

The Health Forum

Book 2

The Health Forum

Book 2

Candidiasis and Dysbiosis Abatement Techniques

Edited and Compiled by Polly Hattemer



©2002 by Polly Hattemer, also known as Pauline Hattemer

All rights reserved. Permission must be obtained from the publisher or the individual contributors before republishing parts of this work. Purchase of this PDF file entitles you to use it for yourself and immediate family, but not to distribute copies to others.

Published by
Health Reflections Book Corp
PO Box 900
Manhattan Beach, CA 90267-0900
USA
email ReflectHealth@adelphia.net

November 2003 version
Minor updates will be done occasionally.

More *Health Forum* books can be
found at www.dysbiosis.com

Book 1: Candida's Impact on your Health

Book 2: Candidiasis and Dysbiosis Abatement Techniques

Book 3: Diets for Immune Support and Gut Health

Book 4: Hormones, Dysbiosis and Candidiasis

Book 5: Hope for Autism through Nutrition

Book 6: Cleansing the Body of Mercury

Book 7: Fibromyalgia Treatment Options

Disclaimer

This book contains the opinions, anecdotes, and speculations of lay people. Anecdotes are for pondering. They are not necessarily representative of the majority of people. However, anecdotes do serve to illustrate possibilities as well as how different we are. The contents of this book should in no way be considered professional advice nor should it be interpreted as prescribing treatment. Use your own judgement. If you do not understand the risks involved with a particular treatment or supplement discussed in the book, please consult a knowledgeable professional. We have tried to present the well-known dangers of treatments and supplements in this book. However, never treat this or any other information as the whole truth. There is always more to be learned. Nothing is absolutely safe. Accordingly, the publisher and the contributors to this book do not assume any liability in connection with any of the supplements or treatments mentioned in this book. Although all contributors have tried their best to provide reliable information, this book is not guaranteed to be accurate or complete. Readers are encouraged to consult other sources.

Please note that the principal editor, who gathered these posts, does not have any financial interest in any of the supplements or laboratories mentioned. If only one brand or one distributor is mentioned, it is not necessarily an endorsement. It has just been included to give the reader at least one place to readily obtain a remedy. There is no guarantee that the website addresses in this book will be valid or correct. Website addresses go stale and sometimes they are taken over by other businesses. There are also many phone numbers in the last index of this book. There is no guarantee that they will remain valid. Prices of supplements are as of the writing of this book. Again, there is absolutely no way that we can guarantee that these will remain the same. Listed prices may just give you an approximate idea of the cost of products.

Table of Contents

SO WHAT'S IT ALL ABOUT?	8
ABOUT THE HEALTH FORUM BOOKS.....	9
THE INTERNET FORUM	10
DIGESTION.....	11
HOW TO TEST FOR STOMACH ACID LEVEL	12
POOR STOMACH ACID OUTPUT CAN LEAD TO SERIOUS DISORDERS	14
H. PYLORI INFECTIONS	17
RESTORING STOMACH ACID PRODUCTION	17
WHAT ARE DIGESTIVE ENZYMES?	18
ENOUGH BILE?	20
MSM	22
ANTIFUNGALS	27
HOW TO LESSEN THE DIE-OFF REACTION	27
THE ATTOGRAM PROGRAM	28
COLONICS	29
NATURAL OR PRESCRIPTION ANTIFUNGALS?.....	30
TRANSFER FACTOR, TH1 AND TH2	37
ANTIFUNGALS AND CLOSTRIDIUM	38
PARASITES.....	41
PROBIOTICS	46
BRUSH YOUR GUMS WITH PROBIOTICS.....	46
IS THERE SUGAR IN YOUR PROBIOTICS?	47
FRUCTO-OLIGOSACCHARIDES (FOS), OLIGOFRUCTOSE, AND INULIN	47
INFANT/TODDLER PROBIOTICS	48
PROTECT YOUR PROBIOTICS.....	49
TEST RESULTS	49
WHAT DO GOOD BACTERIA LIVE ON?	50
PROBIOTICS AND THE IMMUNE SYSTEM.....	50
PROBIOTIC SUPPOSITORIES	51
ARE PROBIOTICS EFFECTIVE?.....	52
HOW MUCH IS NEEDED?	53

*Candidiasis and Dysbiosis Abatement Techniques**The Health Forum—Book 2*

SOIL-BASED MICROORGANISMS	56
YEAST AS A PROBIOTIC?	58
ARE PROBIOTICS EVER HARMFUL?	58
PARASITES AS PROBIOTICS	61
WHEN ALL ELSE FAILS	62
LEAKY GUT	64
DR. LEO GALLAND’S OBSERVATIONS ON HEALING LEAKY GUT	65
MORE REMEDIES FOR LEAKY GUT	66
GLUCOSAMINOGLYCANS (GAGs)	67
TAURINE.....	70
VITAMINS AND MINERALS.....	72
GOVERNMENT RESTRICTIONS ON VITAMINS AND MINERALS.....	73
VITAMIN A	73
VITAMIN A OR CAROTENE?.....	76
VITAMIN B1	77
VITAMIN B6	77
VITAMIN B12	79
BIOTIN.....	81
COENZYME Q10	84
MOLYBDENUM	85
ZINC IS IMPORTANT.....	87
ZINC TASTE TEST	87
BE CAREFUL WITH ZINC OR IRON	88
ZINC AND COPPER BALANCING.....	89
ACETYLALDEHYDE POISONING	91
THANK YOU RAINMASTER!	94
INDEX	96

Preface

The true power of the Internet is the people who are on it. Rather than being a huge impersonal library, the Internet is filled with live people from all over the world who contribute their thoughts, perspectives and experiences. At one particular site in this vast sea of exchanges, people have gathered to discuss health concerns related to the yeast syndrome and dysbiosis. The people at this Internet site/forum have learned and gained so much from their cyberspace meetings that they decided to create this book to let others share in the ideas and information exchanged. This book is a gift from our hearts to you. No one was paid for his or her contributions, and all net royalties will be donated to charity. May our efforts bear fruit, and may you, the reader, enjoy this book, and learn as much from the people at the healthy awareness forum as they have from each other.

Acknowledgement

This work would not have been possible without the support of my husband, Dale Goudey, PhD. Thank you for your patience and for your generosity. A special acknowledgement is due Raymond Peat, PhD. Without his 1985 lecture on “The Endocrine System and Candidiasis,” I would have surely lost my health. More than anyone else, his books and newsletters have influenced the way I think about nutrition. Thank you Andy Cutler, PhD, for teaching me about mercury poisoning, and thank you Willis Langford for teaching me about autism. I owe much to the Candida and Dysbiosis Information Foundation, as they were my only link with reliable information for many years. Thank you to all my friends on the Internet who participated in this endeavor. Special thanks to Susan Rodriguez, Shelley Thorstensen, Kippy Noble, Thone Ritch, Billie Jo Secrist, Marilyn in Seattle, Jeanne Jackson, and Taylor Vance for their suggested improvements to the book. Also, Huy Hoang, MD was kind enough to review the book for me. Thank you Brent James for the formatting suggestions. Rosalind James, Shari Ostapiuk and Sondra Lewis have my sincere gratitude for proofreading the manuscript. And of course, last but not least, thank you to Kelly Nowicki for bringing so many of us together at the healthy awareness Internet site. This book would not exist if it weren't for the help of so many.

So What's It All About?

About twenty-five years ago, Orian Truss, MD, reported a constellation of symptoms that appeared to be related to yeast/fungus overgrowth in the body. Since then, William Crook, MD, and others have been keeping the “yeast syndrome” theory alive and informing the public of further insights into this condition. Unfortunately, mainstream medicine has rejected the idea of yeast as a major contributor to common illnesses. However, they now believe that intestinal bacteria may be important to health. With time, and more information, the two viewpoints may come closer. In the mean time, the patient must decide which makes the most sense—alternative medicine or mainstream.

At first, many people assumed that the symptoms were due just to an overgrowth of yeast/fungus in the intestines. However, the wrong bacteria and parasites are often present too. Sometimes viruses play a role. For most people, the more general term dysbiosis is more applicable. Dysbiosis means harmful flora has overwhelmed the intestinal environment.

Dysbiosis is present in many illnesses besides the “yeast syndrome.” These illnesses include Crohns, colitis, autism, attention deficit, fibromyalgia, multiple sclerosis, and mercury

poisoning. This book series will start with an exploration of the yeast syndrome and then move on to discuss diet, hormones, autism, mercury and fibromyalgia.

The yeast syndrome is a constellation of many different symptoms, all of which combine to give an overall picture of ill health. Some of the possible manifestations are fatigue, constipation, diarrhea, abdominal bloating, food intolerances, hypoglycemia, dizziness, vaginal yeast infections, prostatitis, bladder pain, earaches, sinus infections, too many colds, asthma, carpal tunnel, mitral valve prolapse depression, rashes, psoriasis, mood swings, irritability, sensitivity to smells, headaches/ migraines, and difficulty concentrating.

Autism is characterized by impaired social interactions, by impaired communication, and by repetitive interests and behaviors. Sometimes autistic people are unable to speak. Vision may be impaired/altered. Almost 90% of the autistic population have the wrong flora in their intestines and many appear to have a viral infection in the intestines. Most have high serotonin levels or excess free serotonin. It is strongly suspected that one of the underlying

causes of autism is a unique type of mercury poisoning. When detoxified of mercury and treated for the infections, dysbiosis, and other related problems, some of the autistic recover. Interventions with the youngest children seem to hold the most promise.

Mercury poisoning makes one very susceptible to dysbiosis. When the body is detoxified of mercury, the intestinal flora has a much better chance of returning to normal. The list of possible mercury associated health challenges are very similar to that of the yeast syndrome. They are fatigue, allergies, depression, digestive disorders, immune suppression, gum disease, neurological problems, reproductive disorders, birth defects, kidney disease, heart problems, high blood pressure, autism, breathing disorders, skin disease, and leukemia.

Fibromyalgia is characterized by generalized joint and/or muscle pain. People with fibromyalgia often have very poor sleep, and a heightened sensitivity to stimuli. Fatigue is common and sometimes there is difficulty thinking. At a very simple level, the difference between the yeast syndrome and fibromyalgia is often just the type of intestinal infection and its distribution in the intestines. Those with fibromyalgia usually have a bacterial overgrowth in the small intestine. Often there is too much tartaric acid being produced by the bacteria in fungus in the intestines. Most of those with fibromyalgia also have a viral infection of the E. coli that reside in their intestines. An improper use of serotonin seems to underlie many of the symptoms of fibromyalgia.

About The Health Forum Books

In these books, you are listening to real people talk about their experiences with the yeast syndrome, autism and mercury poisoning. The

conversations first took place on the Internet. Then they were compiled with permission into these books. However, you will not be reading exact replicas of the Internet conversations. Editing was necessary to avoid repetition of information and to help with the clarity of presentation. Often a person will post a message that covers many different topics. Including the whole message/post would make organization of the book impossible. So most posts were shortened to only include comments on one topic at a time. To improve the organization further, several real discussions on the same topic were often combined to create what appears to be one long discussion in this book. Background material and introductory remarks were added through the voice of Polly, the person who gathered the posts for this book. Occasionally, you will find a post from a Mr. or Mrs. Generic in this book. This was a necessary artifact to keep the discussion moving.

Because there was so much information gathered, it was necessary to split *The Health Forum* into several books.

Book 1 — *Candida's Impact on Your Health.* Is the problem really Candida, or is it just a weakened and toxic body that allows the candida/yeast to take over? What about bacteria, parasites and viruses? This book also covers the total body load, liver support, and the usual concurrent health problems associated with yeast overgrowth.

Book 2 — *Candidiasis and Dysbiosis Abatement Techniques.* This book delves into some basic methods for eliminating the problem, like employing the right antibiotics, antifungals, and probiotics. Also, this book discusses the particular vitamins and minerals that are more likely to be depleted in this syndrome.

Book 3 — *Diets for Immune Support and Gut Health.* There isn't a perfect diet for everyone. However, some very common mistakes must be avoided. There is much that we can learn from each other.

Book 4 — *Hormones, Dysbiosis and Candidiasis.* When there is dysbiosis, often there is low thyroid, high estrogen and/or weak adrenals. This book explores the proper use of hormonal support when dysbiosis is present. Migraines are also covered.

Book 5 — *Hope for Autism through Nutrition.* This book covers autism, attention deficit, and vaccinations. Most people with autism have severe dysbiosis. What helps the autistic provides insight into everyone else's dysbiosis problem. The treatment of attention deficit is also touched upon in this book. The treatment strategy is very similar to that for autism. The role of vaccinations and mercury in triggering autism is also explored.

Book 6 — *Cleansing the Body of Mercury.* Those who are mercury poisoned are very likely to have dysbiosis. This book covers mercury detoxification methods and the role of amino acids in dysbiosis and mercury toxicity.

Book 7 — *Fibromyalgia Treatment Options.* Fibromyalgia is a special case of dysbiosis, with usually a bacterial overgrowth in the intestines. This bacterial overgrowth can contribute to the poor sleep, lack of energy and hormonal disturbances found in this condition. This book departs from the usual format, and is but a summary of the information gleaned from the patients and medical literature.

Even if you are only interested in the conditions specifically covered in the latter books, at some point you should consider reading the first few books. The earlier books will add depth to your

understanding and give you many practical hints on how to recover. All the chapters are fairly self-contained, so you can read the chapters or the books in about any order you wish. However, if you are new to this subject, you will find that the chapters in the first books are easier to grasp.

The vast majority of messages found in books 1 to 4 came from the Healthy Awareness Internet forum. These messages can still be found in the archives at www.healthyawareness.com. However, the latter books are a little different as they focus on autism, mercury poisoning and fibromyalgia. Although these illnesses are discussed at the healthy awareness site, they are not the main thrust of the conversations. Therefore, to a much greater extent, other Internet resources were tapped to complete these books.

The Internet Forum

The quotes in this book are but a snapshot in time of the interactions found at the healthy awareness forum. As people heal and move on with their lives, they visit the healthy awareness forum less often. If you come visit the forum, most of the people found in this book will no longer be there. Yet, you will find other very interesting and caring people at the forum who would love to have you join them. Please be aware that at any Internet site, including this forum, unfortunate misunderstandings arise. When you visit, please try to keep your posts polite and unambiguous. For many of us, fatigue and brain-fog make it difficult to create perfect posts. Please don't expect perfection. The forum is a place to learn, express your thoughts and enjoy the camaraderie. Have fun!

Digestion

Taylor: How often I've wanted to yell at a doctor who says, "Candida can't be the problem, it is a normal inhabitant of the intestinal track!" When it gets to the overgrowth stage, like a vaginal yeast infection, or a nail infection, they can see it is a problem. Why can't they see that intestinal yeast overgrowth is a problem too, only much, much worse?

Polly: E. coli causes food poisoning. Yet it is also a "normal" inhabitant of the intestinal track. No one considers large quantities of E. coli benign. The unwillingness of some people to consider the possibility of yeast being a problem is so sad. In fact, one person tried to prove that yeast in the intestines were benign by ingesting larger and larger quantities of it. Eventually he made himself sick. Yeast overgrowth in the intestines is not benign. It will

- 1) shift the immune system from Th1 to Th2. [1]
This type of shift favors inflammation. It also tends to keep the infection in place by making it more difficult for the body to get rid of the yeast, parasites and viruses.
- 2) alter the pH and other intestinal environmental factors, which will favor the growth of different bacteria,

- 3) destroy nutrients like coenzyme Q10, [2]
- 4) over-burden the liver with poisons,
- 5) produce toxins that interfere with energy production, and other bodily processes,
- 6) and generally make a person absolutely miserable.

Taylor: Understanding how to aid the digestive process seems to be key in helping the immune system fight the candida. There is an apparent interplay between the digestive process and the immune system where

- 1) Food is improperly digested
- 2) Undigested food molecules slip through the leaky gut into the bloodstream.
- 3) The immune system stays busy fighting these food molecules and toxins, and so it is unable to cope with the candida overgrowth.
- 4) Because our food is not well digested and absorbed, we don't experience the full benefit of its nutrients.
- 5) Without these nutrients, our immune system will never be able to attain the strength it needs to win the war against candida.

So it would appear that a front-line in our approach to health would be to attend to our digestion by using enzymes and/or acids to help digest the food, and using supplements to attend to the leaky gut.

Polly: Taylor, I think you are correct on every point. We need to get the nutrition in us instead of feeding the yeast, bad bacteria, and our allergies. This will help us break out of this vicious cycle. This interplay of the immune system and the digestive system is even more involved than you have outlined. A very large portion of the immune system is located in the gut, and the bacteria and yeast present in the gut interact with it. For instance, some bacteria even destroy interferon. [3] The health of the intestinal lining will determine to a large extent which bacteria thrive. This lining receives most of its nourishment directly from the food in the gut rather than from the blood supply. So if we want healthy flora, it is very important that the food is well digested.

To improve digestion, we must start by correcting the stomach acid pH, getting adequate digestive enzymes, and getting the proper flow of bile going. However, this by itself is not enough to digest food properly. The intestines must be healthy. For instance, if intestinal irritation and inflammation causes the food to flow too quickly through the digestive tract, then there would be no time for the digestive enzymes and bile to do their work. Healthy intestines are needed to secrete an enzyme, enterokinase, to activate the pancreatic enzymes. Without this activation of the digestive enzymes, food cannot be digested. The intestinal lining feeds the flora, and the flora helps the body digest food by providing needed enzymes. Therefore, we must also concentrate on creating healthy intestines if we are to improve digestion and our immune system.

How to Test for Stomach Acid Level

Polly: Many of us have found that adding an hydrochloric acid supplement is helpful. If you need it, it is very important because higher acid levels not only are important for digestion, but they help keep the yeast and bacteria levels down. Also, there is something called the digestive cascade—stomach acid triggers the pancreas to release its enzymes and bicarbonates, and it also triggers the release of bile. Without the trigger of enough stomach acid, the whole digestive system suffers.

Jane: What is the test for low stomach acid? I suspect this may be one of my problems and want to check it out.

Polly: One of my doctors suggested that I just try a little hydrochloric acid (HCL) and see if it made me feel better after a meal. If you have stomach ulcers, I assume this isn't a good idea. Also, you should be careful if you are taking medications that might increase your chances of getting a peptic ulcer. Eg nonsteroidal anti-inflammatory drugs (NSAIDs) or cortisone-like drugs. If you try HCL tablets, don't chew the tablets because they may harm your tooth enamel.

At Dr. Mercola's site, he describes a simple test to determine if you need stomach acid. Feel for a tender spot on your rib near the stomach area. The spot is about one inch across from your midline. If tender, there is a good chance you need extra acid. This is his article:

www.mercola.com/article/mercury/detox_protocol.htm

There is a good overview on tests for stomach acid in Ralph Golan's book, *Optimal Wellness*. Also, this article may be helpful,

<http://library.mothernature.com/index.cfm?page=detail&ContentID=2808009>

Mary Kay: Dr. John Trowbridge checked me for low stomach acid back in 1983 (there may be a more up-to-date test now). He did what is known as the Heidelberg test. I swallowed an electronic capsule that could communicate with the receptor outside of me. It relayed the pH of my stomach.

Marilyn in Seattle: My naturopathic doctor said they could no longer get these capsules and now a challenge test is what they rely on to determine stomach acid requirements.

(Note, with the challenge test, a person ingests one hydrochloric acid tablet, and if they don't feel any warmth or a peppery feeling in their chest and/or their throat after a few minutes, they add another tablet. They continue adding hydrochloric acid (HCL) tablets in this manner until some warmth is felt. If too much is taken, some baking soda or milk can be used to neutralize the acid.)

Linda in Virginia: I tried the challenge test last night using Twin Lab Betaine HCL, which contains ten grains per capsule. It took ten capsules (100 grains) before I felt anything. No wonder I am having problems. I have been taking hydrochloric acid (HCL), but not near enough. I have been fearful of taking too much and burning a hole in my stomach or something. This means I will have to take 9 capsules per meal. I'm still shaking my head

Polly: Typical doses are 10 to 30 grains, which is only one to three pills of the product you tried. If you are up to 100 grains, you better check with your doctor. [4] (Sometimes measurements are given in grains and sometimes they are in grams. 10 grains are approximately 650 gm.)

Linda in Virginia: Hi Polly, thanks so much for your reply. My doctor said that they are finding the average dose for people with rosacea is about 70 grains. After writing about taking 100 grains, my next meal only required 60 grains. This seems to be a meal by meal process. I also notice that I seem to need less as I go along. It's as if it builds up in my system? Does this make any sense? Has anyone else noticed this when taking Betaine HCL? Thanks.

MM: I did the test that you had outlined, and never reach a SAFE HCL supplemental level when I felt the supposed "burn." So I did supplement at about 5 or so tablets at meals. This did NOTHING to help my symptoms. Then, I had my stomach acid levels tested in my doc's office, and my own stomach acid levels were GOOD—indicating that I needed NO supplementation. My conclusion is that the "take tablets until you feel the burn" test is NOT valid. Rather than creating a NEW problem for yourself by supplementing IF you don't need it, I'd suggest having your doctor do a stomach acid test for you! Just my \$.02.

Linda in Virginia: MM, it is interesting you had no reaction from the HCL. I am glad you mentioned this. It is important for everyone to know. I do have a lot of symptoms associated with low stomach acid, but it couldn't hurt to have the test. More to think about. Thanks.

Polly: Marilyn found an article at

www.drdebe.com/BAKESODA.htm

which describes a safer test for stomach acid. Remember those old science classes where you mixed vinegar and baking soda and watched it bubble? When baking soda comes in contact with vinegar or any acid, then carbon dioxide gas is released. If you ingest baking soda on an empty

stomach, and the baking soda comes in contact with sufficient stomach acid, you may burp up the gas. Dr. Joseph A. Debé suggests putting a quarter teaspoon of baking soda in 8 ounces of water and then drinking it first thing in the morning, before eating anything. Then check how long it takes before you belch. If it is longer than 2 or 3 minutes before you produce a belch, then perhaps you are not producing enough stomach acid. A lot of immediate repeated belching might indicate excess stomach acid.

Kippy: Is hydrochloric acid available under the name “hydrochloric acid” or under a different name?

Polly: Usually it is found as betaine HCL. Supposedly you can also find glutamic HCL, but I haven’t seen it. One of my doctors told me to get a homeopathic remedy for stomach acid. I was to get the 4x or 6x type, but avoid the 9x. There is a school of thought that suggests the stronger 9x homeopathic remedy may actually work to suppress stomach acid.

Carol: Stomach acid is a paradoxical substance: too *little* can actually make you think you have too much. Many people think they have acid reflux or GERD, and they take Prilosec or other antacids to reduce the amount of stomach acid. In actuality, they may not have enough acid in their stomach to trigger the opening of a valve at its base. When food begins to fill the stomach, acid is released to assist with digestion. When enough acid is detected, the valve opens, releasing the food into the small intestine. If there isn’t enough acid, the valve doesn’t open. The food, mixed with what little acid is present, is forced back up the esophagus, creating a burning sensation. Paradoxically, the answer to the burning sensation is more acid, not less. Antacids can create a vicious cycle in these cases.

As with so many things, the dose of Betaine HCL is very individualized. If you take too little, you will have that paradoxical burning sensation from the food/acid mixture coming back up the esophagus, because there is not enough acid to trigger the release of food into the small intestine. If you take more, but still not quite enough, the food/acid mixture will still come back up the esophagus. However, now it will burn even worse because it has more acid in it—just not enough to open the valve at the bottom of the stomach. If you take too much, you will experience “dumping”, as Dr. Cheney calls it, usually diarrhea or a general “yucky” feeling.

Polly: GERD is due to the wrong movement of the stomach. Either the stomach does not empty when it should or the stomach pushes acid back up the esophagus. More acid might help the stomach empty when it should, but if the esophagus is injured, then what do you do? Adding stomach acid before the sore has time to heal may pose an immediate problem. Perhaps a good gastroenterologist can help you. Smaller meals may help your body deal with the GERD. Fat slows the emptying of the stomach, and so less fat in the diet might help. Saliva from chewing your food well will help protect the esophagus.

