormal colonic contraction activity in IBS patients following a meal, but such therapy does not normalize the intestinal function of an IBS patient. Indeed, it has been reported that the response to anticholinergic drugs is markedly different in normal and IBS patient, and it has been suggested that the persistence of the abnormal slow wave frequency regardless of symptoms or therapy reflects the predisposition of IBS patients to respond to various stimuli in an abnormal fashion. For a recent discussion of IBS, see H. Tucker and M. M. Schuster, Irritable Bowel Syndrome: Newer Pathophysiologic Concepts, "Advances in Internal Medicine," Vol. 27, pp 183-204, hereby incorporated by reference.

Web site: [http://www.delphion.com/details?pn=US04562188\\_\\_](http://www.delphion.com/details?pn=US04562188__)

## Patent Applications on Irritable Bowel Syndrome

As of December 2000, U.S. patent applications are open to public viewing.<sup>24</sup> Applications are patent requests which have yet to be granted (the process to achieve a patent can take several years). The following patent applications have been filed since December 2000 relating to irritable bowel syndrome:

- **Medicament for treatment of irritable bowel syndrome**

Inventor(s): Abe, Michikazu ; (Kanagawa, JP), Saito, Ken-Ichi ; (Kanagawa, JP)

Correspondence: Greenblum & Bernstein, P.L.C.; 1941 Roland Clarke Place; Reston; VA; 20191; US

Patent Application Number: 20020091152

Date filed: December 20, 2001

---

<sup>24</sup> This has been a common practice outside the United States prior to December 2000.

Abstract: A medicament for preventive and/or therapeutic treatment of irritable bowel syndrome which comprises as an active ingredient a substance selected from the group consisting of an alkylendioxybenzene derivative represented by the following general formula (I) and a pharmaceutically acceptable salt thereof, and a hydrate thereof and a solvate thereof: 1wherein m represents an integer of from 2 to 5, and n represents an integer of from 1 to 3 (e.g., 5-[3-[(2S)-(1,4-benzodioxan-2-ylmethyl)amin- o]propoxy]-1,3-benzodioxol).

Excerpt(s): The present invention relates to a medicament useful for therapeutic and/or preventive treatment of irritable bowel syndrome which comprises a particular class of alkylendioxybenzene derivative as an active ingredient. ... Irritable bowel syndrome is caused by factors such as stress, and its main symptoms include somatic symptoms in the digestive system such as abdominal pain and diarrhea. The disease was previously called as spastic colon, nervous colitis, mucous colitis, functional colitis, or colonic neurosis. However, the term "bowel" has been used rather than "colon", because the disease is not localized in the large intestine, but the disease is considered as functional disorders of the digestive tract including the small intestine as well. It has been suggested that the disease is caused by physiological factors such as hormones, external stimulations such as food and stress, emotional factors, hereditary body constitutions and the like. ... In general, it is difficult to completely eliminate symptoms in the treatment of irritable bowel syndrome. Typically, purposes of therapeutic treatment is to reduce a variety of complaints and to improve conditions so as to be sufficient for daily life. Applicable therapeutic treatments include psychotherapy, life guidance and diet therapy, as well as drug therapy as symptomatic therapy against the patient's complaints (see, references mentioned herein). As drug therapy for irritable bowel syndrome, opioid agonists such as loperamide or anticholinergic agents such as mepenzolate bromide and timepidium bromide have been used to control hypermotility of the digestive tract, and benzodiazepine drugs such as diazepam have been prescribed for anxiety, insomnia and the like. However, no drug therapy that enables causal therapy has been established.

Web site: <http://appft1.uspto.gov/netathtml/PTO/search-bool.html>

- **Treatment for irritable bowel syndrome and related conditions**

Inventor(s): Basu, Amaresh ; (San Diego, CA)

Correspondence: Knobbe Martens Olson & Bear LLP; 620 Newport Center Drive; Sixteenth Floor; Newport Beach; CA; 92660; US

Patent Application Number: 20020068097

Date filed: May 18, 2001

Abstract: Compositions, including pharmaceutical formulations, of plants and plant material, and specifically, extracts thereof are disclosed for use in the treatment of Irritable Bowel Syndrome, and for use in the treatment related bowel disorders, are disclosed. The compositions of the invention are useful in that they alleviate one or more of the symptoms of Irritable Bowel Syndrome, and of related bowel disorders. A particularly preferred pharmaceutical formulation is disclosed that consists essentially of aqueous extracts of one or more of "Bai Shao" (*Paeonia lactiflora*), "Bai Zhu" (*Atractylodes macrocephala*), "Chen Pi" (*Citrus reticulata*), "Fang Feng" (*Saposhnikovia divaricata*), together with one or more of "Wu Mei" (*Prunus mume*), and "Yan Hu" (*Corydalis yanhusuo*).

Excerpt(s): The present invention relates to novel formulations of plants and extracts thereof to be used for the treatment of bowel disorders. More specifically, the formulations of the invention can be used to treat conditions such as Irritable Bowel Syndrome (IBS), and other related bowel disorders. The plants have preferably been selected for their ability to address one or more symptomologies associated with IBS, and related bowel disorders. ... IBS has a reported prevalence generally between 15-25% in both the industrialized and developing world. See Malcolm A, Kellow JE. Irritable Bowel Syndrome. MJA 1998;169:274-279. IBS is characterized, in part, by painful defecation and altered stool frequency/consistency. ... IBS, unlike most other diseases of the gastrointestinal tract, is not characterized by any specific, currently known histopathological changes, but rather is a functional disorder characterized, in part, by disturbed gut motility and/or abdominal pain perception linked to cytokines and/or other inflammatory cascades. See Collins SM, Barbara G, Vallance B, Stress, inflammation and the irritable bowel syndrome. Can J Gastroenterol 1999; 13; A:47A-49A; Bueno L, Fioramonti J, "Effects of inflammatory mediators on gut sensitivity" Can J Gastroenterol 1999; 13; A:42A-46A. IBS also occurs in Inflammatory Bowel Disease (IBD) patients who are in remission from their symptoms, see Collins SM, et al. "Putative inflammatory and immunological mechanisms in functional bowel disorders" Baillieres Best Pract Res Clin Gastroenterol 1999; 13; 429-436.

Web site: <http://appft1.uspto.gov/netahtml/PTO/search-bool.html>

- **Method and composition for treating irritable bowel syndrome using low doses of opioid receptor antagonists**

Inventor(s): Crain, Stanley M. ; (Leonia, NJ), Shen, Ke-fei ; (Flushing, NY), Fleischner, Gerald M. ; (Chappaqua, NY)

Correspondence: Craig J. Arnold; Amster, Rothstein & Ebenstein; 90 Park Avenue; New York; NY; 10016; US

Patent Application Number: 20010018413

Date filed: January 4, 2001

Abstract: This invention relates to a method for treating a subject with irritable bowel syndrome ("IBS") which comprises long-term administration of an opioid receptor antagonist at an appropriately low dose which will selectively antagonize excitatory opioid receptor functions, but not inhibitory opioid receptor functions, in myenteric neurons in the intestinal tract as well as in neurons of the central nervous system ("CNS"). The administration of the opioid receptor antagonist at a low dose enhances the potency of the inhibitory effects of endogenous opioid peptides present in the intestinal tract and the CNS, thereby reducing abdominal pain and stool frequency resulting from abnormally supersensitized excitatory opioid receptor functions. The invention also relates to a composition for treating a subject with IBS, which comprises an effective dose of an opioid receptor antagonist, and a pharmaceutically acceptable carrier.

Excerpt(s): This invention relates to a method for treating a subject with irritable bowel syndrome ("IBS") which comprises administering a low dose of an opioid receptor antagonist to the subject. Specifically, this invention relates to a method for treating a subject with IBS by the long-term administration of an opioid receptor antagonist at an appropriately low dose which will selectively antagonize excitatory opioid receptor functions, but not inhibitory opioid receptor functions, in myenteric neurons in the intestinal tract as well as in neurons of the central nervous system ("CNS"). The administration of the opioid receptor antagonist at a low dose enhances the potency of the inhibitory effects of endogenous opioid peptides present in the intestinal tract and the CNS, thereby reducing abdominal pain and stool frequency resulting from abnormally supersensitized excitatory opioid receptor functions. The invention also relates to a composition for treating a subject with IBS, which comprises an effective dose of an opioid receptor antagonist, and a pharmaceutically acceptable carrier. ... Irritable bowel syndrome is a

functional bowel disorder in which abdominal pain is associated with defecation or a change in bowel habit. IBS has elements of an intestinal motility disorder, a visceral sensation disorder, and a central nervous disorder. While the symptoms of IBS have a physiological basis, no physiological mechanism unique to IBS has been identified. Rather, the same mechanisms that cause occasional abdominal discomfort in healthy individuals operate to produce the symptoms of IBS. The symptoms of IBS are therefore a product of quantitative differences in the motor reactivity of the intestinal tract, and increased sensitivity to stimuli or spontaneous contractions. ... IBS is estimated to affect up to 20% of the adult population worldwide. Women apparently are more often affected than men, and the prevalence of irritable bowel syndrome is lower among the elderly (Camilleri, M. and Choi, M. -G., *Aliment Pharmacol Ther* 1997 11(1):3-15). It also seems clear that psychological factors, either stress or overt psychological disease, modulate and exacerbate the physiological mechanisms that operate in IBS (Drossman, D. A. et al., *Gastroenterology* 1988 95:701-708).

Web site: <http://appft1.uspto.gov/netahtml/PTO/search-bool.html>

- **NK-1 Receptor Antagonists for the Treatment of Symptoms of Irritable Bowel Syndrome**

Inventor(s): Williams, Stephen A. ; (North Stonington, CT)

Correspondence: Pfizer Inc; 235 E 42nd Street; New York; NY; 10017; US

Patent Application Number: 20010006972

Date filed: April 21, 1998

**Abstract:** The present invention relates to a method of treating or preventing symptoms of irritable bowel syndrome in a mammal, including a human, using a compound that is an NK-1 receptor antagonist, in particular a substance P receptor antagonist.

**Excerpt(s):** The present invention relates to a method of treating or preventing the symptoms of irritable bowel syndrome, in particular abdominal pain associated with irritable bowel syndrome, in mammals, including humans, using an NK-1 receptor antagonist. The present invention also relates to a method of preventing or treating symptoms of irritable bowel syndrome, in particular abdominal pain associated with irritable bowel syndrome, in mammals, including humans, using certain quinuclidine derivatives, piperidine derivatives and related compounds that are substance P receptor antagonists. ... This invention relates to a method of treating or preventing symptoms of irritable bowel syndrome, in particular pain associated with irritable bowel syndrome, in a

mammal, including a human, comprising administering to such mammal an amount of an NK-1 receptor antagonist that is effective in treating or preventing such symptoms. ... This invention also relates to a method of treating or preventing symptoms of irritable bowel syndrome, in particular abdominal pain associated with irritable bowel syndrome, in a mammal, including a human, comprising administering to such mammal an amount of a substance P receptor antagonist that is effective in treating or preventing such symptoms.

Web site: <http://appft1.uspto.gov/netathtml/PTO/search-bool.html>

## Keeping Current

In order to stay informed about patents and patent applications dealing with irritable bowel syndrome, you can access the U.S. Patent Office archive via the Internet at no cost to you. This archive is available at the following Web address: <http://www.uspto.gov/main/patents.htm>. Under "Services," click on "Search Patents." You will see two broad options: (1) Patent Grants, and (2) Patent Applications. To see a list of granted patents, perform the following steps: Under "Patent Grants," click "Quick Search." Then, type "irritable bowel syndrome" (or synonyms) into the "Term 1" box. After clicking on the search button, scroll down to see the various patents which have been granted to date on irritable bowel syndrome. You can also use this procedure to view pending patent applications concerning irritable bowel syndrome. Simply go back to the following Web address: <http://www.uspto.gov/main/patents.htm>. Under "Services," click on "Search Patents." Select "Quick Search" under "Patent Applications." Then proceed with the steps listed above.

## Vocabulary Builder

**Analogous:** Resembling or similar in some respects, as in function or appearance, but not in origin or development;. [EU]

**Bifidobacterium:** A rod-shaped, gram-positive, non-acid-fast, non-spore-forming, non-motile bacterium that is a genus of the family actinomycetaceae. It inhabits the intestines and feces of humans as well as the human vagina. [NIH]

**Borborygmus:** A rumbling noise caused by the propulsion of gas through the intestines. [EU]

**Bradycardia:** Slowness of the heart beat, as evidenced by slowing of the



pulse rate to less than 60. [EU]

**Causal:** Pertaining to a cause; directed against a cause. [EU]

**Citrus:** Any tree or shrub of the rue family or the fruit of these plants. [NIH]

**Cytokines:** Non-antibody proteins secreted by inflammatory leukocytes and some non-leukocytic cells, that act as intercellular mediators. They differ from classical hormones in that they are produced by a number of tissue or cell types rather than by specialized glands. They generally act locally in a paracrine or autocrine rather than endocrine manner. [NIH]

**Dysphoria:** Disquiet; restlessness; malaise. [EU]

**Dystonia:** Disordered tonicity of muscle. [EU]

**Emesis:** Vomiting; an act of vomiting. Also used as a word termination, as in haematemesis. [EU]

**Flushing:** A transient reddening of the face that may be due to fever, certain drugs, exertion, stress, or a disease process. [NIH]

**Glutamine:** A non-essential amino acid present abundantly throughout the body and is involved in many metabolic processes. It is synthesized from glutamic acid and ammonia. It is the principal carrier of nitrogen in the body and is an important energy source for many cells. [NIH]

**Hydrophilic:** Readily absorbing moisture; hygroscopic; having strongly polar groups that readily interact with water. [EU]

**Inulin:** A starch found in the tubers and roots of many plants. Since it is hydrolyzable to fructose, it is classified as a fructosan. It has been used in physiologic investigation for determination of the rate of glomerular function. [NIH]

**Lactobacillus:** A genus of gram-positive, microaerophilic, rod-shaped bacteria occurring widely in nature. Its species are also part of the many normal flora of the mouth, intestinal tract, and vagina of many mammals, including humans. Pathogenicity from this genus is rare. [NIH]

**Mediator:** An object or substance by which something is mediated, such as (1) a structure of the nervous system that transmits impulses eliciting a specific response; (2) a chemical substance (transmitter substance) that induces activity in an excitable tissue, such as nerve or muscle; or (3) a substance released from cells as the result of the interaction of antigen with antibody or by the action of antigen with a sensitized lymphocyte. [EU]

**Medicament:** A medicinal substance or agent. [EU]

**Oligosaccharides:** Carbohydrates consisting of between two and ten monosaccharides connected by either an alpha- or beta-glycosidic link. They are found throughout nature in both the free and bound form. [NIH]

**Papain:** A proteolytic enzyme obtained from *Carica papaya*. It is also the

name used for a purified mixture of papain and chymopapain that is used as a topical enzymatic debriding agent. EC 3.4.22.2. [NIH]

**Predisposition:** A latent susceptibility to disease which may be activated under certain conditions, as by stress. [EU]

**Psychogenic:** Produced or caused by psychic or mental factors rather than organic factors. [EU]

**Remission:** A diminution or abatement of the symptoms of a disease; also the period during which such diminution occurs. [EU]

**Secretion:** 1. the process of elaborating a specific product as a result of the activity of a gland; this activity may range from separating a specific substance of the blood to the elaboration of a new chemical substance. 2. any substance produced by secretion. [EU]

**Sporadic:** Neither endemic nor epidemic; occurring occasionally in a random or isolated manner. [EU]

**Stimulant:** 1. producing stimulation; especially producing stimulation by causing tension on muscle fibre through the nervous tissue. 2. an agent or remedy that produces stimulation. [EU]

**Syncope:** A temporary suspension of consciousness due to generalized cerebral ischemia, a faint or swoon. [EU]

## CHAPTER 6. BOOKS ON IRRITABLE BOWEL SYNDROME

### Overview

This chapter provides bibliographic book references relating to irritable bowel syndrome. You have many options to locate books on irritable bowel syndrome. The simplest method is to go to your local bookseller and inquire about titles that they have in stock or can special order for you. Some patients, however, feel uncomfortable approaching their local booksellers and prefer online sources (e.g. **www.amazon.com** and **www.bn.com**). In addition to online booksellers, excellent sources for book titles on irritable bowel syndrome include the Combined Health Information Database and the National Library of Medicine. Once you have found a title that interests you, visit your local public or medical library to see if it is available for loan.

### Book Summaries: Federal Agencies

The Combined Health Information Database collects various book abstracts from a variety of healthcare institutions and federal agencies. To access these summaries, go directly to the following hyperlink: **<http://chid.nih.gov/detail/detail.html>**. You will need to use the "Detailed Search" option. To find book summaries, use the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer. For the format option, select "Monograph/Book." Now type "irritable bowel syndrome" (or synonyms) into the "For these words:" box. You will only receive results on books. You should check back periodically with this database which is updated every 3 months. The following is a typical result when searching for books on irritable bowel syndrome:

- **Tell Me What to Eat If I Have Irritable Bowel Syndrome: Nutrition You Can Live With**

Source: Franklin Lakes, NJ: Career Press, Inc. 2000. 137 p.

Contact: Available from Career Press, Inc. 3 Tice Road, P.O. Box 687, Franklin Lakes, NJ 07417. (800) 227-3371. Website: [www.careerpress.com](http://www.careerpress.com) or [www.newpagebooks.com](http://www.newpagebooks.com). Price: \$10.99 plus shipping and handling.

Summary: This book offers eating and nutrition guidelines for people who have been diagnosed with irritable bowel syndrome (IBS). People with IBS have bowels that tend to overreact in certain situations. Whatever affects the bowels of the population at large, such as diet, hormones, or stress, affects those of people with IBS even more, resulting in the symptoms of the disorder. This book suggests an approach to managing IBS that includes eating a healthful diet (rich in high fiber foods that the patient can tolerate), drinking plenty of water, avoiding foods that make symptoms worse, and finding ways to minimize and handle the stress of daily living. The author cautions that treating IBS is like trying to hit a moving target; not only do IBS symptoms vary from one person to the next, they can also change from week to week in the same person. Similarly, different treatments work for different people and some treatments used for one symptom can cause a completely new symptom to occur. This book emphasizes the possible dietary treatments for IBS. The author notes that people with IBS who do not seem to respond well to drugs or dietary modification may want to concentrate on the psychological treatments available for IBS. The book offers seven chapters that cover common questions about IBS ('everything you ever wanted to ask a gastroenterologist'), the main symptoms of IBS, working with a dietitian to manage IBS, ten food steps to freedom, 20 recommended recipes, food shopping guidelines, and eating out at restaurants. The ten food steps include keep an FFS (food, feelings, symptoms) diary, eat high fiber foods, drink eight or more 8 ounce glasses of water, limit caffeine, avoid high fat meals and snacks, avoid trouble spice, avoid overdoing alcohol, avoid gassy foods, eat smaller more frequent meals, and exercise. A brief subject index concludes the book.

- **Clinical Practice of Gastroenterology. Volume One**

Source: Philadelphia, PA: Current Medicine. 1999. 783 p.

Contact: Available from W.B. Saunders Company. Order Fulfillment, 6277 Sea Harbor Drive, Orlando, FL 32887. (800) 545-2522. Fax (800) 874-6418 or (407) 352-3445. Website: [www.wbsaunders.com](http://www.wbsaunders.com). Price: \$235.00

plus shipping and handling. ISBN: 0443065209 (two volume set); 0443065217 (volume 1); 0443065225 (volume 2).

Summary: This lengthy textbook brings practitioners up to date on the complexities of gastroenterology practice, focusing on the essentials of patient care. This first volume includes 86 chapters in four sections: esophagus, stomach and duodenum, small bowel, and colon. Specific topics include normal esophageal physiology, gastroesophageal reflux disease (GERD), motor disorders of the esophagus, esophageal foreign bodies, esophagitis, esophageal trauma, esophageal surgery, gastric and duodenal histology and histopathology, gastroduodenal motility and motility disorders, abdominal pain, nausea and vomiting, dyspepsia (heartburn), *Helicobacter pylori*, gastric and duodenal ulcer, gastric cancer, gastric infection, gastric surgery, small intestine anatomy and physiology, symptoms and signs of small bowel disease, maldigestion and malabsorption, intestinal obstruction and pseudoobstruction, immunologic disorders, small intestinal malignancies (cancer), short bowel syndrome, Whipple's disease, infectious diarrhea, parasitic diseases of the small intestine, foodborne diseases of the small intestine, gastroenteritis, Crohn's disease, anatomy and physiology of the colon, irritable bowel syndrome (IBS), secretory diarrhea, constipation and fecal impaction, fecal incontinence, gas and flatulence, gastrointestinal bleeding, colitis (including ulcerative colitis), diverticulitis and diverticular hemorrhage, appendicitis, benign tumors of the colon and polyposis syndrome, malignant tumors of the colon, and anorectal disorders. The chapters include figures, algorithms, charts, graphs, radiographs, endoscopic pictures, intraoperative photographs, photomicrographs, tables, and extensive references. The volume concludes with a detailed subject index and a section of color plates.

- **I.B.S. Relief: A Doctor, a Dietitian, and a Psychologist Provide a Team Approach to Managing Irritable Bowel Syndrome**

Source: Somerset, NJ: John Wiley and Sons, Inc. 1998. 176 p.

Contact: Available from John Wiley and Sons, Inc. Distribution Center, 1 Wiley Drive, Somerset, NJ 08875-1272. (800) 225-5945 or (732) 469-4400.

Fax (732) 302-2300. E-mail: [bookinfo@wiley.com](mailto:bookinfo@wiley.com). Website:

[www.wiley.com](http://www.wiley.com). Price: \$13.95 plus shipping and handling. ISBN: 0471347418.

Summary: This book offers a multidisciplinary approach to managing irritable bowel syndrome (IBS). The authors note that because the complex nature of IBS may raise medical, nutrition, and psychological issues, a gastroenterologist, registered dietitian, and psychologist collaborated to write the book. The book is designed as a workbook for

people with IBS to learn symptom management skills. The authors stress that successful management of IBS symptoms requires matching management strategies to the links between diet, stress, and symptoms that are specific to each individual. The first two chapters focus on diagnosing IBS. Additional chapters cover the causes of IBS, the importance of a healthy diet, dietary aggravators, diet adjustments for specific symptoms, stress management, coping with pain, managing IBS when other disease processes are present, and working with one's health care providers. The book includes self assessments, recordkeeping forms, and six different diet plans (to be used alone or in combination). The book includes a list of ten tips for living with an irritable bowel, and appendices that cover the physiology of the gut, Canada's food guide, high fiber and low fat recipes, and resources. The book concludes with a subject index.

- **Irritable Bowel Syndrome and the Mind-Body Brain-Gut Connection**

Source: Columbus, OH: Parkview Publishing. 1997. 302 p.

Contact: Available from Parkview Publishing. P.O. Box 1103, Columbus, OH 43216. (888) 599-6464 or (614) 258-4848. Fax (614) 258-7272. Price: \$19.95. ISBN: 0965703894.

Summary: This book offers readers a guide to understanding and treating their functional gastrointestinal (GI) disorders, focusing on irritable bowel syndrome (IBS). The author emphasizes the role that individuals can play in managing their own symptoms and future. The book is framed around eight steps to positive change; eight chapters cover the GI tract and the mind-body connection; the common functional GI disorders; healing with diagnosis and education; understanding one's own symptoms and GI tract; identifying gut 'triggers'; emphasizing self-care and wellness; taking action if symptoms persist; and managing the functional GI disorder. Specific topics include the interplay between stress, psychology and symptoms; colitis and inflammatory bowel disease (IBD); the International Foundation for Functional Gastrointestinal Disorders (IFFGD); self-tests for personal and psychological problems; the role of a history of abuse; cognitive behavioral factors; food and symptom diaries; food allergy versus food intolerance and sensitivity; inflammation and infection; the menstrual cycle; seasonal changes; nutrition; weight; exercise; the impact of alcohol, nicotine, and tobacco; the use of an elimination diet; stress, emotional, and psychological issues; chronic pain management; and managing the symptoms of chest pain, heartburn, dysphagia, dyspepsia, nausea, vomiting, aerophagia (burping and belching), abdominal bloating, rectal gas and flatulence, abdominal pain, diarrhea, constipation, bowel

incontinence, and anal and rectal pain. The book includes black and white photographs, charts, and figures; a subject index concludes the volume.

- **Irritable Bowel Syndrome (IBS) and Gastrointestinal Solutions Handbook**

Source: Encinitas, CA: United Research Publishers. 1997. 232 p.

Contact: Available from United Research Publishers. Department RB-91, 103 North Coast Highway 101, Encinitas, CA 92024. Price: \$14.95. ISBN: 096149249X.

Summary: This book discusses irritable bowel syndrome (IBS) and other gastrointestinal problems and explains how readers can educate themselves, treat problems, and prevent recurrences of these conditions. The author discusses natural, alternative, and medical remedies that can bring relief without the use of drugs. The author also explains how the gastrointestinal system works, why certain foods, activities, and stress cause problems, and why over 20 million Americans deal with IBS and gastrointestinal distress. One chapter in the book discusses other diseases of the digestive tract and notes that they require a doctor's attention but are often easier to treat than IBS. IBS, however, can be individualistic, intermittent, and difficult to treat. The last section reviews some nontraditional helps and ideas that might be of use, including homeopathy, relaxation, hypnotherapy, aromatherapy, herbal remedies, and acupuncture. A final chapter lists fat grams and calories for many common foods.

- **Understanding Indigestion and Other Tummy Troubles**

Source: Woollahra, New South Wales, Australia: Health Books, Gore and Osment Publications. 1993. 64 p.

Contact: Available from Health Books, Gore and Osment Publications, Private Box 427, 150 Queen Street, Woollahra, NSW 2025, Australia. (02) 361-5244. Fax (02) 360-7558. Price: \$9.95 (as of 1995). ISBN: 187553136X.

Summary: This book presents basic information on the causes and treatments of common stomach and digestive tract ailments. After an introductory section that reviews the anatomy and physiology of the gastrointestinal (GI) tract, the book features nine chapters on the following topics: indigestion; ulcers; food poisoning and other causes of upset stomachs and diarrhea; irritable bowel syndrome (IBS); inflammatory bowel disease (IBD); dealing with diverticular disease; bowel cancer; other GI problems, including hiccups, gas, hepatitis, food allergies, appendicitis, and sexually transmitted diseases of the bowel;

and children's GI problems, including colic, food intolerance, gastroenteritis, reflux, celiac disease, constipation, IBS, IBD, polyps, and phantom pains. The book is written in clear, easy-to-understand language and focuses on practical, self-care tips for many of the disorders covered.

- **Relief from IBS: Irritable Bowel Syndrome**

Source: New York, NY: Ballantine Books. 1991. 216 p.

Contact: Available from Ballantine Books. Mail Sales Department, Department 05001, Random House Distribution Center, 400 Hahn Road, Westminister, MD 21157. (800) 793-2665 or (410) 848-1900. Fax (800) 659-2436 or (410) 386-7049. Price: \$5.99 (paperback). ISBN: 0871315572.

Summary: This comprehensive, practical text for patients with irritable bowel syndrome (IBS) provides information about understanding and managing IBS. The text is divided into four sections: characteristics of IBS (background information on IBS symptoms and the digestive system); risk factors (combinations of diet and emotions which seem to trigger IBS); tools for tracking IBS status (diet detection diaries; mood mapping); and IBS treatment (life style changes; coping skills; relaxation techniques; biofeedback; effective diet planning; medications). The text emphasizes what IBS patients can do for themselves, providing realistic, practical guidelines for controlling IBS symptoms and obtaining lasting relief. Answers to common questions asked about IBS, information concerning children with IBS, and references for further reading are appended.

## **Book Summaries: Online Booksellers**

Commercial Internet-based booksellers, such as Amazon.com and Barnes & Noble.com, offer summaries which have been supplied by each title's publisher. Some summaries also include customer reviews. Your local bookseller may have access to in-house and commercial databases that index all published books (e.g. Books in Print®). The following have been recently listed with online booksellers as relating to irritable bowel syndrome (sorted alphabetically by title; follow the hyperlink to view more details at Amazon.com):

- **Behavioral Medicine and Irritable Bowel Syndrome** by Paul R. Latimer (1982); ISBN: 0080250858;  
<http://www.amazon.com/exec/obidos/ASIN/0080250858/icongroupinterna>



- **Irritable Bowel Syndrome** by Nicholas W. Read (Editor) (1985); ISBN: 0808916696;  
<http://www.amazon.com/exec/obidos/ASIN/0808916696/icongroupinterna>
- **Ibs Handbook: Learning to Live With Irritable Bowel Syndrome** by Gerard L Guillory, Mike Snipes (1989); ISBN: 0962253308;  
<http://www.amazon.com/exec/obidos/ASIN/0962253308/icongroupinterna>
- **Irritable Bowel Syndrome: One Disease, Several, or None? (Perspectives in Digestive Diseases, Vol. 5)** by G. Bianchi Porro, N.W. Read (Editor) (1990); ISBN: 8877490616;  
<http://www.amazon.com/exec/obidos/ASIN/8877490616/icongroupinterna>
- **The Wellness Book of I.B.S.: How to Achieve Relief from Irritable Bowel Syndrome and Live a Symptom-Free Life** by Deralee Scanlon, Barbara Cottman Becnel (Contributor) (1991); ISBN: 0312852266;  
<http://www.amazon.com/exec/obidos/ASIN/0312852266/icongroupinterna>
- **Irritable Bowel Syndrome: New Ideas and Insights into Pathophysiology** by N.W. Read (Editor) (1991); ISBN: 0632025557;  
<http://www.amazon.com/exec/obidos/ASIN/0632025557/icongroupinterna>
- **Irritable Bowel Syndrome: Special Diet Cookbook** by Ann Page-Wood, et al (1992); ISBN: 0722523440;  
<http://www.amazon.com/exec/obidos/ASIN/0722523440/icongroupinterna>
- **Gastrointestinal Health : A Self-Help Nutritional Program to Prevent, Cure, or Alleviate Irritable Bowel Syndrome, Ulcers, Heartburn, Gas, Constipation** by Steven R. Peikin (1992); ISBN: 0060984058;  
<http://www.amazon.com/exec/obidos/ASIN/0060984058/icongroupinterna>
- **Herbal Remedies: Irritable Bowel Syndrome (Health Know How)** by David Potterson (1993); ISBN: 0572018185;  
<http://www.amazon.com/exec/obidos/ASIN/0572018185/icongroupinterna>
- **The Natural Way With Irritable Bowel Syndrome (Natural Way)** by Nigel Howard (1995); ISBN: 1852305835;  
<http://www.amazon.com/exec/obidos/ASIN/1852305835/icongroupinterna>

- **Recipes for Health: Irritable Bowel Syndrome: Over 100 Recipes for Coping With This Digestive Disorder** by Ann Page-Wood, et al (1995); ISBN: 0722531419;  
<http://www.amazon.com/exec/obidos/ASIN/0722531419/icongroupinterna>
- **Irritable Bowel Syndrome: A Practical Guide (Mandarin Paperback)** by Geoff Watts (1996); ISBN: 074932466X;  
<http://www.amazon.com/exec/obidos/ASIN/074932466X/icongroupinterna>
- **Irritable Bowel Syndrome: How Your Diet Can Help** by Stephen Terrass (1996); ISBN: 0722531516;  
<http://www.amazon.com/exec/obidos/ASIN/0722531516/icongroupinterna>
- **Irritable Bowel Syndrome** by Sarah, Dr. Brewer (1997); ISBN: 0722533926;  
<http://www.amazon.com/exec/obidos/ASIN/0722533926/icongroupinterna>
- **The Irritable Bowel Syndrome (Ibs) and Gastrointestinal Solutions Handbook** by Chet Cunningham (1997); ISBN: 096149249X;  
<http://www.amazon.com/exec/obidos/ASIN/096149249X/icongroupinterna>
- **Functional Dyspepsia and Irritable Bowel Syndrome - Concepts and Controversies** by H. Goebell (Editor), et al (1998); ISBN: 079238735X;  
<http://www.amazon.com/exec/obidos/ASIN/079238735X/icongroupinterna>
- **Clinical Implications of Irritable Bowel Syndrome** by Philippe Denis (Editor) (1998); ISBN: 3110158604;  
<http://www.amazon.com/exec/obidos/ASIN/3110158604/icongroupinterna>
- **Diets to Help Colitis and Irritable Bowel Syndrome: Natural Relief With a Carefully Balanced Regime** by J. O. Lay (1998); ISBN: 0722531990;  
<http://www.amazon.com/exec/obidos/ASIN/0722531990/icongroupinterna>
- **Irritable Bowel Syndrome: A Natural Approach** by Rosemary Nicol (1999); ISBN: 1569751889;  
<http://www.amazon.com/exec/obidos/ASIN/1569751889/icongroupinterna>
- **Irritable Bowel Syndrome & the Mind-Body/Brain-Gut Connection: 8 Steps for Living a Healthy Life with a Functional Bowel Disorder or Colitis** by William B. Salt II M.D. (1999); ISBN: 0965703894;

<http://www.amazon.com/exec/obidos/ASIN/0965703894/icongroupinterna>

- **Gastrointestinal Health: A Self-Help Nutritional Program to Prevent, Cure, or Alleviate Irritable Bowel Syndrome, Ulcers, Heartburn, Gas, constipatio** by Steven R. Peikin (Preface), Steven Peiken (1999); ISBN: 0060953187;  
<http://www.amazon.com/exec/obidos/ASIN/0060953187/icongroupinterna>
- **All About Irritable Bowel Syndrome** by David Potterton (1999); ISBN: 0572021658;  
<http://www.amazon.com/exec/obidos/ASIN/0572021658/icongroupinterna>
- **Breaking the Bonds of Irritable Bowel Syndrome: A Psychological Approach to Regaining Control of Your Life** by Barbara Bradley Bolen Ph.D., W. Grant Thompson (2000); ISBN: 1572241888;  
<http://www.amazon.com/exec/obidos/ASIN/1572241888/icongroupinterna>
- **Freedom from Digestive Distress: Medicine-Free Relief from Heartburn, Gas, Bloating, and Irritable Bowel Syndrome** by Gary L. Gitnick, Karen Cooksey (2000); ISBN: 0812932625;  
<http://www.amazon.com/exec/obidos/ASIN/0812932625/icongroupinterna>
- **Irritable Bowel Syndrome (Fast Facts)** by Kenneth W Heaton, W Grant Thompson (2000); ISBN: 1899541977;  
<http://www.amazon.com/exec/obidos/ASIN/1899541977/icongroupinterna>
- **Tell Me What to Eat If I Have Irritable Bowel Syndrome: Nutrition You Can Live With (Tell Me What to Eat)** by Elaine Magee (2000); ISBN: 1564144445;  
<http://www.amazon.com/exec/obidos/ASIN/1564144445/icongroupinterna>
- **Healthy Digestion the Natural Way: Preventing and Healing Heartburn, Constipation, Gas, Diarrhea, Inflammatory Bowel and Gallbladder Diseases, Ulcers, Irritable Bowel Syndrome, and More** by D. Lindsey Berkson, et al (2000); ISBN: 0471349623;  
<http://www.amazon.com/exec/obidos/ASIN/0471349623/icongroupinterna>
- **Treatment Options for Irritable Bowel Syndrome** by Medifocus (2001); ISBN: B000063J3N;

<http://www.amazon.com/exec/obidos/ASIN/B000063J3N/icongroupinterna>

- **IBS Breakthrough : Healing Irritable Bowel Syndrome for Good With Chinese Medicine** by Leigh Fortson, Bing Lee (2001); ISBN: 1931412626; <http://www.amazon.com/exec/obidos/ASIN/1931412626/icongroupinterna>
- **Treatment Options for Irritable Bowel Syndrome** by Elliot Jacob (Editor) (2001); ISBN: 5551071642; <http://www.amazon.com/exec/obidos/ASIN/5551071642/icongroupinterna>
- **Bible Cure for Irritable Bowel Syndrome (Bible Cure Series)** by Don, MD Colbert (2002); ISBN: 0884198278; <http://www.amazon.com/exec/obidos/ASIN/0884198278/icongroupinterna>
- **Stop Belly-Aching: Banish Indigestion & Irritable Bowel Syndrome** by Peter, Dr Mansfield, Dr. Peter Mansfield (2002); ISBN: 0285636189; <http://www.amazon.com/exec/obidos/ASIN/0285636189/icongroupinterna>
- **Food Solutions: Irritable Bowel Syndrome** by Patsy Westcott, Philip Wilson (Illustrator) (2002); ISBN: 0600604950; <http://www.amazon.com/exec/obidos/ASIN/0600604950/icongroupinterna>
- **A Meditaion to Help With Irritable Bowel Syndrome & Inflammatory Bowel Disease** by Belleruth Naparstek (2002); ISBN: 1881405605; <http://www.amazon.com/exec/obidos/ASIN/1881405605/icongroupinterna>
- **Irritable Bowel Syndrome and the MindBodySpirit Connection: 7 Steps for Living a Healthy Life With a Functional Bowel Disorder, Crohn's Disease or Colitis** by William B. Salt II, Neil F. Neimark (2002); ISBN: 0965703851; <http://www.amazon.com/exec/obidos/ASIN/0965703851/icongroupinterna>

## The National Library of Medicine Book Index

The National Library of Medicine at the National Institutes of Health has a massive database of books published on healthcare and biomedicine. Go to the following Internet site, <http://locatorplus.gov/>, and then select "Search LOCATORplus." Once you are in the search area, simply type "irritable

bowel syndrome" (or synonyms) into the search box, and select "books only." From there, results can be sorted by publication date, author, or relevance. The following was recently catalogued by the National Library of Medicine:<sup>25</sup>

- **Advanced therapy of inflammatory bowel disease.** Author: [edited by] Theodore M. Bayless, Stephen B. Hanauer; Year: 2001; Hamilton, Ont.: B.C. Decker, 2001; ISBN: 1550091220  
<http://www.amazon.com/exec/obidos/ASIN/1550091220/icongroupinterna>
- **Challenges in inflammatory bowel disease.** Author: edited by Derek P. Jewell, Bryan F. Warren, Neil J. Mortensen; Year: 2001; Oxford; Malden, MA: Blackwell Science, 2001; ISBN: 0632051698  
<http://www.amazon.com/exec/obidos/ASIN/0632051698/icongroupinterna>
- **Clinical implications of irritable bowel syndrome.** Author: edited by Philippe Denis; Year: 1997; Berlin; New York: Walter de Gruyter, 1997; ISBN: 3110158604  
<http://www.amazon.com/exec/obidos/ASIN/3110158604/icongroupinterna>
- **Cognitive-behavioral treatment of irritable bowel syndrome: the brain-gut connection.** Author: Brenda B. Toner ... [et al.]; foreword by Douglas A. Drossman; Year: 2000; New York: Guilford Press, c2000; ISBN: 157230135X (hardcover: alk. paper)  
<http://www.amazon.com/exec/obidos/ASIN/157230135X/icongroupinterna>
- **Diseases of the small intestine in childhood.** Author: by John Walker-Smith and Simon Murch; Year: 1999; Oxford: Isis Medical Media; Herndon, VA: Distributed in the USA by Books International, 1999; ISBN: 1901865037  
<http://www.amazon.com/exec/obidos/ASIN/1901865037/icongroupinterna>

---

<sup>25</sup> In addition to LOCATORPlus, in collaboration with authors and publishers, the National Center for Biotechnology Information (NCBI) is adapting biomedical books for the Web. The books may be accessed in two ways: (1) by searching directly using any search term or phrase (in the same way as the bibliographic database PubMed), or (2) by following the links to PubMed abstracts. Each PubMed abstract has a "Books" button that displays a facsimile of the abstract in which some phrases are hypertext links. These phrases are also found in the books available at NCBI. Click on hyperlinked results in the list of books in which the phrase is found. Currently, the majority of the links are between the books and PubMed. In the future, more links will be created between the books and other types of information, such as gene and protein sequences and macromolecular structures. See <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Books>.

- **Functional disorders of the gut.** Author: edited by Sidney F. Phillips, David L. Wingate; Year: 1998; London; New York: Churchill Livingstone, 1998; ISBN: 0443054207 (alk. paper)  
<http://www.amazon.com/exec/obidos/ASIN/0443054207/icongroupinterna>
- **Functional dyspepsia and irritable bowel syndrome: concepts and controversies: proceedings of the Falk Symposium no. 99 (part II of the Intestinal Week in the Black Forest 1997) held in Titisee, Germany, May 27-28, 1997.** Author: edited by H. Goebell and G. Hol; Year: 1998; Dordrecht; Boston: Kluwer Academic Publishers, c1998; ISBN: 079238735X  
<http://www.amazon.com/exec/obidos/ASIN/079238735X/icongroupinterna>
- **Functional somatic syndromes: etiology, diagnosis, and treatment.** Author: edited by Peter Manu; Year: 1998; Cambridge, UK; New York: Cambridge University Press, 1998; ISBN: 0521591309  
<http://www.amazon.com/exec/obidos/ASIN/0521591309/icongroupinterna>
- **IBD at the end of its first century: proceedings of the Falk Symposium 111 held in Freiburg, Germany, 19-20 June, 1999.** Author: edited by G. Rogler ... [et al.]; Year: 2000; Dordrecht; Boston: Kluwer Academic Publishers, c2000; ISBN: 0792387562 (alk. paper)  
<http://www.amazon.com/exec/obidos/ASIN/0792387562/icongroupinterna>
- **Inflammatory bowel disease: a clinicians' guide.** Author: Alistair Forbes; Year: 2001; London; New York: Arnold, 2001; ISBN: 034080727X  
<http://www.amazon.com/exec/obidos/ASIN/034080727X/icongroupinterna>
- **Inflammatory bowel disease.** Author: Michael A. Kamm; Year: 1999; London: Martin Dunitz, 1999; ISBN: 1853176419  
<http://www.amazon.com/exec/obidos/ASIN/1853176419/icongroupinterna>
- **Intestinal transplantation for short-bowel syndrome.** ; Year: 1996; Plymouth Meeting, PA: ECRI, 1996
- **Intestine and intestine-liver transplantation: update.** Author: ECRI; Year: 2000; Plymouth Meeting, PA: ECRI, c2000
- **Irritable bowel syndrome: diagnosis, psychology, and treatment.** Author: edited by P. Denis; Year: 1995; Berlin; New York: W. de Gruyter, 1995; ISBN: 3110149125
- **Irritable bowel syndrome: new ideas and insights into pathophysiology.** Author: edited by N.W. Read; Year: 1991; Oxford;

Boston: Blackwell Scientific Publications; St. Louis, Mo.: Distributors USA, Mosby-Year Book, 1991; ISBN: 0632025557

<http://www.amazon.com/exec/obidos/ASIN/0632025557/icongroupinterna>

- **Irritable bowel syndrome: pathogenesis and treatment.** Author: edited by Nicholas W. Read; Year: 1987; Oslo, Norway: Norwegian University Press, c1987
- **Irritable bowel syndrome: psychosocial assessment and treatment.** Author: Edward B. Blanchard; Year: 2001; Washington, D.C.: American Psychological Association, c2001; ISBN: 1557987300 (alk. paper)  
<http://www.amazon.com/exec/obidos/ASIN/1557987300/icongroupinterna>
- **Irritable bowel syndrome.** Author: American Board of Family Practice; the major contributor to this reference guide were: Keith D. Lindor, Robert D. Sheeler; Year: 1998; Lexington, Ky. (2228 Young Dr., Lexington 40505): The Board, c1998
- **Irritable heart: the medical mystery of the Gulf War.** Author: Jeff Wheelwright; Year: 2001; New York: Norton, c2001; ISBN: 039301956X  
<http://www.amazon.com/exec/obidos/ASIN/039301956X/icongroupinterna>
- **Making it without losing it: Type A, achievement motivation, and scientific attainment revisited.** Author: R.L. Helmreich, J.T. Spence, R.S. Pred; Year: 1987; Washington, DC: NASA Headquarters, 1987
- **Maladies inflammatoires cryptogénétiques de l'intestin = Inflammatory bowel disease.** Author: sous la direction scientifique de R. Modigliani; Year: 2000; Montrouge, France: John Libbey Eurotext, c2000; ISBN: 2742002960
- **Non-neoplastic diseases of the anorectum: an interdisciplinary approach: proceedings of Falk Symposium 118 held in Freiburg, Germany, October 1-2, 2000.** Author: edited by P. Frühmorgen, H.-P. Bruch; Year: 2001; Dordrecht; London: Kluwer Academic, c2001; ISBN: 079238766X  
<http://www.amazon.com/exec/obidos/ASIN/079238766X/icongroupinterna>
- **Observations on the use of opium in removing symptoms supposed to be owing to morbid irritability.** Author: by Alexander Grant .; Year: 1785; London: Printed by J. Nichols, for the author, 1785
- **Origins and directions of inflammatory bowel disease: early studies of the "nonspecific" inflammatory bowel diseases.** Author: by Joseph B. Kirsner; with a contribution by Ulrich Klotz; Year: 2001;

Dordrecht; Boston: Kluwer Academic, c2001; ISBN: 0792387775 (hardback: alk. paper)  
<http://www.amazon.com/exec/obidos/ASIN/0792387775/icongroupinterna>

- **Psychotherapy in irritable bowel syndrome: a controlled outcome study.** Author: Jan Svedlund; Year: 1983; Copenhagen: Munksgaard, [1983]; ISBN: 8716095960 (pbk.)
- **Recent advances in the pathophysiology and management of inflammatory bowel diseases and digestive endocrine tumors: postgraduate course 1999, Paris, July 2-3.** Author: edited by M. Mignon, J.F. Colombel; Year: 1999; Montrouge: J. Libbey Eurotext, c1999; ISBN: 2742002545
- **Short bowel syndrome: clinical, metabolic and nutritional aspects, including parenteral nutrition.** Author: door Leopold George Jean Baptist Engels; Year: 1983; Nijmegen: Stichting Studentenpers, 1983
- **Small intestine and combined liver-small intestine transplantation.** Author: S. S. Hotta; Year: 1993; Rockville, MD: U.S. Dept. of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research, 1993
- **Towards confident management of irritable bowel syndrome.** Author: edited by K.W. Heaton, F. Creed, Nicola L.M. Goeting; Year: 1991; Southampton: Duphar Medical Relations, 1991; ISBN: 1870678311

## Chapters on Irritable Bowel Syndrome

Frequently, irritable bowel syndrome will be discussed within a book, perhaps within a specific chapter. In order to find chapters that are specifically dealing with irritable bowel syndrome, an excellent source of abstracts is the Combined Health Information Database. You will need to limit your search to book chapters and irritable bowel syndrome using the "Detailed Search" option. Go directly to the following hyperlink: <http://chid.nih.gov/detail/detail.html>. To find book chapters, use the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer, and the format option "Book Chapter." By making these selections and typing in "irritable bowel syndrome" (or synonyms) into the "For these words:" box, you will only receive results on chapters in books. The following is a typical result when searching for book chapters on irritable bowel syndrome:



- **Coexistence of Inflammatory Bowel Disease and Irritable Bowel Syndrome**

Source: in Bayless, T.M. and Hanauer, S.B. Advanced Therapy of Inflammatory Bowel Disease. Hamilton, Ontario: B.C. Decker Inc. 2001. p. 87-90.

Contact: Available from B.C. Decker Inc. 20 Hughson Street South, P.O. Box 620, L.C.D. 1 Hamilton, Ontario L8N 3K7. (905) 522-7017 or (800) 568-7281. Fax (905) 522-7839. Email: info@bcdecker.com. Website: www.bcdecker.com. Price: \$129.00 plus shipping and handling. ISBN: 1550091220.

Summary: This chapter on the coexistence of irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD) is from the second edition of a book devoted to the details of medical, surgical, and supportive management of patients with Crohn's disease (CD) and ulcerative colitis (UC), together known as IBD. Irritable bowel syndrome (IBS) is a chronic abdominal symptom complex for which no structural underlying abnormality can be demonstrated. It is a common disorder that affects all age groups with an increased frequency in females. Few if any of the clinical features of IBS can confidently distinguish it from IBD. The multiplicity and chronicity of symptoms and their relationship to altered bowel habit can be helpful hints. A psychoneurotic disposition, evidence of anxiety or depression, and a tendency to somatize symptoms referable not only to the gut but other organ systems are pointers in favor of IBS. However, when IBS occurs in a patient with established IBD, this can be a difficult diagnosis. Since IBS is a very common disorder, it is not unexpected to find patients with both IBS and IBD. The author considers whether there is a special relationship between these two disorders. There is good scientific evidence that inflammation of the gut alters its physiologic performance, and this may persist after resolution of the inflammation. The author concludes that IBS occurs with greater frequency in certain patients in remission from IBD, and this is more easily seen in UC than in CD. Symptoms of IBS in the context of IBD are no different from those typical for that condition. An awareness of this relationship is of key importance in making a confident diagnosis, as is a good knowledge of the patients' history and the characteristic behavior of their IBD. In some complicated IBD patients, extensive investigation by colonoscopy with or without small bowel radiography may be required. For most patients, treatment of IBS should follow the usual guidelines with notable exceptions in the case of patients with histories of obstruction. 1 figure. 17 references.

- **Coexistent Irritable Bowel Syndrome and Inflammatory Bowel Disease**

Source: in Bayless, T.M. and Hanauer, S.B. Advanced Therapy of Inflammatory Bowel Disease. Hamilton, Ontario: B.C. Decker Inc. 2001. p. 91-94.

Contact: Available from B.C. Decker Inc. 20 Hughson Street South, P.O. Box 620, L.C.D. 1 Hamilton, Ontario L8N 3K7. (905) 522-7017 or (800) 568-7281. Fax (905) 522-7839. Email: info@bcdecker.com. Website: www.bcdecker.com. Price: \$129.00 plus shipping and handling. ISBN: 1550091220.

Summary: This second chapter on the coexistence of irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD) is from the second edition of a book devoted to the details of medical, surgical, and supportive management of patients with Crohn's disease (CD) and ulcerative colitis (UC), together known as IBD. Irritable bowel syndrome (IBS) is a chronic abdominal symptom complex for which no structural underlying abnormality can be demonstrated. It is a common disorder that affects all age groups with an increased frequency in females. Few if any of the clinical features of IBS can confidently distinguish it from IBD. This chapter focuses on the prevalence of IBS, clinically relevant pathophysiology, and the importance of the patient-physician relationship. The author notes that there are several pathophysiologic alterations found in the small bowel and colon of patients with IBS that could be aggravated or brought to the level of clinical awareness by IBD or its treatment. These alterations include pain or diarrhea after ileo-right colon resection (removal); active proctosigmoiditis; ileal pouch procedures; and an exaggeration of the patient's response to secretagogues, including caffeine and problems with lactose intolerance. The author emphasizes the benefits of explaining to the patient with both IBS and IBD the fact that she or he has two different disorders and that each may cause its own symptoms. Explaining the pathophysiology seems to help the patient adjust medications and understand and accept symptoms caused by meals or by stress. 6 references.

- **Evidence-Based Therapy of Irritable Bowel Syndrome**

Source: in Manu, P. Pharmacotherapy of Common Functional Syndromes: Evidence-Based Guidelines for Primary Care Practice. Binghamton, NY: Haworth Medical Press. 2000. p. 175-177.

Contact: Available from Haworth Medical Press, an imprint of Haworth Press, Inc. 10 Alice Street, Binghamton, New York 13904-1580. (800) HAWORTH or (800) 429-6784. Outside United States and Canada (607) 722-5857. Fax (800) 895-0582. E-mail: getinfo@haworthpressinc.com.

Website: [www.haworthpressinc.com](http://www.haworthpressinc.com). Price: \$69.95 plus shipping and handling. ISBN: 0789005883.

Summary: This chapter is from a book that evaluates drug therapies for each of the four major functional disorders: chronic fatigue syndrome, fibromyalgia, irritable bowel syndrome (IBS), and premenstrual syndrome. In this chapter, the final of six short chapters that focus on IBS, the author reviews evidence based therapy for IBS. The author contradicts present thinking that drug therapy for IBS should focus on the most disturbing symptoms, using loperamide for diarrhea, fiber for constipation, and anticholinergic agents for pain. The author, instead, contends that research studies do not provide support for the effectiveness of these drug approaches. Because evidence indicates that tricyclic antidepressants are effective for the totality of this illness, the author contends that these drugs should constitute the first line treatment in all cases in which the severity of the syndrome warrants intervention, provided that there are no contraindications to the use of these agents and that the potential for drug interactions has been considered. Monotherapy with amitriptyline or desipramine should be initiated with a starting dose of 10 mg administered once a day in patients with the diarrhea predominant variant of the syndrome. Adjunctive therapy with a bulking agent may lead to a decrease in the overall severity of the syndrome in all patients and ease the bowel habit and stool passage in those with the constipation predominant variant of the syndrome.

- **Everything You Ever Wanted to Ask a Gastroenterologist**

Source: in Magee, E. Tell Me What to Eat If I Have Irritable Bowel Syndrome. Franklin Lakes, NJ: Career Press, Inc. 2000. p. 12-23.

Contact: Available from Career Press, Inc. 3 Tice Road, P.O. Box 687, Franklin Lakes, NJ 07417. (800) 227-3371. Website: [www.careerpress.com](http://www.careerpress.com) or [www.newpagebooks.com](http://www.newpagebooks.com). Price: \$10.99 plus shipping and handling.

Summary: This chapter is from a book that offers eating and nutrition guidelines for people who have been diagnosed with irritable bowel syndrome (IBS). People with IBS have bowels that tend to overreact in certain situations. Whatever affects the bowels of the population at large, such as diet, hormones, or stress, affects those of people with IBS even more, resulting in the symptoms of the disorder. This introductory chapter answers common questions about IBS ('everything you ever wanted to ask a gastroenterologist'). IBS is described as a common disorder of the intestines that can lead to crampy abdominal pain, gassiness (flatulence), bloating, changes in bowel habits (diarrhea, constipation, or both), a feeling of incomplete emptying of the bowel, and passing mucus with bowel movements. The symptoms range from

mildly annoying (for most patients) to disabling (for a few patients), and tend to fluctuate over time. The author explores the hypotheses for the causes of IBS, including a trigger such as flu or food poisoning, the role of hormones (many women have more IBS symptoms during their menstruation), genetics, childhood constipation and colic, and childhood physical or sexual abuse. There is no standard way of treating IBS and there is no drug available to cure the discomfort of an irritable bowel. There are some medications that can help relieve symptoms in some people. Stress may worsen IBS symptoms by stimulating colonic spasm in people with IBS. Three types of psychotherapy may be helpful for IBS patients: brief psychodynamic therapy, cognitive behavioral therapy, and hypnosis. The author cautions that some symptoms (gastrointestinal bleeding, fever, weight loss, nocturnal symptoms, fecal incontinence, persistent severe pain) are not part of IBS and may indicate another problem that should be investigated. 2 tables. 1 reference.

- **Main Symptoms of Irritable Bowel Syndrome**

Source: in Magee, E. *Tell Me What to Eat If I Have Irritable Bowel Syndrome*. Franklin Lakes, NJ: Career Press, Inc. 2000. p. 24-29.

Contact: Available from Career Press, Inc. 3 Tice Road, P.O. Box 687, Franklin Lakes, NJ 07417. (800) 227-3371. Website: [www.careerpress.com](http://www.careerpress.com) or [www.newpagebooks.com](http://www.newpagebooks.com). Price: \$10.99 plus shipping and handling.

Summary: This chapter is from a book that offers eating and nutrition guidelines for people who have been diagnosed with irritable bowel syndrome (IBS). People with IBS have bowels that tend to overreact in certain situations. Whatever affects the bowels of the population at large, such as diet, hormones, or stress, affects those of people with IBS even more, resulting in the symptoms of the disorder. This chapter describes the main symptoms of IBS, which include abdominal pain, irregular pattern of defecation at least 25 percent of the time, constipation, diarrhea, mucus in the stool, abdominal bloating or swelling, the feeling of incomplete emptying rectum, and gas attacks (flatulence). The author notes that, for many women, IBS symptoms seem to worsen during their periods (menstruation). Therefore, right before and during one's period, it is especially important to avoid trigger foods or stressors that seem to bring on or aggravate bowel symptoms. The chapter concludes with a brief discussion of common IBS symptoms that occur in other parts of the body. These can include heartburn, sleep disturbances, fatigue, bladder or urinary problems, non cardiac chest pain, nausea or bloating, pain in the upper abdomen, migraine headaches, painful intercourse, and fibromyalgia.

- **Gas and Flatulence**

Source: in Brandt, L., et al., eds. *Clinical Practice of Gastroenterology*. Volume One. Philadelphia, PA: Current Medicine. 1999. p. 646-651.

Contact: Available from W.B. Saunders Company. Order Fulfillment, 6277 Sea Harbor Drive, Orlando, FL 32887. (800) 545-2522. Fax (800) 874-6418 or (407) 352-3445. Website: [www.wbsaunders.com](http://www.wbsaunders.com). Price: \$235.00 plus shipping and handling. ISBN: 0443065209 (two volume set); 0443065217 (volume 1); 0443065225 (volume 2).

Summary: Gas related gastrointestinal (GI) complaints usually take one of three forms: excessive or repetitive belching; abdominal pain, bloating and distention; or excessive passage of flatus (gas) per rectum. This chapter on gas and flatulence is from a lengthy textbook that brings practitioners up to date on the complexities of gastroenterology practice, focusing on the essentials of patient care. The author of this chapter outlines a rational approach to the treatment of the flatulent patient based on studies of the normal physiology of intestinal gas production, composition, and excretion and the proven role of gas in the production of GI symptoms. The author contends that physicians often order complex and expensive diagnostic studies and prescribe a variety of drugs that have little chance of bringing relief to their patients. Gas can enter the gut as the result of air swallowing, bacterial metabolism, or diffusion from the blood. Chronic, repetitive belching is usually a manifestation of a nervous habit, although the person with this complaint often is convinced that there must be serious disease causing excessive gas production in the upper tract. Patients with the common complaint of abdominal pain and bloating usually have irritable bowel syndrome (IBS) that manifests as a motility disorder that interferes with the orderly passage of gas through the gut. The passage of large volumes of intestinal gas per rectum may just be an annoying cause of social embarrassment, or it may cause a person to think something is seriously wrong. However, when manifesting without other symptoms (diarrhea or weight loss), this common symptom is virtually never caused by serious organic disease. 2 figures. 5 tables. 13 references.

- **Irritable Bowel Syndrome: Diagnosis and Treatment**

Source: in McDonald, J.W.D.; Burroughs, A.K.; Feagan, B.G., eds. *Evidence Based Gastroenterology and Hepatology*. London, UK: BMJ Publishing Group. 1999. p. 241-259.

Contact: Available from BMJ Publishing Group. BMA Books, BMA House, Tavistock Square, London WC1H 9JR. Fax 44 (0)20 7383 6402. E-

mail: [orders@bmjbooks.com](mailto:orders@bmjbooks.com). Website: [www.bmjbooks.com](http://www.bmjbooks.com). Price: Contact publisher for price.

**Summary:** This chapter on the diagnosis and treatment of irritable bowel syndrome (IBS) is from a book that emphasizes the approaches of evidence based medicine in gastroenterology (the study of the gastrointestinal tract and gastrointestinal diseases) and hepatology (the study of the liver and liver diseases). Irritable bowel syndrome, the most common functional bowel disorder, is characterized by abdominal pain, bloating, and disturbed defecation. The functional gastrointestinal (GI) disorders result in significant utilization of health care resources; IBS is responsible for a considerable economic burden because of the high frequency of physician visits and work absenteeism. After consideration of demographic features, the nature of the symptoms, and the severity index, only limited investigations to rule out organic disease are indicated. The variety of symptoms, the lack of understanding of the pathophysiology of the disease, and the complex interaction of the central nervous system and the enteric nervous system and their receptors, suggest that no single drug will cure IBS. The authors recommend a strong physician-patient relationship to help control health care utilization. The goal should be judicious use of medical testing, within an atmosphere of an empathetic patient-doctor relationship. Recurrences should be treated by a symptom based approach, with careful attention to the psychosocial triggers that contribute to exacerbation. With a few simple investigations (tests), sympathetic explanation (patient education), and appropriate treatment, most patients with IBS have a good prognosis. 4 tables. 124 references.

- **Gastrointestinal Problems Including Colon Cancer**

Source: in Rosenfeld, J.A., ed. *Women's Health in Primary Care*. Baltimore, MD: Williams and Wilkins. 1997. p. 633-660.

Contact: Available from Williams and Wilkins. 351 West Camden Street, Baltimore, MD 21201-2436. (800) 638-0672 or (410) 528-8555. Fax (800) 447-8438. Price: \$59.95 (paperback). ISBN: 0683073664.

**Summary:** This chapter, from a book on women's health for primary care providers, reviews gastrointestinal problems in women. The chapter covers diseases of the upper GI tract, including gastroesophageal reflux disease (GERD), peptic ulcer disease, and gastric carcinoma; gallstones; liver diseases, including primary biliary cirrhosis, autoimmune liver disease, drug-induced liver disease, and alcoholic liver disease; and lower GI disease, including irritable bowel syndrome, inflammatory bowel disease, and colon cancer. For each disease, the author discusses

incidence, risk factors, clinical symptoms, diagnosis, and treatment options. 1 figure. 8 tables. 90 references.

- **Irritable Bowel Syndrome and Constipation**

Source: in Snape, W.J., ed. Consultations in Gastroenterology. Philadelphia, PA: W.B. Saunders Company. 1996. p. 496-501.

Contact: Available from W.B. Saunders Company. Order Fulfillment, 6277 Sea Harbor Drive, Orlando, FL 32887. (800) 545-2522. Fax (800) 874-6418 or (407) 352-3445. Price: \$125.00. ISBN: 0721646700.

Summary: This chapter from a gastroenterology text covers irritable bowel syndrome (IBS) and constipation. The IBS is a heterogeneous group of functional gastrointestinal tract disorders involving the small intestine and colon; central to the definition of IBS is abdominal pain. The author focuses on patients with IBS who have constipation as their primary bowel complaint. Topics include pathophysiology, diagnosis, definition, history and physical examination, diagnostic tests including those of colonic function, and treatment options, including general measures, treatment for abdominal pain, gas and bloating, and psychologic and behavioral therapy. The general treatment measures recommended include developing a therapeutic relationship, providing reassurance and education, and dietary interventions including fiber supplementation. Patients who fail to respond adequately to these general treatment measures should receive additional diagnostic testing and therapy directed at their predominant symptoms. 1 table. 12 references.

- **Irritable Bowel Syndrome and Diarrhea**

Source: in Snape, W.J., ed. Consultations in Gastroenterology. Philadelphia, PA: W.B. Saunders Company. 1996. p. 502-510.

Contact: Available from W.B. Saunders Company. Order Fulfillment, 6277 Sea Harbor Drive, Orlando, FL 32887. (800) 545-2522. Fax (800) 874-6418 or (407) 352-3445. Price: \$125.00. ISBN: 0721646700.

Summary: This chapter from a gastroenterology text covers irritable bowel syndrome (IBS) and diarrhea. The IBS is a heterogeneous group of functional gastrointestinal tract disorders involving the small intestine and colon; central to the definition of IBS is abdominal pain. The authors first provide some background regarding aspects of the history, physical examination, and initial laboratory evaluation that supports the diagnosis of this common presentation. The authors caution against performing excessive diagnostic tests, which can undermine the patient's confidence in both the physician and the diagnosis, as well as play into the tendency

of patients with IBS to seek opinions from multiple physicians. The authors also discuss the psychosocial support that is an important component in the management of a chronic disorder such as IBS. They recommend establishing early in the treatment plan a realistic goal of reducing and not eradicating symptoms, emphasizing that the physician and patient share responsibility for management decisions. Treatment options discussed include diet and bulking agents, opiates, anticholinergics, antispasmodics, peppermint oil, calcium channel blockers, allergy medicine, anxiolytics and antidepressants, and peptides and biogenic amines. 1 figure. 2 tables. 49 references.

- **Diverticular Disease of the Colon**

Source: in Snape, W.J., ed. Consultations in Gastroenterology. Philadelphia, PA: W.B. Saunders Company. 1996. p. 510-514.

Contact: Available from W.B. Saunders Company. Order Fulfillment, 6277 Sea Harbor Drive, Orlando, FL 32887. (800) 545-2522. Fax (800) 874-6418 or (407) 352-3445. Price: \$125.00. ISBN: 0721646700.

Summary: This gastroenterology textbook chapter reviews the epidemiology of colonic diverticular disease and the management of uncomplicated and complicated disease. Those with uncomplicated disease have no symptoms due to the diverticula themselves, but may have coincident irritable bowel syndrome (IBS) symptoms of abdominal pain and altered bowel habit. Treatment of the symptoms in uncomplicated diverticular disease is the same as that of IBS. Complicated diverticular disease can include diverticular hemorrhage and five types of diverticulitis: peridiverticulitis, bowel obstruction, fistula, abscess, and peritonitis. The complications of colonic diverticula are bleeding usually from diverticula in the right side of the colon and infection due to perforation of a diverticulum in the sigmoid colon. Prompt management of these complications is essential to prevent serious consequences, especially in the elderly where the initial symptoms may be deceptively mild. 1 figure. 1 table. 12 references.

- **Endometriosis: A Gastroenterologist's Perspective**

Source: in Snape, W.J., ed. Consultations in Gastroenterology. Philadelphia, PA: W.B. Saunders Company. 1996. p. 573-579.

Contact: Available from W.B. Saunders Company. Order Fulfillment, 6277 Sea Harbor Drive, Orlando, FL 32887. (800) 545-2522. Fax (800) 874-6418 or (407) 352-3445. Price: \$125.00. ISBN: 0721646700.

Summary: This gastroenterology text chapter presents a gastroenterologist's perspective on endometriosis, defined as the



presence of endometrial glands or stroma outside of the uterus. The authors first consider diagnostic issues, including the interplay between endometriosis and irritable bowel syndrome (IBS). They note that noncyclic symptoms are particularly common in cases of direct gastrointestinal (GI) involvement with endometriosis, and in such cases symptoms may also be influenced by GI activities such as eating or bowel movements. Those areas of the GI tract most contiguous to the uterus are most commonly involved. The authors explore the problem of rectosigmoid endometriosis (RSE), which presents with chronic 'colon' symptoms often indistinguishable from IBS. The authors describe the recommended diagnostic workup and present statistical information about the incidence of RSE; they also briefly discuss treatment options. 61 references.

- **Intestinal Gas and Abdominal Bloating**

Source: in Snape, W.J., ed. *Consultations in Gastroenterology*. Philadelphia, PA: W.B. Saunders Company. 1996. p. 70-74.

Contact: Available from W.B. Saunders Company. Order Fulfillment, 6277 Sea Harbor Drive, Orlando, FL 32887. (800) 545-2522. Fax (800) 874-6418 or (407) 352-3445. Price: \$125.00. ISBN: 0721646700.

Summary: This chapter, from a gastroenterology text, deals with the pathophysiology and treatment of intestinal gas and abdominal bloating, particularly that related to the irritable bowel syndrome (IBS). The approach to the average patient with these complaints remains predominantly based on clinical appraisal, a tentative diagnosis, exclusion of organic disease, and a therapeutic trial that partly confirms the diagnosis. However, some patients have intractable symptoms (usually gas and distention) and require further evaluation. A second tier of tests can confirm the presence and assess the severity of the disorder of digestive function and provide the basis for therapeutic trials to correct that abnormal function. The author describes the pathophysiology and treatment of bloating and distension, and of flatus, focusing on noninvasive, behavior modifying modes of treatment. 4 figures. 24 references. (AA-M).

- **Gastrointestinal System**

Source: in Kelly, R.B., ed. *Family Health and Medical Guide*. Dallas, TX: Word Publishing. 1996. p. 169-200.

Contact: Available from American Academy of Family Physicians. 11400 Tomahawk Creek Parkway, Leawood, KS 66211-2672. (800) 274-2237.

Website: [www.aafp.org](http://www.aafp.org). Price: \$30.00 for members; \$35.00 for non-members; plus shipping and handling. ISBN: 0849908396.

Summary: This chapter on the gastrointestinal system is from a family health and medical guide. The chapter first describes the anatomy and function of the gastrointestinal tract, including the mouth, esophagus, stomach, small intestine, pancreas, gallbladder, liver, and large intestine. The chapter then covers problems of the gastrointestinal system, such as anal abscesses, fissures, and itching; appendicitis; bowel blockage; carcinoid tumors; colon polyps; colorectal cancer; constipation; Crohn's disease; dehydration; diarrhea; diverticulosis and diverticulitis; esophageal cancer and varices; gas; gastroenteritis; heartburn; hemorrhoids; hernias (hiatal and inguinal); ileus; irritable bowel syndrome (IBS); malabsorption (including celiac disease, lactose intolerance, pernicious anemia, postsurgical malabsorption, and Whipple's disease); peritonitis; proctitis; stomach cancer; ulcers; ulcerative colitis; and vomiting. For each topic, the authors discuss symptoms, diagnostic tests, treatment options, and prevention. Numerous sidebars cover home remedies for constipation; symptoms of a serious bowel problem; ways to prevent dehydration in adults; the BRAT (bananas, rice, apples, toast) diet; ways to prevent esophageal cancer, gas, and heartburn; hiccups; and home remedies for irritable bowel, as well as when to call the doctor about nausea or vomiting. 10 figures.

- **Chronic Abdominal Pain: The Functional Gastrointestinal Disorders**

Source: Edmundowicz, S.A., ed. 20 Common Problems in Gastroenterology. New York, NY: McGraw-Hill, Inc. 2002. p. 81-91.

Contact: Available from McGraw-Hill, Inc. 1221 Avenue of the Americas, New York, NY 10020. (612) 832-7869. Website: [www.bookstore.mcgraw-hill.com](http://www.bookstore.mcgraw-hill.com). Price: \$45.00; plus shipping and handling. ISBN: 0070220557.

Summary: The term, functional gastrointestinal disorders, covers a variable combination of chronic, recurrent upper gastrointestinal disorders (dyspepsia) or lower gastrointestinal irritable bowel syndrome (IBS) symptoms, where an organic pathologic process or structural abnormality is absent. This chapter on chronic abdominal pain (the functional gastrointestinal disorders) is from a book that focuses on the most common gastroenterological problems encountered in a primary practice setting. The chapter is organized to support rapid access to the information necessary to evaluate and treat most patients with this problems. Topics include the prevalence of these disorders; principal diagnoses; the typical presentation of functional dyspepsia and IBS; key elements to the patient history; the physical examination; diagnostic tests;

treatment options including antacids, acid suppression, prokinetics, and psychotherapy for functional dyspepsia, and diet, antispasmodics, anticholinergics, prokinetics, antidepressants, and psychotherapy for IBS; patient education issues; clinical controversies; and emerging concepts. The chapter includes an outline for quick reference, the text itself, a diagnostic and treatment algorithm, and selected references. 2 figures. 2 tables. 32 references.

## Directories

In addition to the references and resources discussed earlier in this chapter, a number of directories relating to irritable bowel syndrome have been published that consolidate information across various sources. These too might be useful in gaining access to additional guidance on irritable bowel syndrome. The Combined Health Information Database lists the following, which you may wish to consult in your local medical library:<sup>26</sup>

- **1998-1999 Complete Directory for People with Rare Disorders**

Source: Lakeville, CT: Grey House Publishing, Inc. 1998. 726 p.

Contact: Available from Grey House Publishing, Inc. Pocket Knife Square, Lakeville, CT 06039. (860) 435-0868. Fax (860) 435-0867. Price: \$190.00. ISBN: 0939300982.

Summary: This directory, from the National Organization for Rare Disorders (NORD) provides a wealth of information on diseases and organizations. The directory offers four sections: disease descriptions, disease specific organizations, umbrella organizations, and government agencies. In the first section, the directory includes descriptions of 1,102 rare diseases in alphabetical order. Each entry defines the disorder, then refers readers to the organizations that might be of interest. Diseases related to digestive diseases include achalasia, Addison's disease, Alagille syndrome, Barrett's esophagus, Budd Chiari syndrome, Caroli disease, celiac sprue, cholangitis, cholecystitis, cirrhosis, colitis, Crohn's disease, Cushing syndrome, cystic fibrosis, diverticulitis, Dubin Johnson

---

<sup>26</sup> You will need to limit your search to "Directories" and irritable bowel syndrome using the "Detailed Search" option. Go directly to the following hyperlink: <http://chid.nih.gov/detail/detail.html>. To find directories, use the drop boxes at the bottom of the search page where "You may refine your search by". For publication date, select "All Years", select language and the format option "Directory". By making these selections and typing in "irritable bowel syndrome" (or synonyms) into the "For these words:" box, you will only receive results on directories dealing with irritable bowel syndrome. You should check back periodically with this database as it is updated every three months.

syndrome, fructose intolerance, galactosemia, gastritis, gastroesophageal reflux, hepatitis, Hirschprung's disease, Hurler syndrome, imperforate anus, irritable bowel syndrome, jejunal atresia, Korsakoff's syndrome, lipodystrophy, maple syrup urine disease, Morquio syndrome, polyposis, porphyria, proctitis, prune belly syndrome, sarcoidosis, Stevens Johnson syndrome, Tropical sprue, tyrosinemia, valinemia, vitamin E deficiency, Whipple's disease, Wilson's disease, and Zollinger Ellison syndrome. Each of the 445 organizations listed in the second section is associated with a specific disease or group of diseases. In addition to contact information, there is a descriptive paragraph about the organization and its primary goals and program activities. Entries include materials published by the organization as well as the diseases the organizations cover, which refer readers to Section I. The third section lists 444 organizations that are more general in nature, serving a wide range of diseases (for example, the American Liver Foundation). The final section describes 74 agencies that are important federal government contacts that serve the diverse needs of individuals with rare disorders. A name and key word index concludes the volume.

## General Home References

In addition to references for irritable bowel syndrome, you may want a general home medical guide that spans all aspects of home healthcare. The following list is a recent sample of such guides (sorted alphabetically by title; hyperlinks provide rankings, information, and reviews at Amazon.com):

- **The Digestive System (21st Century Health and Wellness)** by Regina Avraham; Library Binding (February 2000), Chelsea House Publishing (Library); ISBN: 0791055264;  
<http://www.amazon.com/exec/obidos/ASIN/0791055264/icongroupinterna>
- **American College of Physicians Complete Home Medical Guide (with Interactive Human Anatomy CD-ROM)** by David R. Goldmann (Editor), American College of Physicians; Hardcover - 1104 pages, Book & CD-Rom edition (1999), DK Publishing; ISBN: 0789444127;  
<http://www.amazon.com/exec/obidos/ASIN/0789444127/icongroupinterna>
- **The American Medical Association Guide to Home Caregiving** by the American Medical Association (Editor); Paperback - 256 pages 1 edition (2001), John Wiley & Sons; ISBN: 0471414093;  
<http://www.amazon.com/exec/obidos/ASIN/0471414093/icongroupinterna>

- **Anatomica : The Complete Home Medical Reference** by Peter Forrestal (Editor); Hardcover (2000), Book Sales; ISBN: 1740480309;  
<http://www.amazon.com/exec/obidos/ASIN/1740480309/icongroupinterna>
- **The HarperCollins Illustrated Medical Dictionary : The Complete Home Medical Dictionary** by Ida G. Dox, et al; Paperback - 656 pages 4th edition (2001), Harper Resource; ISBN: 0062736469;  
<http://www.amazon.com/exec/obidos/ASIN/0062736469/icongroupinterna>
- **Mayo Clinic Guide to Self-Care: Answers for Everyday Health Problems** by Philip Hagen, M.D. (Editor), et al; Paperback - 279 pages, 2nd edition (December 15, 1999), Kensington Publishing Corp.; ISBN: 0962786578;  
<http://www.amazon.com/exec/obidos/ASIN/0962786578/icongroupinterna>
- **The Merck Manual of Medical Information : Home Edition (Merck Manual of Medical Information Home Edition (Trade Paper))** by Robert Berkow (Editor), Mark H. Beers, M.D. (Editor); Paperback - 1536 pages (2000), Pocket Books; ISBN: 0671027263;  
<http://www.amazon.com/exec/obidos/ASIN/0671027263/icongroupinterna>

## Vocabulary Builder

**Algorithms:** A procedure consisting of a sequence of algebraic formulas and/or logical steps to calculate or determine a given task. [NIH]

**Amitriptyline:** Tricyclic antidepressant with anticholinergic and sedative properties. It appears to prevent the re-uptake of norepinephrine and serotonin at nerve terminals, thus potentiating the action of these neurotransmitters. Amitriptyline also appears to antagonize cholinergic and alpha-1 adrenergic responses to bioactive amines. [NIH]

**Anxiolytic:** An anxiolytic or antianxiety agent. [EU]

**Ascites:** Effusion and accumulation of serous fluid in the abdominal cavity; called also abdominal or peritoneal dropsy, hydroperitonitis, and hydrops abdominis. [EU]

**Benign:** Not malignant; not recurrent; favourable for recovery. [EU]

**Colic:** Paroxysms of pain. This condition usually occurs in the abdominal region but may occur in other body regions as well. [NIH]

**Dehydration:** The condition that results from excessive loss of body water. Called also anhydration, deaquation and hypohydration. [EU]

**Diffusion:** The process of becoming diffused, or widely spread; the spontaneous movement of molecules or other particles in solution, owing to their random thermal motion, to reach a uniform concentration throughout

the solvent, a process requiring no addition of energy to the system. [EU]

**Diverticulitis:** Inflammation of a diverticulum, especially inflammation related to colonic diverticula, which may undergo perforation with abscess formation. Sometimes called left-sided or L-sides appendicitis. [EU]

**Diverticulum:** A pathological condition manifested as a pouch or sac opening from a tubular or sacular organ. [NIH]

**Duodenum:** The first or proximal portion of the small intestine, extending from the pylorus to the jejunum; so called because it is about 12 fingerbreadths in length. [EU]

**Encephalopathy:** Any degenerative disease of the brain. [EU]

**Endometriosis:** A condition in which tissue more or less perfectly resembling the uterine mucous membrane (the endometrium) and containing typical endometrial granular and stromal elements occurs aberrantly in various locations in the pelvic cavity; called also adenomyosis externa and endometriosis externa. [EU]

**Esophagitis:** Inflammation, acute or chronic, of the esophagus caused by bacteria, chemicals, or trauma. [NIH]

**Fibrosis:** The formation of fibrous tissue; fibroid or fibrous degeneration [EU]

**Fructose:** A type of sugar found in many fruits and vegetables and in honey. Fructose is used to sweeten some diet foods. It is considered a nutritive sweetener because it has calories. [NIH]

**Gluten:** The protein of wheat and other grains which gives to the dough its tough elastic character. [EU]

**Helicobacter:** A genus of gram-negative, spiral-shaped bacteria that is pathogenic and has been isolated from the intestinal tract of mammals, including humans. [NIH]

**Hepatocellular:** Pertaining to or affecting liver cells. [EU]

**Hernia:** (he protrusion of a loop or knuckle of an organ or tissue through an abnormal opening. [EU]

**Hiccup:** A spasm of the diaphragm that causes a sudden inhalation followed by rapid closure of the glottis which produces a sound. [NIH]

**Intermittent:** Occurring at separated intervals; having periods of cessation of activity. [EU]

**Lipodystrophy:** 1. any disturbance of fat metabolism. 2. a group of conditions due to defective metabolism of fat, resulting in the absence of subcutaneous fat, which may be congenital or acquired and partial or total. Called also lipoatrophy and lipodystrophia. [EU]

**Malignant:** Tending to become progressively worse and to result in death. Having the properties of anaplasia, invasion, and metastasis; said of

tumours. [EU]

**Neoplastic:** Pertaining to or like a neoplasm (= any new and abnormal growth); pertaining to neoplasia (= the formation of a neoplasm). [EU]

**Nicotine:** Nicotine is highly toxic alkaloid. It is the prototypical agonist at nicotinic cholinergic receptors where it dramatically stimulates neurons and ultimately blocks synaptic transmission. Nicotine is also important medically because of its presence in tobacco smoke. [NIH]

**Pancreas:** An organ behind the lower part of the stomach that is about the size of a hand. It makes insulin so that the body can use glucose (sugar) for energy. It also makes enzymes that help the body digest food. Spread all over the pancreas are areas called the islets of Langerhans. The cells in these areas each have a special purpose. The alpha cells make glucagon, which raises the level of glucose in the blood; the beta cells make insulin; the delta cells make somatostatin. There are also the PP cells and the D1 cells, about which little is known. [NIH]

**Parenteral:** Not through the alimentary canal but rather by injection through some other route, as subcutaneous, intramuscular, intraorbital, intracapsular, intraspinal, intrasternal, intravenous, etc. [EU]

**Perforation:** 1. the act of boring or piercing through a part. 2. a hole made through a part or substance. [EU]

**Peritonitis:** Inflammation of the peritoneum; a condition marked by exudations in the peritoneum of serum, fibrin, cells, and pus. It is attended by abdominal pain and tenderness, constipation, vomiting, and moderate fever. [EU]

**Pernicious:** Tending to a fatal issue. [EU]

**Poisoning:** A condition or physical state produced by the ingestion, injection or inhalation of, or exposure to a deleterious agent. [NIH]

**Porphyria:** A pathological state in man and some lower animals that is often due to genetic factors, is characterized by abnormalities of porphyrin metabolism, and results in the excretion of large quantities of porphyrins in the urine and in extreme sensitivity to light. [EU]

**Premenstrual:** Occurring before menstruation. [EU]

**Radiography:** The making of film records (radiographs) of internal structures of the body by passage of x-rays or gamma rays through the body to act on specially sensitized film. [EU]

**Recurrence:** The return of a sign, symptom, or disease after a remission. [NIH]

**Resection:** Excision of a portion or all of an organ or other structure. [EU]

**Sarcoidosis:** An idiopathic systemic inflammatory granulomatous disorder comprised of epithelioid and multinucleated giant cells with little necrosis. It

usually invades the lungs with fibrosis and may also involve lymph nodes, skin, liver, spleen, eyes, phalangeal bones, and parotid glands. [NIH]

**Transplantation:** The grafting of tissues taken from the patient's own body or from another. [EU]

**Tricyclic:** Containing three fused rings or closed chains in the molecular structure. [EU]

**Uterus:** The hollow muscular organ in female mammals in which the fertilized ovum normally becomes embedded and in which the developing embryo and fetus is nourished. In the nongravid human, it is a pear-shaped structure; about 3 inches in length, consisting of a body, fundus, isthmus, and cervix. Its cavity opens into the vagina below, and into the uterine tube on either side at the cornu. It is supported by direct attachment to the vagina and by indirect attachment to various other nearby pelvic structures. Called also metra. [EU]



## CHAPTER 7. MULTIMEDIA ON IRRITABLE BOWEL SYNDROME

### Overview

Information on irritable bowel syndrome can come in a variety of formats. Among multimedia sources, video productions, slides, audiotapes, and computer databases are often available. In this chapter, we show you how to keep current on multimedia sources of information on irritable bowel syndrome. We start with sources that have been summarized by federal agencies, and then show you how to find bibliographic information catalogued by the National Library of Medicine. If you see an interesting item, visit your local medical library to check on the availability of the title.