Poor Stomach Acid Output Can Lead To Serious Disorders

Polly: Marilyn pointed out an excellent article on stomach acid by Lynda Wells, PhD. It has been repeated here with Dr. Wells’ permission. Other great articles can be found at Dr. Wells’ website,

<http://oak.cc.conncoll.edu/~rjcha/wells/wells.htm>

Her Wellsprings Center for Natural Healing is located at Worden’s Pond Shores, Wakefield, RI where she offers clinical nutrition, botanical

medicine, homeopathy, Hatha Yoga, Reiki, craniosacral therapy, Japanese magnetic healing, and colon cleansing.

Mrs. Generic: My symptoms are burping, stomach bloating, my stomach upsets easily and I tend to be constipated. I take antacids for the symptoms but do not get much relief. Do you have any ideas to help my digestion?

Lynda J. Wells, PhD: It sounds like you may have poor stomach output of hydrochloric acid, known as hypochlorhydria. Have a comprehensive stool analysis and a hair analysis to help ascertain if that is the problem.

Hypochlorhydria is fairly common; according to some surveys, a low level of stomach acid occurs in up to 47% of the general population, the highest incidence being found in older people.

Much has been said in the media about too much acid, hyperacidity, and millions of dollars are erroneously spent on antacids, when the opposite problem is often the case—too little acid. The bloating, belching, upset stomach and constipation that you mention are common symptoms. Some others are listed below.

On the other hand, some people may experience no gastrointestinal symptoms whatsoever. When there are no symptoms, individuals can wind up years later with serious consequences that are never related to the unrecognized hypochlorhydria.

Without acid, the body has a difficult time digesting food. The chief function of stomach acid is the initiation of protein digestion. Without it, proteins putrefy in the intestines which means the bacteria wind up decomposing the protein and producing foul-smelling compounds like hydrogen sulfide gas, cadaverine (what does a name like that tell you?).

Acid secretion is also of fundamental importance in the assimilation of many minerals, and of vitamin B12. Before looking to hormone replacement therapy for prevention of osteoporosis, check your stomach acid. As well as looking to vitamin B12 shots for pernicious anemia, check your stomach acid.

Another important function of hydrochloric acid is the stimulation of pancreatic enzyme and bile release into the small intestine. Without enough pancreatic enzymes and bile, the digestion and absorption of carbohydrates, proteins, fats, and vitamins A and E, is severely compromised, inadvertently causing undernutrition even with an excellent diet.

Hydrochloric acid is also primarily responsible for keeping the three pounds of bacteria that live in the colon from translocating up into the small intestines. (This is a very important immune function.) Without a potent amount of hydrochloric acid, undesirable strains of bacteria and yeast can take hold and multiply, and interfere with digestion and absorption. They can also inflame the intestines, cause them to become permeable to undigested foods and thus the individual becomes allergic to healthful foods. Do you know that the total absorptive area of the inside wall of the small intestine of an average person is about the same as a standard football field, and every square inch of this surface can be covered with mucus in which bacteria are imbedded and growing? Imagine the negative impact from odd strains of bacteria.

One can begin to see why, if allowed to continue for many years without treatment, many diseases can ensue from hypochlorhydria. Some associated with it are: asthma, celiac disease, chronic autoimmune disorders, diabetes, eczema, food allergies, gall bladder disease, gastric cancer, gastritis, lupus, osteoporosis, pernicious anemia, psoriasis, and acne rosacea. According to Dr. Jonathan Wright at a September, 1994

seminar on the Use of Laboratory Testing in Nutritional Medicine, ulcerative colitis, hair loss, 100% of multiple sclerosis, and 100% of rheumatoid arthritis can also be added to the list.

A way to determine the proper dose of hydrochloric acid for your individual need may be accomplished in the following manner. On three consecutive mornings take one, then two, then three betaine hydrochloric acid tablets on an empty stomach. If you have no negative reactions, then take one or two before each meal for a week and see how your digestion feels. If it is better, you can safely assume that your stomach has not been producing enough acid for proper digestion. Some bad reactions to the tabs are heartburn, worse gas, or pain in the stomach. If it hurts, do not take any more. You can neutralize the reaction with milk or baking soda in water. A few persons require as little as 5-10 grains of betaine hydrochloride with each meal. Others may need as much as 50-60 grains. The right dose can be estimated but has to be finally adjusted by trial and error. Pepsin and gentian are often added to the hydrochloric acid supplements to further promote protein digestion.

Over time the stomach cells that secrete acid may be repaired by supplements of licorice, glutamine, and gentian. Sometimes acupuncture helps restore the cells, and if a subluxation is creating weakened stimulation of nerves to the stomach, chiropractic will help.

Next time you think of taking an antacid, STOP, try taking acid first to see if that relieves the symptoms. If your problem is too little acid, antacids just contribute further to the above scenario.

Symptoms of poor stomach acid output

- stomach bloating
- burping
- upset stomach
- burning

- flatulence
- diarrhea
- nausea after taking supplements
- rectal itching
- weak, peeling, cracked fingernails
- dilated capillaries in the cheeks and nose (in non-alcoholics)
- post adolescent acne
- iron deficiency
- other mineral deficiencies
- chronic intestinal infections
- undigested food in stool

Disorders associated with poor stomach acid output

- Addison's disease or weak adrenals
- asthma
- celiac disease
- chronic autoimmune disorders
- diabetes
- eczema
- food allergies
- gall bladder disease
- gastric cancer
- gastritis
- Graves disease
- hepatitis
- lupus
- osteoporosis
- pernicious anemia
- psoriasis
- acne rosacea
- thyrotoxicosis
- urticaria
- vitiligo
- ulcerative colitis
- hair loss
- multiple sclerosis
- rheumatoid arthritis

H. Pylori Infections

Polly: If you have stomach pain, get tested for a H. pylori infection. H. pylori is the bacteria most often responsible for stomach ulcers. This infection is very common in people with the yeast syndrome, and the infection will down-regulate (lower) stomach acid production. Common treatments for a H. pylori infection are antibiotics (Omeprazole, Losec, and Amoxicillin), vitamin C, grapefruit seed extract, deglycerolized licorice, bismuth (Pepto-Bismol), mastic gum, Active Manuka honey, magnesium, zinc, N-Acetyl-Cysteine (NAC), and coconut oil. (The body creates monolaurin from the lauric acid in coconut oil, and it is the monolaurin which kills H. Pylori.) Please be careful with supplements of NAC if you have mercury poisoning or if you are hypothyroid. You may not tolerate much of it. If you are having trouble finding the mastic gum, Allergy Research/Nutricology carries it. Phone (800) 782-4274 website www.nutricology.com Don't use the gum if you are allergic to pistachio because the gum is made from the pistachio tree. Check for the latest information on H. pylori infections at www.helico.com.

Harold: My doctor gave me those antibiotics, but they weren't effective, and he didn't recommend anything else. On my own I took NAC, Evening Primrose oil, Panax Ginseng, Active Manuka honey, a special Calcium-Magnesium supplement (in colloidal form) and when necessary, Pepto-Bismol. This has done the trick along with changing my double filtered water (which turned out to be highly acidic) to spring water, which has a neutral pH. With the above, and a radical change of diet, I pretty well have it all under control with very little discomfort.

Restoring Stomach Acid Production

Polly: There are several deficiencies that can cause a lack of stomach acid. Often the body is low in thyroid, taurine, glutamine, histidine and/or acetylcholine when yeast or mercury is present. (Book 6 talks about the significance of these substances and their use.) All of these substances are needed to produce stomach acid. Getting rid of the yeast and/or mercury toxicity will help restore these substances to normal, although sometimes you need to correct the deficiencies with supplements to bring functioning back. However, don't try to increase stomach acid production until after you get an H. pylori infection under control. You may damage the stomach lining.

If your stomach acid production is too high, consider a supplement of Methyl-Sulfonyl-Methane (MSM). It has been known to bring excess stomach acid production back under control. MSM will sometimes get rid of constipation too. Copper deficiency, zinc excess, or selenium deficiency is also known to lead to excess stomach acid. [5]

Sal DN, DD: Stomach acid is produced via a zinc mediated pathway. The absorption of minerals (zinc, calcium, magnesium, potassium, etc) requires an initial acid medium.

Polly: That sounds like a vicious cycle. You need zinc to produce stomach acid, but you need the stomach acid to absorb the zinc. Hmmm. Some of the people on the autism list use a zinc sulfate cream applied to the soles of the feet. Guess this gets around the absorption problem.

Marilyn in Seattle: In this book, *All Your Health Questions Answered*, Maureen Kennedy Salaman keeps emphasizing that the best form of mineral

supplement to take is a plant-derived mineral in solution. She does not recommend any particular brand, but says that when minerals are taken in this manner, they are absorbed well and you bypass problems of mal-absorption and lack of stomach acid. She says if you have absorption problems only 1-5% of a tablet type supplement will get into your system—an abysmally low amount, I'd say.

Harold: For the last year I have been using a plant-based mineral/vitamin/amino acids liquid supplement. It is called Seasilver. I have tried other colloidal mineral supplements, but prefer this. It has 43 trace minerals, and 7 macro minerals. Seasilver contains:

Aloe Vera (which contains substantial amounts of over 39 essential minerals and all 22 amino acids.)

Pau D'Arco (a herb beneficial for those with yeast overgrowth)

Organic Sea Vegetation (10 kinds from the far northern Atlantic Ocean)

Catalyst Concentrate (to help the Aloe Vera become a finer texture for better assimilation)

Cranberry Concentrate

Colloidal Silver (an antifungal that helps kill yeast)

It comes in a liquid 32oz size and is absolutely delicious. This Seasilver is not available in the stores, but is available through a Multi-Level Marketing system (pyramid scheme basically). I don't do this thing. I just get it for my own use. Do a search for Seasilver on the Internet, and you will find many people selling it.

Polly: That sounds better than most of the colloidal mineral products that are popular now. If you try a colloidal mineral product, be careful which one you choose. One very popular

colloidal product contains strontium and aluminum—although the company claims that these particular minerals in their product are not absorbed, so you aren't to worry.

I think the ionic mineral supplements, like WaterOz or ENIVA are a better bet. The ionic form is the form found in live plants—the mineral particles are microscopic. Colloidal just means the minerals are suspended in water. That is why the colloidal products are opaque. The ionic solutions are clear. The ionic companies try to point out the difference in their advertisements. However, the response of the colloidal companies has been to merely add the word ionic to their label. I think this is both confusing and misleading. Only a portion of the minerals in the colloidal products are in the ionic form. They don't tell you the percentage.

Many of us have decreased absorption of minerals because of intestinal inflammation and low stomach acid. Sometimes the only way out of this mess seems to be going around the digestive system—either a mineral cream applied to the skin, mineral shots, or a mineral drip in our doctor's office.

What Are Digestive Enzymes?

Polly: Digestive enzymes are made by your pancreas. They are necessary for the digestion of fats, proteins and carbohydrates. Supplementing digestive enzymes is a very important first step in ridding yourself of yeast overgrowth in the intestines. When you supplement pancreatic enzymes, not only does your body get more nutrients, but also digestive enzymes help break up yeast clusters in the intestines. Digestive enzymes taken between meals help clean up some of the debris in the blood stream. Supplemental digestive enzymes sometimes reduce food allergies too.

Start slowly, as with all supplements. You could be sensitive or allergic to the supplements. Be particularly wary of plant-based digestive enzymes. These enzymes are produced using a mold called *Aspergillus*. People with yeast overgrowth are often sensitive to molds. A typical adverse reaction is breathing difficulties. However, I heard that there is a new plant-based product from Japan where the mold spores have been stripped from the enzymes. Thus it may be safer. The advantage of the plant-based enzymes is that they work over a wider range of pH.

The other type of digestive enzymes is called pancreatic enzymes. It is simply dried pancreas. You might be allergic to these too. If you are having a lot of problems with sensitivities and allergies, be particularly careful of which brand you try. I could not tolerate a brand that claimed to be a special concentrated 8x type. Yet the Allergy Research/ Nutricology brand was no problem. Allergy Research/Nutricology carries beef, pork, and lamb pancreatic enzymes. DEWS also carries an excellent pancreatic digestive enzymes product. Phone. (940) 243-2178 and website www.DEWSnatural.com. Wobenzyme has an excellent reputation. One place to purchase it is from Life Enhancement. Website www.life-enhancement.com Phone (800) 543-3873. Your doctor may favor a particular product. Ask. Be sure you have enough stomach acid to allow these to work properly.

If you aren't allergic, and you don't have ulcers, you can probably use 10 or more pills per day of the pancreatic enzymes without a problem. One doctor suggested that my dad take 30 pills per day of the DEWS product. However, this many pills will tend to push you a little more alkaline, which may or may not bother you. I've not heard of any other reason to be careful about the amount used. However, with the plant-based enzymes, I would be a bit more concerned about the amount used. The body uses pH to activate

and deactivate the pancreatic enzymes. With the plant enzymes, the pH range of activity is not what the body is designed for.

If you are using any type of digestive enzymes with an autistic child, be careful. Referring to autistic children, Dr. Bradstreet states,

“Warning- do not give enzymes to children who are eating gluten and casein. It may raise levels of opioids in the child.”

(quote is from this article

<http://www.gnd.org/autism/overview.htm>)

From what I've heard on an autism list, this warning is especially true for the enzyme preparations that are specifically prepared to digest gluten and casein. There may even be an initial reaction to the enzymes when the children have been off of wheat and milk for a while. It seems like there is always some exception to every nutritional rule. Therefore, I use theory and the experience of others to guide me in a direction for my personal experiments, but I always trust my personal observations the most.

There are several brands of this special enzyme preparation for digesting wheat gluten and milk casein. One is called peptizyde and is available from Houston Nutraceuticals.

www.houstonni.com phone (866) 757-8627

Another is called DPP IV Forte, which is available from Kirkman Labs.

www.kirkmanlabs.com phone 800-245-8282

Judy in Nevada: No-Fenol is a new digestive enzyme product that is being discussed on Autism boards. They report that it is an excellent yeast fighter. It is said to work in a similar way as the Specific Carbohydrate Diet by breaking down the extra waste and fiber passing through the

digestive tract, in effect, starving the yeast. It is made by Houston Nutraceuticals.

Polly: That No-Fenol product is supposed to help the body separate the phenolics from carbohydrates and perhaps allow the body to dispose of the phenolics better. (Phenols are found in vegetable and fruit colors, food dyes, estrogen and bioflavonoids.) Phenolics are often a problem for kids with autism or attention deficit. The No-Fenol product certainly has the potential to help many people. The initial reports on the autism lists are very favorable. However, you must be careful. Don Panburn points out that the amino acid tyrosine is a phenolic. And tyrosine is necessary for the formation of thyroid, dopamine and adrenaline. Perhaps the No-Fenol product should be reserved for meals that consist of mainly vegetables and fruits, or a supplement of tyrosine should be considered. Time will tell as more people try No-Fenol and report their findings.

Mrs. Generic: Does anyone know if papaya enzymes have too much sugar? And if this would outweigh the benefits of taking them?

Polly: I don't know how much sugar is in a papaya supplement. However, usually a small amount of natural sugar should not set you back. I wouldn't worry too much about that aspect. Papain (found in papaya) helps you tolerate and digest gluten as well as meat. Yet, I wouldn't use more papain than the label suggests. Papain is used to tenderize meat. Too much papain will eat a hole in your intestines. Be sure to read labels, so you know if papain is in your digestive support supplement before taking high doses.

Mr. Generic: Should we rotate digestive enzymes? Is it possible to become sensitive/allergic to them?

Linda in Virginia: Yes, I became allergic to them! You can rotate pancreatic enzymes made from beef, pork, lamb, bromelain, etc. I spoke to the doctor at N.E.E.D.S. and he said the bromelain is not as effective as the others (more an anti-inflammatory). I needed it anyway so I would have enough to rotate over four days. N.E.E.D.S. was the only place I could find all the different types.

There is not a supplement on the planet that I have not developed an allergy to. I try to be more careful now. I can't rotate everything, so I just hope for the best. There have been periods when I could not take any supplement whatsoever.

Dani: Ultrase MT20 is a prescription digestive enzyme that has helped me so much. I had SEVERE gas and bloat. I couldn't plan anything because of this! Sometimes I couldn't even stand up the pains were so bad. Anyway, Ultrase MT20 along with Betaine HCL has changed my life! If anyone has gas and bloat pains, it may be worth a try.

Enough Bile?

Polly: Anyone who has had their gallbladder removed should consider taking bile salts with their meals to help them emulsify their fats and absorb the fat-soluble vitamins of A, E, D, and K. All of these vitamins are anti-inflammatory and they are extremely important for healthy intestines. Many digestive supplements contain some bile. If you want a plain bile supplement, DEWS makes one. www.DEWSnatural.com or phone (940) 243-2178

However, there seems to always be exceptions to every rule. Bile salts can become an irritant to the lining of the large intestine. [6] So don't take an excessive amount of bile salts. If only a modicum of bile salts make you feel

bad, you might have a parasitic infection. In the book *Overcoming Parasites* by Ann Louise Gittleman (page 29), she mentions that bile acids increase the growth of Giardia Lamblia, a water-borne parasite. Giardia Lamblia irritates the bile ducts and can cause gall bladder disease. A Giardia infection can look a lot like the yeast syndrome. The infection can also produce gluten intolerance.

To create bile, you need the amino acids glycine and taurine. Taurine is particularly important because it helps keep gallstones from forming. Thyroid is also important because it helps turn cholesterol into bile salts. (See section in the next chapter on the Liver-Gallbladder Flush.)

references

1. Puccetti P, Romani L, Bistoni F., "A TH1-TH2-like switch in candidiasis: new perspectives for therapy." *Trends Microbiol.* 1995 Jun;3(6):237-40.
2. See this article by Hugh Fudenberg, MD on the "Typical course of an Autistic Patient," <http://www.whaleto.freemove.co.uk/v/fudenburg.html>
3. Valyshev AV, Zykova LS, Konnova ME (Article in Russian) "The screening diagnosis of intestinal dysbiosis" *Zh Mikrobiol Epidemiol Immunobiol* 1994 Aug; Suppl 1:71-74 and Valyshev AV, Gil'mutdinova FG, Fomicheva SV, (Article in Russian)"The persistence factors of the enterobacteria in the fecal flora in intestinal dysbiosis." *Zh Mikrobiol Epidemiol Immunobiol* 1996 May;3:96-98
4. Alan Gaby, MD, "Literature Review and Comments," *Townsend Letter*, Dec. 1998
5. Nichols, Trent, MD, and Faass, Nancy, MSW, MPH, *Optimal Digestion*, 1999, Avon Books, NY, NY, pg. 313
6. Fratkin J, OMD, "Leaky Gut Syndrome" Great Smokies Diagnostic Laboratory Newsletter, 1999 .

MSM

Ingrid in Sweden: Please explain, what does MSM stand for? It has been suggested that I use this treatment with hydrogen peroxide.

Kari in Norway: MSM stands for Methyl-Sulfonyl-Methane. It is also called biological sulfur. It is similar in structure to coenzyme Q-10. You can have a cleansing reaction to it, so it is reasonable to start with a low dose. MSM also helps remove heavy metals.

Mona: MSM is not a medicine, drug or a food additive; it is a nutritional food supplement. It is in milk, fruits, vegetables and meats. It is an organic sulfur found in all living organisms. MSM is the 3rd largest ingredient found in your body. In order of percentage, your body makeup contains water, salt, and MSM. The body uses MSM to create new, good healthy body cells. Vitamins and amino acids work with MSM during this process. Without MSM our bodies are unable to build healthy cells, and this leads to illness. MSM is non-allergenic, non-pyretic, and has no known undesirable pharmacological effects. It can even be used as a safe blood diluent.

Polly: MSM is also called biological sulfur and DMSO2. It is a form of sulfur that your body can use. It is abundant in raw milk. It is helpful for gastrointestinal upsets and for mucous lining inflammation, and it may help with food allergies. Over a period of time, it may relieve excess stomach acidity. There is a book called *The Miracle of MSM* by Jacob, MD, et al. Also, there are many places to read about MSM on the web. Here are a few,

www.MSM.com

www.pennysaved.com

www.vitaminusa.com/msmexin.html

www.lifelinknet.com/siteResources/ArchivePages/MSM.html

www.familyhealthnews.com/54.html

Many of the people in our Healthy Awareness candida forum have reported that MSM really helped them. Sometimes it was more effective than the expensive prescription drugs. Yet a few have reported no noticeable improvement. Others didn't notice anything until they used very high doses. Yet be careful. Shelley and Donna got very sick from it, and

cannot tolerate it at this point. As for me, when I first started taking MSM, I would get ill if I took more than 500 mg per day. However, I still had very good results just by taking the 500 mg per day for three months. A skin infection got much better in a relatively short period of time. My gum health dramatically improved, and it may have been just coincidental, but a uterine fibroid I'd had for several years disappeared too.

Jane: I have heard on a couple tapes that the clinical observations do not show significant difference in response based on dosage of MSM, but based on consistency. Even a very tiny dose every twelve hours is supposed to be sufficient to produce results for most people if it is done faithfully.

Mrs. Generic: Can people be allergic or sensitive to this form of sulfur?

Polly: I haven't heard of any allergies to this type of sulfur. However, many people have described what is assumed to be a cleansing reaction, including rashes. The reaction is said to occur if your cells are releasing stored toxins faster than your body can eliminate them. If this happens, just cut back to a lower dose. You can also try a hot bath or sauna to help eliminate the toxins through the skin. This might cut down on a reaction. Since MSM may change the levels of acetylcholine, you may want to give your body a chance to adjust to this change too.

To avoid such reactions, I suggest that you start very slowly on MSM and find how much you can tolerate. Recommended doses are about 3,000 mg for an adult, but many of us have found that we must start with 500 mg per day or less. I read a study where they were getting results using just 250 mg per day. So don't worry about using a lower dose to start with. Some of the parents on the autism list are starting their

children out on magnesium sulfate (Epsom Salt) baths before they even attempt a small dose of MSM. (Some of the poor kids are so toxic that they can't even tolerate the Epsom salt bath.) However, sometimes chondroitin sulfate or glucosamine sulfate or other sulfates are tolerated. These would be worth trying.

Perhaps we are so sensitive to MSM and sulfates because our body has adjusted to a deficit of sulfur. Many of us probably really need the sulfur. Intestinal inflammation will get rid of sulfates. So will mercury poisoning. (Mercury causes the excretion of sulfates through the urine.)

One more suggestion. If you try say 500 mg of MSM one day with no problems, and if the next day you try the same amount and get sick, then you are taking too much. The effects of the MSM seem to be cumulative over a few days. Most of the MSM will leave your body in one day, but not all. From my own experimenting, the total dose over about three days seems to be what is important. So try the same dose for at least three or four days before you decide that you might be able to tolerate more.

RB: MSM is helping me. I am taking a small amount daily with the result that my allergic manifestation around my eyes and on my skin has decreased and almost disappeared. It takes a while to be effective because what it is doing is correcting a deficiency which makes the yeast more able to overcome the body. Without it, your cell walls do not release toxins like they should and the yeast adheres to the intestinal wall more deeply. With it, the cell membranes regain their normal characteristics and receive nutrients and release toxins. It also helps the cells on the intestinal wall become more nourished by the blood supply. I vote for MSM over caprylic acid because the die-off seems to be less disruptive to my life.

Michelle H: I have been taking MSM for about six months now and have found it definitely helps with candida and/or possible mercury toxicity. One thing I noticed was that when I contracted a cold recently, I did not suffer with an aching jaw/teeth—a symptom I have always had with colds and flu. Is this because of the MSM? I like to think so. MSM is not an overnight cure but seems to work over a period of weeks/months. Someone on the forum also mentioned they suffered leg pains with MSM. This disappeared over a period of months for me. You do have to build up the dose of MSM slowly. Good health to all.

Marilyn in Seattle: I am still feeling my way. I just know that at low levels I am finding the MSM is doing very good things for me. Too much and it seems to pull toxins out of tissues too rapidly. Or maybe it's that my liver function is poor. I suspect most people with mercury toxicity have poor liver function and have to detox slowly. When I take 500mg of MSM with vitamin C, I am having nothing but good effects. I wonder if people's poor reactions to sulfur on the amalgam lists are not signs of detoxifying? Doctor's Data where I had my hair analysis done said it was their experience that sulfur is low in the mercury-burdened patient. I think replacing it kick starts the body into being able to detoxify the mercury, which has some unpleasant effects, but the mercury has to come out in my opinion, or health problems will remain.