### Video Recordings

Most diseases do not have a video dedicated to them. If they do, they are often rather technical in nature. An excellent source of multimedia information on irritable bowel syndrome is the Combined Health Information Database. You will need to limit your search to "video recording" and "irritable bowel syndrome" using the "Detailed Search" option. Go to the following hyperlink: <http://chid.nih.gov/detail/detail.html>. To find video productions, use the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer, and the format option "Videorecording (videotape, videocassette, etc.)." By making these selections and typing "irritable bowel syndrome" (or synonyms) into the "For these words:" box, you will only receive results on video productions. The following is a typical result when searching for video recordings on irritable bowel syndrome:

- **Biopsychosocial Approach to Irritable Bowel Syndrome: Improving the Physician-Patient Relationship**

Source: Milwaukee, WI: International Foundation on Functional Gastrointestinal Disorders. 1997. (videocassette).

Contact: Available from International Foundation for Functional Gastrointestinal Disorders (IFFGD). P.O. Box 170864, Milwaukee, WI 53217. (888) 964-2001 or (414) 964-1799. Fax (414) 964-7176. E-mail: [iffgd@iffgd.org](mailto:iffgd@iffgd.org). Website: [www.iffgd.org](http://www.iffgd.org). Price: \$100.00 plus \$5.00 shipping.

Summary: The irritable bowel syndrome (IBS) is a familiar medical disorder characterized by symptoms of abdominal pain and disturbed defecation (diarrhea or constipation). However, management of patients with IBS has been complicated by a lack of precise definition of the syndrome, incomplete and conflicting views of its pathophysiology, and an absence of specific treatments. This continuing education program helps general or family physicians and gastroenterologists to understand the physiological basis for symptom generation in IBS; to improve diagnostic precision through the use of symptom-based criteria, as well as knowledge of the primary symptom type and the severity of the condition; to understand the illness experience and the patient's clinical outcome; and to plan an approach to treatment that incorporates management of both the biological and psychosocial contributions to this disorder. The videotape program and study guide are divided into two sections. The first section reviews the current pathophysiologic understanding of IBS and presents a biopsychosocial approach to diagnosis and treatment. The second section addresses the process of interaction with the patient, and the development of an effective physician-patient relationship. 103 references. (AA-M).

- **Diverticular Disease and the Older Adult**

Source: Madison, WI: University of Wisconsin Hospitals and Clinics, Department of Outreach Education. 1995. (videocassette).

Contact: Available from University of Wisconsin Hospital and Clinics. Picture of Health, 702 North Blackhawk Avenue, Suite 215, Madison, WI 53705-3357. (800) 757-4354 or (608) 263-6510. Fax (608) 262-7172. Price: \$19.95 plus shipping and handling; bulk copies available. Order number 091395B.

Summary: Diverticular disease, including diverticulosis and diverticulitis, occurs when pouches (diverticula) form in the intestines. This videotape on coping with diverticular disease is one in a series of health promotion programs called 'Picture of Health,' produced by the

University of Wisconsin. In this program, moderated by Mary Lee and featuring gastroenterologist John Wyman, the common etiology (causes), symptoms, diagnosis, and management of diverticular disease are covered. Dr. Wyman focuses on the role of diet as the major culprit in diverticular disease and also reviews why the condition can be difficult to diagnose. Dr. Wyman stresses the preferred term of 'diverticular disease' to connote a degenerative disease process, rather than a finite problem with a simple treatment. Diverticulosis is herniation of the colon lining, resulting in pouch like abnormalities; diverticulitis is what happens when these pouches become inflamed or infected (complications can include hemorrhage and abscess). Although 90 percent of people with diverticular disease have no symptoms, people with symptoms can experience pain (in the left lower abdomen) and chronic inflammation. Dr. Wyman reviews irritable bowel syndrome (IBS) and how it differs from diverticular disease, primarily in the symptoms of diarrhea, constipation, and other disorder bowel habits. A high fiber diet results in bulkier stools, more active and stable colonic bacteria, and an increase in bowel diameter (which reduces overall pressure through the colon). Dr. Wyman reiterates the importance of eating high fiber foods, which are on the bottom of the food pyramid and considers whether diet can actually prevent diverticular disease (probably, but it is not yet proven). The program briefly discusses the diagnostic tests used to confirm complications and treatment of diverticular disease. The program includes simple drawings of the intestines and other pictures used to explain the subject matter under discussion. The program concludes by referring viewers to the National Digestive Diseases Information Clearinghouse (NDDIC).

- **Gastroenterology for the Primary Care Physician**

Source: Mount Laurel, NJ: CME Conference Video, Inc. 1994.  
(instructional package).

Contact: Available from CME Conference Video, Inc. 2000 Crawford Place, Suite 100, Mount Laurel, NJ 08054. (800) 284-8433. Fax (800) 284-5964. Price: \$450 plus \$12.25 shipping and handling (as of 1995); group practice package available. Program No. 153.

Summary: This continuing education course is designed to update internists, family practitioners, and other primary care physicians on new developments in gastroenterology. The format of the course focuses on case presentations emphasizing important and evolving concepts in gastroenterology. The emphasis is on practical diagnostic and therapeutic choices and the development of cost effective management algorithms. Topics include hepatitis C, non-cardiac chest pain, psychopharmacologic

approaches to acid reduction, peptic ulcer disease, *Helicobacter pylori*, risk factors for NSAID injury, *Clostridium difficile*, travelers' diarrhea, constipation in the elderly, pancreatitis, endoscopic ultrasound, gastroesophageal reflux disease, Barrett's esophagus, liver disease, GI manifestations in AIDS, esophagitis, fecal incontinence, diagnostic testing, irritable bowel syndrome, inflammatory bowel disease, drug therapy, chronic diarrhea, gallstone disease, colon cancer, cirrhosis, and ascites. The program offers 11 hours of AMA-PRA Category 1 credit. (AA-M).

- **What You Really Need to Know About Irritable Bowel Syndrome (IBS)**

Source: [Toronto, Ontario, Canada]: Videos for Patients. 1994. (videocassette).

Contact: Available from Medical Audio Visual Communications, Inc. Suite 240, 2315 Whirlpool Street, Niagara Falls, NY 14305. Or P.O. Box 84548, 2336 Bloor Street West, Toronto, Ontario M6S 1T0, Canada. (800) 757-4868 or (905) 602-1160. Fax (905) 602-8720. Price: \$99.00 (Canadian); contact producer for current price in American dollars. Order Number VFP025.

Summary: This patient education videotape provides information about irritable bowel syndrome (IBS). The videotape begins with a brief sketch featuring comedian John Cleese and narrator Dr. Robert Buckman illustrating the difficulties sometimes experienced by patients during the traditional doctor's explanation. Topics include a definition of IBS; the symptoms of IBS; diagnostic considerations; treatment options, including changes in diet and lifestyle; and where to get more information and help. Dr. Buckman presents the medical facts, using models, simple diagrams, and graphics to supplement his explanation, and avoiding medical jargon as much as possible.

- **Gastrointestinal Disease in the Elderly: A Case Book for Today**

Source: Research Triangle Park, NC: Glaxo, Inc. 199x.

Contact: Available from Glaxo Video Library. 5 Moore Drive, Research Triangle Park, NC 27709. (800) 824-2896. Price: Single copy free; available to health care professionals only. Item Number GVL215.

Summary: This professional education videotape describes four of the most common diseases in the elderly through physician interviews with actual patients. Diseases covered include gastroesophageal reflux disease; NSAID-induced ulcer disease; irritable bowel syndrome; and colorectal cancer. The videotape features Dr. Joseph W. Griffin, Jr., Dr. Elizabeth O'Keefe, Dr. Seymour M. Sabesin, and Dr. Eric G. Tangalos. (AA-M).

## Audio Recordings

The Combined Health Information Database contains abstracts on audio productions. To search CHID, go directly to the following hyperlink: <http://chid.nih.gov/detail/detail.html>. To find audio productions, use the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer, and the format option "Sound Recordings." By making these selections and typing "irritable bowel syndrome" (or synonyms) into the "For these words:" box, you will only receive results on sound recordings (again, most diseases do not have results, so do not expect to find many). The following is a typical result when searching for sound recordings on irritable bowel syndrome:

- **[1991 Digestive Disease Week Sessions Audiocassettes]**

Source: Timonium, MD: Milner-Fenwick, Inc. 1991. (audiocassettes).

Contact: Available from AGA Audiovisual Materials in Gastroenterology and Liver Disease. c/o Milner-Fenwick, Inc., 2125 Greenspring Drive, Timonium, MD 21093-3100. (800) 432-8433. Price: \$14.95 per cassette; discount available for complete series.

Summary: These audiocassettes reproduce clinical symposia, research forums, and lectures from the Digestive Disease Week (DDW) 1991 conference, held in New Orleans, LA. Topics available include *Helicobacter pylori*, gastrointestinal tract disorders in pregnancy, new approaches to biliary tract disease, controversies in the management of pancreatitis, an update on hepatitis C, controversies in the management of pancreatic pseudocysts, the management of irritable bowel syndrome (IBS), the use of somatostatin to treat diarrheal disorders, and recurrent Crohn's disease. Topics in the lectures include: the diagnosis and management of recurrent acute pancreatitis, the regulation of human pancreatic secretion, the use of interleukin 1, the pathophysiology of osmotic and carbohydrate-induced diarrhea, and the management of intractable ascites.

## Bibliography: Multimedia on Irritable Bowel Syndrome

The National Library of Medicine is a rich source of information on healthcare-related multimedia productions including slides, computer software, and databases. To access the multimedia database, go to the following Web site: <http://locatorplus.gov/>. Select "Search LOCATORplus."

Once in the search area, simply type in irritable bowel syndrome (or synonyms). Then, in the option box provided below the search box, select "Audiovisuals and Computer Files." From there, you can choose to sort results by publication date, author, or relevance. The following multimedia has been indexed on irritable bowel syndrome. For more information, follow the hyperlink indicated:

- **Advanced therapy of inflammatory bowel disease.** Source: Theodore M. Bayless, Stephen B. Hanauer; Year: 2001; Format: Edited by; Hamilton, Ont.: B.C. Decker, 2001
- **Approach to the patient with chronic diarrhea.** Source: Asher Kornbluth; Year: 1992; Format: Videorecording; Secaucus, N.J.: Network for Continuing Medical Education, 1992
- **Combat fatigue irritability.** Source: Bureau of Aeronautics, United States of America Navy Department; Year: 1945; Format: Motion picture; United States: Navy Dept., 1945
- **Conservative surgical management of Crohn's disease.** Source: from the Film Library and Clinical Congress of ACS; University of Bologna, Clinica Chirurgica II; Year: 1995; Format: Videorecording; Woodbury, Conn.: Ciné-Med, [1995]
- **Digestive disorders and irritable bowel syndrome.** Source: a presentation of Films for the Humanities & Sciences; Year: 1993; Format: Videorecording; Princeton, N.J.: Films for the Humanities and Sciences, c1993
- **Gastroenterology.** Source: American Medical Association; Year: 1997; Format: Electronic resource; Newton, MA: SilverPlatter Education, 1997
- **Gastrointestinal disease in the elderly patient : a casebook for today.** Source: produced by Medical and Professional Education, Glaxo, Inc.; a Vision Associates production; Year: 1993; Format: Videorecording; Research Triangle Park, NC: Glaxo Video Library, c1993
- **Gastro-intestinal tract problems of the aged.** Source: Marvin Schuster; produced by Audiovisual Division, R. A. Becker; Year: 1974; Format: Sound recording; [Baltimore: Schuster; New York: for sale by Robert A. Becker Co., Audiovisual Division, 1974]
- **IBD : clinical research: recorded at DDW 1995 in San Diego.** Source: AGA; Year: 1995; Format: Sound recording; [Bethesda, Md.]: American Gastroenterological Association, [1995?]
- **IBD surgery : established and innovative: recorded at DDW 1995 in San Diego.** Source: AGA; Year: 1995; Format: Sound recording; [Bethesda, Md.]: American Gastroenterological Association, [1995?]

- **Inflammatory bowel disease : diagnosis and management of Crohn's disease and ulcerative colitis.** Source: Daniel H. Present; Year: 1998; Format: Videorecording; Clifton, N.J.: Network for Continuing Medical Education, c1998
- **Inflammatory bowel disease : therapy II: recorded at DDW 1995 in San Diego.** Source: AGA; Year: 1995; Format: Sound recording; [Bethesda, Md.]: American Gastroenterological Association, [1995?]
- **Irritable bowel syndrome : diagnosis and clinical management.** Source: with Douglas A. Drossman; Year: 1986; Format: Videorecording; Secaucus, N.J.: Network for Continuing Medical Education, 1986
- **Irritable bowel syndrome : recorded at DDW 1995 in San Diego.** Source: AGA; Year: 1995; Format: Sound recording; [Bethesda, Md.]: American Gastroenterological Association, [1995?]
- **Irritable bowel syndrome.** Source: Glaxo Pharmaceuticals; Year: 1992; Format: Slide; New York, NY: HP Pub. Co., 1992
- **Irritable bowel syndrome.** Source: [presented by] Marshfield Clinic, Saint Joseph's Hospital [and] Marshfield Medical Research Foundation; Year: 1990; Format: Videorecording; Marshfield, WI: Marshfield Video Network, [1990]
- **Irritable bowel syndrome.** Source: Marshfield Medical Foundation, in cooperation with Marshfield Clinic & St. Joseph's Hospital; Year: 1984; Format: Videorecording; Marshfield, WI: Marshfield Regional Video Network, [1984]
- **Isoperistaltic intestinal lengthening for correction of the short bowel syndrome.** Source: produced by Media Productions, Medical Illustration & Audiovisual Education, Baylor College of Medicine; Year: 1988; Format: Videorecording; [Houston, Tex.]: Baylor College of Medicine, c1988
- **Lead poisoning.** Source: [Stanley P.] Balcerzak; produced by Ohio State University, Medical Audiovisual and Television Center; Year: 1971; Format: Videorecording; [Columbus, Ohio]: The Center, c1971
- **Living related small bowel transplantation.** Source: American College of Surgeons; from the Film Library and the Clinical Congress of ACS; UIC Office of Video Communications; Year: 2000; Format: Videorecording; Woodbury, CT: Ciné-Med, distributor, c2000
- **Managing inflammatory bowel disease.** Source: a presentation of Films for the Humanities & Sciences; a production of Dartmouth-Hitchcock Medical Center; Year: 2002; Format: Videorecording; Princeton, N.J.: Films for the Humanities & Sciences, c2002

- **Medical terminology: gastroenterological disorders and surgery.** Source: Au-Vid, inc; Year: 1975; Format: Sound recording; [Garden Grove, Calif.]: Au-Vid, [1975]
- **Neonatal short bowel syndrome.** Source: the University of Texas Medical School at Houston; produced by UT-TV, Houston; Year: 1991; Format: Videorecording; [Houston, Tex.: UT-TV], c1991
- **Nonspecific diarrhea.** Source: American Gastroenterological Association, in cooperation with the National Library of Medicine, National Medical Audiovisual Center; Year: 1978; Format: Slide; Atlanta: The Center, 1978
- **Pathophysiology of diarrhea.** Source: American Gastroenterological Association; Year: 1979; Format: Slide; [Thorofare, N. J.]: The Association; [Timonium, Md.: for sale by Milner-Fenwick], c1979
- **Patient care and digestive disease : an update in gastroenterology.** Source: Johns Hopkins University, School of Medicine, produced in cooperation with the Department of Family and Community Medicine, the Milton S. Hershey Medical Center, the Pennsylvania; Year: 1979; Format: Slide; Baltimore: Office of Continuing Education, Audiovisual Programs, the Johns Hopkins Medical Institutions, c1979
- **Perineal dissection during proctocolectomy for benign inflammatory disease.** Source: American College of Surgeons; produced by Ciné-Med; Year: 1995; Format: Videorecording; Woodbury, Conn.: Ciné-Med, c1995
- **Prostate neoplasm, early diagnosis and treatment options.** Source: with Stephen N. Rous; Year: 1986; Format: Videorecording; Secaucus, N.J.: Network for Continuing Medical Education, 1986
- **Sweet's syndrome : a clinical review.** Source: Mary Stone; Year: 1995; Format: Videorecording; Secaucus, N.J.: Network for Continuing Medical Education, 1995

## Vocabulary Builder

**Clostridium:** A genus of motile or nonmotile gram-positive bacteria of the family bacillaceae. Many species have been identified with some being pathogenic. They occur in water, soil, and in the intestinal tract of humans and lower animals. [NIH]

**Degenerative:** Undergoing degeneration : tending to degenerate; having the character of or involving degeneration; causing or tending to cause degeneration. [EU]

**Somatostatin:** A polypeptide hormone produced in the hypothalamus, and



other tissues and organs. It inhibits the release of human growth hormone, and also modulates important physiological functions of the kidney, pancreas, and gastrointestinal tract. Somatostatin receptors are widely expressed throughout the body. Somatostatin also acts as a neurotransmitter in the central and peripheral nervous systems. [NIH]



## **CHAPTER 8. PERIODICALS AND NEWS ON IRRITABLE BOWEL SYNDROME**

### **Overview**

Keeping up on the news relating to irritable bowel syndrome can be challenging. Subscribing to targeted periodicals can be an effective way to stay abreast of recent developments on irritable bowel syndrome. Periodicals include newsletters, magazines, and academic journals.

In this chapter, we suggest a number of news sources and present various periodicals that cover irritable bowel syndrome beyond and including those which are published by patient associations mentioned earlier. We will first focus on news services, and then on periodicals. News services, press releases, and newsletters generally use more accessible language, so if you do chose to subscribe to one of the more technical periodicals, make sure that it uses language you can easily follow.

### **News Services & Press Releases**

Well before articles show up in newsletters or the popular press, they may appear in the form of a press release or a public relations announcement. One of the simplest ways of tracking press releases on irritable bowel syndrome is to search the news wires. News wires are used by professional journalists, and have existed since the invention of the telegraph. Today, there are several major “wires” that are used by companies, universities, and other organizations to announce new medical breakthroughs. In the following sample of sources, we will briefly describe how to access each service. These services only post recent news intended for public viewing.

## PR Newswire

Perhaps the broadest of the wires is PR Newswire Association, Inc. To access this archive, simply go to <http://www.prnewswire.com>. Below the search box, select the option "The last 30 days." In the search box, type "irritable bowel syndrome" or synonyms. The search results are shown by order of relevance. When reading these press releases, do not forget that the sponsor of the release may be a company or organization that is trying to sell a particular product or therapy. Their views, therefore, may be biased. The following is typical of press releases that can be found on PR Newswire:

## Reuters

The Reuters' Medical News database can be very useful in exploring news archives relating to irritable bowel syndrome. While some of the listed articles are free to view, others can be purchased for a nominal fee. To access this archive, go to <http://www.reutershealth.com/frame2/arch.html> and search by "irritable bowel syndrome" (or synonyms). The following was recently listed in this archive for irritable bowel syndrome:

- **Hypnotherapy good for irritable bowel syndrome**  
Source: Reuters Health eLine  
Date: May 13, 2002  
<http://www.reuters.gov/archive/2002/05/13/eline/links/20020513elin011.html>
- **Menstruation may worsen irritable bowel syndrome**  
Source: Reuters Health eLine  
Date: March 14, 2002  
<http://www.reuters.gov/archive/2002/03/14/eline/links/20020314elin007.html>
- **Irritable bowel syndrome influenced by environment as well as heredity**  
Source: Reuters Medical News  
Date: October 30, 2001  
<http://www.reuters.gov/archive/2001/10/30/professional/links/20011030clin013.html>
- **Family setting influences irritable bowel syndrome**  
Source: Reuters Health eLine  
Date: September 24, 2001  
<http://www.reuters.gov/archive/2001/09/24/eline/links/20010924elin003.html>

- **Corticosteroids may protect against asthma-related irritable bowel syndrome**  
 Source: Reuters Industry Breifing  
 Date: August 29, 2001  
<http://www.reuters.gov/archive/2001/08/29/business/links/20010829epid002.html>
- **Alosetron helpful in subset of women with irritable bowel syndrome**  
 Source: Reuters Industry Breifing  
 Date: July 24, 2001  
<http://www.reuters.gov/archive/2001/07/24/business/links/20010724clin007.html>
- **High rates of irritable bowel syndrome reported in Hong Kong**  
 Source: Reuters Medical News  
 Date: December 13, 2000  
<http://www.reuters.gov/archive/2000/12/13/professional/links/20001213clin013.html>
- **Bowel gas volume useful in diagnosing irritable bowel syndrome**  
 Source: Reuters Medical News  
 Date: August 09, 2000  
<http://www.reuters.gov/archive/2000/08/09/professional/links/20000809clin011.html>
- **Forest licenses product for irritable bowel syndrome treatment**  
 Source: Reuters Industry Breifing  
 Date: August 08, 2000  
<http://www.reuters.gov/archive/2000/08/08/business/links/20000808inds006.html>
- **Emotions may affect irritable bowel syndrome**  
 Source: Reuters Health eLine  
 Date: July 11, 2000  
<http://www.reuters.gov/archive/2000/07/11/eline/links/20000711elin001.html>
- **Emotional factors may affect irritable bowel syndrome and vice versa**  
 Source: Reuters Medical News  
 Date: July 06, 2000  
<http://www.reuters.gov/archive/2000/07/06/professional/links/20000706clin002.html>

- **FDA panel backs drug for irritable bowel syndrome**  
Source: Reuters Health eLine  
Date: June 27, 2000  
<http://www.reuters.gov/archive/2000/06/27/eline/links/20000627elin025.html>
- **Poor sleep exacerbates symptoms in women with irritable bowel syndrome**  
Source: Reuters Medical News  
Date: May 30, 2000  
<http://www.reuters.gov/archive/2000/05/30/professional/links/20000530clin015.html>
- **Behavioral therapy improves management of irritable bowel syndrome**  
Source: Reuters Medical News  
Date: May 01, 2000  
<http://www.reuters.gov/archive/2000/05/01/professional/links/20000501clin011.html>
- **Alosetron relieves symptoms of irritable bowel syndrome in women**  
Source: Reuters Medical News  
Date: March 27, 2000  
<http://www.reuters.gov/archive/2000/03/27/professional/links/20000327clin002.html>
- **FDA approves drug for irritable bowel syndrome**  
Source: Reuters Health eLine  
Date: February 10, 2000  
<http://www.reuters.gov/archive/2000/02/10/eline/links/20000210elin018.html>
- **FDA advisers urge approval of new drug for irritable bowel syndrome**  
Source: Reuters Medical News  
Date: November 17, 1999  
<http://www.reuters.gov/archive/1999/11/17/professional/links/19991117rglt001.html>
- **Experimental drug relieves irritable bowel syndrome in women**  
Source: Reuters Medical News  
Date: November 09, 1999  
<http://www.reuters.gov/archive/1999/11/09/professional/links/19991109drgd001.html>

- **Investigational agent tegaserod improves quality of life in irritable bowel syndrome**  
 Source: Reuters Medical News  
 Date: October 26, 1999  
<http://www.reuters.gov/archive/1999/10/26/professional/links/19991026clin021.html>
- **Rectal pain threshold lowered in patients with irritable bowel syndrome**  
 Source: Reuters Medical News  
 Date: March 22, 1999  
<http://www.reuters.gov/archive/1999/03/22/professional/links/19990322clin009.html>
- **Bacterial gastroenteritis linked to increased risk of irritable bowel syndrome**  
 Source: Reuters Medical News  
 Date: February 26, 1999  
<http://www.reuters.gov/archive/1999/02/26/professional/links/19990226clin002.html>

### **The NIH**

Within MEDLINEplus, the NIH has made an agreement with the New York Times Syndicate, the AP News Service, and Reuters to deliver news that can be browsed by the public. Search news releases at [http://www.nlm.nih.gov/medlineplus/alphanews\\_a.html](http://www.nlm.nih.gov/medlineplus/alphanews_a.html). MEDLINEplus allows you to browse across an alphabetical index. Or you can search by date at <http://www.nlm.nih.gov/medlineplus/newsbydate.html>. Often, news items are indexed by MEDLINEplus within their search engine.

### **Business Wire**

Business Wire is similar to PR Newswire. To access this archive, simply go to <http://www.businesswire.com>. You can scan the news by industry category or company name.

### **Internet Wire**

Internet Wire is more focused on technology than the other wires. To access this site, go to <http://www.internetwire.com> and use the "Search Archive"

option. Type in “irritable bowel syndrome” (or synonyms). As this service is oriented to technology, you may wish to search for press releases covering diagnostic procedures or tests that you may have read about.

### Search Engines

Free-to-view news can also be found in the news section of your favorite search engines (see the health news page at Yahoo: [http://dir.yahoo.com/Health/News\\_and\\_Media/](http://dir.yahoo.com/Health/News_and_Media/), or use this Web site’s general news search page <http://news.yahoo.com/>. Type in “irritable bowel syndrome” (or synonyms). If you know the name of a company that is relevant to irritable bowel syndrome, you can go to any stock trading Web site (such as [www.etrade.com](http://www.etrade.com)) and search for the company name there. News items across various news sources are reported on indicated hyperlinks.

### BBC

Covering news from a more European perspective, the British Broadcasting Corporation (BBC) allows the public free access to their news archive located at <http://www.bbc.co.uk/>. Search by “irritable bowel syndrome” (or synonyms).

### Newsletters on Irritable Bowel Syndrome

Given their focus on current and relevant developments, newsletters are often more useful to patients than academic articles. You can find newsletters using the Combined Health Information Database (CHID). You will need to use the “Detailed Search” option. To access CHID, go directly to the following hyperlink: <http://chid.nih.gov/detail/detail.html>. Your investigation must limit the search to “Newsletter” and “irritable bowel syndrome.” Go to the bottom of the search page where “You may refine your search by.” Select the dates and language that you prefer. For the format option, select “Newsletter.” By making these selections and typing in “irritable bowel syndrome” or synonyms into the “For these words:” box, you will only receive results on newsletters. The following list was generated using the options described above:

- **Relieving the Psychological Symptoms of IBD and IBS**

Source: Intestinal Fortitude. 4(3): 2-3. Fall 1993.



Contact: Available from Intestinal Disease Foundation, Inc. 1323 Forbes Avenue, Suite 200, Pittsburgh, PA 15219. (412) 261-5888.

Summary: This newsletter article considers the psychological symptoms of inflammatory bowel disease (IBD) and irritable bowel syndrome (IBS), focusing on impaired emotional functioning and social limitations. The author encourages readers to discuss any concerns about emotional or social symptoms with their health care providers. Such discussion results in patients who are more active participants in health care and in the education of physicians about psychological symptoms. Other topics include how one determines if psychological problems warrant a referral to a mental health professional and treatment options, including hypnosis, biofeedback, psychotherapy, and support groups. One table summarizes the research findings of one study on this topic. 1 table.

- **New Testing Techniques for Irritable Bowel Syndrome**

Source: Newsletter for People with Lactose Intolerance and Milk Allergy. p. 3-4. Spring 1993.

Contact: Available from Newsletter for People with Lactose Intolerance and Milk Allergy. P.O. Box 3129, Ann Arbor, MI 48106-3129. (313) 572-9134.

Summary: This brief article, from a newsletter for people with lactose intolerance and milk allergy, reports on new testing techniques available for irritable bowel syndrome (IBS). Topics include the various etiologic agents possibly responsible for IBS; the traditional diagnostic methods used to confirm IBS; and the new test, called a bowel scintiscan, that reveals gaps in the emptying process of the large intestine. These gaps indicate areas of the bowel that function abnormally, therefore demonstrating the presence of IBS. The article notes that the test is still experimental and is only available through the Mayo Clinic in Rochester, Minnesota.

## Newsletter Articles

If you choose not to subscribe to a newsletter, you can nevertheless find references to newsletter articles. We recommend that you use the Combined Health Information Database, while limiting your search criteria to "newsletter articles." Again, you will need to use the "Detailed Search" option. Go to the following hyperlink: <http://chid.nih.gov/detail/detail.html>. Go to the bottom of the search page where "You may refine your search by."

Select the dates and language that you prefer. For the format option, select "Newsletter Article."

By making these selections, and typing in "irritable bowel syndrome" (or synonyms) into the "For these words:" box, you will only receive results on newsletter articles. You should check back periodically with this database as it is updated every 3 months. The following is a typical result when searching for newsletter articles on irritable bowel syndrome:

- **Current Approach to the Diagnosis of Irritable Bowel Syndrome**

Source: Participate. 10(1): 1-3. Spring 2001.

Contact: Available from International Foundation for Functional Gastrointestinal Disorders (IFFGD). P.O. Box 170864, Milwaukee, WI 53217. (888) 964-2001 or (414) 964-1799. Fax (414) 964-7176. E-mail: [iffgd@iffgd.org](mailto:iffgd@iffgd.org). Website: [www.iffgd.org](http://www.iffgd.org).

Summary: This newsletter article reviews the current approach to the diagnosis of irritable bowel syndrome (IBS). Physicians now rely less on extensive testing to exclude other disorders and instead can diagnose IBS in most patients by recognizing certain symptom details, performing a physical examination, and undertaking limited diagnostic testing. Extensive testing is usually reserved for special situations. Various symptom criteria have been proposed; the Rome II criteria are presently in use. Rome II criteria for IBS are symptoms at least 12 weeks or more in duration, which need not be consecutive, in the preceding 12 months of abdominal discomfort or pain that has two out of three features: relieved with defecation, onset associated with a change in frequency of stool, or onset associated with a change in form (appearance) of stool. Other symptoms that are not essential but that support the diagnosis of IBS include abnormal stool frequency (greater than 3 bowel movements per day or less than 3 bowel movements per week), abnormal stool form, abnormal stool passage, passage of mucus, or bloating or feeling of abdominal distension. The discomfort or pain and abnormal bowel habit of IBS typically fluctuate in severity, may be associated with stressful life events, and occur over a long time period. Diagnostic tests can include blood tests, stool tests, sigmoidoscopy or colonoscopy, barium enema, and psychological tests. Diagnosis by careful review of the patient's symptoms, a physical examination, and selected diagnostic procedures is quite secure, as followup for many years of confidently diagnosed patients seldom disclose another cause for their symptoms. With an unequivocal diagnosis, both patient and physician can work together on the most effective management.

- **Gynecological Aspects of Irritable Bowel Syndrome**

Source: *Participate*. 10(4): 6-7. Winter 2001.

Contact: Available from International Foundation for Functional Gastrointestinal Disorders (IFFGD). P.O. Box 170864, Milwaukee, WI 53217. (888) 964-2001 or (414) 964-1799. Fax (414) 964-7176. E-mail: [iffgd@iffgd.org](mailto:iffgd@iffgd.org). Website: [www.iffgd.org](http://www.iffgd.org).

Summary: A number of studies have demonstrated a higher prevalence of gynecological disorders, such as pain associated with menstruation (dysmenorrhea) and premenstrual distress syndrome in women with IBS as compared to those without IBS. This article on gynecological aspects of irritable bowel syndrome (IBS) is from a newsletter from the International Foundation for Functional Gastrointestinal Disorders. The authors briefly address the state of science related to two areas. First, what is the overlap between gynecological and functional gastrointestinal (GI) symptoms and disorders (IBS in particular). Second, the potential physiological mechanisms that may account for the coexistence of gynecological and gastroenterological conditions in women. The authors also comment on the fact that sexual dysfunction is reported by a disproportionately high number of patients (both men and women) with IBS, as well as women with painful menstruation. The authors conclude that there is a clear need for greater collaboration among health care providers in the fields of gynecology and gastroenterology. Clinicians need to be aware that these conditions often co-exist and can challenge the selection of and compliance with appropriate therapies.

- **Crohn's Disease and Ulcerative Colitis: Taming Painful Inflammatory Bowel Disease**

Source: *Mayo Clinic Women's Healthsource*. 4(6): 4-5. June 2000.

Contact: Available from Mayo Foundation for Medical Education and Research. 200 First Street SW, Rochester, MN 55905.

Summary: This health newsletter article describes inflammatory bowel disease (IBD), an umbrella term for Crohn's disease and ulcerative colitis (UC). The author notes that the cause of IBD is unclear, but abnormalities of the immune system are associated with these diseases. IBD is an inflammatory disease, and it is this inflammation that results in pain and diarrhea. Symptoms can also include weight loss, fatigue, rectal bleeding, and anemia. The location of the inflammation within the digestive tract is one of the features that differentiates Crohn's disease from ulcerative colitis. Crohn's disease can affect any part of the digestive tract, from the mouth to the anus, although inflammation is usually in the small intestine. With UC, inflammation is usually in the large intestine and

rectum, and ulcers often form. These disorders may also cause other health complications, including an increased risk for developing colon cancer. The symptoms of Crohn's disease are similar to irritable bowel syndrome (IBS), so diagnostic tests to differentiate the diseases may include blood tests, flexible sigmoidoscopy, colonoscopy, and barium enema. Treatment of IBD depends on the severity of disease and the associated complications. Treatment strategies can include diet, medications, counseling, and surgery. While there is no cure for IBD, some people have long periods of remission when their symptoms are well controlled. One sidebar describes current research efforts on Crohn's disease and ulcerative colitis. 1 figure.

- **Antidepressants and Functional Gastrointestinal Disorders**

Source: *Participate*. 9(4): 1-3. Winter 2000.

Contact: Available from International Foundation for Functional Gastrointestinal Disorders (IFFGD). P.O. Box 170864, Milwaukee, WI 53217. (888) 964-2001 or (414) 964-1799. Fax (414) 964-7176. E-mail: [iffgd@iffgd.org](mailto:iffgd@iffgd.org). Website: [www.iffgd.org](http://www.iffgd.org).

Summary: Antidepressants are commonly prescribed for the treatment of functional gastrointestinal (GI) disorders; they are unique drugs that have a number of properties that make them particularly useful. This article reviews three factors regarding antidepressants and functional GI disorders. The first is the mechanism of action of antidepressants, or how they exert their effect. The second is the relationship between the brain and the gut, also known as the 'brain gut axis.' Finally is the role of antidepressants in treating the various symptoms of functional GI disorders. The author first offers a history of the development of antidepressant drugs and their use for GI disorders, notably irritable bowel syndrome (IBS) and noncardiac chest pain (NCCP). Patients with IBS treated with the tricyclic desipramine (Norpramin) demonstrated improvement in their GI symptoms as well as a better sense of overall well being. Patients with NCCP on imipramine (Tofranil) reported a significant improvement in their gastrointestinal symptoms as well as improvement in their overall sense of well being. The author concludes with a brief discussion of the biopsychosocial model, where multiple dimensions of the patient's life, including gut function, overall well being, overall quality of life, and emotional status, are considered in patient treatment strategies. The use of dietary modification, antispasmodics, antidiarrheals, antidepressants, and behavioral interventions such as biofeedback, psychotherapy, and relaxation therapy all play a synergistic and important role in improving outcomes in functional gastrointestinal disorders. The author also stresses the importance of adequate patient

education and patients participating as active members of their own health care team. One sidebar discusses the use of drugs based on serotonin for treating IBS.

- **Irritable Bowel Syndrome: Clinical Issues**

Source: *Participate*. 9(1): 1-4. Spring 2000.

Contact: Available from International Foundation for Functional Gastrointestinal Disorders (IFFGD). P.O. Box 170864, Milwaukee, WI 53217. (888) 964-2001 or (414) 964-1799. Fax (414) 964-7176. E-mail: [iffgd@iffgd.org](mailto:iffgd@iffgd.org). Website: [www.iffgd.org](http://www.iffgd.org).

Summary: This article discusses irritable bowel syndrome (IBS), a very common condition that is characterized by abdominal pain associated with a change in a bowel pattern (constipation or diarrhea). IBS is considered a condition of the brain-gut connection and triggering factors may variously cause symptoms of diarrhea at one time and constipation at another. There is a wide range of severity of IBS, from mild or infrequent symptoms that the patient manages at home to very severe kinds of symptoms that can cause patients to seek relief with more frequent doctor visits. The article answers common questions about IBS and its treatments. IBS is in the group of conditions that are called functional gastrointestinal disorders, i.e., disorders of dysfunction, rather than pathology such as inflammation or visible tissue damage. Diagnosis include patient history, symptoms according to the Rome Criteria, and diagnostic tests such as colonoscopy or CT scan (computed tomography). Treatments are usually done in response to the specific symptoms. For example, in a patient who usually has constipation, treatment are used that increase the functioning of the bowel, the frequency, and the ease of having a bowel movement. For patients whose symptoms tend more to diarrhea, treatment includes anti diarrheal agents. Pain medications might also be indicated, particularly if the pain is meal related. Reduced dosage prescriptions of antidepressants can be effective to modulate or decrease pain. The author reviews new drugs currently under study, as well as ongoing research into the brain-gut connection. The author also discusses the impact of conceptualizing functional disorders within the traditional disease-based medical framework, which separates the mind from the body. IBS must be recognized as genuine, non trivial, and a disorder that is not fully explained as either psychiatric or organic.

- **Irritable Bowel Syndrome: The Bottom Line**

Source: *Fibromyalgia Frontiers*. 7(2): 4-8, 13. March-April 1999.

Contact: Available from Fibromyalgia Association of Greater Washington, Inc. 13203 Valley Drive, Woodbridge, VA 22191-1531. (703) 790-2324. Fax (703) 494-4103. E-mail: Mail@fmagw.org.

Summary: This article on irritable bowel syndrome (IBS) is from a newsletter for people with fibromyalgia (a pain disorder). IBS is known as a functional gastrointestinal (GI) disorder because it involves a healthy bowel, without inflammation or disease, that does not perform normally. In IBS, the bowel tends to have an unusual sensitivity to such events as the passage of food particles, fluids, or gas. IBS symptoms, which are usually intermittent rather than constant, are abdominal discomfort, cramping or pain, bloating, abnormal bowel movements (i.e., diarrhea, constipation, or the two alternating), mucus in the stools, and a sensation of incomplete evacuation. IBS is quite common among persons with fibromyalgia; its incidence is estimated at approximately 40 percent among patients with diagnosed fibromyalgia (compared with only 16 percent in normal controls). However, some GI signs are not part of IBS and should be investigated. The author then discusses the pathophysiology of IBS and the treatment options for the syndrome. Although admittedly not high tech, modifying the diet and eating habits and learning to control stress are the most potent weapons available against IBS. Dietary fiber has a central role, and it is important to increase one's intake of fiber slowly to allow the body to adjust and to drink plenty of water as fiber intake increases. The article concludes with the contact information for the International Foundation for Functional Gastrointestinal Disorders and for the National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health. 18 references.

- **Irritable Bowel Syndrome: Gaining Control of Your Symptoms**

Source: Mayo Clinic Health Letter. 17(2): 4-5. February 1999.

Contact: Available from Mayo Foundation for Medical Education and Research. 200 First Street, SW, Rochester, MN 55905.

Summary: This newsletter article offers strategies to help people with irritable bowel syndrome (IBS) gain control of their symptoms. IBS is a common, chronic gastrointestinal disorder in which the structure of the bowel is normal, but the function is not. The symptoms are produced, in part, by spasms in the walls of the intestines. Some people mainly experience cramping and diarrhea, others alternate between constipation and diarrhea, or have predominantly pain and constipation. Bloating and gas are also common. IBS can be difficult to diagnose because many conditions have similar symptoms. Common treatments include dietary changes, managing stress, the use of medications, antidepressants, and

alternative therapies, such as peppermint oil. A sidebar addresses the issue of a psychological basis for IBS, concluding that stress no doubt aggravates IBS, but that one doesn't have to be under stress to have the condition. 1 figure.

- **Dietary Factors in Gastrointestinal Diseases**

Source: Networking News. 20(4): 1, 5, 10. Summer 1999.

Contact: Available from Nutrition Education for the Public. ADA/DPG 52, Bill Evers, 2971 Soldiers Home Road, West Lafayette, IN 47906-1660.

Summary: This newsletter article reviews the role of dietary factors in gastrointestinal diseases. Many factors have been implicated to produce worsening of symptoms of functional gastrointestinal disorders (FGID), such as irritable bowel syndrome (IBS), including stress and diet. The author discusses several specific diseases that are associated with adverse reactions to food. The common complaints that are associated with reactions to food are: bloating, heartburn, dyspepsia, excessive gas, diarrhea, and constipation. Some of these diseases (gastroesophageal reflux disease, celiac disease, food allergies, and lactose intolerance) are associated with specific dietary therapies that improve symptoms; each is summarized briefly. The author also discusses a rare syndrome, called eosinophilic gastroenteritis, which is treated with prednisone therapy. All of these diseases have characteristics that differentiate them from functional GI disorders (those without a clear underlying pathology). The author notes that a symptoms diary collected over 2 to 3 weeks can help determine the relationship of the symptoms to foods. Many individuals with FGID believe that specific foods are responsible for their symptoms, yet no clear resolution of symptoms occurs when the offending foods are eliminated. An elimination diet should be performed with the help of a health professional, since unmonitored elimination diets can produce malnutrition. 8 references.

- **Increasing Understanding of the Functional Gastrointestinal Disorders**

Source: Participate. 8(2): 2-4. Summer 1999.

Contact: Available from International Foundation for Functional Gastrointestinal Disorders (IFFGD). P.O. Box 170864, Milwaukee, WI 53217. (888) 964-2001 or (414) 964-1799. Fax (414) 964-7176. E-mail: [iffgd@iffgd.org](mailto:iffgd@iffgd.org). Website: [www.iffgd.org](http://www.iffgd.org).

Summary: This article is designed to help readers understand functional gastrointestinal disorders, such as irritable bowel syndrome (IBS), functional dyspepsia (heartburn), or chronic functional abdominal pain. The authors note that physicians and patients alike have often been

frustrated by these conditions that are not diagnosed in a traditional way; i.e., as an inflammatory, infectious or structural abnormality that could be seen by examination, x-ray, or laboratory test. Patients were often unsatisfied with their care and may have undergone unnecessary diagnostic procedures. The authors describe the reductionist approach and how it results in functional gastrointestinal disorders seen as not being a legitimate complaint. The authors then introduce the biopsychosocial model, which conceptualizes health as an integration of the mind and the body where illness and disease can be seen to arise from the simultaneous interaction of systems (organ, cellular, interpersonal, and environmental). For the functional gastrointestinal disorders, this approach helps recognize the interaction between the gut, the brain, and the autonomic nervous system. The authors next describe how, within this changing framework, support began to build for an international effort to characterize and classify the functional gastrointestinal (GI) disorders. This approach of using a symptom based system of diagnostic criteria will simplify diagnosis and enable better treatment strategies.

### **Academic Periodicals covering Irritable Bowel Syndrome**

Academic periodicals can be a highly technical yet valuable source of information on irritable bowel syndrome. We have compiled the following list of periodicals known to publish articles relating to irritable bowel syndrome and which are currently indexed within the National Library of Medicine's PubMed database (follow hyperlinks to view more information, summaries, etc., for each). In addition to these sources, to keep current on articles written on irritable bowel syndrome published by any of the periodicals listed below, you can simply follow the hyperlink indicated or go to the following Web site: **[www.ncbi.nlm.nih.gov/pubmed](http://www.ncbi.nlm.nih.gov/pubmed)**. Type the periodical's name into the search box to find the latest studies published.

If you want complete details about the historical contents of a periodical, you can also visit **<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi>**. Here, type in the name of the journal or its abbreviation, and you will receive an index of published articles. At **<http://locatorplus.gov/>** you can retrieve more indexing information on medical periodicals (e.g. the name of the publisher). Select the button "Search LOCATORplus." Then type in the name of the journal and select the advanced search option "Journal Title Search." The following is a sample of periodicals which publish articles on irritable bowel syndrome:



- **Journal of Gastroenterology and Hepatology. (J Gastroenterol Hepatol)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=Journal+of+Gastroenterology+and+Hepatology&dispmax=20&dispstart=0>
- **Journal of Gastroenterology. (J Gastroenterol)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=Journal+of+Gastroenterology&dispmax=20&dispstart=0>
- **Pharmaceutical Research. (Pharm Res)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=Pharmaceutical+Research&dispmax=20&dispstart=0>
- **Postgraduate Medical Journal. (Postgrad Med J)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=Postgraduate+Medical+Journal&dispmax=20&dispstart=0>
- **Scandinavian Journal of Gastroenterology. (Scand J Gastroenterol)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=Scandinavian+Journal+of+Gastroenterology&dispmax=20&dispstart=0>
- **American Family Physician. (Am Fam Physician)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=American+Family+Physician&dispmax=20&dispstart=0>
- **Bailliere's Best Practice & Research. Clinical Gastroenterology. (Baillieres Best Pract Res Clin Gastroenterol)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=Bailliere's+Best+Practice+&+Research.+Clinical+Gastroenterology&dispmax=20&dispstart=0>
- **Biomedicine & Pharmacotherapy = Biomedecine & Pharmacotherapie. (Biomed Pharmacother)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=Biomedicine+&+Pharmacotherapy+=+Biomedecine+&+Pharmacotherapie&dispmax=20&dispstart=0>
- **British Medical Journal. (Br Med J)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=British+Medical+Journal&dispmax=20&dispstart=0>
- **Journal of Gastroenterology and Hepatology. (J Gastroenterol Hepatol)**

<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=Journal+of+Gastroenterology+and+Hepatology&dispmax=20&dispstart=0>

- **Journal of Gastroenterology. (J Gastroenterol)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=Journal+of+Gastroenterology&dispmax=20&dispstart=0>
- **Pharmaceutical Research. (Pharm Res)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=Pharmaceutical+Research&dispmax=20&dispstart=0>
- **Postgraduate Medical Journal. (Postgrad Med J)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=Postgraduate+Medical+Journal&dispmax=20&dispstart=0>
- **Scandinavian Journal of Gastroenterology. (Scand J Gastroenterol)**  
<http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi?field=0&regexp=Scandinavian+Journal+of+Gastroenterology&dispmax=20&dispstart=0>

## Vocabulary Builder

**Acidosis:** Too much acid in the body. For a person with diabetes, this can lead to diabetic ketoacidosis. [NIH]

**Antiviral:** Destroying viruses or suppressing their replication. [EU]

**Astemizole:** A long-acting, non-sedative antihistaminic used in the treatment of seasonal allergic rhinitis, asthma, allergic conjunctivitis, and chronic idiopathic urticaria. The drug is well tolerated and has no anticholinergic side effects. [NIH]

**Barium:** An element of the alkaline earth group of metals. It has an atomic symbol Ba, atomic number 56, and atomic weight 138. All of its acid-soluble salts are poisonous. [NIH]

**Didanosine:** A dideoxynucleoside compound in which the 3'-hydroxy group on the sugar moiety has been replaced by a hydrogen. This modification prevents the formation of phosphodiester linkages which are needed for the completion of nucleic acid chains. Didanosine is a potent inhibitor of HIV replication, acting as a chain-terminator of viral DNA by binding to reverse transcriptase; ddI is then metabolized to dideoxyadenosine triphosphate, its putative active metabolite. [NIH]

**Dizziness:** An imprecise term which may refer to a sense of spatial

disorientation, motion of the environment, or lightheadedness. [NIH]

**Dreams:** A series of thoughts, images, or emotions occurring during sleep which are dissociated from the usual stream of consciousness of the waking state. [NIH]

**Dysmenorrhea:** Painful menstruation. [NIH]

**Fatal:** Causing death, deadly; mortal; lethal. [EU]

**Gynecology:** A medical-surgical specialty concerned with the physiology and disorders primarily of the female genital tract, as well as female endocrinology and reproductive physiology. [NIH]

**Imipramine:** The prototypical tricyclic antidepressant. It has been used in major depression, dysthymia, bipolar depression, attention-deficit disorders, agoraphobia, and panic disorders. It has less sedative effect than some other members of this therapeutic group. [NIH]

**Lamivudine:** A reverse transcriptase inhibitor and zalcitabine analog in which a sulfur atom replaces the 3' carbon of the pentose ring. It is used to treat HIV disease. [NIH]

**Lymphoma:** Any neoplastic disorder of the lymphoid tissue, the term lymphoma often is used alone to denote malignant lymphoma. [EU]

**Midazolam:** A short-acting compound, water-soluble at pH less than 4 and lipid-soluble at physiological pH. It is a hypnotic-sedative drug with anxiolytic and amnestic properties. It is used for sedation in dentistry, cardiac surgery, endoscopic procedures, as preanesthetic medication, and as an adjunct to local anesthesia. Because of its short duration and cardiorespiratory stability, it is particularly useful in poor-risk, elderly, and cardiac patients. [NIH]

**Neurologic:** Pertaining to neurology or to the nervous system. [EU]

**Neuropathy:** A general term denoting functional disturbances and/or pathological changes in the peripheral nervous system. The etiology may be known e.g. arsenical n., diabetic n., ischemic n., traumatic n.) or unknown. Encephalopathy and myelopathy are corresponding terms relating to involvement of the brain and spinal cord, respectively. The term is also used to designate noninflammatory lesions in the peripheral nervous system, in contrast to inflammatory lesions (neuritis). [EU]

**Prednisone:** A synthetic anti-inflammatory glucocorticoid derived from cortisone. It is biologically inert and converted to prednisolone in the liver. [NIH]

**Proteins:** Polymers of amino acids linked by peptide bonds. The specific sequence of amino acids determines the shape and function of the protein. [NIH]

**Stavudine:** A dideoxynucleoside analog that inhibits reverse transcriptase

and has in vitro activity against HIV. [NIH]

**Synergistic:** Acting together; enhancing the effect of another force or agent. [EU]

**Tomography:** The recording of internal body images at a predetermined plane by means of the tomograph; called also body section roentgenography. [EU]

**Triazolam:** A short-acting benzodiazepine used in the treatment of insomnia. Some countries temporarily withdrew triazolam from the market because of concerns about adverse reactions, mostly psychological, associated with higher dose ranges. Its use at lower doses with appropriate care and labeling has been reaffirmed by the FDA and most other countries. [NIH]

## CHAPTER 9. PHYSICIAN GUIDELINES AND DATABASES

### Overview

Doctors and medical researchers rely on a number of information sources to help patients with their conditions. Many will subscribe to journals or newsletters published by their professional associations or refer to specialized textbooks or clinical guides published for the medical profession. In this chapter, we focus on databases and Internet-based guidelines created or written for this professional audience.

### NIH Guidelines

For the more common diseases, The National Institutes of Health publish guidelines that are frequently consulted by physicians. Publications are typically written by one or more of the various NIH Institutes. For physician guidelines, commonly referred to as “clinical” or “professional” guidelines, you can visit the following Institutes:

- Office of the Director (OD); guidelines consolidated across agencies available at **<http://www.nih.gov/health/consumer/conkey.htm>**
- National Institute of General Medical Sciences (NIGMS); fact sheets available at **<http://www.nigms.nih.gov/news/facts/>**
- National Library of Medicine (NLM); extensive encyclopedia (A.D.A.M., Inc.) with guidelines:  
**<http://www.nlm.nih.gov/medlineplus/healthtopics.html>**
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK); guidelines available at  
**<http://www.niddk.nih.gov/health/health.htm>**

## NIH Databases

In addition to the various Institutes of Health that publish professional guidelines, the NIH has designed a number of databases for professionals.<sup>27</sup> Physician-oriented resources provide a wide variety of information related to the biomedical and health sciences, both past and present. The format of these resources varies. Searchable databases, bibliographic citations, full text articles (when available), archival collections, and images are all available. The following are referenced by the National Library of Medicine:<sup>28</sup>

- **Bioethics:** Access to published literature on the ethical, legal and public policy issues surrounding healthcare and biomedical research. This information is provided in conjunction with the Kennedy Institute of Ethics located at Georgetown University, Washington, D.C.:  
[http://www.nlm.nih.gov/databases/databases\\_bioethics.html](http://www.nlm.nih.gov/databases/databases_bioethics.html)
- **HIV/AIDS Resources:** Describes various links and databases dedicated to HIV/ AIDS research:  
<http://www.nlm.nih.gov/pubs/factsheets/aidsinfo.html>
- **NLM Online Exhibitions:** Describes "Exhibitions in the History of Medicine": <http://www.nlm.nih.gov/exhibition/exhibition.html>.  
Additional resources for historical scholarship in medicine:  
<http://www.nlm.nih.gov/hmd/hmd.html>
- **Biotechnology Information:** Access to public databases. The National Center for Biotechnology Information conducts research in computational biology, develops software tools for analyzing genome data, and disseminates biomedical information for the better understanding of molecular processes affecting human health and disease: <http://www.ncbi.nlm.nih.gov/>
- **Population Information:** The National Library of Medicine provides access to worldwide coverage of population, family planning, and related health issues, including family planning technology and programs, fertility, and population law and policy:  
[http://www.nlm.nih.gov/databases/databases\\_population.html](http://www.nlm.nih.gov/databases/databases_population.html)
- **Cancer Information:** Access to cancer-oriented databases:  
[http://www.nlm.nih.gov/databases/databases\\_cancer.html](http://www.nlm.nih.gov/databases/databases_cancer.html)

---

<sup>27</sup> Remember, for the general public, the National Library of Medicine recommends the databases referenced in MEDLINEplus (<http://medlineplus.gov/> or <http://www.nlm.nih.gov/medlineplus/databases.html>).

<sup>28</sup> See <http://www.nlm.nih.gov/databases/databases.html>.

- **Profiles in Science:** Offering the archival collections of prominent twentieth-century biomedical scientists to the public through modern digital technology: <http://www.profiles.nlm.nih.gov/>
- **Chemical Information:** Provides links to various chemical databases and references: <http://sis.nlm.nih.gov/Chem/ChemMain.html>
- **Clinical Alerts:** Reports the release of findings from the NIH-funded clinical trials where such release could significantly affect morbidity and mortality: [http://www.nlm.nih.gov/databases/alerts/clinical\\_alerts.html](http://www.nlm.nih.gov/databases/alerts/clinical_alerts.html)
- **Space Life Sciences:** Provides links and information to space-based research (including NASA):  
[http://www.nlm.nih.gov/databases/databases\\_space.html](http://www.nlm.nih.gov/databases/databases_space.html)
- **MEDLINE:** Bibliographic database covering the fields of medicine, nursing, dentistry, veterinary medicine, the healthcare system, and the pre-clinical sciences:  
[http://www.nlm.nih.gov/databases/databases\\_medline.html](http://www.nlm.nih.gov/databases/databases_medline.html)
- **Toxicology and Environmental Health Information (TOXNET):** Databases covering toxicology and environmental health:  
<http://sis.nlm.nih.gov/Tox/ToxMain.html>
- **Visible Human Interface:** Anatomically detailed, three-dimensional representations of normal male and female human bodies:  
[http://www.nlm.nih.gov/research/visible/visible\\_human.html](http://www.nlm.nih.gov/research/visible/visible_human.html)

While all of the above references may be of interest to physicians who study and treat irritable bowel syndrome, the following are particularly noteworthy.

### The Combined Health Information Database

A comprehensive source of information on clinical guidelines written for professionals is the Combined Health Information Database. You will need to limit your search to "Brochure/Pamphlet," "Fact Sheet," or "Information Package" and irritable bowel syndrome using the "Detailed Search" option. Go to the following hyperlink: <http://chid.nih.gov/detail/detail.html>. To find associations, use the drop boxes at the bottom of the search page where "You may refine your search by." For the publication date, select "All Years," select your preferred language, and the format option "Fact Sheet." By making these selections and typing "irritable bowel syndrome" (or synonyms) into the "For these words:" box above, you will only receive

results on fact sheets dealing with irritable bowel syndrome. The following is a sample result:

- **Revisiting IBS: Perspectives for the New Millennium: Special Report**

Source: New York, NY: McMahon Publishing Group. 2001. 8 p.

Contact: Available from Gastroenterology and Endoscopy News.  
McMahon Publishing Group, 545 W. 45th St., 8th floor, New York, NY  
10036 (800) 526-0828. Website: [www.mcmahonmed.com](http://www.mcmahonmed.com). Price: \$5.00 plus  
shipping and handling.

Summary: Recent discoveries in the field of irritable bowel syndrome (IBS) have important implications for gastroenterologists. Research is underway into functional brain imaging techniques to assess activation of brain regions during visceral stimulation, as well as clinical examinations focusing on the relationship between infection and IBS. This report brings gastroenterologists and primary care practitioners up to date on the current approaches in drug therapy for patients with IBS. The authors explain the use of brain imaging techniques to understand how patients with IBS may be more sensitive to gut stimuli, discuss the theory that an acute outbreak of gastroenteritis may lead to long term chronic IBS, and discuss the latest treatment options that can be use for both IBS and the related abdominal pain and discomfort. Treatments for IBS are targeted to symptoms including abdominal pain, diarrhea, constipation, and bloating. The main choices for patients with pain predominant symptoms include antispasmodics, tricyclic antidepressants, and selective serotonic reuptake inhibitors (SSRIs), and 5HT3 antagonists and 5HT4 agonists. Patients with constipation predominant symptoms would be treated with fiber, laxatives, or 5HT4 agonists; for patients with diarrhea predominant symptoms, opioid agonists, 5HT3 antagonists, and possibly cholestyramine will be used. Each of these treatments is discussed, with the relevant literature briefly reviewed. A posttest is appended, with which readers can qualify for continuing education credits. References are provided in the text of the report.

- **Irritable Bowel Syndrome: New Findings and Treatments: Special Report**

Source: New York, NY: McMahon Publishing Group. 2000. 8 p.

Contact: Available from Gastroenterology and Endoscopy News.  
McMahon Publishing Group, 545 W. 45th St., 8th floor, New York, NY  
10036. (800) 526-0828. Website: [www.mcmahonmed.com](http://www.mcmahonmed.com). Price: \$5.00  
plus shipping and handling.



**Summary:** This report offers a continuing education activity for physicians who see patients with irritable bowel syndrome (IBS). The authors outline the characteristics and presenting symptoms of various patient subtypes and report on recent findings indicating the central role of serotonin in the pathophysiology of IBS, as well as new pharmacotherapeutic agents (drug therapy) developed for IBS. Approximately 95 percent of all serotonin (5HT) is located in the gastrointestinal (GI) tract; the remainder is located in the central nervous system. The abundance of 5HT in the GI tract indicates that this neurotransmitter plays a major role in GI function. 5HT modulates motility (movement through the GI tract), visceral perception (feelings, such as pain, arising from the gut), and intraluminal secretion; these are all roles that have been linked to the pathophysiology of IBS. Until recently, no pharmaceutical agents have been developed specifically for IBS. The ability of 5HT<sub>2</sub> and 5HT<sub>4</sub> agents to reduce the multiple symptoms associated with IBS provides not only direct relief but indirect relief as well, and confirms the neurobiologic basis of this GI disorder of function. Specific drugs discussed include alosetron (a 5HT<sub>2</sub> antagonist), tegaserod (a 5HT<sub>4</sub> agonist), and prucalopride (a 5HT<sub>4</sub> agonist). A posttest is appended, with which readers can qualify for continuing education credits. References are provided in the text of the report. 4 figures. 1 table.

- **Sensitive Gut: A Harvard Health Letter Special Report**

Source: Boston, MA: Harvard Medical School Health Publications Group. 1996. 39 p.

Contact: Available from Harvard Medical School Health Publications Group. Department GUT, P.O. Box 380, Boston, MA 02117. (617) 432-1485. Fax (617) 432-1506. Price: \$16.00 (as of 1996); bulk discounts available.

**Summary:** This report focuses on five functional gastrointestinal (GI) disorders: gastroesophageal reflux disease (GERD), nonulcer dyspepsia, irritable bowel syndrome (IBS), constipation, and excessive gas. The author first introduces the anatomy and physiology of the GI tract, emphasizing the process of digestion. The following five sections present a discussion of the definition, causes, diagnosis, and therapy for each of the disorders. Specific topics include the hiatal hernia connection to GERD, antireflux drug therapy, surgery, *Helicobacter pylori* infection, psychological factors in dyspepsia, the role of stress in IBS, the types of constipation, belching, and flatulence. The report concludes with an overview of recommended good gut hygiene, an appendix summarizing

drugs used to treat functional gastrointestinal disorders, and a glossary of terms. 10 figures. 5 tables.

- **Digestive Diseases in the United States: Epidemiology and Impact**

Source: Bethesda, MD: National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). 1994. 799 p.

Contact: Available from National Digestive Diseases Information Clearinghouse. 2 Information Way, Bethesda, MD 20892-3570. (800) 891-5389 or (301) 654-3810. E-mail: [nddic@info.niddk.nih.gov](mailto:nddic@info.niddk.nih.gov). Price: \$15.00.

Summary: This monograph is a compendium of descriptive statistics about the scope and impact of digestive diseases in the United States. Each chapter provides national and population data based on the prevalence, incidence, medical care, disability, mortality, and research needs. Twenty chapters cover the following conditions: infectious diarrheas, viral hepatitis, esophageal cancer, gastric cancer, colorectal cancer, liver cancer, pancreatic cancer, hemorrhoids, esophageal diseases, peptic ulcer, gastritis and nonulcer dyspepsia, acute appendicitis, abdominal wall hernia, inflammatory bowel diseases, diverticular disease of the colon, constipation, irritable bowel syndrome, chronic liver disease and cirrhosis, gallstones, and pancreatitis. These chapters compare the impact and costs of the disease to other diseases. The book also includes an overview chapter, a chapter about the cost of digestive diseases in the United States, and a listing of all digestive diseases diagnostic codes for the ninth and tenth editions of the International Classification of Diseases. Extensive figures are used throughout the volume. 3 appendices.

- **Irritable Bowel Syndrome (IBS)**

Source: Milwaukee, WI: International Foundation for Functional Gastrointestinal Disorders. 1993. 8 p.

Contact: Available from International Foundation for Functional Gastrointestinal Disorders (IFFGD). P.O. Box 170864, Milwaukee, WI 53217. (888) 964-2001 or (414) 964-1799. Fax (414) 964-7176. E-mail: [iffgd@iffgd.org](mailto:iffgd@iffgd.org). Website: [www.iffgd.org](http://www.iffgd.org). Price: \$1.00.

Summary: This brochure describes irritable bowel syndrome (IBS), a disturbance of intestinal function with symptoms of abdominal discomfort, bloating, and abnormal bowel movements. Diarrhea may often alternate with constipation. The typical features of IBS are recognizable to a physician, but need not all be present and may appear with some variation in different patients. The most important step in diagnosis is to rule out other diseases; this is done through a detailed

history, physical examination, laboratory tests, x-rays, and endoscopy. Although the cause of IBS is not known, symptoms appear to be the result of increased sensitivity to distension of the gastrointestinal (GI) tract by gas or fecal material and a tendency for the bowel to be overly reactive to almost anything: eating, stress, emotional arousal, or gaseous distension. Lactose (milk sugar) intolerance can have similar symptoms to IBS, and while they can occur at the same time in a patient, they are different problems. The brochure discusses remissions and prognosis, the causes of bloating and gas, colitis and how it differs from IBS, treatment options, the impact of the menstrual cycle on IBS symptoms, and the relationship of stress and IBS. Treatment options discussed include evaluation of stress level and diet, diet therapy (increasing dietary fiber, avoiding laxatives, reducing trigger foods), lifestyle changes, drug therapy, biofeedback, and psychological counseling. The brochure summarizes seven strategies for coping with IBS. The brochure includes a brief description of the International Foundation for Functional Gastrointestinal Disorders. 1 figure.

- **What You Can Do About Irritable Bowel Syndrome**

Source: Cincinnati, OH: Procter and Gamble Company. 1992. 14 p.

Contact: Available from Procter and Gamble Company. P.O. Box 86, Cincinnati, OH 45201-0086. (800) 428-8363. Price: Single copy free.

Summary: This booklet was created to help patients understand irritable bowel syndrome (IBS) and to provide some general guidelines. Written in a question-and-answer format, the booklet includes a definition of IBS and provides information about symptoms; the causes of IBS-related pain; the anatomy of the digestive tract; recommendations for lifestyle changes to ease symptoms; the role of dietary fiber and how to change one's diet to increase the amount of fiber; the amount of fiber in various foods; and the different kinds of fiber. The booklet concludes with a description of the uses of Metamucil, a fiber supplement.

- **Understanding: Irritable Bowel Syndrome**

Source: Pittsburgh, PA: SmithKline Beecham Consumer Brands. 1991. 4 p.

Contact: Available from SmithKline Beecham. Consumer Brands, P.O. Box 1467, Pittsburgh, PA 15230. (800) 245-1040. Price: Single copy free. Bulk orders available to physicians by calling (800) 233-2426.

Summary: This patient education brochure provides basic information about irritable bowel syndrome (IBS). Topics include a description of IBS; causes; symptoms; treatment, including stress management, diet therapy, and the role of fiber. The brochure concludes with a section about fiber.

The brochure, produced by the manufacturers of CITRUCEL, a fiber product, describes the use of CITRUCEL as part of a therapeutic program to manage IBS. 4 references.

- **Diarrhea. [Diarrhea]**

Source: Camp Hill, PA: Chek-Med Systems, Inc. 199x. 2 p.

Contact: Available from Chek-Med Systems, Inc. 200 Grandview Avenue, Camp Hill, PA 17011. (800) 451-5797. Fax (717) 761-0216. Price: \$22 per packet of 50 pamphlets for order of 3 to 10 packets; minimum order 3 packets. Discounts available for larger quantities and complete kits of gastroenterology pamphlets.

Summary: This patient education brochure, available in English and Spanish, provides basic information about diarrhea. Topics include the causes of diarrhea, such as food, chemical laxatives, prescription drugs, infection, traveler's diarrhea, intestinal disorders, stress, and irritable bowel syndrome; diagnostic tests; and treatment options. The brochure includes a blank space for the physician to provide individualized patient instructions. Simple line drawings illustrate some concepts. 2 figures.

- **GI Disorders of Function: Into the New Millenium**

Source: New York, NY: McMahon Publishing Group. 2000. 8 p.

Contact: Available from McMahon Publishing Group. 545 West 45th Street, 8th Floor, New York, NY 10036. (212) 957-5300. Website: [www.mcmahonmed.com](http://www.mcmahonmed.com). Price: Single copy free.

Summary: This report examines the most up to date information available on gastrointestinal (GI) disorders of function, including irritable bowel syndrome (IBS), gastroesophageal reflux disease (GERD), and functional dyspepsia. The report describes how serotonin may mediate interactions in the central nervous system and the gut, and reviews the latest concepts in serotonin pharmacology as they relate to GI function. The author discusses the related mechanisms that could explain the relationships across these GI disorders of function, describes the natural history of GI disorders of function and how patients present over time, and details the mechanisms of action for the various 5 HT (serotonin) drugs. Serotonin is a mediator of the brain-gut connection; serotonin coordinates secretion and muscle contraction into a form of gut behavior that includes the problems of hypersecretion and power propulsion, with the attendant symptoms of diarrhea and pain. Drugs discussed include tegaserod, cisapride, alosetron, prucalopride, sumatriptan, and buspirone. This report confers continuing education credits for physicians who successfully complete the reading and posttest.

## The NLM Gateway<sup>29</sup>

The NLM (National Library of Medicine) Gateway is a Web-based system that lets users search simultaneously in multiple retrieval systems at the U.S. National Library of Medicine (NLM). It allows users of NLM services to initiate searches from one Web interface, providing “one-stop searching” for many of NLM’s information resources or databases.<sup>30</sup> One target audience for the Gateway is the Internet user who is new to NLM’s online resources and does not know what information is available or how best to search for it. This audience may include physicians and other healthcare providers, researchers, librarians, students, and, increasingly, patients, their families, and the public.<sup>31</sup> To use the NLM Gateway, simply go to the search site at **<http://gateway.nlm.nih.gov/gw/Cmd>**. Type “irritable bowel syndrome” (or synonyms) into the search box and click “Search.” The results will be presented in a tabular form, indicating the number of references in each database category.

### Results Summary

Category	Items Found
Journal Articles	343670
Books / Periodicals / Audio Visual	2562
Consumer Health	292
Meeting Abstracts	3093
Other Collections	100
Total	349717

<sup>29</sup> Adapted from NLM: <http://gateway.nlm.nih.gov/gw/Cmd?Overview.x>.

<sup>30</sup> The NLM Gateway is currently being developed by the Lister Hill National Center for Biomedical Communications (LHNCBC) at the National Library of Medicine (NLM) of the National Institutes of Health (NIH).

<sup>31</sup> Other users may find the Gateway useful for an overall search of NLM’s information resources. Some searchers may locate what they need immediately, while others will utilize the Gateway as an adjunct tool to other NLM search services such as PubMed® and MEDLINEplus®. The Gateway connects users with multiple NLM retrieval systems while also providing a search interface for its own collections. These collections include various types of information that do not logically belong in PubMed, LOCATORplus, or other established NLM retrieval systems (e.g., meeting announcements and pre-1966 journal citations). The Gateway will provide access to the information found in an increasing number of NLM retrieval systems in several phases.

**HSTAT<sup>32</sup>**

HSTAT is a free, Web-based resource that provides access to full-text documents used in healthcare decision-making.<sup>33</sup> HSTAT's audience includes healthcare providers, health service researchers, policy makers, insurance companies, consumers, and the information professionals who serve these groups. HSTAT provides access to a wide variety of publications, including clinical practice guidelines, quick-reference guides for clinicians, consumer health brochures, evidence reports and technology assessments from the Agency for Healthcare Research and Quality (AHRQ), as well as AHRQ's Put Prevention Into Practice.<sup>34</sup> Simply search by "irritable bowel syndrome" (or synonyms) at the following Web site: <http://text.nlm.nih.gov>.

**Coffee Break: Tutorials for Biologists<sup>35</sup>**

Some patients may wish to have access to a general healthcare site that takes a scientific view of the news and covers recent breakthroughs in biology that may one day assist physicians in developing treatments. To this end, we recommend "Coffee Break," a collection of short reports on recent biological discoveries. Each report incorporates interactive tutorials that demonstrate how bioinformatics tools are used as a part of the research process. Currently, all Coffee Breaks are written by NCBI staff.<sup>36</sup> Each report is about 400 words and is usually based on a discovery reported in one or more articles from recently published, peer-reviewed literature.<sup>37</sup> This site has new articles every few weeks, so it can be considered an online magazine of sorts,

---

<sup>32</sup> Adapted from HSTAT: <http://www.nlm.nih.gov/pubs/factsheets/hstat.html>.

<sup>33</sup> The HSTAT URL is <http://hstat.nlm.nih.gov/>.

<sup>34</sup> Other important documents in HSTAT include: the National Institutes of Health (NIH) Consensus Conference Reports and Technology Assessment Reports; the HIV/AIDS Treatment Information Service (ATIS) resource documents; the Substance Abuse and Mental Health Services Administration's Center for Substance Abuse Treatment (SAMHSA/CSAT) Treatment Improvement Protocols (TIP) and Center for Substance Abuse Prevention (SAMHSA/CSAP) Prevention Enhancement Protocols System (PEPS); the Public Health Service (PHS) Preventive Services Task Force's *Guide to Clinical Preventive Services*; the independent, nonfederal Task Force on Community Services *Guide to Community Preventive Services*; and the Health Technology Advisory Committee (HTAC) of the Minnesota Health Care Commission (MHCC) health technology evaluations.

<sup>35</sup> Adapted from <http://www.ncbi.nlm.nih.gov/Coffeebreak/Archive/FAQ.html>.

<sup>36</sup> The figure that accompanies each article is frequently supplied by an expert external to NCBI, in which case the source of the figure is cited. The result is an interactive tutorial that tells a biological story.

<sup>37</sup> After a brief introduction that sets the work described into a broader context, the report focuses on how a molecular understanding can provide explanations of observed biology and lead to therapies for diseases. Each vignette is accompanied by a figure and hypertext links that lead to a series of pages that interactively show how NCBI tools and resources are used in the research process.

and intended for general background information. You can access the Coffee Break Web site at <http://www.ncbi.nlm.nih.gov/Coffeebreak/>.

## Other Commercial Databases

In addition to resources maintained by official agencies, other databases exist that are commercial ventures addressing medical professionals. Here are a few examples that may interest you:

- **CliniWeb International:** Index and table of contents to selected clinical information on the Internet; see <http://www.ohsu.edu/clinweb/>.
- **Image Engine:** Multimedia electronic medical record system that integrates a wide range of digitized clinical images with textual data stored in the University of Pittsburgh Medical Center's MARS electronic medical record system; see the following Web site: <http://www.cml.upmc.edu/cml/imageengine/imageEngine.html>.
- **Medical World Search:** Searches full text from thousands of selected medical sites on the Internet; see <http://www.mwsearch.com/>.
- **MedWeaver:** Prototype system that allows users to search differential diagnoses for any list of signs and symptoms, to search medical literature, and to explore relevant Web sites; see <http://www.med.virginia.edu/~wmd4n/medweaver.html>.
- **Metaphrase:** Middleware component intended for use by both caregivers and medical records personnel. It converts the informal language generally used by caregivers into terms from formal, controlled vocabularies; see the following Web site: <http://www.lexical.com/Metaphrase.html>.

## Specialized References

The following books are specialized references written for professionals interested in irritable bowel syndrome (sorted alphabetically by title, hyperlinks provide rankings, information, and reviews at Amazon.com):

- **Blackwell's Primary Care Essentials: Gastrointestinal Disease** by David W. Hay; Paperback, 1st edition (December 15, 2001), Blackwell Science Inc; ISBN: 0632045035; <http://www.amazon.com/exec/obidos/ASIN/0632045035/icongroupinterna>
- **Gastrointestinal Problems** by Martin S. Lipsky, M.D. (Editor), Richard Sadovsky, M.D. (Editor); Paperback - 194 pages, 1st edition (August 15,

2000), Lippincott, Williams & Wilkins Publishers; ISBN: 0781720540;  
<http://www.amazon.com/exec/obidos/ASIN/0781720540/icongroupinterna>

- **Rome II: The Functional Gastrointestinal Disorders** by Douglas A. Drossman (Editor); Paperback - 800 pages, 2nd edition (March 1, 2000), Degnon Associates Inc.; ISBN: 0965683729;  
<http://www.amazon.com/exec/obidos/ASIN/0965683729/icongroupinterna>

## Vocabulary Builder

**Buspirone:** An anxiolytic agent and a serotonin receptor agonist belonging to the azaspirodecanedione class of compounds. Its structure is unrelated to those of the benzodiazepines, but it has an efficacy comparable to diazepam. [NIH]

**Neurotransmitter:** Any of a group of substances that are released on excitation from the axon terminal of a presynaptic neuron of the central or peripheral nervous system and travel across the synaptic cleft to either excite or inhibit the target cell. Among the many substances that have the properties of a neurotransmitter are acetylcholine, norepinephrine, epinephrine, dopamine, glycine,  $\gamma$ -aminobutyrate, glutamic acid, substance P, enkephalins, endorphins, and serotonin. [EU]

**Sumatriptan:** A serotonin agonist that acts selectively at 5HT<sub>1</sub> receptors. It is used in the treatment of migraines. [NIH]



## CHAPTER 10. DISSERTATIONS ON IRRITABLE BOWEL SYNDROME

### Overview

University researchers are active in studying almost all known diseases. The result of research is often published in the form of Doctoral or Master's dissertations. You should understand, therefore, that applied diagnostic procedures and/or therapies can take many years to develop after the thesis that proposed the new technique or approach was written.

In this chapter, we will give you a bibliography on recent dissertations relating to irritable bowel syndrome. You can read about these in more detail using the Internet or your local medical library. We will also provide you with information on how to use the Internet to stay current on dissertations.

### Dissertations on Irritable Bowel Syndrome

*ProQuest Digital Dissertations* is the largest archive of academic dissertations available. From this archive, we have compiled the following list covering dissertations devoted to irritable bowel syndrome. You will see that the information provided includes the dissertation's title, its author, and the author's institution. To read more about the following, simply use the Internet address indicated. The following covers recent dissertations dealing with irritable bowel syndrome:

- **A Cognitive Group Therapy Program for Irritable Bowel Syndrome: a Comprehensive Interdisciplinary Model** by Costa, Paul Joseph; Psyd from Carlos Albizu University, 2001, 115 pages  
<http://wwwlib.umi.com/dissertations/fullcit/3012611>
- **Controlled Trial of a Multicomponent Cognitive-behavioral Group Treatment for Irritable Bowel Syndrome** by Tkachuk, Gregg Allan; Phd from The University of Manitoba (canada), 2001, 252 pages  
<http://wwwlib.umi.com/dissertations/fullcit/NQ62674>
- **Deliberate Exposure to Interoceptive Sensations: a Cognitive-behavioral Treatment for Irritable Bowel Syndrome** by Decola, Joseph Philip; Phd from University of California, Los Angeles, 2001, 139 pages  
<http://wwwlib.umi.com/dissertations/fullcit/3005965>
- **Irritable Bowel Syndrome: Pathophysiological and Clinical Aspects** by Simren, Magnus; Meddr from Goteborgs Universitet (sweden), 2001, 96 pages  
<http://wwwlib.umi.com/dissertations/fullcit/f443793>
- **The Relationship among Perceived Social Support, Psychological Distress, Childhood Sexual Abuse, and Irritable Bowel Syndrome** by Walsh, Janine Dorothy; Phd from State University of New York at Albany, 2001, 170 pages  
<http://wwwlib.umi.com/dissertations/fullcit/3014376>

## Keeping Current

As previously mentioned, an effective way to stay current on dissertations dedicated to irritable bowel syndrome is to use the database called *ProQuest Digital Dissertations* via the Internet, located at the following Web address: **<http://wwwlib.umi.com/dissertations>**. The site allows you to freely access the last two years of citations and abstracts. Ask your medical librarian if the library has full and unlimited access to this database. From the library, you should be able to do more complete searches than with the limited 2-year access available to the general public.

## **PART III. APPENDICES**

### **ABOUT PART III**

Part III is a collection of appendices on general medical topics which may be of interest to patients with irritable bowel syndrome and related conditions.



## **APPENDIX A. RESEARCHING YOUR MEDICATIONS**

### **Overview**

There are a number of sources available on new or existing medications which could be prescribed to patients with irritable bowel syndrome. While a number of hard copy or CD-Rom resources are available to patients and physicians for research purposes, a more flexible method is to use Internet-based databases. In this chapter, we will begin with a general overview of medications. We will then proceed to outline official recommendations on how you should view your medications. You may also want to research medications that you are currently taking for other conditions as they may interact with medications for irritable bowel syndrome. Research can give you information on the side effects, interactions, and limitations of prescription drugs used in the treatment of irritable bowel syndrome. Broadly speaking, there are two sources of information on approved medications: public sources and private sources. We will emphasize free-to-use public sources.