One of the interesting things I read the other day, which really applies to me, is that drug hypersensitivity can be a sign of sulfur deficiency. I react to all drugs with extreme hyper-reactions—could never take any of the pharmaceuticals that were prescribed for spasticity (stiffness). Extreme untoward reactions, many times the drug in me would do the exact OPPOSITE of what it was supposed to.

I am sure now that once again this was related to the liver, which has to process all drugs. I think I have had many indications over the years that my liver was not functioning well, but I had to earn an IHMD to understand how important this was.

Note: IHMD stands for In-Home-Medical-Degree. It is one of our forum jokes. Many of us have spent a lot of time studying medical topics that are usually only of interest to doctors.

Michele: My experience with MSM began when I started walking almost four miles a day without any previous exercise. I had just started taking MSM. My friend had really sore muscles, and I felt great. Next I had been having a severe problem with one knee for a year. When I would sit still for more than ten minutes my knee would become so painful with sharp stabbing pain that I was unable to stand and walk. I would have to gingerly stand and wait, then I could limp and as it warmed up I could eventually walk normally. That pain was completely gone, as well as a similar problem in my thumb, after three weeks of taking MSM. I cut the same thumb deeply with a band saw and had ten stitches, and it has healed without a scar, though it is not completely healed internally. I have an old scar from a very sloppy thyroid surgery, which irritated my throat with a slight choking sensation because it was so thick and ropelike. With internal MSM and MSM lotion it has softened and thinned and become supple so that it is no longer irritating. And as far as candida, I have had clearer thinking, clearer skin, and far fewer vaginal or esophageal noticeable yeast symptoms. It is the only supplement I have found so far that has had a definitive impact, and I would not want to do without it.

Taylor: Michele, where do you get your MSM? I have read that it can be obtained from animal feed stores quite cheaply because it is fed to animals to help their nutritional uptake. That would be \$20 a pound as opposed to \$30 for 100 tablets. Because you have gotten particularly good results with MSM, it would be good to know your source.

Michele: MSM for horses runs about \$23 per pound. (One pound is about 450 grams.) I take it morning and evening with 1000mg ascorbic acid. I checked with my uncle who is a veterinarian and he said it is the same quality as is used for people. I am super frugal (five kids and a pastor's wife) so I go the cheapest I can find if the quality is good.

Polly: Christy mentioned that you could purchase MSM by the pound at an even better price from Health Line Nutrition, phone (800) 981-5056. They sell the Lignisul brand of MSM, which is made in the USA and costs the distributor a little more than MSM from some other sources. Most companies in the USA sell the higher grade MSM like the Lignisul brand, but recently there have appeared imports of lower grade MSM that may not conform to USA standards for food grade purity. So you must ask the source of your MSM, purchase from reputable companies, and check the labels for a high purity product. Here is another company that sells MSM powder at a very good price. www.msm-msm.com phone (800) 453-7516

MSM tastes bitter, so if you purchase just the bulk powder, you need to mix it with coffee or something to mask the taste. Wait until the coffee cools somewhat so that the heat doesn't destroy the MSM.

There is reason to try some MSM at some point in your treatment. An inflamed intestine will lose sulfates, so we may be shy on sulfur in

general. According to Dr. Elson M. Haas, author of *Staying Healthy with Nutrition*, sulfur deficiency is more common when there is a lack of intestinal bacteria, or low-protein diets. Please note that MSM isn't a perfect supplement for this condition. Some people cannot tolerate it, and some notice nothing with its use. Just in our experience, MSM has a good track record for the money.

If you take a lot of MSM, it may help you get rid of unwanted heavy metals and toxins, yet it might also get rid of some of the other metals/minerals that you may need. Or perhaps it may increase your need for other minerals because you may need to replace heavy metals that are being released from biologically active sites. In the book *Mineral and Trace Element Analysis* by Eleonore Blaurock-Busch, PhD, she indicates that **sulfur interacts with zinc, copper, molybdenum, selenium and calcium**, and that a deficiency or metabolic disturbance of sulfur can affect these minerals, and vice versa. But this doesn't mean that these are the only minerals that might interact with sulfur. Not all have been checked. For instance, silica is usually not studied because you can't use glass test tubes to study it, plus hair samples are not studied for silica levels because shampoos often contain silica. Silica is important for healthy intestines too. Yet like everything else, too much silica isn't good for you.

MSM is noted for improving hair condition, yet several people at the forum have noticed a loss of hair when using MSM. Perhaps it is due to a disturbance of other mineral balances, like that of zinc or silica. I'd use a balanced mineral supplement and perhaps a trace mineral supplement if you are going to be using a lot of MSM, sulfur amino acids, vitamin C, or any other natural chelator. If you need to use a lot of MSM, one should perhaps also take a little extra molybdenum, selenium, zinc and copper.

Laurie Andreoni, DC: MSM doesn't react with most medicines, but if someone is taking a blood thinner, they need to monitor it closely. MSM, E, ginkgo, garlic, ginger, ginseng, feverfew, aspirin and St. John's Wort all thin the blood.

Polly: Pau d'Arco, a popular herb to treat yeast overgrowth, also thins the blood. It interacts with vitamin K.

Later—**Kathleen:** A short while back on this forum, I initiated discussion about MSM and hair loss. I said at that time in response to a post from Polly that I did not have a mercury burden. I was wrong. Very wrong. A hair analysis and a DMSA challenge both showed extremely high levels of mercury. I have done several rounds of DMSA now, and I find I am able to take 4 grams of MSM per day without significant hair loss. My doctor had told me that the only way MSM could cause hair loss was due to heavy metal toxicity. Apparently he was right in my case.

Polly: I know a lot of people suggest taking 3 grams (3,000 mg) of MSM per day, but I think you could hurt yourself by taking that much on a long term basis, even if you seem to tolerate it.

Later—**Marilyn in Seattle:** I tried and tried to take MSM over a period of months and I just became more and more sensitive to it instead of

it getting better—something I now understand in relation to my liver tests which showed defective sulfation. I react to all sulfur, not just MSM. I react to the sulfur amino acids of N-Acetyl-Cysteine (NAC), cystine, cysteine, methionine, and taurine. They all create the same unbearable leg pain. (Marilyn has mercury poisoning and multiple sclerosis.)

Polly: Andy Cutler is a doctor of chemistry who wrote a book on amalgam poisoning. He feels that those who are mercury poisoned should not be using MSM. In his opinion, there are other means of removing mercury that are much less harmful. He suggests that if you are mercury poisoned and if you need more sulfur, then use sulfates, not MSM. This viewpoint is becoming more widely accepted, although you will still find a few who disagree. Glucosamine sulfate, chondroitin sulfate, and mineral sulfates are options. Epsom salt baths (magnesium sulfate) and a magnesium sulfate skin cream may also be useful in increasing sulfates in the body. (Dissolve 4 tablespoons of Epsom salts in 3 tablespoons of warm water. Then add to 12 tablespoons of coconut oil.) Be careful to start slowly with the Epsom salt baths or the cream if you are mercury poisoned or very low on sulfates. Some people cannot tolerate very much at first. (See the chapters on autism, mercury poisoning and detoxification in books 5 and 6)

Antifungals

Polly: Supplements to kill or inhibit the growth of yeast are an important part of many treatment plans. However, you may have to try several different antifungals before you find one that is suitable for you. Different antifungals kill different strains of yeast. Some doctors will test you to find out which antifungal will kill the type of yeast in your body, and other doctors will just try several different antifungals and see which one helps. It is often hard to tell if an adverse reaction is due to the medication itself or due to the toxins released when the yeast die. You must be careful not to indiscriminately use antifungals. Your main problem may be bacteria, not yeast.

How To Lessen The Die-off Reaction

Polly: When yeast die, they release alcohol and other toxins. This can make you quite ill. Here are a few things you can try that might help minimize your reactions.

1) It is very important that you are not constipated before killing the yeast or bacteria. Perhaps, try some magnesium or Smooth Move tea if you are constipated. You don't want the released toxins to recirculate. This would make you sicker.

(If you are severely constipated, suspect a Clostridium infection. See article entitled

“Constipation-predominant IBS” by the Probiotic Therapy Research Centre www.probiotictherapy.com/physicians/diseases_2.html)

- 2) Charcoal, by soaking up the toxins may be a significant aid to reducing die-off symptoms.
- 3) Yet, why suffer the brunt of all the toxin release if you don't have to? Get rid of the bulk of the yeast with mechanical means before killing the remainder—try either the Attogram method or colonics. Dr. Rogers suggests that Milk of Magnesia can get things moving too.
- 4) Before starting antifungals, start with a low carbohydrate diet that stops feeding the yeast. The diet in itself may cause some die-off. After your body adjusts to the diet, start the antifungals slowly. Going slowly will allow your body more time to handle the toxins.
- 5) According to Dr. Shaw, vitamin B6, glutathione, N-Acetyl-Cysteine, and lipoic acid may help protect you from some of the toxins that are released. (If you are mercury poisoned, please read the chapter in book 6 on this condition before trying the N-acetyl cysteine, lipoic acid, or glutathione.)
- 6) Some antifungals like Nystatin will cause the yeast to burst and empty their contents into you. This type of an antifungal may be more

difficult for your body to handle than an antifungal that causes the yeast to shrivel-up instead of burst. If you are having a hard time with one type of antifungal, try a different one. You may have an easier time handling the die-off.

- 7) Sometimes an adverse reaction to a prescription antifungal is due to the dyes and other fillers in the product. For those who suspect this problem, the doctor can order IV solutions of these antifungals, and have the patient take the appropriate amount orally.

The Attogram Program

Polly: Beth, Cheryl and others at the forum have used the Attogram program and found it quite helpful. This program was popularized by S. Colet Lahoz, RN, MS, Lac in her book *Conquering Yeast Infections*. (This is her website www.wholeapproach.com) Colet Lahoz employs acupuncture to control the die-off symptoms while giving a mixture of ingredients designed to clear out the bulk of the yeast in the intestines. She recommends using a mixture consisting of bentonite clay to absorb toxins, a bulking agent like psyllium to help scrape out the excess yeast, caprol as an antifungal agent, and L. acidophilus to help repopulate the intestines with good bacteria. She starts her patients out on just a mixture of the bentonite and psyllium, and then gradually adds the antifungal caprol (liquid caprylic acid with olive oil) to the mixture. If you cannot tolerate the olive oil found in the caprol product, you may have to substitute plain caprylic acid.

In my opinion, consider using charcoal instead of bentonite in the Attogram program. Bentonite is a form of aluminum that is supposedly not absorbed. Yet, I really don't trust this, especially for people with leaky gut and other gut issues. For instance, tartaric acid

increases the absorption of aluminum from the gut, and many people with fibromyalgia have increased levels of tartaric acid that were probably produced by intestinal bacteria. [1] At the very least, I feel the bentonite is not the best choice for long term use.

You might also consider substituting cellulose (insoluble fiber) for the psyllium (soluble fiber). Dr. Galland feels that too much insoluble fiber may make leaky gut worse. (However, a little of the soluble fiber should be helpful.)

The charcoal or bentonite may interfere with the absorption of nutrients or medicines, so take the mixture at least an hour away from food and medicine. You can purchase about a quart and a half of activated charcoal powder for an exceptionally good price from Charles Wilson. Presently, it will cost you only \$10.95 (includes shipping in the USA) for one can of charcoal. The can holds about a quart and a half of activated charcoal. (\$60 for 6 cans.)

Charles Wilson, Distributor
Box 693, Leicester
N.C. 28748

Phone (828) 622-3671

The charcoal doesn't have a strong taste, but my husband prefers to mask the taste by adding the charcoal to his morning coffee. (One heaping teaspoon per day has been of definite benefit.) Use the charcoal for die-off reactions, and just about anytime you feel out-of-sorts. It should help.

At least initially, you may find the Attogram program better than other options. According to a study by Lahoz, people using this mixture of caprol, bentonite clay, psyllium, and L. acidophilus reported better results than the people using Nystatin, garlic or Diflucan. Lahoz sent out 70 questionnaires to people with candidiasis, and

received back 50. She asked them questions about 10 different products: caprol, bentonite, psyllium, L. acidophilus, Nizoral, garlic, Monistat, Nystatin, Candida extract, and Diflucan. The questions covered initial improvement, relapse, product effectiveness, and side effects. In the patient's opinion, the most effective treatment was a combination of caprol, bentonite, psyllium and L. acidophilus. Monistat, Nystatin and Diflucan were ranked more likely to give only short-term improvement. The products that were most likely to be perceived as causing no change in symptoms were the Candida extract, garlic, and Nizoral. Other products like oregano oil, Lamisil and Sporanox were not included in the survey. The respondents also suggested that use of fungicides by themselves without colon cleansers should not be practiced because they cause severe die-off reactions. [2]

Colonics

Polly: Colonics can clear out the bulk of the yeast in the colon, where most of the yeast usually reside. Colonics also dislodge impacted debris and can change the environment to one more favorable to a new flora. In the survey of yeast syndrome patients conducted by Colet Lahoz, twelve people had tried colonics and each person highly recommended them. As further testimony to their effectiveness, several of the people at the forum have found that colonics give almost immediate relief, including for some a marked lessening of brain fog. However, remember, **sometimes the problem is in the small intestine, not the colon.** Colonics should not be expected to be a godsend for everyone. They may even be an irritation to the colon. However, for those who have tried colonics and have reported the results at the forum, the usual posting is similar to the following.

Bob: Had my first colonic yesterday and my second one today. You would not believe how much yeast came out. I felt like a different person walking out. I felt like I was coming out of a coma I have been in for years. Anyway, the colonic along with my diet and taking the antifungal Lamisil has me with more hope than I have had in years. Thank you Jesus.

Polly: One person with a known problem in the small intestine reported that there was no improvement at all with colonics. Another said he felt worse afterwards. However, he wasn't sure if it was due to the length of the procedure or not. There has been quite a bit of discussion about the length of the first treatment. The fear is that if the first colonic is not long enough, too much of the loosened debris will settle back into the colon and cause a reaction.

Please be careful and ask a physician for guidance, especially if you are particularly weak or have a heart condition. If you have any untoward symptoms after a colonic, see a doctor too. One person at our forum had septicemia (blood poisoning/infection) shortly after her first colonic. However, even given her bad first experience, she found that the general improvement in her condition prompted her to continue with subsequent treatments.

Some electrolytes will be lost with a colonic, so make sure you have enough salt, potassium and magnesium in your body before attempting one. The increased fluids may be a problem for a bad heart. Colonics will also disturb the existing flora; one should ask about an implant of probiotics to help rebuild the proper gut flora after each treatment. Please make sure a certified professional helps you with this procedure. If you wish to try it, make sure they have a machine that uses disposable parts. Also the machine should be Okayed by the Board of Health. If the idea of a colonic doesn't set well with you, look into

herbs that help clean the intestines. Get a brand that has been tested for impurities.

Natural or Prescription Antifungals?

Michael: Hi Bill. To answer your question regarding whether or not to use herbal or prescription antifungals ...I haven't had much luck with the herbal antifungals. I think a lot of them make claims that aren't true and just end up draining a sick person's wallet with little or no results. That's just my opinion of course. There are a few herbal antifungals that I do believe have merit.

Ideally, a person suffering from candida should have himself/herself tested for food/supplement allergies via Electro Dermal Screening (a.k.a. Vega Testing). This method has proven to be 80% accurate, and takes much of the guesswork out of the getting well process. Usually you can be tested for at least 100 foods plus all of your supplements in one sitting.

Don't spend your money on expensive garlic pills—swallow 2 cloves per day raw (diced) with 2 glasses of water. Be aware of how you are feeling on garlic though as some people report feeling worse on it. Try to find liquid caprylic acid if you can and mix it in with some psyllium and water. Also, colloidal silver does work for some. I make my own, and I do believe it has helped somewhat.

If you try a combination/rotation of these antifungals, along with the diet and probiotics, and along with the recommendations that Susan and I made to Ken you should definitely see some positive results. If you don't, I would try at least a 3-month course of Lamisil or Diflucan. I found Lamisil to be the most effective.

Be aware that prescription antifungals can cause some pretty wicked die-off. I was bed-ridden for 5 weeks after starting Lamisil. I had

dead yeast cells coming out of every orifice in my body. I was crawling on my hands and knees to get to the washroom. I literally thought I was going to die. Don't let that scare you though, I had a rather severe case, and the light at the end of that tunnel was well worth it.

I noticed you mentioned pain pills in another post. I suspect they are NSAIDs (non-steroid anti-inflammatory). NSAIDs can also damage the gut and intestinal flora. If you are taking these you will be making your candida condition much worse and you will not get better. Take Feverfew for pain, and use a little Kava as an anti-inflammatory. If you have arthritic type pain take glucosamine or MSM.

Mrs. Generic: We should not take synthetic antifungals because they are hard on the liver. Natural antifungals are much safer.

Michael: Hi All, I would like to get my thoughts in on the topic of natural vs synthetic antifungals. I do think that the natural antifungals (the ones that actually show some activity against candida) have a place in this illness. I think they should be the first line treatment in very mild cases. The natural antifungals that seem to work are garlic, caprylic acid, and Grapefruit Seed Extract (GSE), with GSE being the most potent of the three (if you are able to tolerate it).

The buyer *must* be aware though. Candida is slowly becoming a profitable business for vitamin companies. Some products contain so little of the active herb that they won't do a thing. Crook's book mentions that

“candida strains were shown to be actively growing in Pau d'Arco tea—yet people still buy it.” This proves the power of anecdotal evidence.

I think it's ridiculous however for someone suffering severely from a systemic case with all the signs and symptoms (gas, bloating, diarrhea,

depression, insomnia, severe fatigue, thrush, vaginal, fog, prostate, allergies, etc.), to not take advantage of the *known and proven* candida killers such as Lamisil, Diflucan, Sporanox and Nystatin.

I would be dead right now if it wasn't for Lamisil! I was at one point going to bed each night convinced that I wouldn't make it through the night. I'm only 30 years old. I was so brain-fogged and literally staggering drunk from the candida toxins that I couldn't even put a Will together! I had to crawl on my hands and knees to get to the washroom. I was like that for five years.

I'm providing this information so that others' will understand that when we say we have "candida", they will know that there are varying degrees of this illness. One person may simply have a rash, and the other is on a life support system in an infectious disease unit with 10 white coats standing over him/her scratching their heads.

Thanks to rotating with Lamisil, Diflucan & Sporanox, plus diet and supplements, I am 75% back to good health in one year. I'm left with only Leaky Gut Syndrome (LGS), and food allergies to battle. Without the use of a systemic antifungal, it would take years for a systemic case to show even mild improvement. To quote doc Darren's paper:

"Natural antifungal products are far too weak to have any significant effect or else they would be used in cases of severe mycosis."

I think people giving advice to others like "don't take synthetic antifungals," and "synthetics are hard on the liver," should stop and consider what they are saying before they push that post button. That sort of advice could make the difference between someone whom is *severely ill*, getting their health back or dying of "unknown causes." A short-term strain on the liver from Lamisil or

Diflucan is no match for a lifetime of acetaldehyde, ammonia, and the 70 or so other toxins that candida strains generate.

I hope my post will encourage those who are suffering from a severe candida infection to seek AGGRESSIVE treatment for their situation.

Alana: I agree 100%. Prescription antifungals are what kicked my candida overgrowth; the naturals were NOT strong enough. Thanks for posting this information.

Susan in Olympia: You Go Michael! I agree with you, and don't you think that detoxification should be an important part of treatment too? You got to get those dead and living critters out sometime!

Jane: Hi, Michael, I agree that the stronger drugs help more. But for me, I could be taking Diflucan all the rest of my life...I have been ill (without knowing it) for 35 years or more. The spam hit the fan following an antibiotic in 1997. I took Diflucan for four months. It helped some things, not all. I had to stop it for an amino acids test. Once off the Diflucan, the symptoms trickled back despite the "natural" stuff I'm taking. My PMS is horrible again. I did not go back on because tho' liver tests were in range, I was having symptoms associated with an overtaxed liver, and am dealing with mercury, which further taxes the liver.

I would consider the medication route again as soon as my "toxic liver" situation is better and I have addressed my sulfur intolerance. But I also have this FEAR underneath, that my strains will become resistant to the stronger drugs and then what will I do? Or that I will have to take the strong drugs for the rest of my life. Or that until the mercury is mostly out of my system (which could take years) the strains of bacteria/yeast I

have cannot be eradicated. It is so complicated in my case. I wish it were simpler.

I see nothing wrong with going the prescription drug route if you can, and only wish I could! The people cured all seem to have gone that route, at the very least having had Nystatin. Others had Diflucan, Sporonox and/or Lamisil. Why mess around with natural stuff if it is like “peeing on a burning building”?

Michael: Hi Jane, You’ve been ill for 35 years and you’re worried about resistant strains? This doesn’t make sense to me. Have you tried Nystatin or Lamisil or rotating any combination? Are you on the diet and avoiding allergic foods? Are you supplementing with a good probiotic? Are you taking any fiber, and doing any colon cleansing? Please don’t settle for your current level of (poor) health. Candida must be dealt with aggressively.

Phyllis: Hi Michael, I was on Diflucan for six weeks about one year ago. I did significantly improve; however, I still have candida. I also had a systemic case. I was on antibiotics for 3 1/2 years. I too have leaky gut syndrome. Do you live in New York? If so, what doctor did you see? I am presently just taking natural antifungals. I absolutely agree with you on the antifungal drugs. My candida was so bad and entrenched in my tissues that my doctor said I needed the Diflucan. I hope you continue to do well!

Michael: Hi Phyllis, I’m not from New York or the USA for that matter. I’m from Toronto, Canada. I’ve seen many doctors since I became ill (over 400 appointments). Not one of those doctors was able to diagnose me or help at all for that matter. I hold no faith in doctors whatsoever.

Glad to hear the Diflucan helped you. Do you have LGS (leaky gut syndrome) as well? Are you

avoiding foods that cause reactions? Are you taking a good probiotic? Are you doing colon cleansing along with fiber therapy? Are you taking digestive enzymes and HCL with your meals? I really believe that candida has to be dealt with aggressively in order to be controlled.

Phyllis: Dear Michael, I do have LGS, I take hydrozyme and gastrozyme from Biotics Research. I also take supplements to heal the gut. I do believe that I still have candida; however, not as bad. Take care Michael and thanks again.

Amy in IL: As a synthetic antifungal user for over a year, I am cured! I stopped Diflucan on my own, and no problems to mention. Still taking Nystatin, but not often enough. My diet isn’t laced with sugar, but it isn’t very strict either. I am healthier than I’ve been in years. One thing I need to mention, though, is that I didn’t start making big progress until I stopped the negative thought patterns and changed to positive. And yes, I am a Christian, and my friend Jesus has been at my side guiding me. I run circles around my former self. I am probably underweight, but who cares! My digestive system works and even makes digestive noises again! No constipation, no brain fog! Gone, I say, all gone.... My husband and four children are extremely happy to have me back; and most of all, I love myself again...

I don’t think I’d be alive right now if I hadn’t found my doctor last year and started prescription antifungals. My doctor’s theory is that Naturopathic Doctors (ND) cannot prescribe prescriptions medications, so therefore they prescribe other treatments. Although he feels they are truly trying to be helpful, he unfortunately ends up getting patients who have been there and done that, such as me. Michael, you are brave for speaking your mind, and I

respect that...Take care and good luck to you in your cure.

Michael: Hi Amy, Thank you for your kind words. I wish you all the best.

Dyl: Well, after reading all of your posts, I did even more research into your drug suggestions. (I am very open-minded and truly enjoy learning). I must say, though, that after finding the following quotes on the Internet, my opinion has not changed.

“My experience (with Lamisil) resulted in: insane skin itching of the head, ear, legs, arms, chest, back, underarms, anus and genital areas.”

“I have also suffered from liver hepatitis as a result of this drug (Lamisil).”