## Your Medications: The Basics<sup>38</sup>

The Agency for Health Care Research and Quality has published extremely useful guidelines on how you can best participate in the medication aspects of irritable bowel syndrome. Taking medicines is not always as simple as swallowing a pill. It can involve many steps and decisions each day. The AHCQRQ recommends that patients with irritable bowel syndrome take part in treatment decisions. Do not be afraid to ask questions and talk about your concerns. By taking a moment to ask questions early, you may avoid problems later. Here are some points to cover each time a new medicine is prescribed:

- Ask about all parts of your treatment, including diet changes, exercise, and medicines.
- Ask about the risks and benefits of each medicine or other treatment you might receive.
- Ask how often you or your doctor will check for side effects from a given medication.

Do not hesitate to ask what is important to you about your medicines. You may want a medicine with the fewest side effects, or the fewest doses to take each day. You may care most about cost, or how the medicine might affect how you live or work. Or, you may want the medicine your doctor believes will work the best. Telling your doctor will help him or her select the best treatment for you.

Do not be afraid to “bother” your doctor with your concerns and questions about medications for irritable bowel syndrome. You can also talk to a nurse or a pharmacist. They can help you better understand your treatment plan. Feel free to bring a friend or family member with you when you visit your doctor. Talking over your options with someone you trust can help you make better choices, especially if you are not feeling well. Specifically, ask your doctor the following:

- The name of the medicine and what it is supposed to do.
- How and when to take the medicine, how much to take, and for how long.
- What food, drinks, other medicines, or activities you should avoid while taking the medicine.
- What side effects the medicine may have, and what to do if they occur.

---

<sup>38</sup> This section is adapted from AHCQRQ: <http://www.ahcpr.gov/consumer/ncpiebro.htm>.

- If you can get a refill, and how often.
- About any terms or directions you do not understand.
- What to do if you miss a dose.
- If there is written information you can take home (most pharmacies have information sheets on your prescription medicines; some even offer large-print or Spanish versions).

Do not forget to tell your doctor about all the medicines you are currently taking (not just those for irritable bowel syndrome). This includes prescription medicines and the medicines that you buy over the counter. Then your doctor can avoid giving you a new medicine that may not work well with the medications you take now. When talking to your doctor, you may wish to prepare a list of medicines you currently take, the reason you take them, and how you take them. Be sure to include the following information for each:

- Name of medicine
- Reason taken
- Dosage
- Time(s) of day

Also include any over-the-counter medicines, such as:

- Laxatives
- Diet pills
- Vitamins
- Cold medicine
- Aspirin or other pain, headache, or fever medicine
- Cough medicine
- Allergy relief medicine
- Antacids
- Sleeping pills
- Others (include names)

## Learning More about Your Medications

Because of historical investments by various organizations and the emergence of the Internet, it has become rather simple to learn about the medications your doctor has recommended for irritable bowel syndrome. One such source is the United States Pharmacopeia. In 1820, eleven physicians met in Washington, D.C. to establish the first compendium of standard drugs for the United States. They called this compendium the “U.S. Pharmacopeia (USP).” Today, the USP is a non-profit organization consisting of 800 volunteer scientists, eleven elected officials, and 400 representatives of state associations and colleges of medicine and pharmacy. The USP is located in Rockville, Maryland, and its home page is located at **[www.usp.org](http://www.usp.org)**. The USP currently provides standards for over 3,700 medications. The resulting USP DI® Advice for the Patient® can be accessed through the National Library of Medicine of the National Institutes of Health. The database is partially derived from lists of federally approved medications in the Food and Drug Administration’s (FDA) Drug Approvals database.<sup>39</sup>

While the FDA database is rather large and difficult to navigate, the Pharmacopeia is both user-friendly and free to use. It covers more than 9,000 prescription and over-the-counter medications. To access this database, simply type the following hyperlink into your Web browser: **<http://www.nlm.nih.gov/medlineplus/druginformation.html>**. To view examples of a given medication (brand names, category, description, preparation, proper use, precautions, side effects, etc.), simply follow the hyperlinks indicated within the United States Pharmacopoeia (USP). It is important to read the disclaimer by the USP (**<http://www.nlm.nih.gov/medlineplus/drugdisclaimer.html>**) before using the information provided.

Of course, we as editors cannot be certain as to what medications you are taking. Therefore, we have compiled a list of medications associated with the treatment of irritable bowel syndrome. Once again, due to space limitations, we only list a sample of medications and provide hyperlinks to ample documentation (e.g. typical dosage, side effects, drug-interaction risks, etc.). The following drugs have been mentioned in the Pharmacopeia and other sources as being potentially applicable to irritable bowel syndrome:

---

<sup>39</sup> Though cumbersome, the FDA database can be freely browsed at the following site: **[www.fda.gov/cder/da/da.htm](http://www.fda.gov/cder/da/da.htm)**.



**Alosetron**

- **Systemic - U.S. Brands:** Lotronex  
<http://www.nlm.nih.gov/medlineplus/druginfo/alosetronsystemic500107.html>

**Antacids**

- **Oral - U.S. Brands:** Advanced Formula Di-Gel; Alamag; Alamag Plus; Alenic Alka; Alenic Alka Extra Strength; Alka-Mints; Alkets; Alkets Extra Strength; Almacone; Almacone II; AlternaGEL; Alu-Cap; Aludrox; Alu-Tab; Amitone; Amphojel; Antacid Gelcaps; Antacid Liquid; Antacid L  
<http://www.nlm.nih.gov/medlineplus/druginfo/antacidsoral202047.html>

**Fluoxetine**

- **Systemic - U.S. Brands:** Prozac; Sarafem  
<http://www.nlm.nih.gov/medlineplus/druginfo/fluoxetinesystemic202247.html>

**Loperamide**

- **Oral - U.S. Brands:** Imodium  
<http://www.nlm.nih.gov/medlineplus/druginfo/loperamideoral202332.html>

**Simethicone**

- **Oral - U.S. Brands:** Flatulex; Gas-X; Genasyme; Phazyme; Phazyme-  
<http://www.nlm.nih.gov/medlineplus/druginfo/simethiconeoral202522.html>

**Commercial Databases**

In addition to the medications listed in the USP above, a number of commercial sites are available by subscription to physicians and their institutions. You may be able to access these sources from your local medical library or your doctor's office.

### Reuters Health Drug Database

The Reuters Health Drug Database can be searched by keyword at the hyperlink: <http://www.reutershealth.com/frame2/drug.html>. The following medications are listed in the Reuters' database as associated with irritable bowel syndrome (including those with contraindications):<sup>40</sup>

- **Alprazolam**  
<http://www.reutershealth.com/atoz/html/Alprazolam.htm>
- **Atropine Sulfate Scopolamine Hydrobromide Hyoscyamine Sulfate Phenobarbital**  
[http://www.reutershealth.com/atoz/html/Atropine\\_Sulfate\\_Scopolamine\\_Hydrobromide\\_Hyoscyamine\\_Sulfate\\_Phenobarbital.htm](http://www.reutershealth.com/atoz/html/Atropine_Sulfate_Scopolamine_Hydrobromide_Hyoscyamine_Sulfate_Phenobarbital.htm)
- **Chlordiazepoxide**  
<http://www.reutershealth.com/atoz/html/Chlordiazepoxide.htm>
- **Clorazepate Dipotassium**  
[http://www.reutershealth.com/atoz/html/Clorazepate\\_Dipotassium.htm](http://www.reutershealth.com/atoz/html/Clorazepate_Dipotassium.htm)
- **Diazepam**  
<http://www.reutershealth.com/atoz/html/Diazepam.htm>
- **Dicyclomine HCl**  
[http://www.reutershealth.com/atoz/html/Dicyclomine\\_HCl.htm](http://www.reutershealth.com/atoz/html/Dicyclomine_HCl.htm)
- **Octreotide Acetate**  
[http://www.reutershealth.com/atoz/html/Octreotide\\_Acetate.htm](http://www.reutershealth.com/atoz/html/Octreotide_Acetate.htm)
- **Simethicone**  
<http://www.reutershealth.com/atoz/html/Simethicone.htm>

### Mosby's GenRx

Mosby's GenRx database (also available on CD-Rom and book format) covers 45,000 drug products including generics and international brands. It provides prescribing information, drug interactions, and patient information. Information in Mosby's GenRx database can be obtained at the following hyperlink: <http://www.genrx.com/Mosby/PhyGenRx/group.html>.

---

<sup>40</sup> Adapted from *A to Z Drug Facts* by Facts and Comparisons.

## Physicians Desk Reference

The Physicians Desk Reference database (also available in CD-Rom and book format) is a full-text drug database. The database is searchable by brand name, generic name or by indication. It features multiple drug interactions reports. Information can be obtained at the following hyperlink: [http://physician.pdr.net/physician/templates/en/acl/psuser\\_t.htm](http://physician.pdr.net/physician/templates/en/acl/psuser_t.htm).

## Other Web Sites

A number of additional Web sites discuss drug information. As an example, you may like to look at **www.drugs.com** which reproduces the information in the Pharmacopeia as well as commercial information. You may also want to consider the Web site of the Medical Letter, Inc. which allows users to download articles on various drugs and therapeutics for a nominal fee: <http://www.medletter.com/>.

## Contraindications and Interactions (Hidden Dangers)

Some of the medications mentioned in the previous discussions can be problematic for patients with irritable bowel syndrome--not because they are used in the treatment process, but because of contraindications, or side effects. Medications with contraindications are those that could react with drugs used to treat irritable bowel syndrome or potentially create deleterious side effects in patients with irritable bowel syndrome. You should ask your physician about any contraindications, especially as these might apply to other medications that you may be taking for common ailments.

Drug-drug interactions occur when two or more drugs react with each other. This drug-drug interaction may cause you to experience an unexpected side effect. Drug interactions may make your medications less effective, cause unexpected side effects, or increase the action of a particular drug. Some drug interactions can even be harmful to you.

Be sure to read the label every time you use a nonprescription or prescription drug, and take the time to learn about drug interactions. These precautions may be critical to your health. You can reduce the risk of potentially harmful drug interactions and side effects with a little bit of knowledge and common sense.

Drug labels contain important information about ingredients, uses, warnings, and directions which you should take the time to read and understand. Labels also include warnings about possible drug interactions. Further, drug labels may change as new information becomes available. This is why it's especially important to read the label every time you use a medication. When your doctor prescribes a new drug, discuss all over-the-counter and prescription medications, dietary supplements, vitamins, botanicals, minerals and herbals you take as well as the foods you eat. Ask your pharmacist for the package insert for each prescription drug you take. The package insert provides more information about potential drug interactions.

## **A Final Warning**

At some point, you may hear of alternative medications from friends, relatives, or in the news media. Advertisements may suggest that certain alternative drugs can produce positive results for patients with irritable bowel syndrome. Exercise caution--some of these drugs may have fraudulent claims, and others may actually hurt you. The Food and Drug Administration (FDA) is the official U.S. agency charged with discovering which medications are likely to improve the health of patients with irritable bowel syndrome. The FDA warns patients to watch out for<sup>41</sup>:

- Secret formulas (real scientists share what they know)
- Amazing breakthroughs or miracle cures (real breakthroughs don't happen very often; when they do, real scientists do not call them amazing or miracles)
- Quick, painless, or guaranteed cures
- If it sounds too good to be true, it probably isn't true.

If you have any questions about any kind of medical treatment, the FDA may have an office near you. Look for their number in the blue pages of the phone book. You can also contact the FDA through its toll-free number, 1-888-INFO-FDA (1-888-463-6332), or on the World Wide Web at **[www.fda.gov](http://www.fda.gov)**.

---

<sup>41</sup> This section has been adapted from <http://www.fda.gov/opacom/lowlit/medfraud.html>.

## General References

In addition to the resources provided earlier in this chapter, the following general references describe medications (sorted alphabetically by title; hyperlinks provide rankings, information and reviews at Amazon.com):

- **Drug Development: Molecular Targets for Gi Diseases** by Timothy S. Gaginella (Editor), Antonio Guglietta (Editor); Hardcover - 288 pages (December 1999), Humana Press; ISBN: 0896035891;  
<http://www.amazon.com/exec/obidos/ASIN/0896035891/icongroupinterna>
- **Drug Therapy for Gastrointestinal and Liver Diseases** by Michael J.G. Farthing, M.D. (Editor), Anne B. Ballinger (Editor); Hardcover - 346 pages, 1st edition (August 15, 2001), Martin Dunitz Ltd.; ISBN: 1853177334;  
<http://www.amazon.com/exec/obidos/ASIN/1853177334/icongroupinterna>
- **Immunopharmacology of the Gastrointestinal System (Handbook of Immunopharmacology)** by John L. Wallace (Editor); Hardcover (October 1997), Academic Press; ISBN: 0127328602;  
<http://www.amazon.com/exec/obidos/ASIN/0127328602/icongroupinterna>
- **A Pharmacologic Approach to Gastrointestinal Disorders** by James H. Lewis, M.D. (Editor); Hardcover - (February 1994), Lippincott, Williams & Wilkins; ISBN: 0683049704;  
<http://www.amazon.com/exec/obidos/ASIN/0683049704/icongroupinterna>

## Vocabulary Builder

The following vocabulary builder gives definitions of words used in this chapter that have not been defined in previous chapters:

**Chlordiazepoxide:** An anxiolytic benzodiazepine derivative with anticonvulsant, sedative, and amnesic properties. It has also been used in the symptomatic treatment of alcohol withdrawal. [NIH]

**Clorazepate Dipotassium:** A water-soluble benzodiazepine derivative effective in the treatment of anxiety. It has also muscle relaxant and anticonvulsant actions. [NIH]

**Fluoxetine:** The first highly specific serotonin uptake inhibitor. It is used as an antidepressant and often has a more acceptable side-effects profile than traditional antidepressants. [NIH]

**Pharmacist:** A person trained to prepare and distribute medicines and to give information about them. [NIH]

**Scopolamine:** An alkaloid from Solanaceae, especially *Datura metel* L. and *Scopola carniolica*. Scopolamine and its quaternary derivatives act as antimuscarinics like atropine, but may have more central nervous system effects. Among the many uses are as an anesthetic premedication, in urinary incontinence, in motion sickness, as an antispasmodic, and as a mydriatic and cycloplegic. [NIH]

## APPENDIX B. RESEARCHING ALTERNATIVE MEDICINE

### Overview

Complementary and alternative medicine (CAM) is one of the most contentious aspects of modern medical practice. You may have heard of these treatments on the radio or on television. Maybe you have seen articles written about these treatments in magazines, newspapers, or books. Perhaps your friends or doctor have mentioned alternatives.

In this chapter, we will begin by giving you a broad perspective on complementary and alternative therapies. Next, we will introduce you to official information sources on CAM relating to irritable bowel syndrome. Finally, at the conclusion of this chapter, we will provide a list of readings on irritable bowel syndrome from various authors. We will begin, however, with the National Center for Complementary and Alternative Medicine's (NCCAM) overview of complementary and alternative medicine.

### What Is CAM?<sup>42</sup>

Complementary and alternative medicine (CAM) covers a broad range of healing philosophies, approaches, and therapies. Generally, it is defined as those treatments and healthcare practices which are not taught in medical schools, used in hospitals, or reimbursed by medical insurance companies. Many CAM therapies are termed "holistic," which generally means that the healthcare practitioner considers the whole person, including physical, mental, emotional, and spiritual health. Some of these therapies are also known as "preventive," which means that the practitioner educates and

---

<sup>42</sup> Adapted from the NCCAM: <http://nccam.nih.gov/nccam/fcp/faq/index.html#what-is>.

treats the person to prevent health problems from arising, rather than treating symptoms after problems have occurred.

People use CAM treatments and therapies in a variety of ways. Therapies are used alone (often referred to as alternative), in combination with other alternative therapies, or in addition to conventional treatment (sometimes referred to as complementary). Complementary and alternative medicine, or “integrative medicine,” includes a broad range of healing philosophies, approaches, and therapies. Some approaches are consistent with physiological principles of Western medicine, while others constitute healing systems with non-Western origins. While some therapies are far outside the realm of accepted Western medical theory and practice, others are becoming established in mainstream medicine.

Complementary and alternative therapies are used in an effort to prevent illness, reduce stress, prevent or reduce side effects and symptoms, or control or cure disease. Some commonly used methods of complementary or alternative therapy include mind/body control interventions such as visualization and relaxation, manual healing including acupressure and massage, homeopathy, vitamins or herbal products, and acupuncture.

### **What Are the Domains of Alternative Medicine?<sup>43</sup>**

The list of CAM practices changes continually. The reason being is that these new practices and therapies are often proved to be safe and effective, and therefore become generally accepted as “mainstream” healthcare practices. Today, CAM practices may be grouped within five major domains: (1) alternative medical systems, (2) mind-body interventions, (3) biologically-based treatments, (4) manipulative and body-based methods, and (5) energy therapies. The individual systems and treatments comprising these categories are too numerous to list in this sourcebook. Thus, only limited examples are provided within each.

#### **Alternative Medical Systems**

Alternative medical systems involve complete systems of theory and practice that have evolved independent of, and often prior to, conventional biomedical approaches. Many are traditional systems of medicine that are

---

<sup>43</sup> Adapted from the NCCAM: <http://nccam.nih.gov/nccam/fcp/classify/index.html>.



practiced by individual cultures throughout the world, including a number of venerable Asian approaches.

Traditional oriental medicine emphasizes the balance or disturbances of qi (pronounced chi) or vital energy in health and disease, respectively. Traditional oriental medicine consists of a group of techniques and methods including acupuncture, herbal medicine, oriental massage, and qi gong (a form of energy therapy). Acupuncture involves stimulating specific anatomic points in the body for therapeutic purposes, usually by puncturing the skin with a thin needle.

Ayurveda is India's traditional system of medicine. Ayurvedic medicine (meaning "science of life") is a comprehensive system of medicine that places equal emphasis on body, mind, and spirit. Ayurveda strives to restore the innate harmony of the individual. Some of the primary Ayurvedic treatments include diet, exercise, meditation, herbs, massage, exposure to sunlight, and controlled breathing.

Other traditional healing systems have been developed by the world's indigenous populations. These populations include Native American, Aboriginal, African, Middle Eastern, Tibetan, and Central and South American cultures. Homeopathy and naturopathy are also examples of complete alternative medicine systems.

Homeopathic medicine is an unconventional Western system that is based on the principle that "like cures like," i.e., that the same substance that in large doses produces the symptoms of an illness, in very minute doses cures it. Homeopathic health practitioners believe that the more dilute the remedy, the greater its potency. Therefore, they use small doses of specially prepared plant extracts and minerals to stimulate the body's defense mechanisms and healing processes in order to treat illness.

Naturopathic medicine is based on the theory that disease is a manifestation of alterations in the processes by which the body naturally heals itself and emphasizes health restoration rather than disease treatment. Naturopathic physicians employ an array of healing practices, including the following: diet and clinical nutrition, homeopathy, acupuncture, herbal medicine, hydrotherapy (the use of water in a range of temperatures and methods of applications), spinal and soft-tissue manipulation, physical therapies (such as those involving electrical currents, ultrasound, and light), therapeutic counseling, and pharmacology.

### **Mind-Body Interventions**

Mind-body interventions employ a variety of techniques designed to facilitate the mind's capacity to affect bodily function and symptoms. Only a select group of mind-body interventions having well-documented theoretical foundations are considered CAM. For example, patient education and cognitive-behavioral approaches are now considered "mainstream." On the other hand, complementary and alternative medicine includes meditation, certain uses of hypnosis, dance, music, and art therapy, as well as prayer and mental healing.

### **Biological-Based Therapies**

This category of CAM includes natural and biological-based practices, interventions, and products, many of which overlap with conventional medicine's use of dietary supplements. This category includes herbal, special dietary, orthomolecular, and individual biological therapies.

Herbal therapy employs an individual herb or a mixture of herbs for healing purposes. An herb is a plant or plant part that produces and contains chemical substances that act upon the body. Special diet therapies, such as those proposed by Drs. Atkins, Ornish, Pritikin, and Weil, are believed to prevent and/or control illness as well as promote health. Orthomolecular therapies aim to treat disease with varying concentrations of chemicals such as magnesium, melatonin, and mega-doses of vitamins. Biological therapies include, for example, the use of laetrile and shark cartilage to treat cancer and the use of bee pollen to treat autoimmune and inflammatory diseases.

### **Manipulative and Body-Based Methods**

This category includes methods that are based on manipulation and/or movement of the body. For example, chiropractors focus on the relationship between structure and function, primarily pertaining to the spine, and how that relationship affects the preservation and restoration of health. Chiropractors use manipulative therapy as an integral treatment tool.

In contrast, osteopaths place particular emphasis on the musculoskeletal system and practice osteopathic manipulation. Osteopaths believe that all of the body's systems work together and that disturbances in one system may have an impact upon function elsewhere in the body. Massage therapists manipulate the soft tissues of the body to normalize those tissues.

## Energy Therapies

Energy therapies focus on energy fields originating within the body (biofields) or those from other sources (electromagnetic fields). Biofield therapies are intended to affect energy fields (the existence of which is not yet experimentally proven) that surround and penetrate the human body. Some forms of energy therapy manipulate biofields by applying pressure and/or manipulating the body by placing the hands in or through these fields. Examples include Qi gong, Reiki and Therapeutic Touch.

Qi gong is a component of traditional oriental medicine that combines movement, meditation, and regulation of breathing to enhance the flow of vital energy (qi) in the body, improve blood circulation, and enhance immune function. Reiki, the Japanese word representing Universal Life Energy, is based on the belief that, by channeling spiritual energy through the practitioner, the spirit is healed and, in turn, heals the physical body. Therapeutic Touch is derived from the ancient technique of “laying-on of hands.” It is based on the premises that the therapist’s healing force affects the patient’s recovery and that healing is promoted when the body’s energies are in balance. By passing their hands over the patient, these healers identify energy imbalances.

Bioelectromagnetic-based therapies involve the unconventional use of electromagnetic fields to treat illnesses or manage pain. These therapies are often used to treat asthma, cancer, and migraine headaches. Types of electromagnetic fields which are manipulated in these therapies include pulsed fields, magnetic fields, and alternating current or direct current fields.

## Can Alternatives Affect My Treatment?

A critical issue in pursuing complementary alternatives mentioned thus far is the risk that these might have undesirable interactions with your medical treatment. It becomes all the more important to speak with your doctor who can offer advice on the use of alternatives. Official sources confirm this view. Though written for women, we find that the National Women’s Health Information Center’s advice on pursuing alternative medicine is appropriate for patients of both genders and all ages.<sup>44</sup>

---

<sup>44</sup> Adapted from <http://www.4woman.gov/faq/alternative.htm>.

### **Is It Okay to Want Both Traditional and Alternative Medicine?**

Should you wish to explore non-traditional types of treatment, be sure to discuss all issues concerning treatments and therapies with your healthcare provider, whether a physician or practitioner of complementary and alternative medicine. Competent healthcare management requires knowledge of both conventional and alternative therapies you are taking for the practitioner to have a complete picture of your treatment plan.

The decision to use complementary and alternative treatments is an important one. Consider before selecting an alternative therapy, the safety and effectiveness of the therapy or treatment, the expertise and qualifications of the healthcare practitioner, and the quality of delivery. These topics should be considered when selecting any practitioner or therapy.

### **Finding CAM References on Irritable Bowel Syndrome**

Having read the previous discussion, you may be wondering which complementary or alternative treatments might be appropriate for irritable bowel syndrome. For the remainder of this chapter, we will direct you to a number of official sources which can assist you in researching studies and publications. Some of these articles are rather technical, so some patience may be required.

#### **The Combined Health Information Database**

For a targeted search, The Combined Health Information Database is a bibliographic database produced by health-related agencies of the Federal Government (mostly from the National Institutes of Health). This database is updated four times a year at the end of January, April, July, and October. Check the titles, summaries, and availability of CAM-related information by using the "Simple Search" option at the following Web site: <http://chid.nih.gov/simple/simple.html>. In the drop box at the top, select "Complementary and Alternative Medicine." Then type "irritable bowel syndrome" (or synonyms) in the second search box. We recommend that you select 100 "documents per page" and to check the "whole records" options. The following was extracted using this technique:

- **Treatment of Irritable Bowel Syndrome With Chinese Herbal Medicine: A Randomized Controlled Trial**

Source: JAMA. Journal of the American Medical Association. 280(18): 1585-1589. November 11, 1998.

Summary: This journal article describes a randomized, double-blind, placebo-controlled trial of Chinese herbal medicine (CHM) for the treatment of irritable bowel syndrome (IBS). A total of 116 adults with IBS were recruited from gastroenterology units in 2 Australian teaching hospitals and 5 private practices, and treated in 3 Chinese herbal clinics. The patients were randomly assigned to receive individualized Chinese herbal formulations (n=38), a standard Chinese herbal formulation (n=43), or placebo (n=35). All patients received five capsules three times daily for 16 weeks, and were evaluated regularly by a traditional Chinese herbalist and a gastroenterologist. The main outcome measures were change in bowel symptom scores rated by patients and a gastroenterologist, global improvement rated by patients and a gastroenterologist, and patient reports of change in the extent to which IBS symptoms interfered with their life. At the end of treatment, patients in both active treatment groups had significantly greater improvement on all measures than did the control group. There were no significant differences between the two active treatment groups. However, at a 14-week followup, only the individualized CHM treatment group maintained improvement. The authors conclude that Chinese herbal formulations may improve symptoms in some patients with IBS. The article has 1 figure, 4 tables, and 22 references.

- **Clinical Application of Natural Medicine: Irritable Bowel Syndrome**

Source: Quarterly Review of Natural Medicine. p. 333-345. Winter 1997.

Summary: This journal article discusses natural treatments for irritable bowel syndrome (IBS). First, it reviews the etiology, possible triggers, pathophysiology, diagnostic criteria, signs and symptoms, and conventional treatment of IBS. Then, it reviews the history of using carminative herbs for gastrointestinal disorders. It describes the use of peppermint as a treatment for IBS, including its active constituents, mechanism of action, clinical application, recommended dosages, side effects, and contraindications. It also reviews evidence of the effects of chamomile, fennel, ginger, and herbal combinations on the symptoms of IBS. Finally, it discusses dietary factors such as food intolerance, dietary fiber, and sugar consumption that may provoke or relieve IBS symptoms. The article has 1 figure, 2 tables, and 57 references.

- **Herbs To Improve Digestion: Herbal Remedies for Stomach Pain, Constipation, Ulcers, Colitis and Other Gastrointestinal Problems**

Source: New Canaan, CT: Keats Publishing, Inc. 1996. 90 p.

Contact: Available from Keats Publishing, Inc., division of NTC/Contemporary. 203 Kitchawan Road, South Salem, NY 10590. 914-533-1175, FAX: 914-533-0035. Price: \$4.95. ISBN: 087983742X.

Summary: This book describes the use of herbs to improve digestion, including herbal remedies for stomach pain, constipation, ulcers, colitis, and other gastrointestinal problems. It provides an overview of the digestive system, including the digestive process and the role of bacteria. It discusses juicing, food sensitivities, digestive enzymes, and the role of exercise in improving digestion. It contains descriptions of frequently occurring digestive disorders such as colic, constipation, Crohn's disease, diarrhea, diverticulitis, flatulence, gastritis, heartburn, hemorrhoids, indigestion, irritable bowel syndrome, and ulcers. It provides suggestions on using herbs to treat these problems, and describes 12 steps to better digestion. This book contains a resource list and an index.

### **National Center for Complementary and Alternative Medicine**

The National Center for Complementary and Alternative Medicine (NCCAM) of the National Institutes of Health (<http://nccam.nih.gov>) has created a link to the National Library of Medicine's databases to allow patients to search for articles that specifically relate to irritable bowel syndrome and complementary medicine. To search the database, go to the following Web site: [www.nlm.nih.gov/nccam/camonpubmed.html](http://www.nlm.nih.gov/nccam/camonpubmed.html). Select "CAM on PubMed." Enter "irritable bowel syndrome" (or synonyms) into the search box. Click "Go." The following references provide information on particular aspects of complementary and alternative medicine (CAM) that are related to irritable bowel syndrome:

- **A 1- and 2-year follow-up study of bowel sound biofeedback as a treatment for irritable bowel syndrome.**

Author(s): Radnitz CL, Blanchard EB.

Source: Biofeedback Self Regul. 1989 December; 14(4): 333-8.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2631973&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2631973&dopt=Abstract)

- **A biopsychosocial understanding of the irritable bowel syndrome: a review.**  
 Author(s): Goldberg J, Davidson P.  
 Source: Canadian Journal of Psychiatry. Revue Canadienne De Psychiatrie. 1997 October; 42(8): 835-40. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=9356771&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9356771&dopt=Abstract)
- **A comparison of mebeverine with high-fibre dietary advice and mebeverine plus ispaghula in the treatment of irritable bowel syndrome: an open, prospectively randomised, parallel group study.**  
 Author(s): Chapman ND, Grillage MG, Mazumder R, Atkinson SN.  
 Source: Br J Clin Pract. 1990 November; 44(11): 461-6.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2177997&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2177997&dopt=Abstract)
- **A comparison of psychological and medical treatment of the irritable bowel syndrome.**  
 Author(s): Bennett P, Wilkinson S.  
 Source: The British Journal of Clinical Psychology / the British Psychological Society. 1985 September; 24 ( Pt 3): 215-6.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3902127&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3902127&dopt=Abstract)
- **A controlled comparison of cognitive therapy and self-help support groups in the treatment of irritable bowel syndrome.**  
 Author(s): Payne A, Blanchard EB.  
 Source: J Consult Clin Psychol. 1995 October; 63(5): 779-86.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=7593870&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7593870&dopt=Abstract)
- **A controlled trial of psychological treatment for the irritable bowel syndrome.**  
 Author(s): Guthrie E, Creed F, Dawson D, Tomenson B.  
 Source: Gastroenterology. 1991 February; 100(2): 450-7.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=1985041&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1985041&dopt=Abstract)
- **A one year follow-up of relaxation response meditation as a treatment for irritable bowel syndrome.**  
 Author(s): Keefer L, Blanchard EB.

Source: Behaviour Research and Therapy. 2002 May; 40(5): 541-6.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=12038646&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12038646&dopt=Abstract)

- **A single-blind trial of reflexology for irritable bowel syndrome.**  
Author(s): Tovey P.  
Source: Br J Gen Pract. 2002 January; 52(474): 19-23.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11791811&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11791811&dopt=Abstract)
- **A study of irritable bowel syndrome diagnosed by Manning criteria in an African population.**  
Author(s): Olubuyide IO, Olawuyi F, Fasanmade AA.  
Source: Digestive Diseases and Sciences. 1995 May; 40(5): 983-5.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=7729288&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7729288&dopt=Abstract)
- **Acupuncture treatment for irritable bowel syndrome. A double-blind controlled study.**  
Author(s): Fireman Z, Segal A, Kopelman Y, Sternberg A, Carasso R.  
Source: Digestion. 2001; 64(2): 100-3.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11684823&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11684823&dopt=Abstract)
- **Adaptation of a multicomponent treatment for irritable bowel syndrome to a small-group format.**  
Author(s): Blanchard EB, Schwarz SP.  
Source: Biofeedback Self Regul. 1987 March; 12(1): 63-9.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3663739&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3663739&dopt=Abstract)
- **Aleatory clinical study comparing otilonium bromide with a fiber-rich diet in the treatment of irritable bowel syndrome.**  
Author(s): Villagrasa M, Boix J, Humbert P, Quer JC.  
Source: Ital J Gastroenterol. 1991 November; 23(8 Suppl 1): 67-70.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=1661630&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1661630&dopt=Abstract)
- **Altered skin temperature and electromyographic activity in the irritable bowel syndrome.**  
Author(s): McAllister C, McGrath F, Fielding JF.



Source: Biomedicine & Pharmacotherapy = Biomedecine & Pharmacotherapie. 1990; 44(8): 399-401.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2271736&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2271736&dopt=Abstract)

- **Alternative medicine consultations and remedies in patients with the irritable bowel syndrome.**

Author(s): Smart HL, Mayberry JF, Atkinson M.

Source: Gut. 1986 July; 27(7): 826-8.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3755416&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3755416&dopt=Abstract)

- **Arrowroot as a treatment for diarrhoea in irritable bowel syndrome patients: a pilot study.**

Author(s): Cooke C, Carr I, Abrams K, Mayberry J.

Source: Arq Gastroenterol. 2000 January-March; 37(1): 20-4.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10962623&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10962623&dopt=Abstract)

- **Artichoke leaf extract reduces symptoms of irritable bowel syndrome in a post-marketing surveillance study.**

Author(s): Walker AF, Middleton RW, Petrowicz O.

Source: Phytotherapy Research : Ptr. 2001 February; 15(1): 58-61.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11180525&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11180525&dopt=Abstract)

- **Bacterial supplementation in the irritable bowel syndrome. A randomised double-blind placebo-controlled crossover study.**

Author(s): O'Sullivan MA, O'Morain CA.

Source: Dig Liver Dis. 2000 May; 32(4): 294-301.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11515626&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11515626&dopt=Abstract)

- **Behavioral treatment of irritable bowel syndrome: a 1-year follow-up study.**

Author(s): Schwarz SP, Blanchard EB, Neff DF.

Source: Biofeedback Self Regul. 1986 September; 11(3): 189-98.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3300787&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3300787&dopt=Abstract)

- **Behaviorally treated irritable bowel syndrome patients: a four-year follow-up.**  
Author(s): Schwarz SP, Taylor AE, Scharff L, Blanchard EB.  
Source: Behaviour Research and Therapy. 1990; 28(4): 331-5.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2222390&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2222390&dopt=Abstract)
- **Biofeedback treatment for headaches, Raynaud's disease, essential hypertension, and irritable bowel syndrome: a review of the long-term follow-up literature.**  
Author(s): Ford MR.  
Source: Biofeedback Self Regul. 1982 December; 7(4): 521-36.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=7165783&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7165783&dopt=Abstract)
- **Bowel sound biofeedback as a treatment for irritable bowel syndrome.**  
Author(s): Radnitz CL, Blanchard EB.  
Source: Biofeedback Self Regul. 1988 June; 13(2): 169-79.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3207766&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3207766&dopt=Abstract)
- **Changes in rectal sensitivity after hypnotherapy in patients with irritable bowel syndrome.**  
Author(s): Prior A, Colgan SM, Whorwell PJ.  
Source: Gut. 1990 August; 31(8): 896-8.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2387513&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2387513&dopt=Abstract)
- **Chinese herbal medicine for irritable bowel syndrome.**  
Author(s): Wong HC, Wong JK, Wong NY.  
Source: Jama : the Journal of the American Medical Association. 1999 September 15; 282(11): 1036-7. No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10493198&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10493198&dopt=Abstract)
- **Chinese herbal medicine for irritable bowel syndrome.**  
Author(s): Kaptchuk TJ.  
Source: Jama : the Journal of the American Medical Association. 1999 September 15; 282(11): 1035-6; Discussion 1036-7. No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10493197&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10493197&dopt=Abstract)

- **Chinese herbal medicine for irritable bowel syndrome.**  
 Author(s): Lu W.  
 Source: Jama : the Journal of the American Medical Association. 1999 September 15; 282(11): 1035; Discussion 1036-7. No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10493196&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10493196&dopt=Abstract)
- **Cognitive-behavioral intervention for irritable bowel syndrome.**  
 Author(s): Litt MD, Baker LH.  
 Source: Journal of Clinical Gastroenterology. 1987 April; 9(2): 208-11.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3553310&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3553310&dopt=Abstract)
- **Colonic myoelectrical activity in irritable bowel syndrome before and after treatment.**  
 Author(s): Madhu SV, Vij JC, Bhatnagar OP, Krishnamurthy N, Anand BS, Chuttani HK.  
 Source: Indian J Gastroenterol. 1988 January; 7(1): 31-3. No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3338825&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3338825&dopt=Abstract)
- **Colonic sensitivity in irritable bowel syndrome and normal subjects according to their hemispheric preference and cognitive style.**  
 Author(s): Fent J, Balazs L, Buzas G, Erasmus LP, Holzl R, Kovacs A, Weisz J, Adam G.  
 Source: Integrative Physiological and Behavioral Science : the Official Journal of the Pavlovian Society. 1999 January-March; 34(1): 54-62.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10381165&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10381165&dopt=Abstract)
- **Comparison of treatment outcome measures for irritable bowel syndrome.**  
 Author(s): Meissner JS, Blanchard EB, Malamood HS.  
 Source: Applied Psychophysiology and Biofeedback. 1997 March; 22(1): 55-62.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=9287255&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9287255&dopt=Abstract)
- **Computerised biofeedback games: a new method for teaching stress management and its use in irritable bowel syndrome.**  
 Author(s): Leahy A, Clayman C, Mason I, Lloyd G, Epstein O.

Source: J R Coll Physicians Lond. 1998 November-December; 32(6): 552-6.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=9881312&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9881312&dopt=Abstract)

- **Current concepts in the management of the irritable bowel syndrome.**  
Author(s): Snape WJ Jr.  
Source: Revista De Gastroenterologia De Mexico. 1994 April-June; 59(2): 127-32. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=7991965&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7991965&dopt=Abstract)
- **Diagnosis and management of irritable bowel syndrome, constipation, and diarrhea in pregnancy.**  
Author(s): West L, Warren J, Cutts T.  
Source: Gastroenterology Clinics of North America. 1992 December; 21(4): 793-802. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=1478735&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1478735&dopt=Abstract)
- **Diagnosis and treatment of the irritable bowel syndrome.**  
Author(s): Goulston K.  
Source: Drugs. 1973; 6(3): 237-43. No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=4798379&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=4798379&dopt=Abstract)
- **Dietary treatment of irritable bowel syndrome: current evidence and guidelines for future practice.**  
Author(s): Burden S.  
Source: Journal of Human Nutrition and Dietetics : the Official Journal of the British Dietetic Association. 2001 June; 14(3): 231-41. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11424515&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11424515&dopt=Abstract)
- **Different therapeutic regimens in irritable bowel syndrome.**  
Author(s): Nigam P, Kapoor KK, Rastog CK, Kumar A, Gupta AK.  
Source: J Assoc Physicians India. 1984 December; 32(12): 1041-4. No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=6526796&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6526796&dopt=Abstract)
- **Domperidone treatment in the irritable bowel syndrome.**  
Author(s): Fielding JF.

Source: Digestion. 1982; 23(2): 125-7.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=6284574&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6284574&dopt=Abstract)

- **Double blind study of ispaghula in irritable bowel syndrome.**  
 Author(s): Prior A, Whorwell PJ.  
 Source: Gut. 1987 November; 28(11): 1510-3.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3322956&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3322956&dopt=Abstract)
- **Double blind trial of ispaghula/poloxamer in the Irritable Bowel Syndrome.**  
 Author(s): Arthurs Y, Fielding JF.  
 Source: Ir Med J. 1983 May; 76(5): 253. No Abstract Available.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=6307924&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6307924&dopt=Abstract)
- **Economic burden of irritable bowel syndrome. Proposed strategies to control expenditures.**  
 Author(s): Camilleri M, Williams DE.  
 Source: Pharmacoeconomics. 2000 April; 17(4): 331-8. Review.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10947488&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10947488&dopt=Abstract)
- **Enteric-coated peppermint-oil capsules in the treatment of irritable bowel syndrome: a prospective, randomized trial.**  
 Author(s): Liu JH, Chen GH, Yeh HZ, Huang CK, Poon SK.  
 Source: Journal of Gastroenterology. 1997 December; 32(6): 765-8.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=9430014&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9430014&dopt=Abstract)
- **Enteric-coated, pH-dependent peppermint oil capsules for the treatment of irritable bowel syndrome in children.**  
 Author(s): Kline RM, Kline JJ, Di Palma J, Barbero GJ.  
 Source: The Journal of Pediatrics. 2001 January; 138(1): 125-8.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11148527&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11148527&dopt=Abstract)
- **Establishing evidence for Chinese medicine: a case example of irritable bowel syndrome.**  
 Author(s): Bensoussan A.

Source: Zhonghua Yi Xue Za Zhi (Taipei). 2001 September; 64(9): 487-92. Review.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11768276&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11768276&dopt=Abstract)

- **Hand temperature norms for headache, hypertension, and irritable bowel syndrome.**

Author(s): Blanchard EB, Morrill B, Wittrock DA, Scharff L, Jaccard J.

Source: Biofeedback Self Regul. 1989 December; 14(4): 319-31.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2631972&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2631972&dopt=Abstract)

- **Harnessing the patient's powers of recovery: the role of the psychotherapies in the irritable bowel syndrome.**

Author(s): Read NW.

Source: Bailliere's Best Practice & Research. Clinical Gastroenterology. 1999 October; 13(3): 473-87. Review.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10580923&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10580923&dopt=Abstract)

- **Health-related quality of life and health care costs in severe, refractory irritable bowel syndrome.**

Author(s): Creed F, Ratcliffe J, Fernandez L, Tomenson B, Palmer S, Rigby C, Guthrie E, Read N, Thompson D.