“A good friend of mine has definitely been affected by taking Diflucan. She was diagnosed with anti-immune hepatitis after taking this medicine and has been suffering for months with various symptoms...”

Not to mention the nausea, hair loss, kidney problems, and on and on—signals from your body that it is trying to get rid of these toxic substances. (Remember that a lot of the positive, technical information that is circulating about certain drugs is published by the drug companies themselves).

Please know that I honestly wish you all the best of luck. I am certainly not trying to push my beliefs on others. I only want to shed light on some alternative ideas in case people find themselves (still) suffering long after taking the prescriptions. Maybe then, they will remember me and try a different route. I only visit this site to help, not offend.

Alana: Dyl, I can only comment on my specific case. My purpose is not to be confrontational, but

to give the other side of the argument about prescription antifungals. The natural ones sometimes are NOT strong enough to kill the yeast if it's too far spread. In some cases, prescription antifungals are necessary. It needs to be evaluated individually, and according to ones' wishes/ goals/availability/insurance etc. I know that it was the prescription antifungal (Diflucan) that ultimately killed my candida overgrowth (in the lower throat).

Yes, I have made dietary changes, and increased my activity. But those factors, and the natural antifungals did not get rid of the plaques in my lower throat. Diflucan did. Just wanted to give my opinion on prescription medicines. They are not for everyone, but some of us needed them in our quest to get better. It got me over the hump, and now I can continue to heal *naturally*. It would have been great not to use them, but they were a necessary part of my treatment.

I'm not sure if any of us can call ourselves *cured*. That's not the point! The point that Michael, and a lot of others agree upon (as you can see from the responses), is that prescription antifungals are ONE part of a treatment plan. I agree totally, that diet and other life changes are drastically important. But others have benefited too from the medicines. I think Michael's post was to try to give the other side of the story.

Polly: One of my doctors doesn't like to use the prescription antifungals because his patients get well, and then later come back with the same problem. For some patients he seems to have a good point. If people don't take the diet seriously because they think all that is needed is a prescription, then they will get themselves into trouble. Each time they come back they will have more resistant strains. However, if the patient is already on the diet, and is not making significant progress, it would be very sad if a doctor didn't

do the appropriate tests and give the appropriate antifungals.

There has to be some judgement used by the patient and doctor. Prescription antifungals have some drawbacks. If they damage the liver, this is hard on your immune system, reduces your enzyme production, interferes with hormones, and reduces your ability to detoxify. On the other hand, the yeast produce all those toxins which are hard on your liver, your immune system, your hormonal system, and they interfere with the absorption of your nutrition. It is a trade-off.

One can't just assume that antifungals are always the correct treatment for symptoms of dysbiosis. If there is an overgrowth of a bacteria like Clostridia, then antifungals may make things worse. This makes it difficult to know if a poor reaction to antifungals is due to intolerance, die-off, or a worsening of the situation.

Of the prescription antifungals, Nizoral is one of the hardest on the liver, and is rarely used anymore. Lamisil, Diflucan, and Sporanox are tolerated by most. However, a couple of people on the forum noticed neurological problems with Diflucan, and one person found that she needed more and more T4 thyroid hormone to keep her TSH stable while on Diflucan. Always be on the alert for unusual reactions with any of these drugs.

Nystatin stays in the intestines, and so is supposedly the safest. Yet Nystatin only treats the surface of the intestines (take it in-between meals). I heard of one person who claimed Nystatin made him much worse, but that he improved on GSE (grapefruit seed extract) which treats the whole intestine. Yet the ammonium compounds in GSE products or perhaps the bioflavonoids might make the product intolerable for some people. Please be aware, that the effectiveness of these different antifungals depends on the type of yeast or fungus present. If one doesn't work, try another, and/or get tested.

It might be a good idea to use either garlic or Taheebo on a regular basis even if these don't seem to help you. These are known to help keep the bloodstream clear. A supplement of iodine, if you are low on it, will also help keep the bloodstream clear. I found Kyolic garlic helpful but not another brand that I tried. Kyolic garlic has a good reputation.

Michael, your list of effective natural antifungals left out Oil of Oregano, which is pretty broad spectrum and should be among the first products to try. Other antifungals are Tanabilt, Biocidin, Uva Ursi, Kolorex™ and colloidal silver. Many of these also have antibacterial properties. Other options aren't direct antifungals, but they will help the immune system get rid of the fungus. These are transfer factor, Pau d'Arco, olive leaf extract and Cats Claw. (Look for herbs from companies that have a good reputation. Or better yet, find brands that have been tested for active components and clinical effectiveness. eg. Saventaro brand of Cats Claw.)

Unfortunately, there is a wide variation in quality with many products. Also, it depends on the person and their particular problem as to which will be the most effective. Adverse reactions need to be viewed from a bigger perspective than just "allergic," too. For example, grapefruit seed extract is a bioflavonoid and can interfere with the liver's detoxification function. Even though it is considered a "natural" antifungal, it can do harm to the liver.

Another big problem is that the dosage recommendations on the bottles are often off. If a product is expensive, like shark cartilage or probiotics, the quantity recommended on the bottle will often be too low. Have you ever noticed that almost everything in a health food store is priced under \$20? People aren't willing to try anything more expensive. If you tell them

the truth, and that their \$20 is only going to be a few days supply, they won't purchase it.

Michael, I disagree with Dr. Crook's comment about Pau D'Arco. As you point out, it does not kill fungus directly. However, it does have an action on the immune system. I found it helpful, but its effectiveness depended on the brand. Wisdom of the Ancients has a good reputation for their La Pacho (also known as Pau D'Arco or Taheebo). They carry two kinds. The red is milder than their purple. Phone (602) 921-1978. Several people at the forum say they hate the taste of the tea, yet it doesn't bother me. The lapachol in Pau D'Arco is a vitamin K antagonist, so be careful if you are also using a blood-thinning drug like Coumadin. [3]

Beth: I make 'coffee' by boiling Pau D' Arco powder (my health food store sells it ground up) and adding cinnamon. It's really good especially if you like black coffee. The trick: boil for 5 minutes like the *Nutritional Healing* book says, then remove from heat, let stuff settle to bottom, and carefully pour the drink to not stir up the bottom. Then add cinnamon. I think I created this but maybe everyone already does this. Try it if you haven't. If you like coffee, it's a lot like coffee without a real bitter taste. I just wonder how often we could drink this without over-doing it! Every day seem okay?

Polly: I read about a person who accredited Pau D'Arco with her recovery from candidiasis. She was sipping it all day long.

Linda in Virginia: I rotate only natural antifungals. I am avoiding the pharmaceuticals because my liver is weak. I am trying to strengthen it with herbs, lipotropics, etc. I have food and chemical sensitivities too. I rotate my foods on a four-day rotation schedule so I do likewise with my antifungals. If my antifungals

are part of a food family I use them on the day I eat from that family. For instance, I use caprylic acid on the day I use coconut oil for cooking since they are both derived from coconuts. I use oregano oil on the day I use any spices from that family; same for garlic. Right now I am using caprylic acid, garlic, oregano and tannalbit. I have also used undecylenic acid, pau d'arco capsules, grapefruit seed extract. I change around occasionally to avoid building an intolerance. I find even with rotating foods I still build an intolerance to them so I assume I will do the same with antifungals. I have read that one cannot build an intolerance to dioxychlor (oxygen therapy). I use that sometimes along with the antifungals. I find it to be very strong (lots of die-off). It also destroys the good bacteria so probiotics have to be taken at least two hours away from the dioxychlor.

Sara: Five weeks ago I started an anti-yeast program given to me by my acupuncturist. He is also a bio-chemist and he is very respected around here. He is having me DRINK a QUARTER CUP a DAY of "phenolated iodine." It's a special kind of iodine which he says will NOT penetrate or affect your thyroid in any way, but WILL kill every yeast and fungus in your body. He helped develop this "phenolated iodine" idea, and he says it works much better than Diflucan. He is also having me take TWELVE caps of Candimycin a day, which is a very high dose of a supplement by Phyto Pharmica which includes Oil of Oregano, Thyme Oil, Peppermint Oil, and Goldenseal. He says these two things will blast the yeast out of your body—no questions asked. After five weeks, I have NO MORE sinus or ear congestion. It is completely gone. My sinuses feel more clear than they ever have in my life. I also have NO MORE urinary pain, it is gone. I do have urinary frequency though, and all my other symptoms.

Polly: Hi Sara. The phenolated iodine is very interesting. Is there some place where I could learn more about it? Glad it is helping you.

Sara: It is manufactured in a solution called DAG—not sure what that stands for. It was originally made for gargling and topical use. I'm not sure if anyone else besides my doctor's patients is actually DRINKING it!

Shari in Chicago: About the phenolated iodine, Sara. I would be concerned about the phenol component of that product. I had allergy shots containing a phenol preservative before I got sick and I think it really sent me downhill. So that's why I bring this up to you. I don't mean to sound like a doomsayer (nearly every treatment has risks), it's just something to consider.

Polly: Like Shari, I do worry a bit about any compound with phenols in it. Phenols suppress the detoxifying systems of the body. Also, some of the autistic and mercury poisoned people have a particularly hard time removing phenols. Yet, if your liver and thyroid are healthy, perhaps it won't be much of a problem.

Here is one place to purchase the DAG, www.healingedge.net phone (888) 421-9355. The DAG contains phenolated iodine in an Irish moss extract with organic borates. The other product that you mentioned is sold at many different Internet sites. Here is one place to find Candimycin, www.phillypharmacy.com or phone 800-830-1028. Candimycin supplement contains oil extracts of oregano, thyme and peppermint with a standardized extract of goldenseal root.

Kathleen: Lamisil warning! A complete blood count (CBC) after six weeks of Lamisil therapy revealed that I am severely leukopenic. My white blood cell count (WBC) is 1.9. This is dangerous.

Under precautions for Lamisil in the Physician's Desk Reference (PDR) is the possibility of severe leukopenia. If you have been on Lamisil for a while, please consider getting a complete blood count.

Susan L: I just got back from a liver specialist in Dallas. I couldn't believe what he said. In high enough doses, Nystatin can and will irritate the liver. The worst are the azoles and Lamisil then the next group is Nystatin. The least liver annoying is amphotericin B oral (remember oral not iv). It is the least liver toxic of all the prescription antifungals. (The azoles are ketoconazole, fluconazole, and itraconazole. These are also known as Nizoral, Diflucan, and Sporanox.)

Later—**Polly:** Nick posted a reference that said Grapefruit Seed Extract (GSE) does not appear to have anti-microbial properties. It is actually the preservatives in the GSE products that have the anti-microbial properties. Preservative-free GSE did not kill the bacteria and yeast which were examined in this testing. [4] Yet, if you go to the Citricidel/Nutribiotic website, they claim the tests in Germany and Japan were false positive. The company regularly tests for contaminants like this using US labs and cannot find the substances. They use organic grapefruit and carefully control their product. See this article: <http://nutriteam.com/gse.htm#thrush>

Most people are familiar with grapefruit seed's ability to kill protozoa and yeast. However, the Citricidel website points to invitro evidence that GSE also kills off viruses like measles, Herpes Simplex Virus-1, influenza A virus, and some animal viruses. They also give testimonials from people who use GSE topically to get rid of warts. [5]

Transfer Factor, Th1 And Th2

Polly: If at all possible, you want to get the yeast under control with things that simulate the immune system without damaging the liver. Such an agent is the specific transfer factor that Hugh Fudenberg, MD is working with. Transfer factor “educates” the immune system to express its Th1 (T-cell Helper type 1) response. The Th1 immune response is needed to control viruses, protozoa, and fungus.

Transfer factor is a component of mother’s first milk (colostrum) that provides immune system messenger molecules. If a transfer factor is “specific,” that means it contains immune components specific to a particular pathogen. For example, if you have a particular strain of yeast overgrowth, a specific transfer factor product could be made that targets that strain of yeast. However, I don’t know of any products that target different strains of yeast that are available to the public at this time.

There are only a few companies producing transfer factor at this time. Maureen posted that she had good luck with the ProHealth 4Life brand. 4Life is a multi-level-marketing company, website www.4-life.com The 4Life company even makes a gel for use on the skin. Here is another company that sells transfer factor, www.immunesupport.com phone 1-800-366-6056. In order to get a good effect when using a general transfer factor, a lot must be used. (This can get expensive.) Kenneth A. Bock, MD, prescribes 3 tablets, taken three times per day (a total of 9 tablets), of 200 mg for his autistic patients. Results are seen after a few months.

For those who have hepatitis, AIDS or chronic fatigue, take a look at the specialized transfer factors available from the Natural Health Consultants. Phone 888-852-4993 and website www.naturalhealthconsult.com/Monographs/immunefactor.html

Shelley, since you are using the drug Kutapressin, you might find this article interesting,

<http://virtualhometown.com/dfwcfids/medical/cavalry.html>

It is about Dr. Cheney’s work with CFIDS. The article talks about Kutapressin and Isoprinosine (Imunovar) helping the body to kill viruses and at the same time shifting the immune system away from the Th2 side towards the Th1 side. (High Th2 contributes to allergies; low Th1 contributes to yeast overgrowth.) Other products were listed that shift the immune system this way. These are

Pine Cone extract,
carried by Vibrant Health, phone (800) 242-1835
<http://members.aol.com/GreenVib/black.html>

Heparin (prescription)
This laboratory does the appropriate testing and has several articles on Heparin. www.hemex.com

formula 560 transfer factor,
carried by www.immunitytoday.com phone 888-217-2200..

Undenatured whey may be important for some people since glutathione depletion moves the immune system from the Th1 side to the Th2 side. [6] (However, don’t use whey or cysteine if you are copper poisoned. Also, sometimes cysteine will increase yeast growth. It should be used with caution if you are mercury poisoned. I don’t like the idea of using the cheap whey products that are not undenatured.)

Mycology Research Laboratories Ltd sells a mushroom to professionals called Coriolus or Yun-Zhi that shifts the immune system back from the Th2 to the Th1 side. Website <http://mycologyresearch.com> . An article by this company mentions that Th1 function is lowered

by excessive exercise, deprivation of sleep or food, and/or exposure to carbamate and organophosphate insecticides.

Shelley: Polly, yes, I haven't looked at this specifically, but I know of his research on this. It is very exciting. I took Kutapressin for about a year and a half. It got me out of the sore throat all-the-time thing I think. Now, because of Cheney's Th1 shifters research, I am trying 4Life Transfer Factor. Boy does it make me feel terrible! Patients of Cheney say that this reaction is good. It is the best way to know that it will hit a "home run"...Dr. Cheney's advice is that if it affects you that strongly, then take the transfer factor once a week all day, and then try to build up the use to 2 times a week etc. So, these days I "make myself sick" on Mondays!

Polly: That is very interesting about your reaction to the ProHealth's 4Life transfer factor. I tried the same brand and didn't notice a thing with it. Yet that could have been just due to the fact that I was fairly healthy when I tried it. This article is an interview with the president of Chisolm Biological Laboratory. In response to a question about people feeling worse on the transfer factor, he said,

"One feels worse because the immune system recognizes these antigens and successfully addresses them. These dead and dying antigens are in the blood stream, which causes one to feel badly. However, taking a macrophage activating product, like Beta glucan, can circumvent this response quite a bit."

www.immunesupport.com/library/showarticle.cfm?ID=2996

He suggests using about 1 to 2 grams daily of beta glucan. After you have been on the transfer factor for a month, you might be able to stop it

for a while. Then three months later, use it for 5 days. This is how long the immune system remembers it. Their company also makes a product that is specific for Epstein Barr Virus and HHV-6A called ProHealth's ImmuneTransferC. Their competitor makes transfer factor 560 to combat these same viruses, but they use a different process to create the transfer factor. At this point in time, they have no data to indicate which of these products is the most effective.

A note of caution about plant sterols and sterolins: Beta-sitosterol, the main plant sterol, can shift the immune system from Th2 towards Th1. For this reason, it has shown some promise in the treatment of HIV infected individuals. [7] These plant sterols/fats are being advertised as health promoting. In small quantities, they probably are. However, there must be a better answer. Beta-sitosterol is considered a phytoestrogen/hormone disrupter. It has been shown to alter the reproductive systems of rabbits and fish. [8]

Antifungals And Clostridium

Polly: Clostridia is a harmful bacterial resident of the intestines. It is resistant to most antibiotics and so it can take over the intestinal environment after treatment with antibiotics. Apparently it can be a problem after antifungal therapy too.

Most of us are well aware that taking antibiotics can set us up for a fungal infection. So we are careful to take an antifungal and/or probiotics when taking antibiotics. However, how many of us have considered that taking an antifungal could lead to an overgrowth of the wrong bacteria? I'm presently listening to some lecture tapes from the DAN! 2000 Conference on autism, and on one of these tapes, an unidentified doctor mentions that one must treat Clostridia bacteria overgrowth at the same time that antifungals are given. It sounds to me like the

yeast can keep the growth of Clostridia down, and when you eliminate the yeast with an antifungal, then the Clostridia has a field day.

When asked how to treat Clostridia, this doctor replied that you use either Flagyl (metronidazole), which is a strong antibiotic, or a yeast called *Saccharomyces boulardii*, which is considered a probiotic. I've read that Clostridium can also be killed by the antibiotics vancomycin, rifampicin, teicoplanin or bacitracin. (Watch out for strains of Clostridia that are resistant to these antibiotics.) Bifidus secretes an enzyme that kills Clostridia and thus increasing the presence of Bifidus bacteria would be desirable. [9] Biocidin is an herbal product that will kill Clostridium too. www.biobotanicalresearch.com Phone number 800-775-4140.

MM: Yes, this was my experience after the antifungals too. I never took the prescribed Flagyl, but took mega doses of probiotics. Sounds like I should do a follow-up urine test to see whether I've taken care of the Clostridium.

Mary in Pennsylvania: Polly, I can personally testify to that occurring. While being treated for small bowel bacteria overgrowth with Flagyl/Tinidazole, I constantly took probiotics and Nystatin. I still had a candida overgrowth and addressed it after all the antibiotics were discontinued but months later I felt more fatigue than I had felt all my life. After a dysbiosis panel was done, it was determined that indeed all the small bowel bacteria overgrowth and fungal were gone but now I had a whopping overgrowth of Clostridia. (My panel showed a reading of 100 when less than 0.7 is the reference.) I took vancomycin with Harry's Custom Probiotics and completely eradicated the Clostridia (confirmed by urine dysbiosis panel). Only ONE of the fungus compounds went high again, even though I had taken an antifungal with the antibiotic

therapy. Now I'm just using Amphotericin B (liquid suspension) with Harry's Custom Probiotics. So hopefully I'll get everything in check after this, but it's a long steady process that you have to monitor closely and change your strategy as needed.

Avandish: Hi Polly, There have been studies of Clostridium difficile in the elderly in which bifidobacteria taken at doses of about 20 billion or more kept this bacteria in check. It even was effective in patients that no other treatment had helped. I have also read that *L. acidophilus* has some of the same potential against this particular strain. It is hard to tell up from down these days.

Mary G: Polly, Dr. Cranton suggests that it is not advisable to take antibiotics and antifungals simultaneously because doing so could promote the growth of resistant fungal organisms against which no therapy would be effective. He suggests that if antibiotic therapy is necessary, it is advisable to subsequently resume the anti-yeast program for a month or more, but only after antibiotics are discontinued. I wonder if this also applies to herbals which are both antibiotic and antifungal (like grapefruit seed extract and garlic)? Doc Darren suggests that this might also be a problem.

Sally: Dr. Rogers recommends discontinuing antifungals if it is necessary to take an antibiotic. She believes the combination can foster the growth of *Candida tropicalis*. Probiotics should be continued throughout.

MM: Also, don't ignore the fact that the script antifungal drugs have ANTIBIOTIC properties. This is cited in my Merck Manual; they also say that because of cost, few choose to use antifungals for their antibiotic properties. Maybe the yeasts are NOT keeping the Clostridium at

bay, but instead, the antifungals kill off enough GOOD flora to allow the Clostridium to take over.

Polly: Good point. It certainly seems to be a constant battleground for supremacy in the intestines. Perhaps we really need to be looking into probiotics more. By the way, N-acetylcysteine (NAC), helps protect one from the Clostridium toxins. [10] However, if you are mercury poisoned, or if you are hypothyroid, you must be particularly careful with how much NAC that you use. If you are hyperthyroid, you should be watchful too.

references

1. Desroches S, Dayde S, Berthon G., "Aluminum speciation studies in biological fluids. Part 6. Quantitative investigation of aluminum (III)-tartrate complex equilibria and their potential implications for aluminum metabolism and toxicity." *J Inorg Biochem.* 2000 Oct 1;81(4):301-12.
2. Lahoz, S. Colet, MS, RN, Lac "Candidiasis: An Initial Indication of A Positive Treatment Approach," *Townsend Letter for Doctors and Patients*, July 1995, page 68-70
3. Dinnen RD, Ebisuzaki. "The search for novel anticancer agents; a differentiation-based assay and analysis of a folklore product." *Anticancer Research* 1997; 17:1027-34.
4. von Woedtke T, Schluter B, Pfliegel P, Lindequist U, Julich WD "Aspects of the antimicrobial efficacy of grapefruit seed extract and its relation to preservative substances contained." *Pharmazie* 1999 Jun;54(6):452-6
5. Nutribiotics/Citricidel, "Grapefruit Extract Stops Bacteria, Fungi, Candida Yeast, Parasites, and More" <http://nutriteam.com/gse.htm#thrush> The manufacturer's website is www.nutribiotic.com
6. Peterson JD, Herzenberg LA, Vasquez K, Waltenbaugh C., "Glutathione levels in antigen-presenting cells modulate Th1 versus Th2 response patterns." *Proc Natl Acad Sci U S A.* 1998 Mar 17;95(6):3071-6. PMID: 9501217
7. Patrick J.D. Bouic, PhD and Johan H. Lamprecht, MD, "Plant Sterols and Sterolins: A Review of Their Immune-Modulating Properties," *Altern Med Rev* 1999;4(3):170-177
8. Deborah L. MacLatchy and S.A. Ghannudi and others, "Adverse Effects of Phytoestrogens III. The Effect of Beta-sitosterol on the Ovarian Structures of Immature Rabbits," *The Libyan Journal of Science* Vol. 9a (1979), pgs. 1-12. And Glen J. Van Der Kraak, "The Phytoestrogen Beta-Sitosterol Alters the Reproductive Endocrine Status of Goldfish," *Toxicology and Applied Pharmacology* Vol. 134 (1995), pgs. 305-312 (see this article <http://db.rtk.net/E11783T815>)
9. Wang, X. & Gibson, G.R., "Effects of the in vitro fermentation of oligofructose and inulin by bacteria growing in the human large intestine." *J. Appl. Bacteriol.* 1993;373- 380.
10. Ehrich, M., "Biochemical and Pathological effects of Clostridium difficile toxins in mice," *Toxicon.*, 20(6):983-989,1982, as mentioned in Eric Braverman's book on amino acids.

Parasites

Kayc: I read Louise Gittleman's books on parasites as well as a website by a Naturopathic Doctor (ND). Both state that one cannot treat yeast and expect results without also, or first(?) treating parasites. Anyone had any experience with this?

Pearl: Hi. Yes, I think that you have to deal with the parasites. My husband and I both took the Great Smokies Lab Comprehensive Stool Test and discovered that we both had parasites (different ones) and candida.

We both treated the parasites and then the candida. He is completely well now (we both followed the diet, did anti-parasites—natural and antibiotic—took supplements, antifungals, and probiotics). The antifungals we have used have been both the drug and the natural ones.

I am still working on it because I have had a much worse case of candida. I am 100 times better now than I was a year ago. I think that it is essential to work with a doctor who specializes in candidiasis, also.

Kayc: Hi Pearl, thank you for responding. May I ask you how you even thought to be tested for parasites? What were your signs and symptoms? Had you traveled? Did you drink water from a stream? I haven't done any of these things and

wonder if it is worth the expense. I did just email the lab you suggested to ask about cost, turnaround time. thanks.

Pearl: Hi, Kayc. The symptoms of parasites are very similar to the ones for candida. I am fortunate to have found a doctor who specializes in Chronic Fatigue, candida and parasites, etc. He is the one who ordered the test to find out exactly what was going on in my intestinal tract. I think being tested is well worth the money, because if you do not know what is there, how can you treat it?