Source: Annals of Internal Medicine. 2001 May 1; 134(9 Pt 2): 860-8.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11346322&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11346322&dopt=Abstract)

- **Hypnotherapy and therapeutic audiotape: effective in previously unsuccessfully treated irritable bowel syndrome?**

Author(s): Forbes A, MacAuley S, Chiotakakou-Faliakou E.

Source: International Journal of Colorectal Disease. 2000 November; 15(5-6): 328-34.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11151439&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11151439&dopt=Abstract)

- **Hypnotherapy in irritable bowel syndrome.**

Author(s): Whorwell PJ.

Source: Lancet. 1989 March 18; 1(8638): 622. No Abstract Available.

[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=2564150&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2564150&dopt=Abstract)

- **Hypnotherapy in irritable bowel syndrome: a large-scale audit of a clinical service with examination of factors influencing responsiveness.**  
 Author(s): Gonsalkorale WM, Houghton LA, Whorwell PJ.  
 Source: The American Journal of Gastroenterology. 2002 April; 97(4): 954-61.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=12003432&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12003432&dopt=Abstract)
- **Hypnotherapy in severe irritable bowel syndrome: further experience.**  
 Author(s): Whorwell PJ, Prior A, Colgan SM.  
 Source: Gut. 1987 April; 28(4): 423-5.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=3583070&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3583070&dopt=Abstract)
- **Hypnotherapy in the treatment of irritable bowel syndrome: methods and results in Amsterdam.**  
 Author(s): Vidakovic-Vukic M.  
 Source: Scand J Gastroenterol Suppl. 1999; 230: 49-51.  
[http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=10499462&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10499462&dopt=Abstract)

## Additional Web Resources

A number of additional Web sites offer encyclopedic information covering CAM and related topics. The following is a representative sample:

- Alternative Medicine Foundation, Inc.: <http://www.herbmed.org/>
- AOL: <http://search.aol.com/cat.adp?id=169&layer=&from=subcats>
- Chinese Medicine: <http://www.newcenturynutrition.com/>
- drkoop.com<sup>®</sup>:  
<http://www.drkoop.com/InteractiveMedicine/IndexC.html>
- Family Village: [http://www.familyvillage.wisc.edu/med\\_altn.htm](http://www.familyvillage.wisc.edu/med_altn.htm)
- Google: <http://directory.google.com/Top/Health/Alternative/>
- Healthnotes: <http://www.thedacare.org/healthnotes/>
- Open Directory Project: <http://dmoz.org/Health/Alternative/>
- TPN.com: <http://www.tnp.com/>

- Yahoo.com: [http://dir.yahoo.com/Health/Alternative\\_Medicine/](http://dir.yahoo.com/Health/Alternative_Medicine/)
- WebMD® Health: [http://my.webmd.com/drugs\\_and\\_herbs](http://my.webmd.com/drugs_and_herbs)
- WellNet: <http://www.wellnet.ca/herbsa-c.htm>
- WholeHealthMD.com:  
<http://www.wholehealthmd.com/reflib/0,1529,,00.html>

The following is a specific Web list relating to irritable bowel syndrome; please note that any particular subject below may indicate either a therapeutic use, or a contraindication (potential danger), and does not reflect an official recommendation:

- **General Overview**

**Irritable Bowel Syndrome**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Irritable bowel syndrome**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/InteractiveMedicine/ConsLookups/Uses/irritablebowelsyndrome.html>

**Irritable Bowel Syndrome**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

**Irritable Bowel Syndrome**

Alternative names: Spastic Colon

Source: Prima Communications, Inc.

Hyperlink: <http://www.personalhealthzone.com/pg000298.html>

- **Alternative Therapy**

**Acupuncture**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)



Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,663,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,663,00.html)

### **Ayurveda**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsModalities/Ayurvedacm.html>

### **Ayurveda**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,672,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,672,00.html)

### **Biofeedback**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,675,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,675,00.html)

### **Hydrotherapy**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,705,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,705,00.html)

### **Hypnotherapy**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Therapy/Hypnotherapy.htm>

### **Hypnotherapy**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsModalities/Hypnotherapycm.html>

### **Hypnotherapy**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,706,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,706,00.html)

### **Meditation**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,717,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,717,00.html)

### **Reflexology**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,730,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,730,00.html)

### **Traditional Chinese Medicine**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsModalities/TraditionalChineseMedicinecm.html>

### **Traditional Chinese medicine**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,10085,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,10085,00.html)

### **Yoga**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,746,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,746,00.html)

## **Homeopathy**

### **Argentum nitricum**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Homeo\\_Homeoix/Argentum\\_nitricum.htm](http://www.thedacare.org/healthnotes/Homeo_Homeoix/Argentum_nitricum.htm)

### **Asafoetida**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Homeo\\_Homeoix/Asafoetida.htm](http://www.thedacare.org/healthnotes/Homeo_Homeoix/Asafoetida.htm)

**Lilium tigrinum**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Homeo\\_Homeoix/Lilium\\_tigrinum.htm](http://www.thedacare.org/healthnotes/Homeo_Homeoix/Lilium_tigrinum.htm)

**Lycopodium**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Homeo\\_Homeoix/Lycopodium.htm](http://www.thedacare.org/healthnotes/Homeo_Homeoix/Lycopodium.htm)

**Nux vomica**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Homeo\\_Homeoix/Nux\\_vomica.htm](http://www.thedacare.org/healthnotes/Homeo_Homeoix/Nux_vomica.htm)

**Podophyllum**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Homeo\\_Homeoix/Podophyllum.htm](http://www.thedacare.org/healthnotes/Homeo_Homeoix/Podophyllum.htm)

**Sulphur**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Homeo\\_Homeoix/Sulphur.htm](http://www.thedacare.org/healthnotes/Homeo_Homeoix/Sulphur.htm)

- **Herbs and Supplements**

**Acidophilus**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Acidophilus**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitis.html>

### **Acidophilus**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

### **Acidophilus**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,748,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,748,00.html)

### **Acidophilus and Other Probiotics**

Source: Prima Communications, Inc.

Hyperlink: <http://www.personalhealthzone.com/pg000089.html>

### **Aloe**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

### **Aloe**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

### **Aloe**

Alternative names: Aloe vera, Aloe barbadensis, Aloe ferox , Aloe Vera

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsHerbs/Aloech.html>

### **Aloe Vera**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsHerbs/Aloech.html>

**Anise**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

**Antibiotics**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitis.html>

**Anti-Inflammatory Drugs**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

**Blackberry**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Bladderwrack**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Blueberry**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Boswellia**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

**Boswellia**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitis.html>

**Bovine Colostrum**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Brewer's Yeast**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Bupleurum**

Alternative names: Bupleurum chinense, Bupleurum falcatum

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Herb/Bupleurum.htm>

**Caffeine**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitis.html>

**Caraway**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Caraway**

Alternative names: Carum carvi

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink: <http://www.thedacare.org/healthnotes/Herb/Caraway.htm>

**Carob**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Cascara**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

**Chamomile**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Chamomile**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Chamomile**

Alternative names: Matricaria recutita

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Herb/Chamomile.htm>

**Chamomile**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,766,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,766,00.html)

**Chlorophyll**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

**Chymotrypsin**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Cisapride**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Coleus forskohlii**

Source: Prima Communications, Inc.

Hyperlink: <http://www.personalhealthzone.com/pg000136.html>

**Colostrum**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

### **Corticosteroids**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

### **Cranesbill**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

### **Dicyclomine**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Drug/Dicyclomine.htm>

### **Digestive enzymes**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,10051,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,10051,00.html)

### **Evening Primrose**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

### **Fennel**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndromecc.html>

### **Fiber**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink: <http://www.thedacare.org/healthnotes/Supp/Fiber.htm>

### **Fiber**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>



**Fiber**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

**Fiber**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Fiber**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

**Fiber**

Source: Prima Communications, Inc.

Hyperlink: <http://www.personalhealthzone.com/pg000298.html>

**FOS**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,10026,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,10026,00.html)

**Ginger**

Alternative names: Zingiber officinale

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink: <http://www.thedacare.org/healthnotes/Herb/Ginger.htm>

**Ginger**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

**GLA (Gamma-Linolenic Acid)**

Source: Prima Communications, Inc.

Hyperlink: <http://www.personalhealthzone.com/pg000111.html>

**Glucomannan**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

**Glutamine**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitis.html>

**Glutamine**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsSupplements/Glutamine.html>

**Glutamine**

Source: Prima Communications, Inc.

Hyperlink: <http://www.personalhealthzone.com/pg000169.html>

**Goldenseal**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Grapefruit Seed Extract**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Grapefruit Seed Extract**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Supp/Grapefruit\\_Seed\\_Extract.htm](http://www.thedacare.org/healthnotes/Supp/Grapefruit_Seed_Extract.htm)

**Herbal digestive formula**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,10104,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,10104,00.html)

**Herbal Medicine**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

### **Herbal Medicine**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

### **Herbal Medicine**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

### **Hydrocortisone**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

### **Hydrocortisone**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitis.html>

### **Hyoscyamine**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Drug/Hyoscyamine.htm>

### **Insoluble fiber**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

### **Ispaghula**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

### **Ispaghula**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsSupplements/Psylliumcs.html>

### **Kava**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,798,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,798,00.html)

### **L. Acidophilus**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsSupplements/Lactobacillusacidophiluscs.html>

### **Lactase**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink: <http://www.thedacare.org/healthnotes/Supp/Lactase.htm>

### **Lactase**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

### **Lactase**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

### **Lactobacillus Acidophilus**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitiscc.html>

### **Lactobacillus Acidophilus**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsSupplements/Lactobacillusacidophiluscs.html>

**Lactulose**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

**Marshmallow**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Marshmallow**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,10042,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,10042,00.html)

**Meadowsweet**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

**Mentha x piperita**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsHerbs/Peppermintch.html>

**Mesalamine**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

**Milk Thistle**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

**Oak**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Ocimum**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

**Passionflower**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndromecc.html>

**Peppermint**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Peppermint**

Alternative names: *Mentha piperita*

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Herb/Peppermint.htm>

**Peppermint**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndromecc.html>

**Peppermint**

Alternative names: *Mentha x piperita*

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsHerbs/Peppermintch.html>

**Peppermint**

Source: Prima Communications, Inc.

Hyperlink: <http://www.personalhealthzone.com/pg000220.html>

**Peppermint**

Source: Prima Communications, Inc.

Hyperlink: <http://www.personalhealthzone.com/pg000298.html>

**Peppermint**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,812,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,812,00.html)

**Plantago isphagula**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsSupplements/Psylliumcs.html>

**Plantago psyllium**

Alternative names: Psyllium, Ispaghula; Plantago psyllium/ovata

Source: Alternative Medicine Foundation, Inc.; [www.amfoundation.org](http://www.amfoundation.org)

Hyperlink: <http://www.herbmed.org/>

**PMS Herbal combination**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,947,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,947,00.html)

**Probiotics**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Probiotics**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitiscc.html>

**Psyllium**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

**Psyllium**

Alternative names: Plantago ovata, Plantago ispaghula

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink: <http://www.thedacare.org/healthnotes/Herb/Psyllium.htm>

**Psyllium**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

**Psyllium**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Psyllium**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Psyllium**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink: <http://www.thedacare.org/healthnotes/Drug/Psyllium.htm>

**Psyllium**

Alternative names: Ispaghula, Plantago isphagula

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsSupplements/Psylliumcs.html>

**Psyllium**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndromecc.html>

**Psyllium**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,814,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,814,00.html)

**Raspberry**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>



**Senna**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

**Slippery Elm**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

**Slippery Elm**

Source: Prima Communications, Inc.

Hyperlink: <http://www.personalhealthzone.com/pg000236.html>

**St. John's wort**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

**St. John's wort**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,824,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,824,00.html)

**Stimulant Laxatives**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

**Sulfasalazine**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

**Trypsin**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Valerian**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

### **Valerian**

Source: WholeHealthMD.com, LLC.; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/substances\\_view/0,1525,10064,00.html](http://www.wholehealthmd.com/refshelf/substances_view/0,1525,10064,00.html)

### **Wormwood**

Alternative names: *Artemisia absinthium*

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Herb/Wormwood.htm>

### **Wormwood**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

- **Related Conditions**

#### **Allergies and Sensitivities**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Allergies.htm>

#### **Constipation**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

#### **Diarrhea**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

#### **Fibromyalgia**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Fibromyalgia.htm>

**Fibromyalgia**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Fibromyalgiacc.html>

**Proctitis**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitiscc.html>

**Rectal Inflammation**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitiscc.html>

**Spastic Colon**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndromecc.html>

**Ulcerative Colitis**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

## General References

A good place to find general background information on CAM is the National Library of Medicine. It has prepared within the MEDLINEplus system an information topic page dedicated to complementary and alternative medicine. To access this page, go to the MEDLINEplus site at: **[www.nlm.nih.gov/medlineplus/alternativemedicine.html](http://www.nlm.nih.gov/medlineplus/alternativemedicine.html)**. This Web site provides a general overview of various topics and can lead to a number of general sources. The following additional references describe, in broad terms, alternative and complementary medicine (sorted alphabetically by title; hyperlinks provide rankings, information, and reviews at Amazon.com):

- **Gastrointestinal Disorders and Nutrition** by Tonia Reinhard; Paperback - 192 pages (January 24, 2002), McGraw-Hill Professional Publishing; ISBN: 0737303611;  
**<http://www.amazon.com/exec/obidos/ASIN/0737303611/icongroupinterna>**
- **Healthy Digestion the Natural Way: Preventing and Healing Heartburn, Constipation, Gas, Diarrhea, Inflammatory Bowel and Gallbladder Diseases, Ulcers, Irritable Bowel Syndrome, and More** by D. Lindsey Berkson, et al; Paperback - 256 pages, 1st edition (February 2000), John Wiley & Sons; ISBN: 0471349623;  
**<http://www.amazon.com/exec/obidos/ASIN/0471349623/icongroupinterna>**
- **No More Heartburn: Stop the Pain in 30 Days--Naturally!: The Safe, Effective Way to Prevent and Heal Chronic Gastrointestinal Disorders** by Sherry A. Rogers, M.D.; Paperback - 320 pages (February 2000), Kensington Publishing Corp.; ISBN: 1575665107;  
**<http://www.amazon.com/exec/obidos/ASIN/1575665107/icongroupinterna>**

For additional information on complementary and alternative medicine, ask your doctor or write to:

National Institutes of Health  
National Center for Complementary and Alternative Medicine  
Clearinghouse  
P. O. Box 8218  
Silver Spring, MD 20907-8218

## APPENDIX C. RESEARCHING NUTRITION

### Overview

Since the time of Hippocrates, doctors have understood the importance of diet and nutrition to patients' health and well-being. Since then, they have accumulated an impressive archive of studies and knowledge dedicated to this subject. Based on their experience, doctors and healthcare providers may recommend particular dietary supplements to patients with irritable bowel syndrome. Any dietary recommendation is based on a patient's age, body mass, gender, lifestyle, eating habits, food preferences, and health condition. It is therefore likely that different patients with irritable bowel syndrome may be given different recommendations. Some recommendations may be directly related to irritable bowel syndrome, while others may be more related to the patient's general health. These recommendations, themselves, may differ from what official sources recommend for the average person.

In this chapter we will begin by briefly reviewing the essentials of diet and nutrition that will broadly frame more detailed discussions of irritable bowel syndrome. We will then show you how to find studies dedicated specifically to nutrition and irritable bowel syndrome.

## Food and Nutrition: General Principles

### What Are Essential Foods?

Food is generally viewed by official sources as consisting of six basic elements: (1) fluids, (2) carbohydrates, (3) protein, (4) fats, (5) vitamins, and (6) minerals. Consuming a combination of these elements is considered to be a healthy diet:

- **Fluids** are essential to human life as 80-percent of the body is composed of water. Water is lost via urination, sweating, diarrhea, vomiting, diuretics (drugs that increase urination), caffeine, and physical exertion.
- **Carbohydrates** are the main source for human energy (thermoregulation) and the bulk of typical diets. They are mostly classified as being either simple or complex. Simple carbohydrates include sugars which are often consumed in the form of cookies, candies, or cakes. Complex carbohydrates consist of starches and dietary fibers. Starches are consumed in the form of pastas, breads, potatoes, rice, and other foods. Soluble fibers can be eaten in the form of certain vegetables, fruits, oats, and legumes. Insoluble fibers include brown rice, whole grains, certain fruits, wheat bran and legumes.
- **Proteins** are eaten to build and repair human tissues. Some foods that are high in protein are also high in fat and calories. Food sources for protein include nuts, meat, fish, cheese, and other dairy products.
- **Fats** are consumed for both energy and the absorption of certain vitamins. There are many types of fats, with many general publications recommending the intake of unsaturated fats or those low in cholesterol.

Vitamins and minerals are fundamental to human health, growth, and, in some cases, disease prevention. Most are consumed in your diet (exceptions being vitamins K and D which are produced by intestinal bacteria and sunlight on the skin, respectively). Each vitamin and mineral plays a different role in health. The following outlines essential vitamins:

- **Vitamin A** is important to the health of your eyes, hair, bones, and skin; sources of vitamin A include foods such as eggs, carrots, and cantaloupe.
- **Vitamin B<sup>1</sup>**, also known as thiamine, is important for your nervous system and energy production; food sources for thiamine include meat, peas, fortified cereals, bread, and whole grains.
- **Vitamin B<sup>2</sup>**, also known as riboflavin, is important for your nervous system and muscles, but is also involved in the release of proteins from

nutrients; food sources for riboflavin include dairy products, leafy vegetables, meat, and eggs.

- **Vitamin B<sup>3</sup>**, also known as niacin, is important for healthy skin and helps the body use energy; food sources for niacin include peas, peanuts, fish, and whole grains
- **Vitamin B<sup>6</sup>**, also known as pyridoxine, is important for the regulation of cells in the nervous system and is vital for blood formation; food sources for pyridoxine include bananas, whole grains, meat, and fish.
- **Vitamin B<sup>12</sup>** is vital for a healthy nervous system and for the growth of red blood cells in bone marrow; food sources for vitamin B<sup>12</sup> include yeast, milk, fish, eggs, and meat.
- **Vitamin C** allows the body's immune system to fight various diseases, strengthens body tissue, and improves the body's use of iron; food sources for vitamin C include a wide variety of fruits and vegetables.
- **Vitamin D** helps the body absorb calcium which strengthens bones and teeth; food sources for vitamin D include oily fish and dairy products.
- **Vitamin E** can help protect certain organs and tissues from various degenerative diseases; food sources for vitamin E include margarine, vegetables, eggs, and fish.
- **Vitamin K** is essential for bone formation and blood clotting; common food sources for vitamin K include leafy green vegetables.
- **Folic Acid** maintains healthy cells and blood and, when taken by a pregnant woman, can prevent her fetus from developing neural tube defects; food sources for folic acid include nuts, fortified breads, leafy green vegetables, and whole grains.

It should be noted that one can overdose on certain vitamins which become toxic if consumed in excess (e.g. vitamin A, D, E and K).

Like vitamins, minerals are chemicals that are required by the body to remain in good health. Because the human body does not manufacture these chemicals internally, we obtain them from food and other dietary sources. The more important minerals include:

- **Calcium** is needed for healthy bones, teeth, and muscles, but also helps the nervous system function; food sources for calcium include dry beans, peas, eggs, and dairy products.

- **Chromium** is helpful in regulating sugar levels in blood; food sources for chromium include egg yolks, raw sugar, cheese, nuts, beets, whole grains, and meat.
- **Fluoride** is used by the body to help prevent tooth decay and to reinforce bone strength; sources of fluoride include drinking water and certain brands of toothpaste.
- **Iodine** helps regulate the body's use of energy by synthesizing into the hormone thyroxine; food sources include leafy green vegetables, nuts, egg yolks, and red meat.
- **Iron** helps maintain muscles and the formation of red blood cells and certain proteins; food sources for iron include meat, dairy products, eggs, and leafy green vegetables.
- **Magnesium** is important for the production of DNA, as well as for healthy teeth, bones, muscles, and nerves; food sources for magnesium include dried fruit, dark green vegetables, nuts, and seafood.
- **Phosphorous** is used by the body to work with calcium to form bones and teeth; food sources for phosphorous include eggs, meat, cereals, and dairy products.
- **Selenium** primarily helps maintain normal heart and liver functions; food sources for selenium include wholegrain cereals, fish, meat, and dairy products.
- **Zinc** helps wounds heal, the formation of sperm, and encourage rapid growth and energy; food sources include dried beans, shellfish, eggs, and nuts.

The United States government periodically publishes recommended diets and consumption levels of the various elements of food. Again, your doctor may encourage deviations from the average official recommendation based on your specific condition. To learn more about basic dietary guidelines, visit the Web site: <http://www.health.gov/dietaryguidelines/>. Based on these guidelines, many foods are required to list the nutrition levels on the food's packaging. Labeling Requirements are listed at the following site maintained by the Food and Drug Administration: <http://www.cfsan.fda.gov/~dms/lab-cons.html>. When interpreting these requirements, the government recommends that consumers become familiar with the following abbreviations before reading FDA literature:<sup>45</sup>

- **DVs (Daily Values):** A new dietary reference term that will appear on the food label. It is made up of two sets of references, DRVs and RDIs.

---

<sup>45</sup> Adapted from the FDA: <http://www.fda.gov/fdac/special/foodlabel/dvs.html>.



- **DRVs (Daily Reference Values):** A set of dietary references that applies to fat, saturated fat, cholesterol, carbohydrate, protein, fiber, sodium, and potassium.
- **RDIs (Reference Daily Intakes):** A set of dietary references based on the Recommended Dietary Allowances for essential vitamins and minerals and, in selected groups, protein. The name “RDI” replaces the term “U.S. RDA.”
- **RDAs (Recommended Dietary Allowances):** A set of estimated nutrient allowances established by the National Academy of Sciences. It is updated periodically to reflect current scientific knowledge.

### What Are Dietary Supplements?<sup>46</sup>

Dietary supplements are widely available through many commercial sources, including health food stores, grocery stores, pharmacies, and by mail. Dietary supplements are provided in many forms including tablets, capsules, powders, gel-tabs, extracts, and liquids. Historically in the United States, the most prevalent type of dietary supplement was a multivitamin/mineral tablet or capsule that was available in pharmacies, either by prescription or “over the counter.” Supplements containing strictly herbal preparations were less widely available. Currently in the United States, a wide array of supplement products are available, including vitamin, mineral, other nutrients, and botanical supplements as well as ingredients and extracts of animal and plant origin.

The Office of Dietary Supplements (ODS) of the National Institutes of Health is the official agency of the United States which has the expressed goal of acquiring “new knowledge to help prevent, detect, diagnose, and treat disease and disability, from the rarest genetic disorder to the common cold.”<sup>47</sup> According to the ODS, dietary supplements can have an important impact on the prevention and management of disease and on the maintenance of health.<sup>48</sup> The ODS notes that considerable research on the

---

<sup>46</sup> This discussion has been adapted from the NIH:

<http://ods.od.nih.gov/whatare/whatare.html>.

<sup>47</sup> Contact: The Office of Dietary Supplements, National Institutes of Health, Building 31, Room 1B29, 31 Center Drive, MSC 2086, Bethesda, Maryland 20892-2086, Tel: (301) 435-2920, Fax: (301) 480-1845, E-mail: [ods@nih.gov](mailto:ods@nih.gov).

<sup>48</sup> Adapted from <http://ods.od.nih.gov/about/about.html>. The Dietary Supplement Health and Education Act defines dietary supplements as “a product (other than tobacco) intended to supplement the diet that bears or contains one or more of the following dietary ingredients: a vitamin, mineral, amino acid, herb or other botanical; or a dietary substance for use to supplement the diet by increasing the total dietary intake; or a concentrate,

effects of dietary supplements has been conducted in Asia and Europe where the use of plant products, in particular, has a long tradition. However, the overwhelming majority of supplements have not been studied scientifically. To explore the role of dietary supplements in the improvement of health care, the ODS plans, organizes, and supports conferences, workshops, and symposia on scientific topics related to dietary supplements. The ODS often works in conjunction with other NIH Institutes and Centers, other government agencies, professional organizations, and public advocacy groups.

To learn more about official information on dietary supplements, visit the ODS site at <http://ods.od.nih.gov/whatare/whatare.html>. Or contact:

The Office of Dietary Supplements  
National Institutes of Health  
Building 31, Room 1B29  
31 Center Drive, MSC 2086  
Bethesda, Maryland 20892-2086  
Tel: (301) 435-2920  
Fax: (301) 480-1845  
E-mail: [ods@nih.gov](mailto:ods@nih.gov)

## Finding Studies on Irritable Bowel Syndrome

The NIH maintains an office dedicated to patient nutrition and diet. The National Institutes of Health's Office of Dietary Supplements (ODS) offers a searchable bibliographic database called the IBIDS (International Bibliographic Information on Dietary Supplements). The IBIDS contains over 460,000 scientific citations and summaries about dietary supplements and nutrition as well as references to published international, scientific literature on dietary supplements such as vitamins, minerals, and botanicals.<sup>49</sup> IBIDS is available to the public free of charge through the ODS Internet page: <http://ods.od.nih.gov/databases/ibids.html>.

---

metabolite, constituent, extract, or combination of any ingredient described above; and intended for ingestion in the form of a capsule, powder, softgel, or gelcap, and not represented as a conventional food or as a sole item of a meal or the diet."

<sup>49</sup> Adapted from <http://ods.od.nih.gov>. IBIDS is produced by the Office of Dietary Supplements (ODS) at the National Institutes of Health to assist the public, healthcare providers, educators, and researchers in locating credible, scientific information on dietary supplements. IBIDS was developed and will be maintained through an interagency partnership with the Food and Nutrition Information Center of the National Agricultural Library, U.S. Department of Agriculture.

After entering the search area, you have three choices: (1) IBIDS Consumer Database, (2) Full IBIDS Database, or (3) Peer Reviewed Citations Only. We recommend that you start with the Consumer Database. While you may not find references for the topics that are of most interest to you, check back periodically as this database is frequently updated. More studies can be found by searching the Full IBIDS Database. Healthcare professionals and researchers generally use the third option, which lists peer-reviewed citations. In all cases, we suggest that you take advantage of the "Advanced Search" option that allows you to retrieve up to 100 fully explained references in a comprehensive format. Type "irritable bowel syndrome" (or synonyms) into the search box. To narrow the search, you can also select the "Title" field. The following is a typical result when searching for recently indexed consumer information on irritable bowel syndrome:

- **Dietary triggers in irritable bowel syndrome.**

Author(s): Nutrition Research Centre, School of Applied Science, South Bank University, 103 Borough Road, London SE1 0AA (United Kingdom)

Source: Shaw, A.D. Brooks, J.L. Dickerson, J.W.T. Davies, G.J. Nutrition-Research-Reviews (United Kingdom). (1998). volume 11(2) page 279-309.

mankind intestinal diseases intestines microbial flora digestive system psychological factors diarrhoea pathogenesis stress diet therapeutic diets bile acids nutrients lactose dietary fibres food allergies

Summary: genre humain maladie intestinale intestin flore microbienne appareil digestif facteur psychologique diarrhee pathogenese stress regime alimentaire regime alimentaire therapeutique acide biliaire substance nutritive lactose fibre alimentaire allergie alimentaire

Additional consumer oriented references include:

- **Dietary management of the irritable bowel syndrome.**

Source: Schwabe, A.D. Nutrition-and-the-M.D (USA). (July 1987). volume 13(7) page 1-2. intestinal diseases diagnosis therapy therapeutic diets 0732-0167

- **I am 51 years old, perimenopausal, have irritable bowel syndrome and a family history of breast cancer, and am told my bones are thinning. These conditions would seem to rule out my use of estrogen or Fosamax. I weight train and take 1,500 mg of calcium a day to stave off osteoporosis. What's left?**

Source: Robb Nicholson, C Harv-Womens-Health-Watch. 1998 November; 6(3): 8 1070-910X

- **Irritable bowel syndrome. A poorly understood disorder.**

Source: Lewis, C FDA-Consum. 2001 Jul-August; 35(4): 30-6 0362-1332

- **Lactose intolerance and irritable bowel syndrome.**  
Author(s): Division of Digestive Disease and Nutrition, University of Massachusetts Memorial Health Care, Worcester 01655, USA.  
Source: Mascolo, R Saltzman, J R Nutr-Revolve 1998 October; 56(10): 306-8 0029-6643
- **Treating irritable bowel syndrome.**  
Author(s): Digestion Health Center, University of Virginia Health Science Center, USA.  
Source: Bickston, S J Health-News. 1999 January 5; 5(1): 3 1081-5880

The following information is typical of that found when using the "Full IBIDS Database" when searching using "irritable bowel syndrome" (or a synonym):

- **A comparison of mebeverine with high-fibre dietary advice and mebeverine plus ispaghula in the treatment of irritable bowel syndrome: an open, prospectively randomised, parallel group study.**  
Author(s): Northbrook Road Health Centre, Shirley.  
Source: Chapman, N D Grillage, M G Mazumder, R Atkinson, S N Br-J-Clin-Pract. 1990 November; 44(11): 461-6 0007-0947
- **A controlled, double-blind, randomized study on the efficacy of Lactobacillus plantarum 299V in patients with irritable bowel syndrome.**  
Author(s): Department of Gastroenterology, M. Curie Regional Hospital, Szczecin, Poland. Krzysztof.Niedzielin@mepha.com.pl  
Source: Niedzielin, K Kordecki, H Birkenfeld, B Eur-J-Gastroenterol-Hepatol. 2001 October; 13(10): 1143-7 0954-691X
- **A psychological perspective of irritable bowel syndrome.**  
Author(s): St. Barnabas Medical Medical Center, Livingston, NJ, USA.  
Source: Kohutis, E A J-Clin-Gastroenterol. 1998 September; 27(2): 158-61 0192-0790
- **A single-blind trial of reflexology for irritable bowel syndrome.**  
Author(s): School of Healthcare Studies, University of Leeds. p.a.tovey@leeds.ac.uk  
Source: Tovey, Philip Br-J-Gen-Pract. 2002 January; 52(474): 19-23 0960-1643
- **Abnormal colonic fermentation in irritable bowel syndrome.**  
Author(s): Department of Gastroenterology, Addenbrooke's Hospital, Cambridge, UK.  
Source: King, T S Elia, M Hunter, J O Lancet. 1998 October 10; 352(9135): 1187-9 0140-6736

- **Alosetron controls bowel urgency and provides global symptom improvement in women with diarrhea-predominant irritable bowel syndrome.**  
 Author(s): Division of Gastroenterology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts, USA.  
 Source: Lembo, T Wright, R A Bagby, B Decker, C Gordon, S Jhingran, P Carter, E Am-J-Gastroenterol. 2001 September; 96(9): 2662-70 0002-9270
- **Alteration of intestinal microflora is associated with reduction in abdominal bloating and pain in patients with irritable bowel syndrome.**  
 Author(s): Department of Surgery, Lund University, Lund University Hospital, Sweden.  
 Source: Nobaek, S Johansson, M L Molin, G Ahrne, S Jeppsson, B Am-J-Gastroenterol. 2000 May; 95(5): 1231-8 0002-9270
- **Are adverse food reactions linked to irritable bowel syndrome?**  
 Author(s): Department of Medicine, University of Sydney, Nepean Hospital, Penrith, NSW, Australia.  
 Source: Niec, A M Frankum, B Talley, N J Am-J-Gastroenterol. 1998 November; 93(11): 2184-90 0002-9270
- **Celiac disease-like abnormalities in a subgroup of patients with irritable bowel syndrome.**  
 Author(s): Department of Gastroenterology and Infectious Diseases, Universitätsklinikum Benjamin Franklin, Freie Universität Berlin, D-12200 Berlin, Germany. ulliwahn@zedat.fu-berlin.de  
 Source: Wahnschaffe, U Ullrich, R Riecken, E O Schulzke, J D Gastroenterology. 2001 December; 121(6): 1329-38 0016-5085
- **Cellular responses to food in irritable bowel syndrome--an investigation of the ALCAT test.**  
 Source: Fell, P.J. Soulsby, S. Brostoff, J. J-Nutr-Med. Abingdon, UK : Carfax Pub. Co. 1991. volume 2 (2) page 143-149. 0955-6664
- **Clinical audit of the effects of low-fibre diet on irritable bowel syndrome.**  
 Source: Woolner, J.T. Kirby, G.A. J-hum-nutr-diet. Oxford : Blackwell Science Ltd. August 2000. volume 13 (4) page 249-253. 0952-3871
- **Controlled trial of oligofructose in the management of irritable bowel syndrome.**  
 Author(s): Gastroenterology Research Unit, Addenbrooke's Hospital, Unit 7, Cambridge, England CB2 2QQ, UK.  
 Source: Hunter, J O Tuffnell, Q Lee, A J J-Nutr. 1999 July; 129(7 Suppl): 1451S-3S 0022-3166

- **Current concepts in the management of the irritable bowel syndrome.**  
 Author(s): Bowel Disease and Motility Center, Long Beach Memorial Medical Center, CA.  
 Source: Snape, W J Rev-Gastroenterol-Mex. 1994 Apr-June; 59(2): 127-32 0375-0906
- **Dietary treatment of irritable bowel syndrome: current evidence and guidelines for future practice.**  
 Source: Burden, S. J-hum-nutr-diet. Oxford : Blackwell Science Ltd. June 2001. volume 14 (3) page 231-241. 0952-3871
- **Effects of probiotic administration upon the composition and enzymatic activity of human fecal microbiota in patients with irritable bowel syndrome or functional diarrhea.**  
 Author(s): Dipartimento di Scienze Farmaceutiche, Universita di Bologna, Italy. patbri@alma.unibo.it  
 Source: Brigidi, P Vitali, B Swennen, E Bazzocchi, G Matteuzzi, D Res-Microbiol. 2001 October; 152(8): 735-41 0923-2508
- **Efficacy, safety, and tolerability of fructooligosaccharides in the treatment of irritable bowel syndrome.**  
 Source: Olesen, M. Gudmand Hoyer, E. Am-j-clin-nutr. Bethesda, Md. : American Society for Clinical Nutrition. December 2000. volume 72 (6) page 1570-1576. 0002-9165
- **Enteric-coated peppermint-oil capsules in the treatment of irritable bowel syndrome: a prospective, randomized trial.**  
 Author(s): Department of Internal Medicine, Taichung Veterans General Hospital, Taiwan.  
 Source: Liu, J H Chen, G H Yeh, H Z Huang, C K Poon, S K J-Gastroenterol. 1997 December; 32(6): 765-8 0944-1174
- **Establishing evidence for Chinese medicine: a case example of irritable bowel syndrome.**  
 Author(s): Chinese Medicine Unit, College of Social and Health Sciences, University of Western Sydney, Australia. a.bensoussan@uws.edu.au  
 Source: Bensoussan, A Zhonghua-Yi-Xue-Za-Zhi-(Taipei). 2001 September; 64(9): 487-92 0578-1337
- **Immunological hypersensitivity to environmental antigens in the irritable bowel syndrome.**  
 Source: Finn, R Smith, M A Youngs, G R Chew, D Johnson, P M Barnes, R M Br-J-Clin-Pract. 1987 December; 41(12): 1041-3 0007-0947

- **Impact of irritable bowel syndrome on personal relationships and working practices.**

Author(s): Department of Gastroenterology & Nutrition, Central Middlesex Hospital, The North West London Hospitals NHS Trust, London, UK.

Source: Silk, D B Eur-J-Gastroenterol-Hepatol. 2001 November; 13(11): 1327-32 0954-691X

## Federal Resources on Nutrition

In addition to the IBIDS, the United States Department of Health and Human Services (HHS) and the United States Department of Agriculture (USDA) provide many sources of information on general nutrition and health. Recommended resources include:

- healthfinder®, HHS's gateway to health information, including diet and nutrition:  
<http://www.healthfinder.gov/scripts/SearchContext.asp?topic=238&page=0>
- The United States Department of Agriculture's Web site dedicated to nutrition information: [www.nutrition.gov](http://www.nutrition.gov)
- The Food and Drug Administration's Web site for federal food safety information: [www.foodsafety.gov](http://www.foodsafety.gov)
- The National Action Plan on Overweight and Obesity sponsored by the United States Surgeon General:  
<http://www.surgeongeneral.gov/topics/obesity/>
- The Center for Food Safety and Applied Nutrition has an Internet site sponsored by the Food and Drug Administration and the Department of Health and Human Services: <http://vm.cfsan.fda.gov/>
- Center for Nutrition Policy and Promotion sponsored by the United States Department of Agriculture: <http://www.usda.gov/cnpp/>
- Food and Nutrition Information Center, National Agricultural Library sponsored by the United States Department of Agriculture: <http://www.nal.usda.gov/fnic/>
- Food and Nutrition Service sponsored by the United States Department of Agriculture: <http://www.fns.usda.gov/fns/>

## Additional Web Resources

A number of additional Web sites offer encyclopedic information covering food and nutrition. The following is a representative sample:

- AOL: <http://search.aol.com/cat.adp?id=174&layer=&from=subcats>
- Family Village: [http://www.familyvillage.wisc.edu/med\\_nutrition.html](http://www.familyvillage.wisc.edu/med_nutrition.html)
- Google: <http://directory.google.com/Top/Health/Nutrition/>
- Healthnotes: <http://www.thedacare.org/healthnotes/>
- Open Directory Project: <http://dmoz.org/Health/Nutrition/>
- Yahoo.com: <http://dir.yahoo.com/Health/Nutrition/>
- WebMD® Health: <http://my.webmd.com/nutrition>
- WholeHealthMD.com:  
<http://www.wholehealthmd.com/reflib/0,1529,,00.html>

The following is a specific Web list relating to irritable bowel syndrome; please note that any particular subject below may indicate either a therapeutic use, or a contraindication (potential danger), and does not reflect an official recommendation:

- **Vitamins**

- Ascorbic Acid**

- Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

- Hyperlink:

- <http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

- **Minerals**

- Calcium**

- Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

- Hyperlink:

- <http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

- Folate**

- Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

- Hyperlink:

- [http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)



**Folate**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Magnesium**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Magnesium**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitis.html>

**Potassium**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

- **Food and Diet**

**Apple juice**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

**Apples**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Applesauce**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Artificial Sweeteners**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitis.html>

### **Bananas**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

### **Bananas**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

### **Barley**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Food\\_Guide/Barley.htm](http://www.thedacare.org/healthnotes/Food_Guide/Barley.htm)

### **Beans**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

### **Berries**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

### **Brown rice**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

### **Brown rice**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

### **Candy**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

### **Cereals**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

### **Coffee**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

### **Corn**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndromecc.html>

### **Cream**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

### **Cream**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitiscc.html>

### **Dairy Foods**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitiscc.html>

### **Eggs**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndromecc.html>

**Fats**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

**Fish**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

**Fish**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitiscc.html>

**Fish**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndromecc.html>

**Fructo-oligosaccharides (FOS) and Other Oligosaccharides**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink: <http://www.thedacare.org/healthnotes/Supp/FOS.htm>

**Fruit**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Grapefruit**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Ice cream**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Juices**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Food\\_Guide/Juices.htm](http://www.thedacare.org/healthnotes/Food_Guide/Juices.htm)

### **Magnesium Sulfate**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitis.html>

### **Margarine**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

### **Milk**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

### **Milk**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

### **Milk**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

### **Milk**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

### **Milk**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

### **Milk**

Source: WholeHealthMD.com, LLC; [www.wholehealthmd.com](http://www.wholehealthmd.com)

Hyperlink:

[http://www.wholehealthmd.com/refshelf/foods\\_view/0,1523,95,00.html](http://www.wholehealthmd.com/refshelf/foods_view/0,1523,95,00.html)

### **Natural Sweeteners**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Food\\_Guide/Natural\\_Sweeteners.htm](http://www.thedacare.org/healthnotes/Food_Guide/Natural_Sweeteners.htm)

### **Nuts**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

### **Omega-3 Fatty Acids**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

### **Peanuts**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

### **Refined Sweeteners**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Food\\_Guide/Refined\\_Sweeteners.htm](http://www.thedacare.org/healthnotes/Food_Guide/Refined_Sweeteners.htm)

### **Rhubarb**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

### **Rice**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Rice**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

**Rice**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Rye**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Food\\_Guide/Rye.htm](http://www.thedacare.org/healthnotes/Food_Guide/Rye.htm)

**Seeds**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

**Seeds**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Seeds**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

**Soup**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Sucralfate**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitis.html>

**Sugar**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

**Sugar**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Sugar Alcohols**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Food\\_Guide/Sugar\\_Alcohols.h  
tm](http://www.thedacare.org/healthnotes/Food_Guide/Sugar_Alcohols.htm)

**Sweeteners**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

[http://www.drkoop.com/interactivemedicine/ConsConditions/Proctiti  
scc.html](http://www.drkoop.com/interactivemedicine/ConsConditions/Proctitis.html)

**Tea**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Tea**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

**Tea**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Tea**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Food\\_Guide/Tea.htm](http://www.thedacare.org/healthnotes/Food_Guide/Tea.htm)



### **Tea**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

### **Tomatoes**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

### **Vegetables**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

### **Water**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

### **Water**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

### **Water**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

### **Water**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

### **Water**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

**Weight Loss**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Ulcerative\\_Colitis.htm](http://www.thedacare.org/healthnotes/Concern/Ulcerative_Colitis.htm)

**Wheat**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Food\\_Guide/Wheat.htm](http://www.thedacare.org/healthnotes/Food_Guide/Wheat.htm)

**Wheat**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Constipation.htm>

**Wheat**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

**Wheat**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

[http://www.thedacare.org/healthnotes/Concern/Irritable\\_Bowel.htm](http://www.thedacare.org/healthnotes/Concern/Irritable_Bowel.htm)

**Wheat**

Source: Integrative Medicine Communications; [www.onemedicine.com](http://www.onemedicine.com)

Hyperlink:

<http://www.drkoop.com/interactivemedicine/ConsConditions/IrritableBowelSyndrome.html>

**Yogurt**

Source: Healthnotes, Inc.; [www.healthnotes.com](http://www.healthnotes.com)

Hyperlink:

<http://www.thedacare.org/healthnotes/Concern/Diarrhea.htm>

## **Vocabulary Builder**

The following vocabulary builder defines words used in the references in this chapter that have not been defined in previous chapters:

**Cholesterol:** The principal sterol of all higher animals, distributed in body tissues, especially the brain and spinal cord, and in animal fats and oils. [NIH]

**Fats:** One of the three main classes of foods and a source of energy in the body. Fats help the body use some vitamins and keep the skin healthy. They also serve as energy stores for the body. In food, there are two types of fats: saturated and unsaturated. [NIH]

**Fermentation:** An enzyme-induced chemical change in organic compounds that takes place in the absence of oxygen. The change usually results in the production of ethanol or lactic acid, and the production of energy. [NIH]

**Iodine:** A nonmetallic element of the halogen group that is represented by the atomic symbol I, atomic number 53, and atomic weight of 126.90. It is a nutritionally essential element, especially important in thyroid hormone synthesis. In solution, it has anti-infective properties and is used topically. [NIH]

**Niacin:** Water-soluble vitamin of the B complex occurring in various animal and plant tissues. Required by the body for the formation of coenzymes NAD and NADP. Has pellagra-curative, vasodilating, and antilipemic properties. [NIH]

**Osteoporosis:** Reduction in the amount of bone mass, leading to fractures after minimal trauma. [EU]

**Riboflavin:** Nutritional factor found in milk, eggs, malted barley, liver, kidney, heart, and leafy vegetables. The richest natural source is yeast. It occurs in the free form only in the retina of the eye, in whey, and in urine; its principal forms in tissues and cells are as FMN and FAD. [NIH]

**Selenium:** An element with the atomic symbol Se, atomic number 34, and atomic weight 78.96. It is an essential micronutrient for mammals and other animals but is toxic in large amounts. Selenium protects intracellular structures against oxidative damage. It is an essential component of glutathione peroxidase. [NIH]



## APPENDIX D. FINDING MEDICAL LIBRARIES

### Overview

At a medical library you can find medical texts and reference books, consumer health publications, specialty newspapers and magazines, as well as medical journals. In this Appendix, we show you how to quickly find a medical library in your area.