Even having said that, the test came back indicating that I had *Blastocystis hominis* (parasites) and no candida. This does not mean that it was necessarily a false negative for candida, it meant that either the candida was in my small intestine or the yeast were firmly attached to the intestinal walls and not being purged enough from the walls to register on the test. My physician used his 20 years of experience and felt that in addition to having parasites, I also had candida. And, he was absolutely correct. So, I think that testing and having a very experienced physician is a good thing to have.

I got the parasites either from travelling to Mexico or from the water system in San

Francisco. It turns out that the water in San Francisco has a high *Blastocystis hominis* count. They first found out about this when San Francisco AIDS patients had problems with this parasite. When they studied the local water they found that it was the source of the problem. So, parasites can come from some surprising sources.

Mrs. Generic: Where do you get parasites?

Dyl: You probably have parasites if you've ever eaten in a restaurant. Especially if you eat sushi, raw clams, meat, etc. There are many ways to get them.

Polly: You can get parasites from eating fresh fruits and vegetables too. You can get parasites on your hands from handling a pet, or handling just about any object. You can get parasites from insects, drinking water, food, air, soil, and other people. Even skin contact, like swimming in a lake, might give you a parasite. In that sense, it is just like catching a cold. Parasites are everywhere. If you have good hygiene, good stomach acid levels, and a good immune system, then you are less likely to get infected. However, chances are, you have some parasites. (In Earl Mindell's book on MSM he says that 85% of the American population is hosting at least one parasite, page 33.) Whether or not you have enough to cause problems is another story. That is why it is a good idea to do a parasite cleanse every so often. Traditionally, people do them every spring.

If you get tested, then this may help you find which agents are more effective at killing the parasites that you have. However, stool testing can easily miss something like *Giardia*, which normally resides in the upper portion of the digestive tract and in the bile ducts, and tends to cause diarrhea. To detect *Giardia*, you need an enzyme immunoassay for it. *Giardia* is pretty

common in those with dysbiosis. (MSM helps get rid of parasites, *Giardia* in particular. [1] *Giardia* is also killed by monolaurin, which your body creates from the lauric acid in coconut oil. *Giardia* is also killed by the herb Goldenseal.) It is very difficult to find most parasites. Picking labs that specialize in parasites will enhance the chances of detection. The Great Smokies Lab is one such institution. www.gsdl.com phone (800) 522-4762 This website has a good article on parasites by Andreas Marx, O.M.D. www.explorepub.com/articles/gastro-intes.html It is from their *Explore* Issue: Volume 7, Number 4.

Mary G: Doesn't cooking kill the parasites?

Polly: Cooking kills parasites. Freezing your food for two weeks kills them too. The best defense is general hygiene and good stomach acid. Then add a periodic parasite cleanse. If you aren't particularly ill, I wouldn't worry about it more than that.

PGB: I have had insomnia all my adult life. I am 57. It has gotten to the point now that I can't sleep until 7 a.m. or later and can only sleep an average of five hours. I also have something seriously wrong with my left leg. I have had severe leg pain for three months. I told my doctor, and he sent me home with an Advil prescription. When I asked this doctor if he would work with me on having tests done, he said, "What kind?" I said, "Well a parasite test for one." He said, "If you had parasites, the gastroenterologist would have seen that when he did a colonoscopy." I don't believe that!

Polly: Your hypothesis has some merit. Ammonia produced by parasites could be interfering with your sleep and possibly may even be contributing to the leg pain. You might

have parasites even though they were not found at the time of the colonoscopy. Some parasites can be seen with the naked eye, but many parasites are hard to find even with a microscope. The lab technician is supposed to spend 20 minutes on just one sample. The skill of the technician makes a big difference, yet even the best technician will often not find the parasites in a given sample. Presently, there are only a few labs that doctors have any confidence in. The Great Smokies Laboratories is one of them. They find parasites in about 30% of the specimens examined. The most common parasites found are *Cryptosporidium parvum*, *Entamoeba histolytica*, and *Giardia lamblia*. Even if you don't have a verified parasitic infection, I think it just makes sense to do a parasite cleanse ever so often.

Mary G: Polly, do you have a particular parasite cleanse that you might recommend? Thanks!

Polly: First, you need to cleanse the intestinal tract to uncover the parasites. My doctor told me to take an herbal-cleansing product while doing the parasites cleanse. The brand he gave me was R-Pur-Aloe's Colon and Body Cleanse. However, he said that there were several other brands that were just as good. I asked him what he thought of colonics. He didn't like them because it disturbed the ecology of the gut too much. You could be left with the chore of reimplanting the correct bacteria. However, many colonic specialists do a wash with *L. acidophilus* after each session. That should help. I guess like so many things, it is a judgement call.

There are lots of different herbal products that kill parasites. Check your local vitamin shop/health food store. If you don't know which parasites you have, then the Hulda Clark recommendation of green black walnut hulls, cloves, and wormwood might be worth trying. Generally, the herbal tinctures are better for those

with a compromised digestive system. I've heard some positive reports about the Clear and Experience products made by the Awareness Corporation. This is by a multi-level marketing company. Do a search on the Internet and you will find hundreds of places to purchase it. However, like many multi-level marketing companies, you might have to listen to the "business opportunity" speech before you are allowed to purchase it.

Ann Louise Gittleman's booklet *Overcoming Parasites*, is the best reference I've come across on parasite treatment. [2] I hear that the latest edition of her other book, *Guess What Came to Dinner*, is very good. Unfortunately, I only have the older edition of this book, and it doesn't have much on treatment. Hopefully, she has incorporated the information found in her pamphlet into this new edition.

She suggests that if you have microscopic protozoa like *Giardia lamblia* or amoebas, that you choose products similar to Para-Key with Para-Plus from UniKey Health Systems, website www.UnikeyHealth.com phone 800-888-4353. For larger parasites such as tapeworms, roundworms, and pinworms, choose products similar to Verma-Key with Verma-Plus from UniKey.

A note of caution—start very slowly to make sure you are not sensitive to the herbal ingredients. Then gradually, over several days, build up the dose to the recommended amount. If you start to have problems, back down on the dose, or perhaps change to another brand. The herbal products might bother you a little, but don't use them if you have severe reactions. There was a case of a contaminated batch of parasite cleansing herbs that caused severe cramping. Don't consider this normal if it happens to you.

Ann Louise Gittleman also suggests that you take digestive enzymes, and if warranted,

hydrochloric acid. Just make sure that your digestive supplement does not contain bile if you are trying to kill *Giardia lamblia*. *Giardia lamblia* thrives on bile salts. Interesting aside note: *Giardia lamblia* lodges in the bile ducts and may cause gallbladder disease and gluten intolerance. (Gluten is a protein found in grains.) Ann Gittleman also lists some foods that can help eliminate parasites: papaya seeds, pomegranate juice, pumpkin seeds, garlic, onions, carrot tops, radish roots, kelp, raw cabbage, ground almonds, blackberries, pumpkin, sauerkraut, crushed lemon seeds, mugwort tea, three-taste tea (sakosai, licorice, daio), and corsican brand seaweed tea.

I had tried a parasite cleanse on my own before, but I couldn't tolerate the herbs. After a few days, the room started to spin. So later, when a doctor told me to do a parasite cleanse, I objected. I didn't want to get sick again. He told me that I wouldn't get sick if I took some slippery elm tea and some saffron tea during the parasite cleanse. (The slippery elm tea and the saffron tea were to sooth the intestines. These teas don't kill parasites.) So I tried his protocol. When I used the teas, the other herbs didn't bother me. If I skipped the teas, the cleansing and parasite herbs made me ill that day. He was right.

This is how he had me use the teas. Three times per day, in-between meals, he had me drink saffron tea, and at night he had me drink slippery elm tea. A teaspoon of saffron or slippery elm was to be used when making the tea. The teas were to be steeped in a half a cup of hot water for 20 minutes. Then "magnetized" water was added to dilute the tea to two cups. Grape juice could be used to cut the taste of the slippery elm tea. (At this time, I was healthy enough that eating some sugar or fruit wasn't a problem.)

If you head off to the store to buy some saffron, you may find it costing up to \$3 for one cup of tea. But you can purchase a large bag of

saffron for about \$5 from Heritage Products, website www.caycecures.com and phone (800) 862-2923 You can also buy the slippery elm powder from them too. If you want organic slippery elm powder, the Country Petaler sells it, website www.countrypetaler.com (The added carbohydrates from the slippery elm tea might be a problem for a few people.)

My doctor told me something very strange about the timing. I was to use the herbs for two weeks starting at the full moon. Then wait for the next full moon and use the herbs for another two weeks. I was taken aback. Yet, out of respect for this doctor, I didn't say anything, and just did as told. Later, I read that certain parasites procreate at the full moon. I also read that there is a nitrogen shift in the body that is tied to the moon cycles. I laugh when I think of this now. Maybe it wasn't such a weird idea.

Shelley: I'm going to do a parasite cleanse. I am confused about the "magnetized water"—so many theories as to how to do this. What did you do?

Polly: Get a glass pitcher, fill it with good water, and leave it sitting on a magnetized plate. Be sure the negative side of the magnet is up. My doctor said that you could use the cheap magnets that you find at a hardware store, so long as you know which side to use. These are a bit small though, and I found it less awkward to use a large ceramic magnet. I tried the thin plastic magnet plates that are sold for this purpose (like refrigerator magnets), and they didn't work well. They weren't strong enough to make a difference in the water. When using the strong ceramic magnet, I could tell that the water was different. It seemed more thirst quenching, just like the expensive clustered water. I've read that the magnet plus gravity is supposed to alter the angle at which the hydrogen atoms are attached to the

oxygen in the water. That is why the orientation is important. The magnet aligns, and the magnet and gravity pull. Whether or not the effect is more than momentary, I don't know. Yet it makes me feel that perhaps the magnetized water effect isn't pure placebo.

Kippy: It's 11:00 A.M. Do You Know Where Your Parasites Are? It's Friday, and I thought we could use some humor to brighten the dreary (at least here in New England) day. I've been thinking about parasites. When you get right down to it, they're really not that bad, as far as creatures go. I mean think about it—they're quiet, they don't carry guns, they don't get into screaming matches (as far as I know), and they don't take up much space. So I thought I'd let you know why parasites could be our friends:

1. Parasites don't ask you to buy them beer;
2. Even though parasites sleep with you, they don't hog the bed;
3. Parasites don't try to peek in your windows when the shades aren't drawn;
4. Parasites don't need to be bathed or clothed (I wonder what they would wear anyway?—I'm thinking moss green and brown tube tops);
5. Parasites don't try to sell you life insurance;
6. Parasites don't remark, "My, you've put on some weight" or "My, your 30 years old and still not married. Now, why is that, dear?";
7. Parasites don't make you pay \$200 for the privilege of wearing turquoise and/orange satin bridesmaid dresses that would make fabulous outdoor tents at a Howard Johnson's convention;
8. Parasites don't scratch your furniture or barf up furballs;
9. Parasites don't sponsor infomercials;
10. Parasites don't bark. (How embarrassing, can you imagine? ... "What was that sound?" "Ummm, I have no idea", "It sounded like a muffled barking. Do you have a dog in your office?" "Um, no ma'am, I really haven't the brain foggiest idea what you're referring to.")

HAPPY FRIDAY!!!!

references

1. Jacob, MD, Lawrence, Martin Zucker, Stanley W. *The Miracle of MSM*, B.P. Putman's Sons, 1999, page 23
2. Gittleman, Ann Louise, *Overcoming Parasites*, Avery Publishing Group, Garden City Park, New York, 1999

Probiotics

Polly: Probiotics are beneficial microorganisms that promote the health of the gastrointestinal tract. Lactobacillus L. acidophilus is one of the better-known probiotic bacteria that most of us will recognize as being used in yogurt. However, there are many different kinds of probiotic bacteria with odd sounding names like Lactobacillus bulgaricus, Lactobacillus plantarum, Lactobacillus salivarius, Lactobacillus rhamnosus, Lactobacillus casei, Bifidobacterium bifidum, Bifidobacterium infantis, Bifidobacterium longum, and Streptococcus thermophilus. When in the gastrointestinal tract, these beneficial bacteria create B vitamins for us and help us digest our food. They also interact with our immune system. When we have the wrong bacteria in our intestines, it is a strain on our immune system, our nutrition, and on our detoxification system.

To help get rid of the wrong bacteria in our intestines, we can ingest good bacteria from food sources or from capsules and powders. We can also employ soil-based microorganisms to help us recover. (Soil-based microorganisms are normal residents of the soil, not our intestines.) All of these are classified as probiotics because they improve the properties of the indigenous microflora of the gastrointestinal tract. When used properly they can help us recover. Please be careful with children. *For infants and toddlers, you don't employ the same bacteria as for*

adults. Get a product made especially for them. Here is a good article on probiotics, by Kirkman.

www.kirkmanlabs.com/products/articles/probio.htm

Brush Your Gums With Probiotics

Sunny, PEP Japan: (PEP stands for Parents for Exceptional Progress) I just wanted to share with you this simple oral care to make your own and your child's gums healthier. Two weeks ago, I saw on TV, the effectiveness of brushing with flora. All the persons who have tried brushing their gums with L. acidophilus, etc reported improvement within 3 days. I've tried this for a week and my gums are firmer. My autistic son has had swollen gums and after brushing with L. acidophilus for 2 days we saw improvement. It has saved us a few trips to the dentist. One dental assistant commented that after a week or so, she no longer has a "white" tongue. The dentist that developed this idea (Nagoya, Japan) says that it is good for periodontal disease. (Many adults simply brush with unsweetened yogurt, but this is not recommended for our autistic kids that can not tolerate the casein in milk.)

Recommended protocol: After brushing your teeth, apply powdered flora on your toothbrush and gently brush your gum. In the beginning, brush 5 times a day (morning, after each meal, before bedtime). After seeing some

improvement, reduce to twice a day (morning/night). **Do not rinse after brushing with flora.**

We have seen improvement with our son brushing his gums only once a day, before going to bed. Hope this is helpful to some of you.

Polly: I wonder which probiotics are most likely to help or harm the enamel of the teeth? Some bacteria produce stronger acids than others do. I also wonder if the brushing with bacteria could affect the immune system.

Sunny PEP Japan: I'm not aware of any harmful probiotic for this brushing purpose. The TV program that introduced this said any probiotic sold at health food stores would do. I have tried it with Kirkman's probiotic since most of what we have here have lactose in them. I wouldn't brush the enamel, only the gum, though.

Polly: I found conflicting opinions on the Internet, with one site saying that the acid produced by *L. acidophilus* when it acts on sugar in the mouth could be a problem. Yet the Natren site had an article where they suggested that it would be a good idea to use a mixture of bacteria, including *L. acidophilus* as a mouth rinse. This could prevent cavities by lowering the yeast population in the mouth. (The Natren article is at www.natren.com/pages/atozdental.html.) I guess if the teeth are first cleaned, and you are using a product that doesn't contain sugar or FOS, then there would be nothing on the teeth for the bacteria to convert to acid. I'd only use the normal intestinal flora resident bacteria for the gum brushing. I'd be afraid to use soil-based probiotics brushed into the gums, since some would get into the bloodstream, and I have no idea on what it would do to the heart.

Is There Sugar In Your Probiotics?

MM: I have always wondered why I seemed to react so negatively when I am taking lots of probiotics. Many probiotics that I've seen and taken contain maltodextrin (a type of sugar) as a filler ingredient. Well, I just learned that maltodextrin has a glycemic index that is HIGHER than pure glucose. This is BAD, if your blood sugar regulation is off.

Polly: Some have dextrin in them, which is also a type of sugar. Lactose is milk sugar, and you might find this in some products too. If you are sensitive to it, be careful. Read labels thoroughly. I found one product with added corn syrup. The company had the audacity to label the product hypoallergenic. If you can tolerate undenatured whey or lactoferrin, these also support the growth of favorable bacteria and they don't have sugar in them. (Some of the Custom Probiotics products contain undenatured whey or lactoferrin.) Some products will put in fructo-oligosaccharides (FOS) as food for the bacteria. Not everyone will be able to tolerate the FOS either.

Fructo-oligosaccharides (FOS), Oligofructose, and Inulin

Polly: Fructo-oligosaccharides (FOS) are included in many probiotic preparations as a food for bacteria. Be careful when using FOS. Although it has some highly beneficial properties, it is not perfect for everyone. It has made several of our forum members sicker.

FOS is a sweet tasting carbohydrate found in foods such as onion, garlic, artichoke, asparagus and lettuce. Certain bacteria can break down FOS into sucrose (a type of sugar) and used it to fuel their growth. Humans are unable to breakdown or absorb the FOS, so it will usually reach the colon

to feed the bacteria there. However, if you have an overgrowth of bacteria in the small bowel, where the bacteria do not belong, then the FOS might feed this bacteria and make you sicker.

FOS increases the growth of Bifidus bacteria. For some people this is wonderful. Bifidus bacteria excrete chemicals that may keep other less desirable bacteria from growing. [1] Also the Bifidus keeps the colon more acidic, which reduces the amount of ammonia absorbed. [2] Unfortunately, FOS can feed some bacteria that are harmful; Klebsiella, Bacteroides fragilis, and peptostreptococci bacteria will grow on FOS. [3] Baker's yeast will grow on FOS, and therefore there are probably many other types of yeast that can use it too. [4] Therefore, if you try FOS, watch your reactions closely, and/or get tested for the type of bacteria present and their location. If you want to test your reaction to just the FOS, Allergy Research/Nutricology makes a supplement of just FOS. Or try a product without FOS first and compare your reaction to a product that has FOS.

Sometimes product labels will state that they contain inulin or oligofructose. These are just different forms of FOS. Oligofructose has fewer degrees of polymerization than does inulin. Because of the higher degree of polymerization, the inulin is probably the better product; it will likely have less plain fructose in it.

Here are some articles from the *American Journal of Clinical Nutrition* and the *Journal of Nutrition* on the subject of FOS and inulin.

www.ajcn.org/cgi/content/full/71/6/1682S

“Prebiotics and probiotics: are they functional foods?” by Marcel B Roberfroid. June 2000

[www.nutrition.org/cgi/content/full/129/7/1483S?](http://www.nutrition.org/cgi/content/full/129/7/1483S?view=full&pmid=10395626)

[view=full&pmid=10395626](http://www.nutrition.org/cgi/content/full/129/7/1483S?view=full&pmid=10395626) “The Effect of Synbiotics on Colon Carcinogenesis in Rats” by Daniel D. Gallaher² and Jinmo Khil. 1999

[www.nutrition.org/cgi/content/full/129/7/1478S?](http://www.nutrition.org/cgi/content/full/129/7/1478S?view=full&10395625)

[view=full&10395625](http://www.nutrition.org/cgi/content/full/129/7/1478S?view=full&10395625) “Possible Mechanisms by Which Pro- and Prebiotics Influence Colon Carcinogenesis and Tumor Growth” by Bandaru S. Reddy. 1999

[www.nutrition.org/cgi/content/full/129/7/1438S?](http://www.nutrition.org/cgi/content/full/129/7/1438S?view=full&pmid=10395616)

[view=full&pmid=10395616](http://www.nutrition.org/cgi/content/full/129/7/1438S?view=full&pmid=10395616) “Dietary Modulation of the Human Gut Microflora Using the Prebiotics Oligofructose and Inulin” by Glenn R. Gibson, 1999

These carbohydrates appear to increase the Bifidus bacteria population faster than pathogenic bacteria like Clostridia. Unfortunately, those with the yeast syndrome or fibromyalgia have a poorer flora to start with, and therefore might have a different reaction to FOS or inulin than the test subjects in these studies.

Infant/Toddler Probiotics

Polly: Lactobacillus GG has been studied extensively, and has been used with infants as well as adults. Giving Lactobacillus GG to formula fed infants for six months or giving Lactobacillus GG to the moms who were breast feeding cut the babies' incidence of eczema in half. [5] Lactobacillus GG was also found to reduce antibiotic-associated diarrhea in children. [6] This product is often suggested to control clostridia overgrowth.

The only brand of Lactobacillus GG is Culturelle. Website www.culturelle.com and phone 1-888-828-4242. Each pill contains 10 billion microorganisms or more. Be aware that presently, they only offer their product in a base of inulin. No problems have been reported using the inulin with infants, however, inulin may increase the growth of some harmful bacteria and yeast. Once in a while, adults have reported a problem with inulin/FOS. So be on the lookout

for an unusual situation where things seem to get worse instead of better.

The company states that refrigeration is not needed with their product; you can just store their product in a cool dry place and use it before the expiration date. However, I suggest that you leave all probiotic products in the refrigerator, including this one. Especially during the summer, I'd request that this product be shipped with dry ice. You never know when and if the product will be sitting in a hot truck all day. Culturelle can also be purchased from other places, like Kirkman, who ship using dry ice.

Kirkman carries another product that can be used with infants that contains *L. rhamnosus*. Website www.kirkmanlabs.com and phone 800-245-8282. Natren carries a *Bifidus* probiotic for infants and toddlers. Website www.natren.com and phone (800) 992-3323. Both of these latter products do not contain FOS or inulin. Kirkman and Natren ship their probiotics with ice or dry ice.

Although it seems logical that the same strains of probiotics can be used with infants as with adults, I'd be careful and only use those strains that have been tested in infants and toddlers. Also, don't give more than the recommended amount. The mucin layer in the intestines is not fully formed until two years of age. More probiotics will get through the layer and into the blood stream. Too much would cause an infection. The composition of the flora growing in a infant is a little different too, since the mucin layer supports the growth of different bacteria.

Protect Your Probiotics

Polly: Probiotics, especially the normal flora variety, are sensitive to both heat and moisture. (The soil-based probiotics are much more stable.) You have the best chance of purchasing a live

product if your manufacturer has been careful to keep them dry and refrigerated. After you receive your probiotics, keep them refrigerated in a sealed container. Don't mix your probiotics in chlorinated water or in hot food. This will kill them. Taking them with digestive enzymes is okay. However, don't take them with garlic, oregano or other strong herbs that are known to kill microorganisms. Too strong of an acid can kill the bacteria too. To protect the probiotics from the stomach acid, some people have suggested taking probiotics on an empty stomach with an antacid. You can also drink some water when your stomach is empty. This will wash out the stomach acid. Then you can take the probiotics a few minutes later. Some people suggest rectal implantation. An interesting idea is to use the right oil to protect the probiotics from the stomach acid, as done in the Natren Healthy Trinity product.

If you find a probiotic product just sitting on the shelf in a store, and not refrigerated, I'd be very wary of it being a decent purchase, even if the company claims the product is heat stable. Similarly, if you purchase a product mail order and it was not shipped in dry ice, then I'd worry about the attitude of the company that sold you the product. They might not take care of the product before shipment. Yet, if you accidentally leave your product outside the refrigerator for a few days, or even if you leave it out a week when the weather is cool, don't think that you have to throw out the product. Most of the potency should still be there.

Test Results

Polly: A Belgian study of 55 probiotics showed that more than a third of the powdered products contained no living bacteria. The results are to be published later in the year 2001 in the International Journal of Food Microbiology. This

information is from one of Dr. Mercola's articles, www.mercola.com/2001/jul/11/probiotics.htm . I don't have that list to show you. However, a while back, Harry Bronozian commissioned a private survey, and posted the results at this forum. I have a copy of those original lab papers. The testing was done in September 2000 by Deibel Laboratories. Custom Probiotics (Harry's company), Natren, Ethical Nutrients, Wakunaga, Nature's Way, and Jarrow had a very good to acceptable showing. Three other well-advertised products were quite disappointing, with less than a quarter of the bacteria alive at the time of testing. A test done in March of 2002, on the new VSL product showed acceptable results.

What Do Good Bacteria Live On?

Marilyn in Seattle: What do good bacteria live on? Do carbohydrates feed good bacteria?

Polly: Carbohydrates can feed both good and bad flora. Sugars/carbohydrates are important for establishing the initial good flora in the gut. Breast milk helps the correct bacteria get established because it is low protein with plenty of sugar, which tends to make the chyme more acidic. Breast milk also contains immune factors that promote the establishment of the correct bacteria.

The type of bacteria that predominate will depend on the total environment as well as the mix and type of fats, protein, and carbohydrates present. In rats, sugar promotes more yeast, lactobacilli, enterococci, enterobacteria, and peptostreptococci. Fat promotes enterobacteria, lactobacilli and peptostreptococci. Protein promotes more Clostridia. [7] According to Dr. Baker, wheat, oats, and casein will promote Clostridia. [8] This interaction between food and the flora mix may help explain why different

individuals will tolerate some foods better than others will.

To a large extent, our body's health determines what flourishes in the intestines. A healthy mucin layer in the gut promotes the correct bacteria. Our body grows this mucin layer that coats the intestines and feeds the residents. Hence, our general health and the vitamin and nutrient content of our food will make a difference in the health of this mucin layer in which bacteria flourish. In infants, things are a bit different because the mucin layer isn't fully developed until about 2 years of age. Yet I suspect the secretions from the gut and the general health of the body play a big role at this early age too.

Probiotics And The Immune System

Polly: Be aware that some probiotics push the body's immune system towards the Th1 side and others push it towards the Th2 side. You want a balance in your immune system between Th1 and Th2. People with dysbiosis tend to have a weak Th1 immune system and an overactive Th2 system. Dr. Cheney explains how people with CFIDS, viruses, or yeast overgrowth can get stuck on the Th2 side. The pathogens move you there to protect themselves from being destroyed. Here is an article about Dr. Cheney's work with shifting the immune system.

<http://virtualhometown.com/dfwcfids/medical/cavalry.html>

Jarrow has a new product called Th1 that addresses this situation by trying to activate the Th1 system. Their TH-1 Probiotics contains the tyndallized (heat killed) probiotic bacteria *Lactobacillus casei* and *Lactobacillus plantarum*, along with organic fermented soy-milk and live *Bifidobacterium longum* BB536 (Morinaga

strain). It may seem strange that with all this concern for keeping the bacteria alive in other products, that this product contains heat-killed bacteria. There is a reason. For people with severely compromised immune systems (like AIDS), the fear is that the live bacteria will be too great a strain. Just the DNA and protein from the bacteria will modulate the immune system. The hope is that this is sufficient to make a difference. (Jarrow can be found in most stores, or it can be ordered at their website, www.Jarrow.com and phone 800-726-0886. Many of these same pro-Th1 bacteria are found in Custom Probiotics's Adult Formula CP-1 product, only at a higher potency per capsule and containing live bacteria. Either of these products might be good choices, depending on the situation.

Because part of the benefit of the probiotics is the way your immune system reacts, it has been suggested to use the probiotics for a while, then give yourself a break from them, and then reintroduce them again—like a vaccine. It takes at least a few weeks to normally make a difference, so maybe a month on the probiotics and a few weeks off might be something to try. Or rotate the type of probiotics that you employ.

Probiotic Suppositories

Harold: My advice is to use your probiotics as suppositories, as in most cases they will not survive the trip through the digestive system. I got absolutely nowhere until I did. Over the years I spent thousands of dollars on supplements and basically got zilch results until I used the probiotics as suppositories—AND, it worked quickly.

Mrs. Generic: Which brand do you recommend, and do you purchase a special type for suppositories?

Harold: I have used various brands of probiotics with good results. The best was Natren, which I would prefer, but in my area it is not easy to get it in the powder form any more. When I could get it in powder form, I would get gel capsules and fill them myself. At first you will probably have to insert one or two caps 2 or 3 times a day. I modified an applicator from a Monistat 7 kit to make it easier to insert. As they take effect you find that you can spread them out and eventually go for days without trouble. I also would take the probiotics orally too because your stomach more than likely has H-Pylori bacteria too. H. Pylori aids and abets candida. Besides, H. Pylori is the main cause of ulcers; and it is linked to some intestinal cancers. The only time I have to go this route now is if I weaken and go out for meals and eat all the wrong things for maybe 6 months. You must realize this is not an overnight cure, but it has worked for me where nothing else would.

Sorry, I almost forgot. There are two kinds of capsules, one is a quick dissolving one made of vegetable gelatin and the other is slow to melt. You must use the one that dissolves quickly. The best way to know the difference is to test by putting them in water and see how fast they dissolve. In the event you don't have enough moisture in the bowel to do the job, then open the capsules, put the probiotics in warm water, and then use as an enema. I had to do this at the beginning to jump-start the action. I would say to get a few billion and as many kinds as possible. The ones I used had in them: Lactobacillus acidophilus, Bifidobacterium bifidum; and S. faecium. These three were in capsule form by Protec. The following was in a powder by Natren that I put in capsules: B. longum, L. rhamnosus RO11, L. acidophilus, S. thermophilus, L. rhamnosus RO49, Enterococcus faecium, L. delbreucki Subspecies P Bulgaris.

Polly: Notice that Harold only used a couple of billion microorganisms in his suppository experiments. This is the amount found in low dose probiotic pills. Don't try a high dose product, at least, not at first. The shock could make you very ill. The most prevalent microorganism in the colon, and therefore probably the safest to use in this manner is Bifidus. I would be afraid to try the soil-based probiotics. Also, I wouldn't use a product that contained *Enterococcus faecalis* or *Enterococcus faecium*. Instead of a suppository, some people get a baby enema bulb and fill it with non-chlorinated water and microorganisms.

Are Probiotics Effective?

SR: There must be at least 500+ people that come to this site per week and view the posts. Every one of them has probably tried at least ONE probiotic—you would think so at least? I think the NON responsiveness speaks for itself in reality. In my opinion, after over 10+ years of this crap, the reality is that 90 + % of probiotics truly do little to NO good at all. Although the giant health food industry wants to force us to believe otherwise. That still leaves an approximate 10 % chance of finding some good probiotics... Right ?... I think many people have worked on themselves to the point that complete healing is just within their reach, but the probiotics that have been made available to them are useless and/or too weak. Now comes the hard part—finding which probiotics are truly worth buying, due to their actually being able to bring about cures on their own along with our faith in them as well.

Polly: These are some reasons that I think probiotics have been such a disappointment for many people:

- 1) Most products only contain a few billion microorganisms of the normal resident flora in each capsule. When taken orally, very little of these are going to make it to the colon. To get an effective oral dose, higher count products are often needed. (30 billion to 500 billion microorganisms) Very few products contain this much in each pill. (However, soil-based products are a different story. Only a few billion of the soil-based microorganisms are needed to make a noticeable difference.)
- 2) A fair number of companies do NOT take proper care of their product. By time you get the product, most of the microorganisms may be dead. Be highly suspicious if a company claims that their product does not have to be refrigerated. You may be buying zero live bacteria.
- 3) Preparing the environment is important. I read of one case where the high doses didn't help until after colonics were administered. Most doctors prefer to first do the groundwork of diet, hormones, cleansing, antifungals, antibiotics, anti-inflammatory drugs and nutrients before adding in the probiotics. There are studies using VSL probiotics showing that they keep Crohns and Colitis in remission. But the VSL probiotics will not put these conditions into remission. You have to give antibiotics first to clear a space for the probiotics and increase their effectiveness. Some doctors find it important to first give antibiotics, then rinse out the colon before implanting probiotics. Yet I wonder if there may be something to be gained from using the probiotics at earlier stages of the healing too.
- 4) The probiotics may have to be taken for a long time. This can get frustrating. The results will also depend on the person who

takes the probiotics. One brand will help one person, and another brand will help a different person, but perhaps not vice versa. One person's existing flora will modify quickly and another person's flora will hardly change given the same probiotic.

How Much Is Needed?

Polly: The studies with some of the soil-based organisms have shown impressive results with only a couple of billion organisms taken orally. Most of the soil-based products contain this amount. The studies using the flora that normally reside in the intestine (*L. acidophilus*, *B. bifidus*, *L. bulgaricus*...) employ 30 billion to 500 billion microorganisms taken orally per day. Most companies put only a couple of billion in their products. (No wonder the consumer doesn't have the same results.) There are only a few brands of these probiotics that contain counts anywhere near the amounts used in studies. (I'm aware of Natren, Kirkman, Custom Probiotics, Bio-K, VSL and the Torrance Company.) I've not seen any studies where the probiotics are used rectally, however, the amount needed will obviously be much less.

Realize that even if you took 500 billion microorganisms per day, you aren't really replacing the flora by overwhelming the existing bacteria. 500 billion is only a small percent of your existing flora, which is estimated at about 100 trillion viable bacteria. What you are doing is changing the environment in the intestines so that a more favorable flora will take over. This may take a while. That is why you may need to take these bacteria on a long-term basis. Chances are, the probiotics you take will not implant permanently in your intestines until the vast majority of flora has changed. Even then, the new strains that you have introduced will likely be a small proportion of the resulting flora.

Lynni: I really love Natren's Healthy Trinity. I've been through a whole shelf of other probiotic products. Yet, one supplement, one protocol is not a cure. Allopathic notions do not apply. That is to say, "take this it will make it all better"(not). The time to use probiotics is after colon cleansing; otherwise you are just throwing good after bad. (The Natren brand is found in many health food stores.)

Patti: I tried Natren probiotics and didn't get better even though I was working with a brilliant healer. When I switched to Custom Probiotics acidophilus powder (not capsules), my healing dramatically accelerated. It has been a miracle for me, after over a year and a half of thinking I was going to have to stop living due to constant migraines. I can't recommend Custom Probiotics highly enough. Natren just didn't work for me.

Polly: By chance was the Natren product oil-based and did it come in brown pills? If so, that was the Healthy Trinity. If not, it was probably one of the lower potency Natren products.

Patti: No, it was just the white stuff. No wonder it didn't work!

SR: The only Natren product I can recommend is the Healthy Trinity with the guaranteed 30+ billion colony forming units (cfu) per one single gram. All the other Natren products are a waste of money, as they are far too low potency, especially for the outrageous price they charge for their products.

Polly: I certainly don't recommend the low-count probiotics for anyone with severe dysbiosis. I agree that that they seem to be a waste of money. Yet, a low-count may be all that is needed for some people.

Some Higher Potency Normal Flora Products

Product	Composition	# of bacteria	Approximate Price as of March 2002	Website and Phone
VLS#3	S. thermophilus B. breve B. longum B. infantis L. acidophilus L. plantarum L. casei, L. bulgaricus	450 billion per packet	\$56 for 20 packets	www.vslpharma.com phone (866) 438-8753
Torrance Company's Acidophilus	L. Acidophilus	250 billion per teaspoon; centrifuged and frozen	\$16 for 6 fluid ounces	www.torrancecompany.com phone (800) 327-0722
Bio-K's yogurt-like food	L. Acidophilus L. Casei	50 billion bacteria	\$4 per serving	phone (800) 593-2465
Natren's Healthy Trinity	L. acidophilus B. bifidum L. bulgaricus And oil	30 billion per capsule	\$60 for 30 capsules or \$150.00 for 90 capsules	www.natren.com phone (800) 992-3323
Custom Probiotic's CP-1	L. acidophilus L. casie L. plantarum B. longum B. infantis	25 billion per capsule	\$40 for 90 capsules	www.customprobiotics.com phone (818) 248-3529
Kirkman's Pro-Bio Gold	L. rhamnosus L. acidophilus B. bifidum L. casei L. bulgaricus S. thermophilus	20 billion per capsule	\$30 for 60 capsules or \$50 for 120 capsules	www.kirkmanlabs.com phone 800-245-8282

Yes, the Natren Healthy Trinity costs a lot of money. Up to two dollars per pill is hard to swallow. Part of the high cost is because the probiotics are in oil. Also, perhaps part of the reason for the high price is lack of competition. Compared to most (not all) of their competitors, Natren is a bargain. If you adjust for the number of bacteria, the Natren Healthy Trinity product is cheaper than low-count probiotics. Many competing products in the health store only have 1 or 2 billion bacteria in each capsule.

The Custom Probiotics Adult CP-1 product or the Kirkman products have a much more palatable price at around 50 cents per pill, and they are relatively high potency products. If you want to try either of these brands, you will probably have to contact the companies directly. You won't find them in many stores.

Presently, the best deal is from VSL. It has the lowest price if you adjust for potency. Instead of capsules, the product comes in packets with 450 billion microorganisms in each packet. The strains VSL chose are very similar to that found in the Custom Probiotics product. Yet, I'm not sure exactly why VSL decided to include the *S. thermophilus*; it is not found in other products on the market except yogurt. They said that the *S. thermophilus* is needed for synergism. All the strains were chosen to complement and not compete with each other in the body. The product has been shown to be effective. Four packets per day of VSL#3 keeps pouchitis and ulcerative colitis in remission (abstracts of the studies are at their website). This probiotic should be an excellent choice. However, you might want to start with less than a packet per day to make sure you can tolerate large doses.

A product called Bio-K comes in its own medium, like a yogurt or sour cream, and thus should contain viable microorganisms when purchased. It has a high microorganism count. It costs about \$4.00 a serving. So it can get

relatively expensive if used on a long-term basis. It may be a good option for a short treatment after antibiotics, or if you want to make your own yogurt from it. It tastes good, and it is available in many health food stores.

If someone only wants acidophilus, I found a very inexpensive high-count product put out by the Torrance Company. The Torrance Company's product has at least 250 billion *L. Acidophilus* microorganisms per teaspoon. (Even though they only claim you will receive 250 billion bacteria, the initial amounts in their product are closer to 450 billion per teaspoon.) However, I can't tell you how effective their liquid product is compared to the normal powders. The fact that the product is centrifuged and frozen might interfere with its effectiveness. At least it doesn't taste bad.

SR: Custom probiotics and Natren, need to explore new and better strains, such as the *L. Plantarum* 299V strain that the Probi company in Sweden uses.... www.probi.com

Polly: It may be that there are special strains of the normal resident bacteria that work better than other strains. However, I suspect that even those strains will have to be given at the higher counts/doses to make a noticeable difference for many of us. Which of these strains is the most effective for the broadest spectrum of people? I don't know. It is just too hard to tell from the advertisements and from the limited experience at the forum. Everyone seems to have a miracle product for sale.

Later—**Polly:** Custom Probiotics has recently added yogurt starter cultures, where you can pick your own blend of bacteria. They have also added 10 different high potency powders. The powders cost less per unit than the pills—about half the price on average per unit bacteria. Their powdered products are more comparable in price to the

VSL#3 powdered product. The Custom Probiotics company allows you to mix and match these 10 strains to you or your doctor's specification. Or you can pick a blend that is already formulated.

The Osumex probiotic product called LB12 has just now become available in North America. www.osumex.com phone (905) 339-1964 They claim that the cell walls of their probiotic bacteria aren't as damaged as the cell walls of the bacteria found in other products. This makes the Osumex product more potent. It supposedly makes up for the fact that there is very little bacteria in each pill. They use an herbal and fruit culture medium and they culture the product for 5 years. Presently, it costs about a dollar per pill. The recommended dose is three to nine pills a day, depending on the severity of the problem.

One of the strains in the Osumex product, TH10, helps get rid of E. coli. This might turn out to be important in the treatment of fibromyalgia, since there seems to be a high incidence of a viral infection of E. coli in those with fibromyalgia. Invitro (test tube or petri dish) results also show that this TH10 bacteria kills H. pylori.

Soil-based Microorganisms

Mary W: For those of you, who are curious about soil-based microorganisms, here's my experience to date. I've been on it for 3 weeks. I started it after a bad relapse in overgrowth when no natural antifungals seemed to be keeping pace. Within 2 days of being on it, my digestive system had calmed way down. After a week, I could tolerate fats again and my bloated stomach was and is about 50% less bloated than it was. Didn't have any noticeable die-off 'til yesterday (diarrhea and stomachache when I ate). Today ok. Been able to increase the dose pretty consistently so I'm up to 7 capsules a day. Don't know if I'm going to make it to 20 per day. I am also taking Therazyme SmI which has cellulase designed to digest

the yeast die-off. <http://loomisenzymes.com> phone (800) 662-2630. I take it off and on because I'm not sure if it's doing anything and I find it very constipating.

I know a lot of people have trouble with soil-based microorganisms, especially in the beginning. (I was able to start right away with 1 capsule; some people take less.) It must depend on the nature of each bacterial overgrowth. I am now intensely allergic (gastro-intestinally) to many things, including the fillers in all capsules and tablets, even vitamins in their pure form (have started doing vitamin/mineral IVs on a weekly basis) and yet I tolerate soil-based microorganisms — at least for now. So, you never know...

Polly: The bacteria in soil-based probiotics are normally found in the soil, and are not the usual residents of the human intestine. For this reason, there is some concern about their possible long-term effects on the user. However, soil-based organisms can be very effective. Natasha Campbell-McBride, MD, claims soil probiotics (Primal Defense brand) were of dramatic benefit in her child's autism symptoms. [9] A study of patients with enteric infections demonstrated rapid improvement in patients put on 2 billion soil-based microorganisms per day. (The experiment used a combination of Bacillus subtilis and Bacillus licheniformis). [10] Of interest, Bacillus subtilis creates a biosurfactant that is particularly damaging to lipid envelope viruses like measles, herpes and retroviruses. [11] Bacillus licheniformis is also valuable. It kills many different types of fungus. [12]

If you decide to try soil-based organisms, start with only a half capsule per day, and gradually work up to the recommended amount. According to an article by the keep-hope-alive group, Nature's Biotics (contains Bacillus subtilis and Bacillus licheniformis) may give the user flu-like

Some Soil-Based Microorganism Products

Product	Composition	Approximate Price as of Aug 2003	Website and Phone
Primal Defense	Bacillus subtilis Bacillus lichenformis, Grown in a base of grasses, minerals, etc. Including 80 mg PhytoSterol/Sterolin from sprouts chosen for their high phytosterol content. (The Primal Defense formulation changes from time to time, so please check with the company for the current ingredients.)	\$45 for 90 capsules	www.gardenoflife.com phone (800) 622-8986
Nature's Biotics	Bacillus subtilis Bacillus lichenformis Plus Phytoplanktons, amino acids, vitamins, minerals, etc.	\$54 for 90 capsules	www.lifescienceproducts.com phone (800) 713-3888
Flora Balance	Bacillus laterosporus (BOD strain)	\$25 for 60 capsules	www.flora-balance.com phone (800) 583-1939
Threelac from Global Health Trax	Bacillus Subtilis, Bacillus laterosporus (BOD strain), Lactobacillus Sporogenes, Streptococcus Faecalis (strain group D, which is considered benign), Lemon Juice Powder, Refined Yeast Powder, Castor Oil, (The yeast is supposed to be a food source for the lactic acid bacteria, to keep it alive while in the packaging.)	\$65 for 60 packets	www.globalhealthtrax.com phone (760) 542-3000
Attogram SBX	Herbal blend Reishi (Ganoderma) Shitaki Astragalus Schizandrae SuberB-X Base minerals, trace elements, enzyme proteins and a proprietary blend of organisms that include Bacillus subtilis and Bacillus lichenformis	\$43 for 90 capsules	www.wholeapproach.com/diet.html phone (715) 248-7751

symptoms or a cold during the first month of use. It may break up old fecal matter in the intestines. The experience of patients suggests that the product may be shifting the immune system away from the Th2 and towards the Th1 arm. [13]

Both Nature's Biotics and Primal Defense contain *Bacillus subtilis* and *Bacillus licheniformis*. The Primal Defense brand also makes an effort to include phytosterolins. Both Nature's Biotics and Primal Defense have a very small amount of other microorganisms, but not enough to make a difference in my opinion.

There is another soil-based product, Flora Balance, which contains a different soil-based organism called *Bacillus laterosporus* BOD. However, I don't know of any studies with patients using this particular soil-based organism. A relatively newcomer to the soil-based products is called Threelac. It contains *Bacillus Subtilis*, and *Bacillus laterosporus* BOD.

Jenny: I've found that the soil-based microorganisms are really helping me with my digestion. I started to gain weight right away, a sure sign that everything I ate was in fact being absorbed.

Polly: That might be what is happening. The proper flora is needed to absorb our food. Rats without any flora need 30% more calories in their diet. [14]

Mona: Threelac and Hydroxygen (oxygen elements) truly gave me my life back. I have been candida overgrowth free for 10 months. GONE. It hasn't come back. It took me 4 1/2 yrs of trying other things and I never could get rid of it. It always came back whenever a stressful event would come into my life. It wasn't until the Threelac and oxygen that I actually was able to start getting well.

Polly: I've not tried the Threelac, but Health Trax's Oxygen Elements Plus is the strongest oxygen product that I've tried so far. I liked it. However, I noticed that it had to be used consistently, or else it made things worse instead of better.

Yeast As A Probiotic?

Polly: Believe it or not, the yeast *Saccharomyces boulardii* can be used to alter the flora to a more favorable composition. Using this yeast as a treatment has been dubbed "yeast against yeast." It crowds out the more harmful yeast while allowing good bacteria to take over. The amount employed is 1 to 9 billion organisms per day. Jarrow and Allergy Research/Nutricology make a supplement of this. The Jarrow product has 1 billion organisms per capsule and the Allergy Research product has 3 billion organisms per capsules. When you adjust for the potency, the price is similar for both brands. However, if you wish to start with a smaller investment, the Jarrow brand is more affordable, presently retailing at \$13 for a bottle.

Are Probiotics Ever Harmful?

Polly: You will have to go by how you react to the probiotics. Start slow. Nothing is ever perfectly correct. Here are a few considerations.

- 1) You want your immune system in the intestines to react to the probiotics, but you don't want a full out war. So if large doses make you sick, cut back on the dose.
- 2) Dr. Leo Galland warns that probiotics could increase the growth of protozoal parasites. Therefore use the probiotics only after these parasites have been eradicated. [15]
- 3) When you take probiotics orally, this puts an unusually high number of microorganisms in the small bowel. (A healthy small intestine

will have very few of these microorganisms. Most of the bacteria should reside in the colon.) If you have very poor buffering capability, you should be wary of adding in so many bacteria into the small bowel. When the bacteria come in contact with the large amount of sugar there, too much acid may be formed. In the book *Cleanse and Purify Thyself*, Richard Anderson, ND, NMD claims that people have gotten sick with acidosis by ingesting too many acid forming bacteria. (Dr. Anderson's website can be found at www.ariseandshine.com)

- 4) If you have small bowel bacterial overgrowth, then adding in more bacteria could help or harm. If the bacteria you are replacing are particularly harmful, then you will feel better. If all you are doing is adding in more bacteria to the small intestine, then you might even feel a little worse.
- 5) For infants and toddlers, you cannot use the same bacteria that you use for adults. The amount used is less too. Get a product made especially for them.

Mary W: Hi, just curious if anyone has experienced this? I've just done 7 weeks of antifungals/antibiotics treatment and am finding all probiotics except one, are now making me violently ill, with Custom Probiotics and the SCD (Specific Carbohydrate Diet) yogurt (trillions of cfus) being the absolute worst. This mirrors my experience of 3 years ago where I was treated with lots of antibiotics for an acute parasitic infection and couldn't tolerate any probiotics afterwards. I eventually found my way to Natrens Healthy Trinity and I was able to tolerate that and found it somewhat helpful, but by then it was too little too late. So I'm back on the Healthy Trinity but I'm only tolerating 1 capsule per day. The yogurt is a complete

disaster, no matter how little or strained. It seems as if my body is rejecting all these probiotic strains as foreign organisms. Perhaps Healthy Trinity is closer to a human strain? Perhaps mostly Bifidus is preferable right now, but why? (Before the drugs, I could tolerate up to 80 billion cfus of any probiotic strains or 3 cups of the yogurt once a week).

Any theories or suggestions appreciated. I'm considering probiotic implants again as an alternative but am a little worried given the violence of the reaction.

(Note, this experience was several months after Mary had tried the soil-based probiotics, and only after she had taken a combined antibiotic and antifungal treatment.)

Avandish: Nutrients to feed the production of mucous lining cells of the GI tract come from the growth of Bifido. As these nutrients are gradually delivered, the production of mucous gradually builds. This affords protection to the wall of the intestine from the acids produced by other bacteria and prevents direct attachment of the bacteria to the GI tract wall. Most likely the drugs you have been using have reduced your good bacteria populations in the large intestine, causing a reduction in mucous production throughout the entire GI tract. Most likely the acids produced by the organisms you are using, including the long fermentation period yogurt (Specific Carbohydrate Diet) are too acidic for the unprotected wall of the small intestine. This lack of mucous also allows direct attachment of bacteria to the villi in this area (something you don't want).