### Preparation

Before going to the library, highlight the references mentioned in this sourcebook that you find interesting. Focus on those items that are not available via the Internet, and ask the reference librarian for help with your search. He or she may know of additional resources that could be helpful to you. Most importantly, your local public library and medical libraries have Interlibrary Loan programs with the National Library of Medicine (NLM), one of the largest medical collections in the world. According to the NLM, most of the literature in the general and historical collections of the National Library of Medicine is available on interlibrary loan to any library. NLM's interlibrary loan services are only available to libraries. If you would like to access NLM medical literature, then visit a library in your area that can request the publications for you.<sup>50</sup>

---

<sup>50</sup> Adapted from the NLM: <http://www.nlm.nih.gov/psd/cas/interlibrary.html>.

## Finding a Local Medical Library

The quickest method to locate medical libraries is to use the Internet-based directory published by the National Network of Libraries of Medicine (NN/LM). This network includes 4626 members and affiliates that provide many services to librarians, health professionals, and the public. To find a library in your area, simply visit <http://nnlm.gov/members/adv.html> or call 1-800-338-7657.

## Medical Libraries Open to the Public

In addition to the NN/LM, the National Library of Medicine (NLM) lists a number of libraries that are generally open to the public and have reference facilities. The following is the NLM's list plus hyperlinks to each library Web site. These Web pages can provide information on hours of operation and other restrictions. The list below is a small sample of libraries recommended by the National Library of Medicine (sorted alphabetically by name of the U.S. state or Canadian province where the library is located):<sup>51</sup>

- **Alabama:** Health InfoNet of Jefferson County (Jefferson County Library Cooperative, Lister Hill Library of the Health Sciences), <http://www.uab.edu/infonet/>
- **Alabama:** Richard M. Scrushy Library (American Sports Medicine Institute), <http://www.asmi.org/LIBRARY.HTM>
- **Arizona:** Samaritan Regional Medical Center: The Learning Center (Samaritan Health System, Phoenix, Arizona), <http://www.samaritan.edu/library/bannerlibs.htm>
- **California:** Kris Kelly Health Information Center (St. Joseph Health System), <http://www.humboldt1.com/~kkhic/index.html>
- **California:** Community Health Library of Los Gatos (Community Health Library of Los Gatos), <http://www.healthlib.org/orgresources.html>
- **California:** Consumer Health Program and Services (CHIPS) (County of Los Angeles Public Library, Los Angeles County Harbor-UCLA Medical Center Library) - Carson, CA, <http://www.colapublib.org/services/chips.html>
- **California:** Gateway Health Library (Sutter Gould Medical Foundation)
- **California:** Health Library (Stanford University Medical Center), <http://www-med.stanford.edu/healthlibrary/>

---

<sup>51</sup> Abstracted from <http://www.nlm.nih.gov/medlineplus/libraries.html>.

- **California:** Patient Education Resource Center - Health Information and Resources (University of California, San Francisco), <http://sfghdean.ucsf.edu/barnett/PERC/default.asp>
- **California:** Redwood Health Library (Petaluma Health Care District), <http://www.phcd.org/rdwdlib.html>
- **California:** San José PlaneTree Health Library, <http://planetreesanjose.org/>
- **California:** Sutter Resource Library (Sutter Hospitals Foundation), <http://go.sutterhealth.org/comm/resc-library/sac-resources.html>
- **California:** University of California, Davis. Health Sciences Libraries
- **California:** ValleyCare Health Library & Ryan Comer Cancer Resource Center (ValleyCare Health System), <http://www.valleycare.com/library.html>
- **California:** Washington Community Health Resource Library (Washington Community Health Resource Library), <http://www.healthlibrary.org/>
- **Colorado:** William V. Gervasini Memorial Library (Exempla Healthcare), <http://www.exempla.org/conslib.htm>
- **Connecticut:** Hartford Hospital Health Science Libraries (Hartford Hospital), <http://www.harthosp.org/library/>
- **Connecticut:** Healthnet: Connecticut Consumer Health Information Center (University of Connecticut Health Center, Lyman Maynard Stowe Library), <http://library.uchc.edu/departm/hnet/>
- **Connecticut:** Waterbury Hospital Health Center Library (Waterbury Hospital), <http://www.waterburyhospital.com/library/consumer.shtml>
- **Delaware:** Consumer Health Library (Christiana Care Health System, Eugene du Pont Preventive Medicine & Rehabilitation Institute), [http://www.christianacare.org/health\\_guide/health\\_guide\\_pmri\\_health\\_info.cfm](http://www.christianacare.org/health_guide/health_guide_pmri_health_info.cfm)
- **Delaware:** Lewis B. Flinn Library (Delaware Academy of Medicine), <http://www.delamed.org/chls.html>
- **Georgia:** Family Resource Library (Medical College of Georgia), [http://cmc.mcg.edu/kids\\_families/fam\\_resources/fam\\_res\\_lib/frl.htm](http://cmc.mcg.edu/kids_families/fam_resources/fam_res_lib/frl.htm)
- **Georgia:** Health Resource Center (Medical Center of Central Georgia), <http://www.mccg.org/hrc/hrchome.asp>
- **Hawaii:** Hawaii Medical Library: Consumer Health Information Service (Hawaii Medical Library), <http://hml.org/CHIS/>

- **Idaho:** DeArmond Consumer Health Library (Kootenai Medical Center), <http://www.nicon.org/DeArmond/index.htm>
- **Illinois:** Health Learning Center of Northwestern Memorial Hospital (Northwestern Memorial Hospital, Health Learning Center), [http://www.nmh.org/health\\_info/hlc.html](http://www.nmh.org/health_info/hlc.html)
- **Illinois:** Medical Library (OSF Saint Francis Medical Center), <http://www.osfsaintfrancis.org/general/library/>
- **Kentucky:** Medical Library - Services for Patients, Families, Students & the Public (Central Baptist Hospital), <http://www.centralbap.com/education/community/library.htm>
- **Kentucky:** University of Kentucky - Health Information Library (University of Kentucky, Chandler Medical Center, Health Information Library), <http://www.mc.uky.edu/PatientEd/>
- **Louisiana:** Alton Ochsner Medical Foundation Library (Alton Ochsner Medical Foundation), <http://www.ochsner.org/library/>
- **Louisiana:** Louisiana State University Health Sciences Center Medical Library-Shreveport, <http://lib-sh.lsuhscc.edu/>
- **Maine:** Franklin Memorial Hospital Medical Library (Franklin Memorial Hospital), <http://www.fchn.org/fmh/lib.htm>
- **Maine:** Gerrish-True Health Sciences Library (Central Maine Medical Center), <http://www.cmmc.org/library/library.html>
- **Maine:** Hadley Parrot Health Science Library (Eastern Maine Healthcare), <http://www.emh.org/hll/hpl/guide.htm>
- **Maine:** Maine Medical Center Library (Maine Medical Center), <http://www.mmc.org/library/>
- **Maine:** Parkview Hospital, <http://www.parkviewhospital.org/communit.htm#Library>
- **Maine:** Southern Maine Medical Center Health Sciences Library (Southern Maine Medical Center), <http://www.smmc.org/services/service.php3?choice=10>
- **Maine:** Stephens Memorial Hospital Health Information Library (Western Maine Health), [http://www.wmhcc.com/hil\\_frame.html](http://www.wmhcc.com/hil_frame.html)
- **Manitoba, Canada:** Consumer & Patient Health Information Service (University of Manitoba Libraries), <http://www.umanitoba.ca/libraries/units/health/reference/chis.html>
- **Manitoba, Canada:** J.W. Crane Memorial Library (Deer Lodge Centre), <http://www.deerlodge.mb.ca/library/libraryservices.shtml>



- **Maryland:** Health Information Center at the Wheaton Regional Library (Montgomery County, Md., Dept. of Public Libraries, Wheaton Regional Library), <http://www.mont.lib.md.us/healthinfo/hic.asp>
- **Massachusetts:** Baystate Medical Center Library (Baystate Health System), <http://www.baystatehealth.com/1024/>
- **Massachusetts:** Boston University Medical Center Alumni Medical Library (Boston University Medical Center), <http://med-libwww.bu.edu/library/lib.html>
- **Massachusetts:** Lowell General Hospital Health Sciences Library (Lowell General Hospital), <http://www.lowellgeneral.org/library/HomePageLinks/WWW.htm>
- **Massachusetts:** Paul E. Woodard Health Sciences Library (New England Baptist Hospital), [http://www.nebh.org/health\\_lib.asp](http://www.nebh.org/health_lib.asp)
- **Massachusetts:** St. Luke's Hospital Health Sciences Library (St. Luke's Hospital), <http://www.southcoast.org/library/>
- **Massachusetts:** Treadwell Library Consumer Health Reference Center (Massachusetts General Hospital), <http://www.mgh.harvard.edu/library/chrcindex.html>
- **Massachusetts:** UMass HealthNet (University of Massachusetts Medical School), <http://healthnet.umassmed.edu/>
- **Michigan:** Botsford General Hospital Library - Consumer Health (Botsford General Hospital, Library & Internet Services), <http://www.botsfordlibrary.org/consumer.htm>
- **Michigan:** Helen DeRoy Medical Library (Providence Hospital and Medical Centers), <http://www.providence-hospital.org/library/>
- **Michigan:** Marquette General Hospital - Consumer Health Library (Marquette General Hospital, Health Information Center), <http://www.mgh.org/center.html>
- **Michigan:** Patient Education Resource Center - University of Michigan Cancer Center (University of Michigan Comprehensive Cancer Center), <http://www.cancer.med.umich.edu/learn/leares.htm>
- **Michigan:** Sladen Library & Center for Health Information Resources - Consumer Health Information, <http://www.sladen.hfhs.org/library/consumer/index.html>
- **Montana:** Center for Health Information (St. Patrick Hospital and Health Sciences Center), <http://www.saintpatrick.org/chi/librarydetail.php3?ID=41>

- **National:** Consumer Health Library Directory (Medical Library Association, Consumer and Patient Health Information Section), <http://caphis.mlanet.org/directory/index.html>
- **National:** National Network of Libraries of Medicine (National Library of Medicine) - provides library services for health professionals in the United States who do not have access to a medical library, <http://nnlm.gov/>
- **National:** NN/LM List of Libraries Serving the Public (National Network of Libraries of Medicine), <http://nnlm.gov/members/>
- **Nevada:** Health Science Library, West Charleston Library (Las Vegas Clark County Library District), [http://www.lvccld.org/special\\_collections/medical/index.htm](http://www.lvccld.org/special_collections/medical/index.htm)
- **New Hampshire:** Dartmouth Biomedical Libraries (Dartmouth College Library), [http://www.dartmouth.edu/~biomed/resources.html#conshealth.html#](http://www.dartmouth.edu/~biomed/resources.html#conshealth.html#/)
- **New Jersey:** Consumer Health Library (Rahway Hospital), <http://www.rahwayhospital.com/library.htm>
- **New Jersey:** Dr. Walter Phillips Health Sciences Library (Englewood Hospital and Medical Center), <http://www.englewoodhospital.com/links/index.htm>
- **New Jersey:** Meland Foundation (Englewood Hospital and Medical Center), <http://www.geocities.com/ResearchTriangle/9360/>
- **New York:** Choices in Health Information (New York Public Library) - NLM Consumer Pilot Project participant, <http://www.nypl.org/branch/health/links.html>
- **New York:** Health Information Center (Upstate Medical University, State University of New York), <http://www.upstate.edu/library/hic/>
- **New York:** Health Sciences Library (Long Island Jewish Medical Center), <http://www.lij.edu/library/library.html>
- **New York:** ViaHealth Medical Library (Rochester General Hospital), <http://www.nyam.org/library/>
- **Ohio:** Consumer Health Library (Akron General Medical Center, Medical & Consumer Health Library), <http://www.akrongeneral.org/hwlibrary.htm>
- **Oklahoma:** Saint Francis Health System Patient/Family Resource Center (Saint Francis Health System), <http://www.sfh-tulsa.com/patientfamilycenter/default.asp>

- **Oregon:** Planetree Health Resource Center (Mid-Columbia Medical Center), <http://www.mcmc.net/phrc/>
- **Pennsylvania:** Community Health Information Library (Milton S. Hershey Medical Center), <http://www.hmc.psu.edu/commhealth/>
- **Pennsylvania:** Community Health Resource Library (Geisinger Medical Center), <http://www.geisinger.edu/education/commlib.shtml>
- **Pennsylvania:** HealthInfo Library (Moses Taylor Hospital), <http://www.mth.org/healthwellness.html>
- **Pennsylvania:** Hopwood Library (University of Pittsburgh, Health Sciences Library System), <http://www.hsls.pitt.edu/chi/hhrcinfo.html>
- **Pennsylvania:** Koop Community Health Information Center (College of Physicians of Philadelphia), <http://www.collphyphil.org/kooppg1.shtml>
- **Pennsylvania:** Learning Resources Center - Medical Library (Susquehanna Health System), <http://www.shscare.org/services/lrc/index.asp>
- **Pennsylvania:** Medical Library (UPMC Health System), <http://www.upmc.edu/passavant/library.htm>
- **Quebec, Canada:** Medical Library (Montreal General Hospital), <http://ww2.mcgill.ca/mghlib/>
- **South Dakota:** Rapid City Regional Hospital - Health Information Center (Rapid City Regional Hospital, Health Information Center), <http://www.rcrh.org/education/LibraryResourcesConsumers.htm>
- **Texas:** Houston HealthWays (Houston Academy of Medicine-Texas Medical Center Library), <http://hhw.library.tmc.edu/>
- **Texas:** Matustik Family Resource Center (Cook Children's Health Care System), [http://www.cookchildrens.com/Matustik\\_Library.html](http://www.cookchildrens.com/Matustik_Library.html)
- **Washington:** Community Health Library (Kittitas Valley Community Hospital), <http://www.kvch.com/>
- **Washington:** Southwest Washington Medical Center Library (Southwest Washington Medical Center), <http://www.swmedctr.com/Home/>



## APPENDIX E. MORE ON IRRITABLE BOWEL SYNDROME

### Overview<sup>52</sup>

Irritable bowel syndrome (IBS) is a digestive disorder that causes abdominal pain, bloating, gas, diarrhea, and constipation--or some combination of these problems. IBS affects people of all ages, including children.

IBS is classified as a functional disorder because it is caused by a problem in how the intestines, or bowels, work. People with IBS tend to have overly sensitive intestines that have muscle spasms in response to food, gas, and sometimes stress. These spasms may cause pain, diarrhea, and constipation.

### Children with IBS

In children, IBS tends to be either diarrhea-predominant or pain-predominant. Diarrhea-predominant IBS is most common in children under age 3. The diarrhea is usually painless and alternates with bouts of constipation. These children usually have fewer than five stools a day, and the stools tend to be watery and soft. Pain-predominant IBS mainly affects children over age 5. In the younger children the pain tends to occur around the navel area, and in older children, in the lower left part of the abdomen. The pain is crampy and gets worse with eating and better after passing stool or gas.

In addition to the symptoms described above, children with IBS may also have headache, nausea, or mucus in the stool. Weight loss may occur if a

---

<sup>52</sup> Adapted from The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK): <http://www.niddk.nih.gov/health/digest/summary/ibskids/index.htm>.

child eats less to try to avoid pain. Some children first develop symptoms after a stressful event, such as teething, a bout with the flu, school problems, or problems at home. Stress does not cause IBS, but it can trigger symptoms. To diagnose IBS, the doctor will ask questions about symptoms and examine the child to rule out the possibility of more serious problems or diseases. IBS is not a disease--it is a syndrome, or group of symptoms that occur together. It does not damage the intestine, so if the physical exam and other tests show no sign of disease or damage, the doctor may diagnose IBS.

In children, IBS is treated mainly through changes in diet--eating more fiber and less fat to help prevent spasms--and through bowel training to teach the child to empty the bowels at regular, specific times during the day. Medications like laxatives are rarely prescribed because children are more susceptible to addiction than adults. When laxatives are necessary, parents must follow the doctor's instructions carefully. Learning stress management techniques may help some children.

## **For More Information**

More information is available from:

**International Foundation for Functional Gastrointestinal Disorders**  
P.O. Box 17864  
Milwaukee, WI 53217  
Tel: (414) 964-1799 or (888) 964-2001  
E-mail: [iffgd@iffgd.org](mailto:iffgd@iffgd.org)  
Home page: [www.iffgd.org/](http://www.iffgd.org/)

## **Additional Information on Irritable Bowel Syndrome**

The National Digestive Diseases Information Clearinghouse collects resource information on digestive diseases for the Combined Health Information Database (CHID). CHID is a database produced by health-related agencies of the Federal Government. This database provides titles, abstracts, and availability information for health information and health education resources.

To provide you with the most up-to-date resources, information specialists at the clearinghouse created an automatic search of CHID. To obtain this

information you may view the results of the automatic search on Irritable Bowel Syndrome.

Or, if you wish to perform your own search of the database, you may access the CHID Online web site and search CHID yourself.





## ONLINE GLOSSARIES

The Internet provides access to a number of free-to-use medical dictionaries and glossaries. The National Library of Medicine has compiled the following list of online dictionaries:

- ADAM Medical Encyclopedia (A.D.A.M., Inc.), comprehensive medical reference: <http://www.nlm.nih.gov/medlineplus/encyclopedia.html>
- MedicineNet.com Medical Dictionary (MedicineNet, Inc.):  
<http://www.medterms.com/Script/Main/hp.asp>
- Merriam-Webster Medical Dictionary (Inteli-Health, Inc.):  
<http://www.intelihealth.com/IH/>
- Multilingual Glossary of Technical and Popular Medical Terms in Eight European Languages (European Commission) - Danish, Dutch, English, French, German, Italian, Portuguese, and Spanish:  
<http://allserv.rug.ac.be/~rvdstich/eugloss/welcome.html>
- On-line Medical Dictionary (CancerWEB):  
<http://www.graylab.ac.uk/omd/>
- Technology Glossary (National Library of Medicine) - Health Care Technology: <http://www.nlm.nih.gov/nichsr/ta101/ta10108.htm>
- Terms and Definitions (Office of Rare Diseases):  
[http://rarediseases.info.nih.gov/ord/glossary\\_a-e.html](http://rarediseases.info.nih.gov/ord/glossary_a-e.html)

Beyond these, MEDLINEplus contains a very user-friendly encyclopedia covering every aspect of medicine (licensed from A.D.A.M., Inc.). The ADAM Medical Encyclopedia Web site address is <http://www.nlm.nih.gov/medlineplus/encyclopedia.html>. ADAM is also available on commercial Web sites such as Web MD ([http://my.webmd.com/adam/asset/adam\\_disease\\_articles/a\\_to\\_z/a](http://my.webmd.com/adam/asset/adam_disease_articles/a_to_z/a)) and drkoop.com (<http://www.drkoop.com/>). Topics of interest can be researched by using keywords before continuing elsewhere, as these basic definitions and concepts will be useful in more advanced areas of research. You may choose to print various pages specifically relating to irritable bowel syndrome and keep them on file. The NIH, in particular, suggests that patients with irritable bowel syndrome visit the following Web sites in the ADAM Medical Encyclopedia:

- **Basic Guidelines for Irritable Bowel Syndrome**

**Giardia**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/000288.htm>

**Irritable bowel syndrome (functional bowel)**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/000246.htm>

- **Signs & Symptoms for Irritable Bowel Syndrome**

**Abdominal distention**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003122.htm>

**Abdominal fullness, gaseous**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003124.htm>

**Abdominal pain**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003120.htm>

**Abdominal tenderness**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003120.htm>

**Anxiety**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003211.htm>

**Bloating**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003123.htm>

**Constipation**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003125.htm>

**Depression**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003213.htm>

**Diarrhea**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003126.htm>

**Loss of appetite**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003121.htm>

**Muscle**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003193.htm>

**Nausea**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003117.htm>

**Stress**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003211.htm>

**Vomiting**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003117.htm>

- **Diagnostics and Tests for Irritable Bowel Syndrome**

**ALT**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003473.htm>

**Barium enema**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003817.htm>

**CBC**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003642.htm>

**Differential**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003657.htm>

**ESR**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003638.htm>

**Sigmoidoscopy**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/003885.htm>

- **Nutrition for Irritable Bowel Syndrome**

**Caffeine**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/002445.htm>

**Fiber**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/002470.htm>

- **Background Topics for Irritable Bowel Syndrome**

**Chronic**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/002312.htm>

**Exercise**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/001941.htm>

**Physical examination**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/002274.htm>

**Relieved by**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/002288.htm>

**Stimulants**

Web site:

<http://www.nlm.nih.gov/medlineplus/ency/article/002308.htm>

**Online Dictionary Directories**

The following are additional online directories compiled by the National Library of Medicine, including a number of specialized medical dictionaries and glossaries:

- Medical Dictionaries: Medical & Biological (World Health Organization):  
<http://www.who.int/hlt/virtuallibrary/English/diction.htm#Medical>
- MEL-Michigan Electronic Library List of Online Health and Medical Dictionaries (Michigan Electronic Library):  
<http://mel.lib.mi.us/health/health-dictionaries.html>
- Patient Education: Glossaries (DMOZ Open Directory Project):  
[http://dmoz.org/Health/Education/Patient\\_Education/Glossaries/](http://dmoz.org/Health/Education/Patient_Education/Glossaries/)
- Web of Online Dictionaries (Bucknell University):  
<http://www.yourdictionary.com/diction5.html#medicine>



## IRRITABLE BOWEL SYNDROME GLOSSARY

The following is a complete glossary of terms used in this sourcebook. The definitions are derived from official public sources including the National Institutes of Health [NIH] and the European Union [EU]. After this glossary, we list a number of additional hardbound and electronic glossaries and dictionaries that you may wish to consult.

**Abdomen:** That portion of the body that lies between the thorax and the pelvis. [NIH]

**Abscess:** A localized collection of pus caused by suppuration buried in tissues, organs, or confined spaces. [EU]

**Absenteeism:** Chronic absence from work or other duty. [NIH]

**Acidosis:** Too much acid in the body. For a person with diabetes, this can lead to diabetic ketoacidosis. [NIH]

**ACTH:** Adrenocorticotrophic hormone. [EU]

**Adrenergic:** Activated by, characteristic of, or secreting epinephrine or substances with similar activity; the term is applied to those nerve fibres that liberate norepinephrine at a synapse when a nerve impulse passes, i.e., the sympathetic fibres. [EU]

**Algorithms:** A procedure consisting of a sequence of algebraic formulas and/or logical steps to calculate or determine a given task. [NIH]

**Alimentary:** Pertaining to food or nutritive material, or to the organs of digestion. [EU]

**Amitriptyline:** Tricyclic antidepressant with anticholinergic and sedative properties. It appears to prevent the re-uptake of norepinephrine and serotonin at nerve terminals, thus potentiating the action of these neurotransmitters. Amitriptyline also appears to antagonize cholinergic and alpha-1 adrenergic responses to bioactive amines. [NIH]

**Amygdala:** Almond-shaped group of basal nuclei anterior to the inferior horn of the lateral ventricle of the brain, within the temporal lobe. The amygdala is part of the limbic system. [NIH]

**Analogous:** Resembling or similar in some respects, as in function or appearance, but not in origin or development;. [EU]

**Anatomical:** Pertaining to anatomy, or to the structure of the organism. [EU]

**Anemia:** A reduction in the number of circulating erythrocytes or in the quantity of hemoglobin. [NIH]

**Anorectal:** Pertaining to the anus and rectum or to the junction region

between the two. [EU]

**Anticholinergic:** An agent that blocks the parasympathetic nerves. Called also parasympatholytic. [EU]

**Antidepressant:** An agent that stimulates the mood of a depressed patient, including tricyclic antidepressants and monoamine oxidase inhibitors. [EU]

**Antigens:** Substances that cause an immune response in the body. The body "sees" the antigens as harmful or foreign. To fight them, the body produces antibodies, which attack and try to eliminate the antigens. [NIH]

**Antiviral:** Destroying viruses or suppressing their replication. [EU]

**Anus:** The distal or terminal orifice of the alimentary canal. [EU]

**Anxiety:** The unpleasant emotional state consisting of psychophysiological responses to anticipation of unreal or imagined danger, ostensibly resulting from unrecognized intrapsychic conflict. Physiological concomitants include increased heart rate, altered respiration rate, sweating, trembling, weakness, and fatigue; psychological concomitants include feelings of impending danger, powerlessness, apprehension, and tension. [EU]

**Anxiolytic:** An anxiolytic or antianxiety agent. [EU]

**Apnea:** A transient absence of spontaneous respiration. [NIH]

**Appendicitis:** Acute inflammation of the vermiform appendix. [NIH]

**Aqueous:** Watery; prepared with water. [EU]

**Ascites:** Effusion and accumulation of serous fluid in the abdominal cavity; called also abdominal or peritoneal dropsy, hydroperitonitis, and hydrops abdominis. [EU]

**Astemizole:** A long-acting, non-sedative antihistaminic used in the treatment of seasonal allergic rhinitis, asthma, allergic conjunctivitis, and chronic idiopathic urticaria. The drug is well tolerated and has no anticholinergic side effects. [NIH]

**Barium:** An element of the alkaline earth group of metals. It has an atomic symbol Ba, atomic number 56, and atomic weight 138. All of its acid-soluble salts are poisonous. [NIH]

**Bereavement:** Refers to the whole process of grieving and mourning and is associated with a deep sense of loss and sadness. [NIH]

**Bifidobacterium:** A rod-shaped, gram-positive, non-acid-fast, non-spore-forming, non-motile bacterium that is a genus of the family actinomycetaceae. It inhabits the intestines and feces of humans as well as the human vagina. [NIH]

**Biliary:** Pertaining to the bile, to the bile ducts, or to the gallbladder. [EU]

**Biphasic:** Having two phases; having both a sporophytic and a



gametophytic phase in the life cycle. [EU]

**Bismuth:** A metallic element that has the atomic symbol Bi, atomic number 83 and atomic weight 208.98. [NIH]

**Borborygmus:** A rumbling noise caused by the propulsion of gas through the intestines. [EU]

**Bradycardia:** Slowness of the heart beat, as evidenced by slowing of the pulse rate to less than 60. [EU]

**Buspirone:** An anxiolytic agent and a serotonin receptor agonist belonging to the azaspirodecanedione class of compounds. Its structure is unrelated to those of the benzodiazepines, but it has an efficacy comparable to diazepam. [NIH]

**Capsules:** Hard or soft soluble containers used for the oral administration of medicine. [NIH]

**Carbohydrate:** An aldehyde or ketone derivative of a polyhydric alcohol, particularly of the pentahydric and hexahydric alcohols. They are so named because the hydrogen and oxygen are usually in the proportion to form water, (CH<sub>2</sub>O)<sub>n</sub>. The most important carbohydrates are the starches, sugars, celluloses, and gums. They are classified into mono-, di-, tri-, poly- and heterosaccharides. [EU]

**Carcinoma:** A malignant new growth made up of epithelial cells tending to infiltrate the surrounding tissues and give rise to metastases. [EU]

**Character:** In current usage, approximately equivalent to personality. The sum of the relatively fixed personality traits and habitual modes of response of an individual. [NIH]

**Chlordiazepoxide:** An anxiolytic benzodiazepine derivative with anticonvulsant, sedative, and amnesic properties. It has also been used in the symptomatic treatment of alcohol withdrawal. [NIH]

**Cholangitis:** Inflammation of a bile duct. [EU]

**Cholecystitis:** Inflammation of the gallbladder. [EU]

**Cholera:** An acute diarrheal disease endemic in India and Southeast Asia whose causative agent is vibrio cholerae. This condition can lead to severe dehydration in a matter of hours unless quickly treated. [NIH]

**Cholesterol:** The principal sterol of all higher animals, distributed in body tissues, especially the brain and spinal cord, and in animal fats and oils. [NIH]

**Chronic:** Persisting over a long period of time. [EU]

**Cirrhosis:** Liver disease characterized pathologically by loss of the normal microscopic lobular architecture, with fibrosis and nodular regeneration. The term is sometimes used to refer to chronic interstitial inflammation of any organ. [EU]

**Citrus:** Any tree or shrub of the rue family or the fruit of these plants. [NIH]

**Clorazepate Dipotassium:** A water-soluble benzodiazepine derivative effective in the treatment of anxiety. It has also muscle relaxant and anticonvulsant actions. [NIH]

**Clostridium:** A genus of motile or nonmotile gram-positive bacteria of the family bacillaceae. Many species have been identified with some being pathogenic. They occur in water, soil, and in the intestinal tract of humans and lower animals. [NIH]

**Colic:** Paroxysms of pain. This condition usually occurs in the abdominal region but may occur in other body regions as well. [NIH]

**Colitis:** Inflammation of the colon. [EU]

**Collagen:** The protein substance of the white fibres (collagenous fibres) of skin, tendon, bone, cartilage, and all other connective tissue; composed of molecules of tropocollagen (q.v.), it is converted into gelatin by boiling. collagenous pertaining to collagen; forming or producing collagen. [EU]

**Colonoscopy:** Endoscopic examination, therapy or surgery of the luminal surface of the colon. [NIH]

**Comorbidity:** The presence of co-existing or additional diseases with reference to an initial diagnosis or with reference to the index condition that is the subject of study. Comorbidity may affect the ability of affected individuals to function and also their survival; it may be used as a prognostic indicator for length of hospital stay, cost factors, and outcome or survival. [NIH]

**Concomitant:** Accompanying; accessory; joined with another. [EU]

**Constipation:** Infrequent or difficult evacuation of the faeces. [EU]

**Contraceptive:** An agent that diminishes the likelihood of or prevents conception. [EU]

**Copulation:** Sexual contact of a male with a receptive female usually followed by emission of sperm. Limited to non-human species. For humans use coitus. [NIH]

**Cortex:** The outer layer of an organ or other body structure, as distinguished from the internal substance. [EU]

**Cyclic:** Pertaining to or occurring in a cycle or cycles; the term is applied to chemical compounds that contain a ring of atoms in the nucleus. [EU]

**Cystitis:** Inflammation of the urinary bladder. [EU]

**Cytokines:** Non-antibody proteins secreted by inflammatory leukocytes and some non-leukocytic cells, that act as intercellular mediators. They differ from classical hormones in that they are produced by a number of tissue or cell types rather than by specialized glands. They generally act locally in a

paracrine or autocrine rather than endocrine manner. [NIH]

**Defecation:** The normal process of elimination of fecal material from the rectum. [NIH]

**Degenerative:** Undergoing degeneration : tending to degenerate; having the character of or involving degeneration; causing or tending to cause degeneration. [EU]

**Dehydration:** The condition that results from excessive loss of body water. Called also anhydration, deaquation and hypohydration. [EU]

**Desipramine:** A tricyclic dibenzazepine compound that potentiates neurotransmission. Desipramine selectively blocks reuptake of norepinephrine from the neural synapse, and also appears to impair serotonin transport. This compound also possesses minor anticholinergic activity, through its affinity to muscarinic receptors. [NIH]

**Diarrhea:** Passage of excessively liquid or excessively frequent stools. [NIH]

**Diarrhoea:** Abnormal frequency and liquidity of faecal discharges. [EU]

**Didanosine:** A dideoxynucleoside compound in which the 3'-hydroxy group on the sugar moiety has been replaced by a hydrogen. This modification prevents the formation of phosphodiester linkages which are needed for the completion of nucleic acid chains. Didanosine is a potent inhibitor of HIV replication, acting as a chain-terminator of viral DNA by binding to reverse transcriptase; ddI is then metabolized to dideoxyadenosine triphosphate, its putative active metabolite. [NIH]

**Dietetics:** The study and regulation of the diet. [NIH]

**Diffusion:** The process of becoming diffused, or widely spread; the spontaneous movement of molecules or other particles in solution, owing to their random thermal motion, to reach a uniform concentration throughout the solvent, a process requiring no addition of energy to the system. [EU]

**Digestion:** The process of breakdown of food for metabolism and use by the body. [NIH]

**Distention:** The state of being distended or enlarged; the act of distending. [EU]

**Diverticulitis:** Inflammation of a diverticulum, especially inflammation related to colonic diverticula, which may undergo perforation with abscess formation. Sometimes called left-sided or L-sides appendicitis. [EU]

**Diverticulum:** A pathological condition manifested as a pouch or sac opening from a tubular or sacular organ. [NIH]

**Dizziness:** An imprecise term which may refer to a sense of spatial disorientation, motion of the environment, or lightheadedness. [NIH]

**Dorsal:** 1. pertaining to the back or to any dorsum. 2. denoting a position

more toward the back surface than some other object of reference; same as posterior in human anatomy; superior in the anatomy of quadrupeds. [EU]

**Dreams:** A series of thoughts, images, or emotions occurring during sleep which are dissociated from the usual stream of consciousness of the waking state. [NIH]

**Duodenum:** The first or proximal portion of the small intestine, extending from the pylorus to the jejunum; so called because it is about 12 fingerbreadths in length. [EU]

**Dysmenorrhea:** Painful menstruation. [NIH]

**Dyspepsia:** Impairment of the power of function of digestion; usually applied to epigastric discomfort following meals. [EU]

**Dysphagia:** Difficulty in swallowing. [EU]

**Dysphoria:** Disquiet; restlessness; malaise. [EU]

**Dystonia:** Disordered tonicity of muscle. [EU]

**Eczema:** A pruritic papulovesicular dermatitis occurring as a reaction to many endogenous and exogenous agents, characterized in the acute stage by erythema, edema associated with a serous exudate between the cells of the epidermis (spongiosis) and an inflammatory infiltrate in the dermis, oozing and vesiculation, and crusting and scaling; and in the more chronic stages by lichenification or thickening or both, signs of excoriations, and hyperpigmentation or hypopigmentation or both. Atopic dermatitis is the most common type of dermatitis. Called also eczematous dermatitis. [EU]

**Electrophysiological:** Pertaining to electrophysiology, that is a branch of physiology that is concerned with the electric phenomena associated with living bodies and involved in their functional activity. [EU]

**Emesis:** Vomiting; an act of vomiting. Also used as a word termination, as in haematemesis. [EU]

**Encephalopathy:** Any degenerative disease of the brain. [EU]

**Endocrinology:** A subspecialty of internal medicine concerned with the metabolism, physiology, and disorders of the endocrine system. [NIH]

**Endogenous:** Developing or originating within the organisms or arising from causes within the organism. [EU]

**Endometriosis:** A condition in which tissue more or less perfectly resembling the uterine mucous membrane (the endometrium) and containing typical endometrial granular and stromal elements occurs aberrantly in various locations in the pelvic cavity; called also adenomyosis externa and endometriosis externa. [EU]

**Endoscopy:** Visual inspection of any cavity of the body by means of an endoscope. [EU]

**Enema:** A clyster or injection; a liquid injected or to be injected into the rectum. [EU]

**Enteritis:** Inflammation of the intestine, applied chiefly to inflammation of the small intestine; see also enterocolitis. [EU]

**Enzyme:** A protein molecule that catalyses chemical reactions of other substances without itself being destroyed or altered upon completion of the reactions. Enzymes are classified according to the recommendations of the Nomenclature Committee of the International Union of Biochemistry. Each enzyme is assigned a recommended name and an Enzyme Commission (EC) number. They are divided into six main groups; oxidoreductases, transferases, hydrolases, lyases, isomerases, and ligases. [EU]

**Eosinophilia:** The formation and accumulation of an abnormally large number of eosinophils in the blood. [EU]

**Epidemiological:** Relating to, or involving epidemiology. [EU]

**Epinephrine:** The active sympathomimetic hormone from the adrenal medulla in most species. It stimulates both the alpha- and beta- adrenergic systems, causes systemic vasoconstriction and gastrointestinal relaxation, stimulates the heart, and dilates bronchi and cerebral vessels. It is used in asthma and cardiac failure and to delay absorption of local anesthetics. [NIH]

**Esophagitis:** Inflammation, acute or chronic, of the esophagus caused by bacteria, chemicals, or trauma. [NIH]

**Ethanol:** A clear, colorless liquid rapidly absorbed from the gastrointestinal tract and distributed throughout the body. It has bactericidal activity and is used often as a topical disinfectant. It is widely used as a solvent and preservative in pharmaceutical preparations as well as serving as the primary ingredient in alcoholic beverages. [NIH]

**Fatal:** Causing death, deadly; mortal; lethal. [EU]

**Fatigue:** The state of weariness following a period of exertion, mental or physical, characterized by a decreased capacity for work and reduced efficiency to respond to stimuli. [NIH]

**Fats:** One of the three main classes of foods and a source of energy in the body. Fats help the body use some vitamins and keep the skin healthy. They also serve as energy stores for the body. In food, there are two types of fats: saturated and unsaturated. [NIH]

**Fermentation:** An enzyme-induced chemical change in organic compounds that takes place in the absence of oxygen. The change usually results in the production of ethanol or lactic acid, and the production of energy. [NIH]

**Fibrosis:** The formation of fibrous tissue; fibroid or fibrous degeneration [EU]

**Fissure:** Any cleft or groove, normal or otherwise; especially a deep fold in

the cerebral cortex which involves the entire thickness of the brain wall. [EU]