Try taking just Bifido, as these are milder strains. They produce more of the essential nutrients and less of the irritating acids. Even these may be a little strong for you right now. Taking a little long chain inulin without free

sugar at the end of a meal will help deliver some of the needed food to the large intestine. Taking inulin with food slows the bacteria growth in the small intestine, but stimulates growth in the large intestine. **Don't take inulin or FOS on an empty stomach or with your probiotics as this will stimulate fast growth in the stomach and small intestine**, creating much irritation, especially for people with long-standing dysbiosis. Also, if you have significant GI inflammation, unrefined wheat germ oil taken after a meal can be helpful. I only use refrigerated wheat germ oil. I use Spectrum brand in the black bottle, liquid, stored in the fridge. I take a tablespoon at the end of breakfast when inflammation is a problem. Do not heat this oil, as it is mostly polyunsaturated. Spectrum is a large veggie oil producer in the health food store. Good Luck Sport.

Mary W: AHA. Finally, an intelligent explanation. Thank you!

MM: Mary, as I was reading Avandish's response to you, one thought dawned on me. The people who follow the Specific Carbohydrate Diet (SCD) who have ulcerative colitis and Crohns disease get fish oil capsules that are protected from digestion in the stomach. A large number of studies have shown that these protected fish oil capsules help to minimize inflammation in the gut. See pubmed, etc. for abstracts. You can also ask the Healing Crow and SCD list members about how the protected fish oil capsules have worked for them.

Mary W: According to all those studies, those people were taking tons of fish oil capsules a day, 8-10. That amount is hard on the liver. In the first year of my illness, I took one a day and they did nothing. Funny how the SCD people are totally

against Bifidus. They say some ulcerative colitis people have had flares with them.

Polly: Seems like in this situation, you have to treat the intestinal lining like that of a newborn, with special care. There certainly is a lot more that needs to be learned about using probiotics to our best advantage.

2 weeks later—**Polly:** Mary, you were taking soil-based probiotics about a year ago. Why did you stop the soil-based probiotics?

Mary W: I stopped Primal Defense last March specifically because I found (along with Mary in Pennsylvania) that as we got to higher doses our dysbiosis actually increased. We posited (along with your help) that since the plant sterols/sterolins they had added in the last 2 years were ALL derived from estrogenic sources, they were boosting our hormone levels. Then I tried Nature's Biotics, which supposedly had the same two soil-based microorganisms (bacillus subtilis and bacillus lichenformis) without the sterolins but with phytoplanktons. That just gave me more and more gastric distress. Then I tried a custom version (no maltodextrin) of a different soil-based microorganism called Bacillus laterosporus BOD, which has been shown in labs to be effective against candida albicans specifically. I had a little improvement from it but it didn't last.

Based on my dramatic improvement initially, I still personally believe that bacillus lichenformis and bacillus subtilis can be very effective for gut infections. The problem may be that these products are now packaged with all kinds of substances (plant sterols, maltodextrin, FOS, reishi mushrooms, etc.) These trials of Nature's Biotics and the laterosporus BOD were during the months of March to June. Then I went on a round of using EVERY natural antibiotic and antifungal for about 4 to 5 months, including

colloidal silver and tons of propolis. (My selection of propolis was based on a case history in the Townsend letter.) Since I became allergic to herbs/foods very quickly, I was rotating through all this stuff except the propolis. (I did not become allergic to the propolis.)

In December I went to a new doctor who found seven pathogens including *Blastocystis hominis* (parasites), *Candida krusei*, *Klebsiella*, etc. He put me on a massive 6-week tiered drug therapy of antifungals and antibiotics. I tolerated this amazingly well, but now here I am with a stripped mucus layer. The same thing happened to me three years ago after taking lots of antibiotics to treat an acute parasitic infection. I had terrible gut inflammation afterwards and NO tolerance for probiotics. I just didn't know what was causing it, nor did my hopeless doctors. This went on for months. But this time, I'm getting some control much faster, thanks to Avandish identifying the problem. Once he identified the stripped mucosa, I took a supplement called Colixen to help restore the mucosa. This allowed me to start tolerating a mostly *Bifidus* probiotic about a week later.

I think any antifungal or antibiotic, natural or drug, has the potential to harm the mucosa. If the treatment results in dehydration, I think this is a warning that damage is being done. According to my research, dehydration is not a common side effect with Diflucan. Yet for me, the Diflucan was INCREDIBLY dehydrating. The same dehydration happened three years ago, when I took all those antibiotics and also got the stripped mucosa.

Note: Primal Defense has changed their formulation a few times. As of September 2003 they state that each pill contains "80 mg PhytoSterol/Sterolin Blend from sprouts in their natural whole food form."

The main plant sterol called beta-sitosterol shifts the immune system from Th2 towards Th1, which is often helpful. However, just like the controversy over the phytoestrogens in soy, there is reason to have some concern about beta-sitosterol. Beta-sitosterol is considered a phytoestrogen / hormone disrupter.

Parasites As Probiotics

Polly: Parasites can also be used to shift the immune system and get rid of intestinal inflammation. Joel Weinstock of the University of Iowa has successfully treated inflammatory bowel disease with the eggs of porcine helminthic parasites. (The parasites do not reproduce in the intestinal track and are eliminated in a few months.) Preliminary results look promising. However, the eggs are not a cure-all. People, who have these eggs present in their stool, still may have intestinal inflammation.

Another parasite used for medicinal purposes is part of traditional Vietnamese medicine. This parasite is found in the soil and is called Earth Dragons, earthworms, or *lumbricus*. These parasites have been used to treat stroke, hypertension, arteriosclerosis, malaria, fever, blood infections, seizures/epilepsy, urinary problems, acne, cough, joint pain, migraines, insomnia, skin infections, and inflammatory bowel disease. [16] These earthworms are available from Allergy Research/Nutricology, in a tonic preparation with herbs. Website www.nutricology.com phone (800) 782-4274. I would not want to purchase parasites from just any company. The source of the eggs or parasites has to be carefully controlled so that viruses are not present.

When All Else Fails

Polly: There is an unusual probiotic treatment that is producing some very good results, especially when there is an infection of Clostridia. If you have tried everything else without success, here is one more option. The Probiotic Therapy Research Center in Sidney Australia is employing donor intestinal flora from a healthy relative or friend to implant in the colon. This is their reasoning:

It should be noted that commercially available oral probiotics are currently incapable of implanting permanently into the bowel flora as they have lost their capability to adhere to epithelial cells through the process of culturing in the commercial laboratory. Only fresh human probiotics from another human being that retain that capability and hence can be implanted to reverse bacterial deficiency and eliminate invading infections.

They feel that sometimes this is the only way to completely eradicate the spores and infection of Clostridium.

They do not use this treatment on every patient. They are very careful to first identify the pathogens using colonoscopy before deciding on a course of action. Eg, sometimes it is a parasite that needs eradication, and therefore this probiotic treatment is not warranted. I think you will find all the articles at their site highly informative. They delineate the types of infections found most commonly with each type of bowel disorder. www.probiotictherapy.com

For those who enjoy the technical side of this subject, there is a new book you will like: *Gut Ecology* by Hart, Stagg, Graffner, Glise, Falk and Kamm, as published by Martin Dunitz. www.dunitz.co.uk

references

1. Wang, X. & Gibson, G.R., "Effects of the in vitro fermentation of oligofructose and inulin by bacteria growing in the human large intestine." *J. Appl. Bacteriol.* 1993;373- 380.
2. Hanson, Lars a., and Yolken, Robert H., *Probiotics, Other Nutritional Factors, and Intestinal Microflora*, Nestle Nutrition Workshop Series, Vol. 42, Lippincott-Raven Publishers, Philadelphia, Pennsylvania, 1999, Phone (800) 638 - 3030
3. Mitsuoka T, Hidaka H, Eida T, "Effect of fructooligosaccharides on intestinal microflora," *Nahrung* 1987;31(5-6):427-36
4. Oda Y, Ouchi K, "Construction of a sucrose-fermenting bakers' yeast incapable of hydrolysing Fructooligosaccharides," *Enzyme Microb Technol* 1991 Jun;13(6):495-8
5. Kalliomaki M, Salminen S, Arvilommi H, Kero P, Koskinen P, Isolauri E, "Probiotics in primary prevention of atopic disease: a randomised placebo-controlled trial." *Lancet.* 2001 Apr 7;357(9262):1076-9. Dr. Mercola summarized this article. At his website: www.mercola.com/2001/apr/14/probiotics.htm.
6. Arvola T, Laiho K, Trokkeli S, et al. "Prophylactic Lactobacillus GG reduces antibiotic-associated diarrhea in children with respiratory infections: A randomized study." *Pediatrics.* 1999; 104(5):64. Found at www.slackinc.com/child/idc/200001/diarhea.asp
7. Romano C, Biondi R, Quarto N, Galdiero F, [Article in Italian. Changes of the intestinal mucosa-bacterial flora ecosystem in rats fed various diets] *Boll Ist Sieroter Milan* 1978 Mar 31;57(1):12-9
8. DAN! 2000 Conference Tapes. They are available from Insta Tapes, P.O. Box 908, Coeur D'Alene, ID 83816-0908, or phone (800) 669-8273 or (208) 667-0226.
9. Walker, Morton, DPM, "Homeostatic Soil Organisms for One's Primal Defense," *Townsend Letter for Doctors and Patients*, February/March 2001, #211/212]
10. Gracheva NM, Gavrilov AF, Solov'eva AI, Smirnov VV, Sorokulova IB, Reznik SR, Chudnovskaia NV [The efficacy of the new bacterial preparation biosporin in treating acute intestinal infections].

- Article in Russian, *Zh Mikrobiol Epidemiol Immunobiol* 1996 Jan;1:75-77
11. Vollenbroich D, Özel M, Vater J, Kamp R M, Pauli G, "Mechanism of Inactivation of Enveloped Viruses by the Biosurfactant Surfactin from *Bacillus subtilis*," *Biologicals*. 1997 Sep;25(3):289-97.
 12. Lebbadi M, Galvez A, Valdivia E, Martinez-Bueno M, Maqueda M "Purification of amoebolytic substances from *Bacillus licheniformis* M-4." *Arch Microbiol* 1994;162(1-2):98-102
 13. Konlee M, Report No 16 Spring Issue (1998), *Positive Health News*
www.execpc.com/~keephope/report16.html
 14. Wostmann BS, Larkin C, Moriarty A, Bruckner-Kardoss E. "Dietary intake, energy metabolism, and excretory losses of adult male germfree Wistar rats. *Lab Anim Sci* 1983; 33:46-50 as mentioned in the book by Dunitz M, *Gut Ecology*, published by Martin Dunitz Ltd., www.dunitz.co.uk
 15. Galland, Leo, MD, "Gut Parasites," Enzyme Potentiated Desensitization Conference, October 1995
<http://www.food-allergy.org/root3.html>
 16. "Parasitic Worm May Be Beneficial in the Treatment of Inflammatory Bowel Disease" by Nutricology, Copyright 1999-2001.
www.nutricology.com/Newsletter/earthdragon1.htm

Leaky Gut

Polly: “Leaky gut” is a popular term for increased intestinal permeability. Toxins and larger food molecules than normal pass through the gut and escape into the blood stream. This sets the stage for many food allergies. Toxins, inflammation, parasites and viruses seem to play a part in initiating leaky gut. Toxins from *Clostridium difficile* (a bacteria), and influenza and vesicular stomatitis viruses have been shown to loosen the tight junctions in the intestinal lining. [1] (These same toxins could also make the blood-brain barrier more permeable.) The common parasites called *Giardia* and *Blastocystis hominis* also seem to cause leaky gut. [2] Besides toxins generated in the gut by pathogens, toxins from outside the body, like organophosphate pesticides and mercury, are suspected of contributing to leaky gut.

Leaky gut could be caused by excess calcium entering the cells that line the gut. [3] Cells take up calcium if there is some type of injury (toxins, oxidant stress, hypoxia, metabolic inhibition, tissue acidosis, exposure to nitric oxide or cytokines, endotoxemia, and sepsis). So there are probably many general health problems that need to be corrected if we are to get rid of leaky gut.

Once the yeast or abnormal flora has been minimized, many doctors will start their patients

on nutrients that are specific to healing the gut. Like so many other treatment modalities, sometimes these remedies help and sometimes they aren't tolerated. Besides providing nutrients, perhaps we also need to remove the remaining toxins. For example, cholestyramine will remove certain low molecular weight fat-soluble toxins. In certain cases, it has gotten rid of irritable bowel. Would this or charcoal or another drug be helpful in clearing up leaky gut syndrome?

Here are several excellent articles on the connection of the leaky gut syndrome to the yeast syndrome.

www.gsdl.com/news/1999/19990227/index2.html “Leaky Gut Syndrome” by Jake Paul Fratkin, OMD

www.gsdl.com/news/1999/19990228/index.html “Inflammatory Conditions and the Gastrointestinal Tract” by Myron Lezak, MD

www.johnsondrugs.com/news/index.asp Leaky Gut Syndrome (LGS) Origins, Effects and Therapies, The “Medical Link” Between Dysbiosis and Many Major Ailments, “Is This the Most Misdiagnosed/Underdiagnosed Condition in Medicine Today?” Contributing Authors: Dan Koontz, NMD; Jack Hinze, NMD, PharmD; Derrick M. DeSilva, MD; Andrea

Herr, RN, FBIH; Craig Konzen, RPh in the *Herbal Pharm*, issue 19, 1999.

Dr. Leo Galland's Observations on Healing Leaky Gut

Polly: Leo Galland, MD, wrote an excellent article on leaky gut. It can be found at www.healthy.net/library/articles/galland/Leakygut.htm He suggests that diet is the most important factor in healing leaky gut, but that there are several adjuncts to the diet that can help. I've summarized some of Dr. Galland's suggestions here for you.

- 1) Merely taking the time to chew your food well will help because purified epidermal growth factor (found in saliva) has been shown to heal ulceration of the small intestine.
- 2) Insoluble fiber like cellulose is helpful. Soluble fiber is helpful too, but be careful not to get too much soluble fiber because in larger quantities it can increase permeability. (Soluble fiber soaks up water, insoluble fiber does not.)
- 3) Probiotics help.
- 4) Undenatured whey is valuable for increasing gut IgA (immunoglobulin) levels, which improves your immunity. (IgA is discussed in the autism chapter in book 5.)
- 5) Since the liver's glutathione levels are often low in this syndrome, you may want to increase your glutathione levels by using N-acetyl-cysteine (NAC) and methionine.
- 6) Gamma oryzanol from rice bran is helpful.
- 7) In general, avoid vegetable oils because polyunsaturated oil tends to increase the free radical content of the bile. This damages the gut and pancreas. Yet, you may need some GLA, and he suggests getting your GLA

from a concentrated source (like primrose oil), so as to avoid over-exposure to the polyunsaturated oils.

- 8) Fish oil along with vitamin B6 can increase anti-inflammatory prostaglandin formation and thus help reduce inflammation of the gut.
- 9) Bioflavonoids like quercetin may block the allergic reactions that increase gut permeability.

I have some comments about his suggestions.

- 1) Careful with the NAC and whey. Some people with mercury poisoning have high cysteine levels. Whey or NAC aren't appropriate in this case. Also, too much cysteine can suppress thyroid. Cysteine is harmful if you are copper poisoned.
- 2) Don't overdo fish oil either. Fish oil is highly unsaturated. Just like the vegetable oils, it can increase the free radical content of the bile. If you wish to use fish oil, consider using a little fish *liver* oil for its higher vitamin content. The fat-soluble vitamins found in fish liver oil (A, E, D, and K) control inflammation.
- 3) Gamma oryzanol may interfere with the interpretation of thyroid blood tests. Typically, doses of about 300 mg per day are used to treat ulcers and gastrointestinal complaints. This amount will lower TSH significantly in people with primary hypothyroidism, even though it does not increase the thyroid hormone level in the blood. [4] Because of its possible effect on hormone levels, it seems wise for pregnant and lactating women to avoid taking supplements of gamma-oryzanol.
- 4) Don't overdo bioflavonoids. Bioflavonoids help control inflammation, but they also

lower the body's ability to detoxify other substances. (See the liver health chapter.) Those with impaired sulfation may find some of the bioflavonoids hard to tolerate. Also, the process of removing the bioflavonoids from the body may use up sulfates, which are needed to heal a leaky gut.

- 5) Other things that help control inflammation are transfer factor, colostrum, bromelain, pancreatic enzymes, progesterone, Mead oil, coconut oil, and emu oil. Butter and aloe vera are soothing to the intestine too.

Dechen: My doctor had told me that aloe gel is one of nature's strongest anti-inflammatories. I was taking this commercial brand which was pure crap since it was full of citric acid. I then started extracting aloe gel from the plant in my living room! And bingo, my gut feels heavenly! Every morning I take one or two fat leaves, cut the sides with scissors, open and scrape the insides. Then I blend it with my hand blender and water. I add my probiotic and voila! It really really helps. Of course, my house plant looks ravaged... But I'll just buy another one. I couldn't find a brand of aloe gel that didn't contain all kinds of added caca, and I was very unwilling to go without the benefits of aloe. Apart from it's anti-inflammatory qualities, it's a cleanser of the digestive system and the liver, a detoxifier, and slight immune booster. So my solution might seem strange but it works very well, and it's cheap.

Polly: It is extremely easy to ruin the healing properties of aloe vera by processing and heat. The sugars in it are ruined. Very few companies do it right. Mannatech is one of the few companies that know how to do it. Although their product is good, it can get expensive, and if you want to get those good effects from it, you

have to use a lot. I think you have a wonderful solution. Just be careful not to use the outer part of the leaves because the yellow sap is a laxative. The old leaves contain more of the mannose sugar, which may help the immune system. There are a few people that are allergic to aloe vera. A good precaution may be to test a dab of it on the skin first. This book is interesting, *Sugars that Heal* by Emil Mondo, MD and Mindy Kitei. It talks about many different sugars in our food that are very important to healing and to the immune system.

More Remedies for Leaky Gut

DY: All my vitamin levels are fine. I just don't know what to take for leaky gut!?! Thanks!

Linda in Virginia: L-Glutamine is good for leaky gut. Vitamin A is also good. I am taking Omega Plex (butyric acid) by American Biologics (2 capsules 3 X day) and Intestinal Permeability Support by Biotics Research (2 capsules 3 X day). Tyler also makes something for leaky gut called Permeability Factors. Normally Tyler products can only be purchased through a health care practitioner. However, N.E.E.D.S. (Syracuse, NY) carries the brand because they have a doctor on staff. www.needs.com phone (800) 634-1380. Biotics Research products are harder to find. My local health food store just started carrying their products. Before that I bought them from my health care practitioner.

Jennifer: Are there any other vitamins or amino acids that are helpful? How about single herbs? Combinations like Intestinal Permeability Support are difficult for me to tolerate. Thank you!

Polly: Jennifer, there are so many many different things that you can use. Vitamin A, copper and zinc seem particularly important for a healthy intestine. Other than that, I don't know what is best. However, here is a list of some ideas.

1. Slippery elm and saffron tea sooth the intestine.
2. There is a book on Chinese herbs for healing the gut called *Healing Digestive Disorders* by Andrew Gaeddert. He suggests blends of herbs for different intestinal conditions. I guess you have to go to a doctor or herb store familiar with these blends. I've never heard of them before. But if you can tolerate herbs, this seems like a good avenue to explore.
3. Elderberries help heal the intestines, but they are pretty pungent and not very sweet—not the best tasting in my opinion. Elderberries also have very good anti-viral properties. Elderberry jam is a verified treatment for intestinal ulceration. The dry berries stop diarrhea. However, Morton Walker, D.P.M. cautions that elderberries should not be eaten raw. [5]
4. In Andy Cutler's book, *Amalgam Illness*, he mentions that if you are low on the amino acids arginine or taurine, then supplements of these can help heal leaky gut. But there are precautions one must be aware of when using any amino acid. In particular, several people have mentioned how supplementing with just glutamine increases ammonia levels and can be intolerable. Even though correcting a deficit of arginine will help heal leaky gut, too much arginine will harm the gut. (See the chapter on amino acids in book 6.)
5. Colixen is a product used to reduce intestinal inflammation and heal leaky gut. It is made by Ecological Formulas. It contains mucin, lauric acid, and ricinoleic acid. Mucin is the protective coating in your intestines. The lauric acid should help get rid of viruses. (In the intestines, the lauric acid converts to monolaurin, which is an anti-viral substance. Lauric acid is found in coconut oil.) The ricinoleic acid is essentially castor oil. Castor oil is a treatment for intestinal inflammation and worms. Castor oil is also a laxative. An overdose will cause severe cramping. Castor oil should not be used when you are pregnant. Too much may induce labor and cause stillbirth.
6. Then there are substances that may improve the integrity of the glucosaminoglycans (GAGs) that line the intestines.

Glucosaminoglycans (GAGs)

Polly: Fully sulfated glucosaminoglycans (GAGs) provide a protective barrier in the gut and prevent leaky gut. We shed these GAGs when there is inflammation. For healing, we need to get rid of the inflammation and to provide the basic material for our body to create more fully sulfated GAGs.

What basic material should we supply to the body so that it can create more GAGs? Should we ingest more sulfates, glutamine, chondroitin sulfate, glucosamine sulfate or perhaps N-acetyl-glucosamine? All of these are potential candidates for increasing the formation of GAGs.

Glucosamine is the amino acid glutamine combined with fructose, a sugar. Glucosamine is then used as a building block for more complex GAGs such as chondroitin sulfate. Since glucosamine is the basic building block for GAGs, I'm guessing that it might be the best

substance to supply the body. However, I've not seen anyone suggest that glucosamine sulfate is good for healing leaky gut. It just seems logical that it would be.

Avandish: Products from a number of manufacturers for leaky gut contain glucosamine sulfate. I have seen it in Biotics research, maybe Tyler, and others. I have not tolerated these blends of ingredient type products for leaky gut and am exploring as you are. I may experiment with more pure glucosamine sulfate in the near future, but right now I am looking into the possible production of some of these gut-healing compounds by various species of bifidobacteria.

Sally: I remember reading somewhere that glucosamine sulfate is the best anti-inflammatory because it doesn't cause damage to the gut like all the other ones. The article also said it is proven to help heal the gut instead of causing damage and promotes healing of the stomach lining. If I find where I read it I will post it verbatim. I've used it for several years for my arthritis-like symptoms with great success and have recommended it to many who have reported back with good results. One person had been having digestive problems and started taking it for arthritis, but commented later that his digestive symptoms had greatly improved shortly after starting it.

Avandish: What dosage do you take? Thanks.

Sally: 1500 mg daily until symptoms are satisfactory. Then after a while I back down to 1000 mg.

Mary in Pennsylvania: I know that when I stopped using N-acetyl-glucosamine (NAG) or any of the products with it in it (like Intestinal Permeability by Tyler), I quickly got my candida

under control. Up to this point though, it had been an up hill battle due to the fact that I was attempting to correct leaky gut syndrome (LGS) with the recommended supplements like NAG. What I was doing was making a bad situation even worse. It wasn't until I read the forum archived posts by Author and JD, which condemned NAG because it was a known inducer of yeast myceliation, that I wised up and stopped all the crazy supplementation. (Yeast can take on several different forms. The mycelial form burrows into tissue.)

Polly: I just did a little rummaging around in medline, and found references that indicate some drawbacks to NAG.

- 1) NAG causes *Candida albicans* to form mycelia. [6]
- 2) NAG increases adherence of *Candida albicans* to vaginal epithelial cells. [7]
- 3) The yeast *Candida krusei* can live on the sugar in NAG. [8]
- 4) Some bacteria can use the sugar in NAG to grow and some can't. [9]

Glucosamine has drawbacks too. The information at this website suggests that glucosamine could lower energy production and increase yeast growth. www.biochemicals.com In their opinion, chondroitin sulfate, although more expensive, would be a much better choice. The articles at that site also warn that glucosamine might increase insulin resistance. If you are diabetic, be particularly careful with it.