**Fistula:** An abnormal passage or communication, usually between two internal organs, or leading from an internal organ to the surface of the body; frequently designated according to the organs or parts with which it communicates, as anovaginal, brochocutaneous, hepatopleural, pulmonoperitoneal, rectovaginal, urethrovaginal, and the like. Such passages are frequently created experimentally for the purpose of obtaining body secretions for physiologic study. [EU]

**Flatulence:** The presence of excessive amounts of air or gases in the stomach or intestine, leading to distention of the organs. [EU]

**Fluoxetine:** The first highly specific serotonin uptake inhibitor. It is used as an antidepressant and often has a more acceptable side-effects profile than traditional antidepressants. [NIH]

**Flushing:** A transient reddening of the face that may be due to fever, certain drugs, exertion, stress, or a disease process. [NIH]

**Fructose:** A type of sugar found in many fruits and vegetables and in honey. Fructose is used to sweeten some diet foods. It is considered a nutritive sweetener because it has calories. [NIH]

**Gastroduodenal:** Pertaining to or communicating with the stomach and duodenum, as a gastroduodenal fistula. [EU]

**Gastroenteritis:** An acute inflammation of the lining of the stomach and intestines, characterized by anorexia, nausea, diarrhoea, abdominal pain, and weakness, which has various causes, including food poisoning due to infection with such organisms as *Escherichia coli*, *Staphylococcus aureus*, and *Salmonella* species; consumption of irritating food or drink; or psychological factors such as anger, stress, and fear. Called also enterogastritis. [EU]

**Gastrointestinal:** Pertaining to or communicating with the stomach and intestine, as a gastrointestinal fistula. [EU]

**Giardia:** A genus of flagellate intestinal protozoa parasitic in various vertebrates, including humans. Characteristics include the presence of four pairs of flagella arising from a complicated system of axonemes and cysts that are ellipsoidal to ovoidal in shape. [NIH]

**Glutamine:** A non-essential amino acid present abundantly throughout the body and is involved in many metabolic processes. It is synthesized from glutamic acid and ammonia. It is the principal carrier of nitrogen in the body and is an important energy source for many cells. [NIH]

**Gluten:** The protein of wheat and other grains which gives to the dough its tough elastic character. [EU]

**Gynecology:** A medical-surgical specialty concerned with the physiology

and disorders primarily of the female genital tract, as well as female endocrinology and reproductive physiology. [NIH]

**Heartburn:** Substernal pain or burning sensation, usually associated with regurgitation of gastric juice into the esophagus. [NIH]

**Helicobacter:** A genus of gram-negative, spiral-shaped bacteria that is pathogenic and has been isolated from the intestinal tract of mammals, including humans. [NIH]

**Hematology:** A subspecialty of internal medicine concerned with morphology, physiology, and pathology of the blood and blood-forming tissues. [NIH]

**Hemorrhage:** Bleeding or escape of blood from a vessel. [NIH]

**Hemorrhoids:** Varicosities of the hemorrhoidal venous plexuses. [NIH]

**Hepatitis:** Inflammation of the liver. [EU]

**Hepatocellular:** Pertaining to or affecting liver cells. [EU]

**Heredity:** 1. the genetic transmission of a particular quality or trait from parent to offspring. 2. the genetic constitution of an individual. [EU]

**Hernia:** (he protrusion of a loop or knuckle of an organ or tissue through an abnormal opening. [EU]

**Hiccup:** A spasm of the diaphragm that causes a sudden inhalation followed by rapid closure of the glottis which produces a sound. [NIH]

**Hormonal:** Pertaining to or of the nature of a hormone. [EU]

**Hormones:** Chemical substances having a specific regulatory effect on the activity of a certain organ or organs. The term was originally applied to substances secreted by various endocrine glands and transported in the bloodstream to the target organs. It is sometimes extended to include those substances that are not produced by the endocrine glands but that have similar effects. [NIH]

**Hydrophilic:** Readily absorbing moisture; hygroscopic; having strongly polar groups that readily interact with water. [EU]

**Hyperalgesia:** Excessive sensitiveness or sensibility to pain. [EU]

**Hypersecretion:** Excessive secretion. [EU]

**Hypersensitivity:** A state of altered reactivity in which the body reacts with an exaggerated immune response to a foreign substance. Hypersensitivity reactions are classified as immediate or delayed, types I and IV, respectively, in the Gell and Coombs classification (q.v.) of immune responses. [EU]

**Hypertension:** Persistently high arterial blood pressure. Various criteria for its threshold have been suggested, ranging from 140 mm. Hg systolic and 90 mm. Hg diastolic to as high as 200 mm. Hg systolic and 110 mm. Hg

diastolic. Hypertension may have no known cause (essential or idiopathic h.) or be associated with other primary diseases (secondary h.). [EU]

**Hypothalamic:** Of or involving the hypothalamus. [EU]

**Ileitis:** Inflammation of the ileum. [EU]

**Ileostomy:** Surgical creation of an external opening into the ileum for fecal diversion or drainage. Loop or tube procedures are most often employed. [NIH]

**Ileus:** Obstruction of the intestines. [EU]

**Imipramine:** The prototypical tricyclic antidepressant. It has been used in major depression, dysthymia, bipolar depression, attention-deficit disorders, agoraphobia, and panic disorders. It has less sedative effect than some other members of this therapeutic group. [NIH]

**Incontinence:** Inability to control excretory functions, as defecation (faecal i.) or urination (urinary i.). [EU]

**Inertia:** Inactivity, inability to move spontaneously. [EU]

**Inflammation:** A pathological process characterized by injury or destruction of tissues caused by a variety of cytologic and chemical reactions. It is usually manifested by typical signs of pain, heat, redness, swelling, and loss of function. [NIH]

**Inguinal:** Pertaining to the inguen, or groin. [EU]

**Innervation:** 1. the distribution or supply of nerves to a part. 2. the supply of nervous energy or of nerve stimulus sent to a part. [EU]

**Insomnia:** Inability to sleep; abnormal wakefulness. [EU]

**Intermittent:** Occurring at separated intervals; having periods of cessation of activity. [EU]

**Interstitial:** Pertaining to or situated between parts or in the interspaces of a tissue. [EU]

**Intestinal:** Pertaining to the intestine. [EU]

**Intestines:** The section of the alimentary canal from the stomach to the anus. It includes the large intestine and small intestine. [NIH]

**Inulin:** A starch found in the tubers and roots of many plants. Since it is hydrolyzable to fructose, it is classified as a fructosan. It has been used in physiologic investigation for determination of the rate of glomerular function. [NIH]

**Iodine:** A nonmetallic element of the halogen group that is represented by the atomic symbol I, atomic number 53, and atomic weight of 126.90. It is a nutritionally essential element, especially important in thyroid hormone synthesis. In solution, it has anti-infective properties and is used topically. [NIH]



**Lactobacillus:** A genus of gram-positive, microaerophilic, rod-shaped bacteria occurring widely in nature. Its species are also part of the many normal flora of the mouth, intestinal tract, and vagina of many mammals, including humans. Pathogenicity from this genus is rare. [NIH]

**Lamivudine:** A reverse transcriptase inhibitor and zalcitabine analog in which a sulfur atom replaces the 3' carbon of the pentose ring. It is used to treat HIV disease. [NIH]

**Lesion:** Any pathological or traumatic discontinuity of tissue or loss of function of a part. [EU]

**LH:** A small glycoprotein hormone secreted by the anterior pituitary. LH plays an important role in controlling ovulation and in controlling secretion of hormones by the ovaries and testes. [NIH]

**Lipodystrophy:** 1. any disturbance of fat metabolism. 2. a group of conditions due to defective metabolism of fat, resulting in the absence of subcutaneous fat, which may be congenital or acquired and partial or total. Called also lipoatrophy and lipodystrophia. [EU]

**Lymphoma:** Any neoplastic disorder of the lymphoid tissue, the term lymphoma often is used alone to denote malignant lymphoma. [EU]

**Malabsorption:** Impaired intestinal absorption of nutrients. [EU]

**Malaise:** A vague feeling of bodily discomfort. [EU]

**Malignant:** Tending to become progressively worse and to result in death. Having the properties of anaplasia, invasion, and metastasis; said of tumours. [EU]

**Manifest:** Being the part or aspect of a phenomenon that is directly observable : concretely expressed in behaviour. [EU]

**Mediator:** An object or substance by which something is mediated, such as (1) a structure of the nervous system that transmits impulses eliciting a specific response; (2) a chemical substance (transmitter substance) that induces activity in an excitable tissue, such as nerve or muscle; or (3) a substance released from cells as the result of the interaction of antigen with antibody or by the action of antigen with a sensitized lymphocyte. [EU]

**Megacolon:** An abnormally large or dilated colon; the condition may be congenital or acquired, acute or chronic. [EU]

**Midazolam:** A short-acting compound, water-soluble at pH less than 4 and lipid-soluble at physiological pH. It is a hypnotic-sedative drug with anxiolytic and amnestic properties. It is used for sedation in dentistry, cardiac surgery, endoscopic procedures, as preanesthetic medication, and as an adjunct to local anesthesia. Because of its short duration and cardiorespiratory stability, it is particularly useful in poor-risk, elderly, and cardiac patients. [NIH]

**Molecular:** Of, pertaining to, or composed of molecules : a very small mass of matter. [EU]

**Mucus:** The free slime of the mucous membranes, composed of secretion of the glands, along with various inorganic salts, desquamated cells, and leucocytes. [EU]

**Naloxone:** A specific opiate antagonist that has no agonist activity. It is a competitive antagonist at mu, delta, and kappa opioid receptors. [NIH]

**Nausea:** An unpleasant sensation, vaguely referred to the epigastrium and abdomen, and often culminating in vomiting. [EU]

**Neonatal:** Pertaining to the first four weeks after birth. [EU]

**Neoplasms:** New abnormal growth of tissue. Malignant neoplasms show a greater degree of anaplasia and have the properties of invasion and metastasis, compared to benign neoplasms. [NIH]

**Neoplastic:** Pertaining to or like a neoplasm (= any new and abnormal growth); pertaining to neoplasia (= the formation of a neoplasm). [EU]

**Neural:** 1. pertaining to a nerve or to the nerves. 2. situated in the region of the spinal axis, as the neutral arch. [EU]

**Neuroendocrinology:** The study of the anatomical and functional relationships between the nervous system and the endocrine system. [NIH]

**Neurologic:** Pertaining to neurology or to the nervous system. [EU]

**Neuronal:** Pertaining to a neuron or neurons (= conducting cells of the nervous system). [EU]

**Neurons:** The basic cellular units of nervous tissue. Each neuron consists of a body, an axon, and dendrites. Their purpose is to receive, conduct, and transmit impulses in the nervous system. [NIH]

**Neuropathy:** A general term denoting functional disturbances and/or pathological changes in the peripheral nervous system. The etiology may be known e.g. arsenical n., diabetic n., ischemic n., traumatic n.) or unknown. Encephalopathy and myelopathy are corresponding terms relating to involvement of the brain and spinal cord, respectively. The term is also used to designate noninflammatory lesions in the peripheral nervous system, in contrast to inflammatory lesions (neuritis). [EU]

**Neuropharmacology:** The branch of pharmacology dealing especially with the action of drugs upon various parts of the nervous system. [NIH]

**Neurophysiology:** The scientific discipline concerned with the physiology of the nervous system. [NIH]

**Neurotransmitter:** Any of a group of substances that are released on excitation from the axon terminal of a presynaptic neuron of the central or peripheral nervous system and travel across the synaptic cleft to either excite

or inhibit the target cell. Among the many substances that have the properties of a neurotransmitter are acetylcholine, norepinephrine, epinephrine, dopamine, glycine,  $\gamma$ -aminobutyrate, glutamic acid, substance P, enkephalins, endorphins, and serotonin. [EU]

**Niacin:** Water-soluble vitamin of the B complex occurring in various animal and plant tissues. Required by the body for the formation of coenzymes NAD and NADP. Has pellagra-curative, vasodilating, and antilipemic properties. [NIH]

**Nicotine:** Nicotine is highly toxic alkaloid. It is the prototypical agonist at nicotinic cholinergic receptors where it dramatically stimulates neurons and ultimately blocks synaptic transmission. Nicotine is also important medically because of its presence in tobacco smoke. [NIH]

**Occult:** Obscure; concealed from observation, difficult to understand. [EU]

**Oligosaccharides:** Carbohydrates consisting of between two and ten monosaccharides connected by either an alpha- or beta-glycosidic link. They are found throughout nature in both the free and bound form. [NIH]

**Opiate:** A remedy containing or derived from opium; also any drug that induces sleep. [EU]

**Osmotic:** Pertaining to or of the nature of osmosis (= the passage of pure solvent from a solution of lesser to one of greater solute concentration when the two solutions are separated by a membrane which selectively prevents the passage of solute molecules, but is permeable to the solvent). [EU]

**Osteoporosis:** Reduction in the amount of bone mass, leading to fractures after minimal trauma. [EU]

**Overdose:** 1. to administer an excessive dose. 2. an excessive dose. [EU]

**Pacemaker:** An object or substance that influences the rate at which a certain phenomenon occurs; often used alone to indicate the natural cardiac pacemaker or an artificial cardiac pacemaker. In biochemistry, a substance whose rate of reaction sets the pace for a series of interrelated reactions. [EU]

**Pancreas:** An organ behind the lower part of the stomach that is about the size of a hand. It makes insulin so that the body can use glucose (sugar) for energy. It also makes enzymes that help the body digest food. Spread all over the pancreas are areas called the islets of Langerhans. The cells in these areas each have a special purpose. The alpha cells make glucagon, which raises the level of glucose in the blood; the beta cells make insulin; the delta cells make somatostatin. There are also the PP cells and the D1 cells, about which little is known. [NIH]

**Pancreatitis:** Inflammation (pain, tenderness) of the pancreas; it can make the pancreas stop working. It is caused by drinking too much alcohol, by disease in the gallbladder, or by a virus. [NIH]

**Papain:** A proteolytic enzyme obtained from *Carica papaya*. It is also the name used for a purified mixture of papain and chymopapain that is used as a topical enzymatic debriding agent. EC 3.4.22.2. [NIH]

**Parasitic:** Pertaining to, of the nature of, or caused by a parasite. [EU]

**Parenteral:** Not through the alimentary canal but rather by injection through some other route, as subcutaneous, intramuscular, intraorbital, intracapsular, intraspinal, intrasternal, intravenous, etc. [EU]

**Pediatrics:** A medical specialty concerned with maintaining health and providing medical care to children from birth to adolescence. [NIH]

**Peptic:** Pertaining to pepsin or to digestion; related to the action of gastric juices. [EU]

**Perforation:** 1. the act of boring or piercing through a part. 2. a hole made through a part or substance. [EU]

**Peritonitis:** Inflammation of the peritoneum; a condition marked by exudations in the peritoneum of serum, fibrin, cells, and pus. It is attended by abdominal pain and tenderness, constipation, vomiting, and moderate fever. [EU]

**Pharmacist:** A person trained to prepare and distribute medicines and to give information about them. [NIH]

**Pirenzepine:** An antimuscarinic agent that inhibits gastric secretion at lower doses than are required to affect gastrointestinal motility, salivary, central nervous system, cardiovascular, ocular, and urinary function. It promotes the healing of duodenal ulcers and due to its cytoprotective action is beneficial in the prevention of duodenal ulcer recurrence. It also potentiates the effect of other antiulcer agents such as cimetidine and ranitidine. It is generally well tolerated by patients. [NIH]

**Poisoning:** A condition or physical state produced by the ingestion, injection or inhalation of, or exposure to a deleterious agent. [NIH]

**Porphyria:** A pathological state in man and some lower animals that is often due to genetic factors, is characterized by abnormalities of porphyrin metabolism, and results in the excretion of large quantities of porphyrins in the urine and in extreme sensitivity to light. [EU]

**Postnatal:** Occurring after birth, with reference to the newborn. [EU]

**Predisposition:** A latent susceptibility to disease which may be activated under certain conditions, as by stress. [EU]

**Prednisone:** A synthetic anti-inflammatory glucocorticoid derived from cortisone. It is biologically inert and converted to prednisolone in the liver. [NIH]

**Prevalence:** The number of people in a given group or population who are reported to have a disease. [NIH]

**Proctitis:** Inflammation of the rectum. [EU]

**Prolapse:** 1. the falling down, or sinking, of a part or viscus; procidentia. 2. to undergo such displacement. [EU]

**Prophylaxis:** The prevention of disease; preventive treatment. [EU]

**Proteins:** Polymers of amino acids linked by peptide bonds. The specific sequence of amino acids determines the shape and function of the protein. [NIH]

**Psychiatric:** Pertaining to or within the purview of psychiatry. [EU]

**Psychiatry:** The medical science that deals with the origin, diagnosis, prevention, and treatment of mental disorders. [NIH]

**Psychogenic:** Produced or caused by psychic or mental factors rather than organic factors. [EU]

**Psychology:** The science dealing with the study of mental processes and behavior in man and animals. [NIH]

**Psychophysiology:** The study of the physiological basis of human and animal behavior. [NIH]

**Psychotherapy:** A generic term for the treatment of mental illness or emotional disturbances primarily by verbal or nonverbal communication. [NIH]

**Radiography:** The making of film records (radiographs) of internal structures of the body by passage of x-rays or gamma rays through the body to act on specially sensitized film. [EU]

**Receptor:** 1. a molecular structure within a cell or on the surface characterized by (1) selective binding of a specific substance and (2) a specific physiologic effect that accompanies the binding, e.g., cell-surface receptors for peptide hormones, neurotransmitters, antigens, complement fragments, and immunoglobulins and cytoplasmic receptors for steroid hormones. 2. a sensory nerve terminal that responds to stimuli of various kinds. [EU]

**Rectal:** Pertaining to the rectum (= distal portion of the large intestine). [EU]

**Recurrence:** The return of a sign, symptom, or disease after a remission. [NIH]

**Reflux:** A backward or return flow. [EU]

**Refractory:** Not readily yielding to treatment. [EU]

**Relaxant:** 1. lessening or reducing tension. 2. an agent that lessens tension. [EU]

**Remission:** A diminution or abatement of the symptoms of a disease; also the period during which such diminution occurs. [EU]

**Resection:** Excision of a portion or all of an organ or other structure. [EU]

**Riboflavin:** Nutritional factor found in milk, eggs, malted barley, liver,

kidney, heart, and leafy vegetables. The richest natural source is yeast. It occurs in the free form only in the retina of the eye, in whey, and in urine; its principal forms in tissues and cells are as FMN and FAD. [NIH]

**Sarcoidosis:** An idiopathic systemic inflammatory granulomatous disorder comprised of epithelioid and multinucleated giant cells with little necrosis. It usually invades the lungs with fibrosis and may also involve lymph nodes, skin, liver, spleen, eyes, phalangeal bones, and parotid glands. [NIH]

**Sarin:** An organophosphorous ester compound that produces potent and irreversible inhibition of cholinesterase. It is toxic to the nervous system and is a chemical warfare agent. [NIH]

**Scopolamine:** An alkaloid from Solanaceae, especially *Datura metel* L. and *Scopola carniolica*. Scopolamine and its quaternary derivatives act as antimuscarinics like atropine, but may have more central nervous system effects. Among the many uses are as an anesthetic premedication, in urinary incontinence, in motion sickness, as an antispasmodic, and as a mydriatic and cycloplegic. [NIH]

**Secretion:** 1. the process of elaborating a specific product as a result of the activity of a gland; this activity may range from separating a specific substance of the blood to the elaboration of a new chemical substance. 2. any substance produced by secretion. [EU]

**Sedative:** 1. allaying activity and excitement. 2. an agent that allays excitement. [EU]

**Selenium:** An element with the atomic symbol Se, atomic number 34, and atomic weight 78.96. It is an essential micronutrient for mammals and other animals but is toxic in large amounts. Selenium protects intracellular structures against oxidative damage. It is an essential component of glutathione peroxidase. [NIH]

**Sensitization:** 1. administration of antigen to induce a primary immune response; priming; immunization. 2. exposure to allergen that results in the development of hypersensitivity. 3. the coating of erythrocytes with antibody so that they are subject to lysis by complement in the presence of homologous antigen, the first stage of a complement fixation test. [EU]

**Serum:** The clear portion of any body fluid; the clear fluid moistening serous membranes. 2. blood serum; the clear liquid that separates from blood on clotting. 3. immune serum; blood serum from an immunized animal used for passive immunization; an antiserum; antitoxin, or antivenin. [EU]

**Sigmoid:** 1. shaped like the letter S or the letter C. 2. the sigmoid colon. [EU]

**Sigmoidoscopy:** Endoscopic examination, therapy or surgery of the sigmoid flexure. [NIH]

**Somatic:** 1. pertaining to or characteristic of the soma or body. 2. pertaining

to the body wall in contrast to the viscera. [EU]

**Somatostatin:** A polypeptide hormone produced in the hypothalamus, and other tissues and organs. It inhibits the release of human growth hormone, and also modulates important physiological functions of the kidney, pancreas, and gastrointestinal tract. Somatostatin receptors are widely expressed throughout the body. Somatostatin also acts as a neurotransmitter in the central and peripheral nervous systems. [NIH]

**Spastic:** 1. of the nature of or characterized by spasms. 2. hypertonic, so that the muscles are stiff and the movements awkward. 3. a person exhibiting spasticity, such as occurs in spastic paralysis or in cerebral palsy. [EU]

**Spectrum:** A charted band of wavelengths of electromagnetic vibrations obtained by refraction and diffraction. By extension, a measurable range of activity, such as the range of bacteria affected by an antibiotic (antibacterial s.) or the complete range of manifestations of a disease. [EU]

**Sporadic:** Neither endemic nor epidemic; occurring occasionally in a random or isolated manner. [EU]

**Stavudine:** A dideoxynucleoside analog that inhibits reverse transcriptase and has in vitro activity against HIV. [NIH]

**Stimulant:** 1. producing stimulation; especially producing stimulation by causing tension on muscle fibre through the nervous tissue. 2. an agent or remedy that produces stimulation. [EU]

**Stomach:** An organ of digestion situated in the left upper quadrant of the abdomen between the termination of the esophagus and the beginning of the duodenum. [NIH]

**Sumatriptan:** A serotonin agonist that acts selectively at 5HT<sub>1</sub> receptors. It is used in the treatment of migraines. [NIH]

**Surgical:** Of, pertaining to, or correctable by surgery. [EU]

**Sympathetic:** 1. pertaining to, caused by, or exhibiting sympathy. 2. a sympathetic nerve or the sympathetic nervous system. [EU]

**Symptomatic:** 1. pertaining to or of the nature of a symptom. 2. indicative (of a particular disease or disorder). 3. exhibiting the symptoms of a particular disease but having a different cause. 4. directed at the allaying of symptoms, as symptomatic treatment. [EU]

**Syncope:** A temporary suspension of consciousness due to generalized cerebral ischemia, a faint or swoon. [EU]

**Synergistic:** Acting together; enhancing the effect of another force or agent. [EU]

**Thalamus:** Either of two large, ovoid masses, consisting chiefly of grey substance, situated one on each side of and forming part of the lateral wall of the third ventricle. It is divided into two major parts : dorsal and ventral,

each of which contains many nuclei. [EU]

**Thyroxine:** An amino acid of the thyroid gland which exerts a stimulating effect on thyroid metabolism. [NIH]

**Tomography:** The recording of internal body images at a predetermined plane by means of the tomograph; called also body section roentgenography. [EU]

**Toxicology:** The science concerned with the detection, chemical composition, and pharmacologic action of toxic substances or poisons and the treatment and prevention of toxic manifestations. [NIH]

**Transplantation:** The grafting of tissues taken from the patient's own body or from another. [EU]

**Triazolam:** A short-acting benzodiazepine used in the treatment of insomnia. Some countries temporarily withdrew triazolam from the market because of concerns about adverse reactions, mostly psychological, associated with higher dose ranges. Its use at lower doses with appropriate care and labeling has been reaffirmed by the FDA and most other countries. [NIH]

**Tricyclic:** Containing three fused rings or closed chains in the molecular structure. [EU]

**Trimebutine:** Proposed spasmolytic with possible local anesthetic action used in gastrointestinal disorders. [NIH]

**Urinary:** Pertaining to the urine; containing or secreting urine. [EU]

**Urology:** A surgical specialty concerned with the study, diagnosis, and treatment of diseases of the urinary tract in both sexes and the genital tract in the male. It includes the specialty of andrology which addresses both male genital diseases and male infertility. [NIH]

**Uterus:** The hollow muscular organ in female mammals in which the fertilized ovum normally becomes embedded and in which the developing embryo and fetus is nourished. In the nongravid human, it is a pear-shaped structure; about 3 inches in length, consisting of a body, fundus, isthmus, and cervix. Its cavity opens into the vagina below, and into the uterine tube on either side at the cornu. It is supported by direct attachment to the vagina and by indirect attachment to various other nearby pelvic structures. Called also metra. [EU]

**Vascular:** Pertaining to blood vessels or indicative of a copious blood supply. [EU]

**Viral:** Pertaining to, caused by, or of the nature of virus. [EU]

**Viruses:** Minute infectious agents whose genomes are composed of DNA or RNA, but not both. They are characterized by a lack of independent metabolism and the inability to replicate outside living host cells. [NIH]



**Yohimbine:** A plant alkaloid with alpha-2-adrenergic blocking activity. Yohimbine has been used as a mydriatic and in the treatment of impotence. It is also alleged to be an aphrodisiac. [NIH]

## General Dictionaries and Glossaries

While the above glossary is essentially complete, the dictionaries listed here cover virtually all aspects of medicine, from basic words and phrases to more advanced terms (sorted alphabetically by title; hyperlinks provide rankings, information and reviews at Amazon.com):

- **Dictionary of Medical Acronyms & Abbreviations** by Stanley Jablonski (Editor), Paperback, 4th edition (2001), Lippincott Williams & Wilkins Publishers, ISBN: 1560534605,  
<http://www.amazon.com/exec/obidos/ASIN/1560534605/icongroupinterna>
- **Dictionary of Medical Terms : For the Nonmedical Person (Dictionary of Medical Terms for the Nonmedical Person, Ed 4)** by Mikel A. Rothenberg, M.D, et al, Paperback - 544 pages, 4th edition (2000), Barrons Educational Series, ISBN: 0764112015,  
<http://www.amazon.com/exec/obidos/ASIN/0764112015/icongroupinterna>
- **A Dictionary of the History of Medicine** by A. Sebastian, CD-Rom edition (2001), CRC Press-Parthenon Publishers, ISBN: 185070368X,  
<http://www.amazon.com/exec/obidos/ASIN/185070368X/icongroupinterna>
- **Dorland's Illustrated Medical Dictionary (Standard Version)** by Dorland, et al, Hardcover - 2088 pages, 29th edition (2000), W B Saunders Co, ISBN: 0721662544,  
<http://www.amazon.com/exec/obidos/ASIN/0721662544/icongroupinterna>
- **Dorland's Electronic Medical Dictionary** by Dorland, et al, Software, 29th Book & CD-Rom edition (2000), Harcourt Health Sciences, ISBN: 0721694934,  
<http://www.amazon.com/exec/obidos/ASIN/0721694934/icongroupinterna>
- **Dorland's Pocket Medical Dictionary (Dorland's Pocket Medical Dictionary, 26th Ed)** Hardcover - 912 pages, 26th edition (2001), W B Saunders Co, ISBN: 0721682812,  
<http://www.amazon.com/exec/obidos/ASIN/0721682812/icongroupinterna/103-4193558-7304618>
- **Melloni's Illustrated Medical Dictionary (Melloni's Illustrated Medical Dictionary, 4th Ed)** by Melloni, Hardcover, 4th edition (2001), CRC Press-Parthenon Publishers, ISBN: 85070094X,  
<http://www.amazon.com/exec/obidos/ASIN/85070094X/icongroupinterna>

- **Stedman's Electronic Medical Dictionary Version 5.0 (CD-ROM for Windows and Macintosh, Individual)** by Stedmans, CD-ROM edition (2000), Lippincott Williams & Wilkins Publishers, ISBN: 0781726328, <http://www.amazon.com/exec/obidos/ASIN/0781726328/icongroupinterna>
- **Stedman's Medical Dictionary** by Thomas Lathrop Stedman, Hardcover - 2098 pages, 27th edition (2000), Lippincott, Williams & Wilkins, ISBN: 068340007X, <http://www.amazon.com/exec/obidos/ASIN/068340007X/icongroupinterna>
- **Tabers Cyclopedic Medical Dictionary (Thumb Index)** by Donald Venes (Editor), et al, Hardcover - 2439 pages, 19th edition (2001), F A Davis Co, ISBN: 0803606540, <http://www.amazon.com/exec/obidos/ASIN/0803606540/icongroupinterna>

# INDEX

## A

Abdomen ..21, 29, 30, 128, 143, 265, 286, 291  
 Abscess .....33, 132, 138, 143, 279  
 Absenteeism .....57, 130  
 Adrenergic .69, 91, 94, 137, 275, 281, 293  
 Adverse .....59, 97, 163, 168, 241, 292  
 Algorithms.....113, 143  
 Alimentary.....29, 139, 276, 284, 288  
 Amitriptyline .....127  
 Amygdala.....70, 78, 89, 275  
 Anal .....32, 115, 134  
 Analogous.....98  
 Anatomical.....60, 93, 103, 286  
 Anemia .....63, 134, 159  
 Anomalies.....56  
 Anorectal .....19, 32, 34, 59, 113  
 Anorexia .....92, 100, 282  
 Anticholinergic ....103, 104, 127, 137, 166, 275, 276  
 Antidepressant .....15, 46, 137, 160, 167, 193, 275, 282, 284  
 Antigens.....60, 90, 94, 242, 276, 289  
 Antispasmodic .....24, 62, 194, 290  
 Anus .....11, 13, 27, 32, 42, 136, 159, 275  
 Anxiety ..17, 18, 69, 70, 77, 103, 104, 125, 193, 278  
 Anxiolytic ....137, 167, 180, 193, 276, 277, 285  
 Apnea .....96  
 Appendicitis .113, 115, 134, 138, 174, 279  
 Aqueous .....105  
 Ascites .....144, 145  
 Auditory .....84  
 Autonomic.....70, 71, 75, 76, 78, 100, 164

## B

Barium .....158, 160  
 Benign .....42, 113, 148, 286  
 Biliary .....19, 34, 130, 145  
 Biphasic .....79  
 Bismuth.....58  
 Borborygmus .....100  
 Bradycardia .....96  
 Buspirone .....176

## C

Capsules.....201, 209, 237, 242  
 Carbohydrate.....145, 237  
 Carcinoma .....32, 130  
 Cardiac ...29, 91, 128, 143, 167, 281, 285, 287  
 Causal .....104

Cerebral .....30, 42, 79, 91, 110, 281, 282, 291  
 Character .....138, 148, 279, 282  
 Cholangitis .....135  
 Cholecystitis.....135  
 Cholera .....58  
 Cholesterol.....234, 237  
 Cirrhosis.....22, 130, 135, 144, 174  
 Colic .....116, 128, 202  
 Colitis .11, 15, 17, 22, 33, 34, 58, 73, 101, 104, 113, 114, 125, 126, 134, 135, 147, 159, 175, 202  
 Collagen.....58, 90, 278  
 Colonoscopy ...21, 33, 125, 158, 160, 161  
 Colorectal.....32, 70, 134, 144, 174  
 Comorbidity.....68  
 Concomitant.....65  
 Copulation.....71  
 Cortex .....42, 78, 282  
 Cystitis .....71  
 Cytokines .....105

## D

Defecation .....29, 56, 64, 105, 107, 128, 130, 142, 158, 284  
 Degenerative .....138, 143, 235, 280  
 Dehydration.....90, 134, 277  
 Desipramine.....47, 127, 160  
 Diarrhoea .....92, 205, 239, 282  
 Diffusion .....129  
 Digestion .....17, 19, 30, 42, 89, 91, 173, 202, 275, 280, 288, 291  
 Distention .12, 70, 99, 102, 129, 133, 270, 282  
 Diurnal.....75  
 Diverticulitis. 113, 132, 134, 135, 142, 202  
 Diverticulum .....132, 138, 279  
 Dorsal.....74, 94, 291  
 Duodenum .....28, 113, 282  
 Dysmenorrhea .....159  
 Dyspepsia .....66, 97, 113, 114, 122, 134, 163, 173, 174, 176  
 Dysphagia .....114  
 Dysphoria.....100  
 Dystonia .....100

## E

Eczema .....69  
 Electrophysiological .....73  
 Emesis .....100  
 Endocrinology .....167, 283  
 Endogenous.....71, 78, 91, 106, 280  
 Endometriosis .....132, 138, 280

- Endoscopy ..... 13, 65, 175  
 Enema ..... 82, 158, 160, 271  
 Enteritis ..... 57  
 Eosinophilia ..... 58  
 Epidemiological ..... 63, 69  
 Epinephrine ..... 78, 89, 180, 275, 287  
 Esophagitis ..... 113, 144  
 Ethanol ..... 76  
 Evacuation ..... 56, 62, 162, 278  
**F**  
 Fatal ..... 139  
 Fatigue ..... 27, 63, 68, 85, 127, 128, 146, 159, 276  
 Fats ..... 234, 255, 277, 281  
 Fermentation ..... 240  
 Fibrosis ..... 28, 135, 140, 277, 290  
 Fissure ..... 32  
 Fistula ..... 28, 33, 132, 282  
 Flatulence ... 113, 114, 127, 128, 129, 173, 202  
 Fructose ..... 136  
**G**  
 Gastritis ..... 136, 174, 202  
 Gastroduodenal ..... 19, 28, 34, 113, 282  
 Gastroenteritis ..... 80, 113, 116, 134, 155, 163, 172  
 Glutamine ..... 99  
 Gynecology ..... 159  
**H**  
 Heartburn ..... 66, 100, 113, 114, 128, 134, 163, 202  
 Hematology ..... 10  
 Hemorrhage ..... 113, 132, 143  
 Hemorrhoids ..... 32, 134, 174, 202  
 Hepatitis ..... 22, 115, 136, 143, 145, 174  
 Heredity ..... 64, 152  
 Hernia ..... 173, 174  
 Hormonal ..... 71  
 Hormones ..... 12, 13, 77, 92, 94, 97, 104, 109, 112, 127, 128, 278, 285, 289  
 Hydrophilic ..... 99, 101  
 Hyperalgesia ..... 72, 73, 76  
 Hypersecretion ..... 176  
 Hypersensitivity .... 56, 60, 67, 70, 94, 242, 290  
 Hypertension ..... 206, 210  
 Hypothalamic ..... 70, 75  
**I**  
 Ileostomy ..... 18  
 Ileus ..... 134  
 Imipramine ..... 160  
 Incontinence ... 18, 19, 33, 34, 58, 96, 113, 115, 128, 144, 194, 290  
 Inertia ..... 59  
 Inflammation .... 11, 17, 28, 57, 58, 73, 76, 91, 92, 105, 114, 125, 138, 143, 159, 161, 162, 276, 277, 279, 281, 282  
 Inguinal ..... 134  
 Innervation ..... 78  
 Insomnia ..... 104, 168, 292  
 Intermittent ..... 115, 162  
 Interstitial ..... 28, 71, 277  
 Intestines ..... 11, 21, 24, 25, 92, 108, 127, 142, 162, 239, 265, 276, 277, 282, 284  
 Intravenous ..... 58, 139, 288  
 Inulin ..... 99  
**L**  
 Lactobacillus ..... 99  
 Limbic ..... 70, 89, 275  
 Lipodystrophy ..... 136  
 Lymphoma ..... 167, 285  
**M**  
 Malabsorption ..... 58, 113, 134  
 Malaise ..... 59, 109, 280  
 Malignant ..... 42, 113, 137, 167, 277, 285  
 Mediator ..... 176  
 Medicament ..... 100, 104  
 Megacolon ..... 59  
 Micturition ..... 59  
 Molecular . 10, 33, 93, 140, 170, 178, 289, 292  
 Motility.. 12, 14, 17, 18, 56, 57, 65, 93, 97, 100, 105, 107, 113, 129, 173, 288  
 Mucus ..... 13, 56, 127, 128, 158, 162, 265  
**N**  
 Naloxone ..... 75  
 Nausea. 20, 22, 59, 92, 99, 113, 114, 128, 134, 265, 282  
 Neonatal ..... 73  
 Neoplasms ..... 32, 42, 58, 286  
 Neoplastic ..... 123, 167, 285  
 Neural ..... 52, 74, 76, 235, 279  
 Neuroendocrinology ..... 71  
 Neuronal ..... 70, 74, 76  
 Neurons ..... 60, 70, 73, 76, 93, 106, 139, 286, 287  
 Neuropharmacology ..... 76  
 Neurophysiology ..... 71  
 Neurotransmitter . 149, 173, 180, 287, 291  
 Niacin ..... 235  
 Nicotine ..... 114  
**O**  
 Occult ..... 58  
 Oligosaccharides ..... 99  
 Opiate ..... 92, 286  
 Osmotic ..... 58, 145  
 Osteoporosis ..... 239  
 Overdose ..... 235  
**P**  
 Pacemaker ..... 12, 29, 287

- Pancreas .....42, 134, 139, 149, 287, 291  
 Pancreatitis.....33, 144, 145, 174  
 Papain .....99, 110, 288  
 Parenteral.....124  
 Pelvic ....19, 34, 59, 71, 73, 138, 140, 280, 292  
 Peptic.....33, 130, 144, 174  
 Perforation .....132, 138, 279  
 Peritonitis .....132, 134  
 Pernicious .....134  
 Pharmacist.....186, 192  
 Pirenzepine.....89  
 Poisoning .....92, 115, 128, 147, 282  
 Porphyria .....136  
 Postnatal.....74  
 Predisposition .....103  
 Prednisone .....163  
 Premenstrual .....127, 159  
 Prevalence..... 24, 57, 69, 105, 107, 126, 134, 159, 174  
 Proctitis .....134, 136  
 Prolapse .....33  
 Prophylaxis .....100  
 Proteins .....109, 234, 236, 278  
 Psychiatric .....17, 61, 65, 161  
 Psychiatry .....289  
 Psychogenic .....102  
 Psychology .....114, 122  
 Psychotherapy.....57, 104, 128, 135, 157, 160  
**R**  
 Radiography .....125  
 Receptor .....106, 107, 180, 277  
 Rectal .....32, 58, 78, 114, 159, 206  
 Recurrence .....93, 288  
 Reflux ...65, 113, 116, 130, 136, 144, 163, 173, 176  
 Refractory.....80, 210  
 Relaxant .....193, 278  
 Remission.....105, 125, 139, 160, 289  
 Riboflavin .....234  
**S**  
 Sarcoidosis .....136  
 Secretion ..29, 92, 93, 100, 110, 145, 173, 176, 283, 285, 286, 288, 290  
 Sedative.....137, 166, 167, 193, 275, 276, 277, 284, 285  
 Selenium .....236  
 Sensitization .....71, 74, 76  
 Serum .....60, 94, 139, 288, 290  
 Sigmoid .....17, 29, 71, 132, 290  
 Sigmoidoscopy .....21, 158, 160  
 Somatic.....59, 62, 72, 75, 78, 104, 122  
 Somatostatin.....139, 145, 287  
 Spastic .....11, 30, 66, 101, 104, 291  
 Spectrum.....10, 59  
 Sporadic.....98  
 Stimulant.....99  
 Stomach...17, 28, 92, 113, 115, 134, 139, 202, 282, 287  
 Sumatriptan.....176  
 Surgical ....22, 30, 59, 125, 126, 146, 167, 282, 292  
 Sympathetic .....89, 130, 275, 291  
 Symptomatic ....77, 94, 98, 104, 193, 277, 291  
 Syncope .....96  
 Synergistic .....160  
 Systemic .....59, 91, 139, 281, 290  
**T**  
 Thalamus .....74, 78  
 Thermoregulation.....234  
 Thyroxine .....236  
 Tomography.....161  
 Toxicology.....10, 171  
 Transplantation .....122, 124, 147  
 Triazolam .....168, 292  
 Tricyclic..27, 52, 127, 160, 167, 172, 276, 279, 284  
**U**  
 Urinary .29, 30, 91, 93, 96, 128, 194, 278, 284, 288, 290, 292  
 Urology.....10  
 Uterus .....133  
**V**  
 Vascular .....58  
 Viral.....21, 42, 166, 174, 279  
 Viruses .....22, 166, 276  
 Visceral ....56, 65, 70, 71, 72, 73, 75, 76, 78, 107, 172, 173  
**W**  
 Warts.....33  
**Y**  
 Yohimbine.....79