Besides the obvious importance of building up the intestinal lining with GAGs, there is another aspect to glucosamine sulfate and chondroitin sulfate than may be very helpful. Viral infections can lead to gut inflammation, and glucosamine sulfate and chondroitin sulfate may help control these viral infections. There is

an article at the Keep Hope Alive site that talks about using chondroitin sulfate and glucosamine sulfate to control the HIV virus. It is not known if these help control other lipid envelope viruses (measles, CMV, and HHV-6). However, if they do help kill these other lipid envelope viruses, that could make their use very important. [10]

Sheila: Just wanted to share a recent experience with NAG vs glutamine. I switched from glutamine to NAG for about a month. During that time, I experienced a lot of intestinal inflammation and stools went from pretty healthy to very unhealthy looking. I didn't immediately attribute it to the NAG, but when I switched back to glutamine, those problems immediately disappeared. Since I saw so much improvement, I doubled the glutamine to 1 gram/day & have been getting better & better since. This was an unintentional experiment, but definitely proved to me the benefit of glutamine over NAG, in my case at least.

SK: I like the glucosaminoglycans (GAGs). L-glutamine didn't work for me. I didn't like the chondroitin or glucosamine sulfate—ah but the NAG? Nice.

Polly: That proves that everyone's needs are so different. NAG can protect a person from certain lectins like those found in wheat. I wonder if that is why you found it so helpful? Maybe you don't have the type of bacteria or yeast that can break down NAG and get to the sugar in it?

Avandish: What is your source of GAGs? Are they isolated or foods high in them naturally?

SK: Enzymatic Aorta-glycan 50mg — “mixture of highly purified bovine-derived GAGs naturally present in the aorta including derman sulfate, heparin sulfate, hyaluronic

acid, chondroitin sulfate and related hexosaminoglycans.” Cow parts, yum.

(The Enzymatic Therapy brand is carried in many vitamin shops. You might have to ask them to order this Aorta-glycan product for you. Or here is a discount vitamin company that carries a lot of Enzymatic Therapy products, www.totaldiscountvitamins.com/Merchant/enz.htm or phone 1-800-283-2833.)

Avandish: I have read that the inorganic sulfates must be balanced with organic sulfur compounds like MSM. When one uses a lot of glucosamine sulfate it initially does not show up in the urine in large quantities and the person feels better (arthritis/joint pain study). But after using the inorganic sulfur (sulfates) for a while, the improvement fades and the urine begins to show high levels of inorganic sulfur. When a source of organic sulfur is added, then the improvement often returns and the urine levels of inorganic sulfur drop while continuing with the same oral dose. This seems to suggest the necessity of balance between inorganic and/organic sulfur.

Polly: What were the food and other sources of organic sulfur that were used in the study?

Avandish: You have to realize that the information I mentioned was based on testing done in people using glucosamine sulfate and chondroitin for joint/arthritis problems. Leaky gut was not addressed in the participants. If any of them had it, it was not mentioned. I mentioned this study to show the necessity of balance between organic and inorganic sulfur. About the organic sulfur, the only supplement mentioned was MSM. Plant enzymes were used with foods typically high in sulfur such as eggs, bell peppers, protein, garlic, etc. I think the

MSM was the primary source for organic sulfur. Wish I could give more specifics, but can't find my notes on this.

Lilian: Have you found glutamine to be a problem with fighting candida and leaky gut? I take it now, but I don't know if it might be preventing me from getting better.

Polly: Some people find glutamine helpful, and others get sick on it. When I tried glutamine, it seemed to make an infection on my hand worse. So I didn't continue the glutamine. One person told me that glutamine was wonderful for a while, but then she started to get sick from it. I don't know why it does this to some people. There is no sugar in glutamine to feed the yeast. (Yet the body can fairly easily convert this amino acid into glucose, a sugar.) Glutamine can increase ammonia levels, which might be the problem. Ammonia interferes with alpha-ketoglutaric acid, which is needed for energy production. Glutamine supplementation may also lower taurine levels, which could be another problem, since many of us may be already low on taurine. A Great Smokies Laboratory article warns that one should get rid of dysbiosis before trying certain amino acids, including glutamine, because the pathogens can act on them creating unwanted substances. Apparently,

“Even glutamine, which helps to keep mucosal tissue healthy, can be changed into succinic acid, which is detrimental when excessive.”[11]

Jock in UK: Glutamate (free), glutamic acid, and glutamine are all on the forbidden substance list at this celiac disease website www.celiac.com/safe_forbidden.html. Proteins that contain a lot of glutamine and proline appear to be very damaging to the intestines, especially if glutamine and proline are found in

a particular sequence in the protein. See www.csaceliacs.org/ceciacdisease.html

Polly: So do you think some people with celiac could have an immune reaction to glutamine? Or maybe they are sensitive to impurities in glutamine products? We are back to trial and error here.

One cannot conclude that any one substance is the best for healing leaky gut. It will depend on the individual. However, I guess the least likely to cause problems would be MSM, mineral sulfates, chondroitin sulfate or Aorta-glycans. Gelatin is quite helpful for joints, but I don't know if it is effective for healing the gut or not. (Gelatin is high in glycine and proline.) I would not start with NAG, glutamine, or glucosamine because they are more likely to be something your body could not tolerate. Also, I'd be wary of trying a combination of everything we have discussed lately. If you combined everything into one product, you would be bound to get one substance that your body couldn't tolerate.

Taurine

Mary J: Taurine reduces the translocation of bacteria and toxins from the gut. [12]

Polly: That is enlightening. Yeast overgrowth and/or alcohol abuse will deplete taurine. Perhaps this is one of the ways that yeast and alcohol cause leaky gut. It is also another reason to try a supplement of taurine. If anyone wishes to try taurine, take it with a meal because taurine can increase the secretion of stomach acid. Also start slowly on taurine, maybe as little as 50 mg per day, because taurine will cause cells to detoxify, and you don't want to do this too quickly. Later, you may want to try more. As

much as 1500 mg per day has proven useful for many conditions.

references

1. Fasano A, "Regulation of intercellular tight junctions by zonula occludens toxin and its eukaryotic analogue zonulin" *Ann N Y Acad Sci* 2000;915:214-22
2. Dagci H, Ustun S, Taner MS, Galip E, Ferit K, Budak S. Protozoon infections and intestinal permeability. *Acta Tropica* 2002;81:1-5 and Di Prisco MC, Hagel I, Lynch NR, Jimenez JC, Rojas R, Gil M, Mata E, "Association between giardiasis and allergy." *Ann Allergy Asthma Immunol* 1998 Sep;81(3):261-5
3. Naoki Unno MD, PhD Mitchell P. Fink MD, "Nutritional, Physiologic, and Pathophysiologic Considerations of the Gastrointestinal Tract, Intestinal Epithelial Hyperpermeability Mechanisms and Relevance to Disease," *Gastroenterology Clinics* Volume 27 • Number 2 • June 1998
4. Shimomura Y, Kobayashi I, Maruto S, Ohshima K, Mori M, Kamio N, Fukuda H, "Effect of gamma-oryzanol on serum TSH concentrations in primary hypothyroidism," *Endocrinol Jpn* 1980 Feb;27(1):83-6
5. Walker, D.P.M., *Elderberry Internal cleansing, Switzerland's Highly Effective Seven-Day Body Detoxification and Weight Loss Program*, New Way of Life, Inc., A Life Enhancement Book, Stamford, Connecticut, 1989
6. Mattia E, Carruba G, Angiolella L, Cassone A, "Induction of hyphal transformation, uptake and incorporation of N-acetyl-D-glucosamine in *Candida albicans*," *Ann Ist Super Sanita*. 1982;18(3):493-6. Italian. And Simonetti N, Strippoli V, Cassone A, "Yeast-mycelial conversion induced by N-acetyl-D-glucosamine in *Candida albicans*," *Nature* 1974 Jul 26;250(464):344-6
7. Reinhart H, Muller G, Sobel JD, "Specificity and mechanism of in vitro adherence of *Candida albicans*," *Ann Clin Lab Sci* 1985 Sep-Oct;15(5):406-13
8. Hayford AE, Jakobsen M, "Characterization of *Candida krusei* strains from spontaneously fermented maize dough by profiles of assimilation, chromosome profile, polymerase chain reaction and restriction endonuclease analysis," *J Appl Microbiol* 1999 Jul;87(1):29-40
9. Brinkkotter A, Kloss H, Alpert C, Lengeler JW, "Pathways for the utilization of N-acetyl-galactosamine and galactosamine in *Escherichia coli*," *Mol Microbiol* 2000 Jul;37(1):125-35
10. Konlee M, *Progressive Health News*, Vol 1 www.execpc.com/~keephope/v1998.html He referenced this article. Basgasra O et al; *J. Infect Dis*. 1991 Dec; 164(6):1082-90 "Anti-HIV virus type 1 activity of sulfated monosaccharides: comparison with sulfated polysaccharides and other polyions,
11. Pangborn J, PhD. "Question of the Month," *Nutrition and Metabolic Newsletter* (Great Smokies) Issue 2, No. 2 - April 2000 page 1 of 4
12. Wang WY. [Intestinal endotoxin translocation in endotoxemic rats] [Article in Chinese] *Sheng Li Ke Xue Jin Zhan*. 1995 Jan;26(1):41-4

Vitamins And Minerals

Polly: Since there is always a situation where a vitamin or mineral supplement can become harmful, please employ some common sense rules to protect yourself.

- 1) Find out as much as you can about a supplement before taking it, both good and bad. Never treat any information as the whole truth. We are always learning more.
- 2) Learn about the correct dose for effectiveness.
- 3) Start very slowly with low doses.
- 4) Add one new supplement at a time.
- 5) Observe how you react.
- 6) Don't overdo anything, yet don't be afraid to try things. Even though something may start out as very helpful, eventually you may not need it, or continuing to take it may even become harmful.
- 7) If your health is hanging by a thread, then consult a professional and have him test everything reasonable before starting on any vitamin or mineral supplement. Usually, but not always, a naturopathic doctor or an alternative doctor will know more about vitamins and minerals than a conventional doctor.
- 8) Trust your body's reaction. If a supplement was great for someone else with the same condition, but it makes you sicker, then stop

taking the supplement. Find out more. Perhaps you are starting with too high a dose. Maybe the supplement has to be taken with food or another supplement. Perhaps something else in your body must be corrected before you can tolerate this supplement. Sometimes the brand is no good. Many bargain brands have impurities that make people sick. Sometimes a supplement doesn't contain the amount or even the substance as shown on the label, even in a supposedly good brand. If the herb isn't wild-crafted (no commercial fertilizers and pesticides), then sometimes the herb isn't very active, like in the case of echinacea. Usually a powder or capsule is going to be absorbed better than a hard tablet.

- 9) If you can't tolerate even the most pure supplements, then look to food. You are more likely to tolerate food than any supplement. For instance, lightly cooked liver is a good way to get some vitamin A, coenzyme Q10, and the B vitamins.
- 10) Try not to be disappointed. I've tried many different supplements. Each seems to have some value. However, perhaps only one in ten has given me a very noticeable benefit.

Government Restrictions On Vitamins And Minerals

Jon: Just a little note to folks about something that happened this morning here in the United Kingdom. I ran out of B12 and B6. So I went to the local chemist and all they had was a B complex. I asked if they had any B12 or B6, and the head pharmacist there said they had withdrawn it under orders as it has been proven now that it causes nerve damage. I had heard a few rumours but the main health food stores still stock it !!! It shows the strange world we live in as they refused to give me vitamins and yet a 19-year-old in front of me was happily given his daily dose of methadonewarped world!

Polly: Usually B12 and B6 are used to improve nerve functioning. I've never heard of B12 causing nerve damage, however, the possibility of nerve damage from high-dose B6 has been known for a long time. An abstract in medline says that doses of 200 mg to 500 mg per day of B6 for extended periods has produced nerve damage. [1] (The purity of the B6 may account for some variation in the amount tolerated. Also, B6 is known to be better tolerated if B2 and magnesium are given with it.) Yet some autistics have taken 1000 mg or more of B6 per day on a long-term basis with no problem. [2]

The possibility of nerve damage is a problem that everyone on high dose B6 should be aware of. However, if high dose B6 could only be given by prescription, people wouldn't be able to get the prescription. A doctor would be labeled a quack and have his license taken away if he prescribed it. If the government limits our access to no more than a couple of milligrams of B6, B12, or other vitamins, they would protect a few but hurt many others. Ideally, access should be allowed, warnings should be put on labels, and people should read those labels. Labels should

have the well-known risk situations clearly defined, but not exaggerated. We do this for prescriptions, why not for vitamins? Then you would have the best of both worlds—protection and freedom.

The Internet is full of opinions and articles about the new CODEX guidelines. The CODEX guidelines restrict vitamin and mineral supplements to low potencies that are multiples of the RDA. (Restrictions on herbs are not part of the CODEX guidelines.) If the United Nations adopts the CODEX guidelines, many people fear that all is lost—that the citizens of the world will not have access to vitamins and minerals in potencies that can help them. However, all is not lost if the UN adopts CODEX. UN member nations that ratify GATT will only have to *consider* the CODEX guidelines when creating laws on health supplements. Notice that this does not mean that each nation must implement these guidelines, but just that they must *consider* the CODEX guidelines. However, there is the very real concern that many nations will implement the CODEX guidelines and the citizens of the world will not have access to the potencies needed. Emotions run very high on this issue. For more detailed information, see www.vitamins-for-all.org and www.health4us.org/codex.html

Vitamin A

Polly: Vitamin A is very important for healthy intestines and flora. According to Dr. Lars Hanson, in rats, vitamin A deficiency causes

“a contaminated bowel syndrome, accompanied by a very abnormal immune response with IgE antibody formation to the bacteria, dyspagocytosis, increased translocation [leaky gut], and a number of other abnormalities, such as increased nitric oxide production.” [3]

Susan Owens, an autism researcher, points out one of the reasons that a lack of vitamin A can cause leaky gut.

“Vitamin A deficiency has been shown experimentally to produce an accelerated turnover of GAGs as well as their undersulfation.”

GAGs (glycosaminoglycans) form a protective barrier in the gut. When deficient or undersulfated, this can cause a leaky gut. [4]

Avandish: Stay away from the patented synthetic derivatives of Vitamin A like Accutane. Their slightly altered chemical structure makes them toxic. I’m now at this candida forum website because of these toxic effects. I have spent 6-7 years of my life trying to reverse this damage. I have experimented with numerous forms of vitamin A during this time period, and have spent countless hours in medical libraries trying to build an educated understanding of the biological activity of these products and vitamin A.

Polly: At the Roche pharmaceutical site, they have a long list of potential problems associated with Accutane. This list includes intestinal, liver and pancreas problems. [5] Avandish, it could very well have been the triggering factor in your case.

Avandish: If you would like to experiment with Vitamin A, read up on the side effects of excessive dosages, so that if you begin to experience any of them, you will be able to recognize them early and discontinue. For adults, start with 1000 IU a day (much lower than normally used). Gradually build to 5000 IU if tolerated. Larger doses although tolerated by many should not be necessary. A low consistent dose will be much more beneficial than high dosage vitamin A. Preformed chelates of vitamin

A are easiest to absorb and most absorbable of the “Natural” vitamin A products. They are retinal succinate or retinal palmitate. These can be toxic as well so please read.

Polly: I agree that it is always good to start slow with vitamin A or any other supplement. However, if someone has an active measles infection in the gut (like many of the autistic), then perhaps more vitamin A than normal is necessary. You may want to get a doctor to monitor the vitamin A content of the blood in this situation. Also you must go by symptoms. It could be that the liver has plenty of vitamin A, but it is not releasing it to the blood.

Many parents of autistic individuals are trying to give children some fish oil for its retinol vitamin A content, in particular its 14-hydroxy-retinol content. Dr. Megson says that for those with a damaged gut, the best-absorbed form of vitamin A is the retinol form of vitamin A, which is found in fish, butter and liver. She even suggests avoiding the palmitate. Dr. Megson implies that a good deal of the trouble we are in is due to substituting the palmitate for the retinol in the diet of infants and children. Yet, Avandish, you imply that this retinol form isn’t that well absorbed, and you prefer the palmitate. Why?

Avandish: If the retinol were extracted from the fish oil, its absorption would be easy. However, fish oil, as any polyunsaturated oil, requires the breakdown of the fats by lipase to allow digestion. Lipase from the pancreas digests fats. Micellization and emulsification can be used on cod liver oil to increase the surface area for lipase to act. This will improve absorption. (Micellization means the large fat-soluble nutrients have been broken down into tiny, stable, water-soluble particles called micelles, which are absorbed more easily. Bile essentially

does the same thing. It emulsifies fats—makes the fat particles very small.)

There is a problem with this emulsification technique though. The compounds used to emulsify can be different from different producers. For example: some use glycerin, some use lecithin, etc. These added ingredients are sometimes the sole reason a product becomes intolerable. Also many companies buy their vitamin A containing preservatives NOT listed on the label such as BHT, sodium benzoate, etc. If negative symptoms occur, you should discontinue and try another.

I can't stress purity enough for people with any type of liver malfunction. If you have trouble getting pure Vitamin A without additives you may try College Pharmacy in Colorado Springs, Colorado, at (800) 888-9358. You MUST specify that you want a product with no additives because the pharmaceutical companies sell both to vitamin companies and pharmacies. The stuff with additives is easier to weigh and therefore more popular. You have to realize that 20,000 IU is smaller than a drop of pure A liquid. It must be diluted to measure it. You can have it diluted by this pharmacy with dilutents of your choice.

Polly: From what you just said, I assume adding bile salts and/or pancreatic enzymes might help absorption if someone were taking the cod liver oil. (You can purchase bile salts separately. DEWS carries them. www.DEWSnatural.com phone (940) 243-2178) Maybe even an addition of the palmitic fatty acids from coconut would make the absorption easier too. There is some indication that the presence of phosphatidylcholine in the intestine will help the absorption of vitamin A. [6] Yet, just improving the absorption isn't the total solution. A good portion of the autistic children are not able to tolerate cod liver oil. Faced with this problem, one mom tried micellized retinyl palmitate and

noticed some improvement. Yet others are not able to tolerate the palmitate. Are there any other forms of vitamin A that they could try?

Avandish: You can bind or chelate retinol to just about anything. I have seen succinate, acetate, palmitate, and others. Thorne Research offers a preservative FREE retinyl palmitate. Biotics Research has also been tolerable for me. I would experiment with these before fish oil.

The retinol in fish oil must be converted in the liver to a form that can be distributed throughout the body. The palmitate and succinate require no further processing. When you give the liver any compound in which it can't easily process, natural or not, it will put undo stress on that organ. In my situation the chelates have been much more tolerable and effective, while retinol from fish oil increased my symptoms associated with liver decline and increased the level of my liver enzymes. Also, if you look up vitamin A in any health book, or medical book it will generally advise against the use of cod liver oil in patients with clinical liver dysfunction.

Polly: Thank you, Avandish. That is very important information, and it is well expressed. Have a little more patience with me, and if possible, could you explain this quote by Dr. Mary Megson? Dr. Megson states,

"... the enzyme that helps split vitamin A palmitate is in the microvilli of the gut, and if the child has a single adenoviral or rhinoviral infection before fifteen months of age, the mucosal cells are sloughed off so that enzyme might not be available for use. Vitamin A palmitate has to be in the presence of bile, and the right pH for absorption. [Sporn, M, Roberts, A, Goodman, D. The Retinoids: Biology, Chemistry and Medicine. Raven Press, 1994, page 231]" [7]

Avandish: It is my understanding that these intestinal cells actually chelate the retinol with palmitic acid for absorption. This step does not occur automatically, but is carried out by the cells lining the intestine. I am not sure why there is so much conflicting information out there. I think that doctors often form hypotheses, that although sometimes get good results clinically, are not necessarily correct biochemically. I can't say who is correct for sure. I would suggest having the vitamin A palmitate or any other vitamin A traced in the blood and tissues with a radioactive tracer or just simply test for those compounds in a sample to see if its present. I have, myself, had very poor bile secretion with these health problems, and poor fat metabolism. Yet palmitate has helped more than fish oil for me. If taken in high dosage, I experience symptoms of excess vitamin A. These symptoms should not occur body wide without proper absorption.

Every text I read on nutritional medicine, whether from one medical journal to another or from one nutritional text to another, contain conflicting information. After experimenting with this vitamin A thing for a while, I have come to the conclusion that palmitate is safer and more effective than fish oil for me. I have learned that the more you attempt to learn, the more you realize that everything should be questioned. Not very settling on the stomach.

Polly: Avandish, I've learned a lot from you, but I still feel uncomfortable with my level of understanding on this issue. Perhaps the key is not what form of vitamin A gets absorbed into the bloodstream the best, but what form of vitamin A heals the intestines the best. The intestines are designed to get most of their nutrition directly from the food in the gut. Hence the retinol form of vitamin A, which is the form normally found in food, might be the best way to

let nature heal the gut. At least it is the first thing I'd try. Yet, if the retinol vitamin A from butter, fish, and liver didn't help, then I'd certainly try the palmitate.

Vitamin A or Carotene?

Polly: An overdose of vitamin A can suppress thyroid, and be just as deleterious as too little vitamin A. Therefore, to be on the safe side, many people turn to a supplement of carotene. When you use carotene, the liver should convert the carotene into vitamin A as it is needed. This avoids the possible problem with an overdose of vitamin A. Most people assume that you can't get too much carotene, so they feel that there is no problem with making this substitution. However, one cannot go too far with this logic without running into a few problems. A little carotene in your diet is fine, but too much carotene can interfere with liver function, and can block the action of vitamin A by competing with it. Also, if you are hypothyroid, it may be difficult for your liver to convert carotene into vitamin A. Especially for children, one needs to make sure they get some vitamin A instead of just carotene. In general, all children have a problem converting carotene into vitamin A. [8] Those with a phenol-sulfotransferase problem (many of the autistic and mercury poisoned) may have more trouble than most with carotene and other carotinoids. Therefore, I feel that a nominal supplement of vitamin A may be a better option than a carotene supplement, at least for many of us.

Please be careful if you give a child vitamin A supplements. A child will get very sick if you give them an adult dose of vitamin A on a regular basis. If your child is healthy, then just keeping butter in their diet should go a long way to keeping them healthy. If you want to add some insurance, you might consider a child's vitamin

supplement from Allergy Research/Nutricology. They are small capsules, and you use a number of them depending on the child's weight—one capsule per 10 pounds of body weight or as directed by a physician. Each capsule contains 800 IU of vitamin A palmitate along with many other vitamins and minerals. Since the pills are capsules, they can be pulled apart, and the contents added to food. www.nutricology.com phone (800) 782-4274

Supplements of 25,000 IU of vitamin A per day is *usually* quite safe for adults. More might be hard on the liver. However, there is currently some debate going on about using this much on a long-term basis. Adults can use higher doses on a short-term basis (eg 200,000 IU a day during an infection), but not necessarily for an extended period. Vitamin A supplements should be balanced with vitamin E because vitamin A tends to suppress the level of vitamin E.

Vitamin B1

Polly: Any of us with an overgrowth of yeast are likely to need some extra B1. B1 is destroyed when the yeast toxin acetaldehyde is detoxified. Also, candida can cause the breakdown of B1 before it has a chance to be absorbed by the intestines. [9] Those with mercury poisoning should pay particular attention to this vitamin. In Ziff's *Dental Mercury Detox* book, he states,

"The symptoms of B1 deficiency and mercury poisoning are almost identical."

Mercury lowers B1 levels by oxidizing it. Since many of us are considering using lipoic acid to chelate mercury, it should also be noted that B1 is required to have lipoic acid work properly. [10]

If plain B1 doesn't seem to help, try coenzyme B1 (also called TTFD). Dr. Teitlebaum notes that

some of his fibromyalgia patients require the coenzyme form of B1. [10] DEWS and Allergy Research/Nutricology used to carry TTFD separately, but demand hasn't been high enough to keep it as a separate nutrient. For now, you will have to look for it in a "coenzyme" or "coenzymate" B complex supplement. Source Naturals and DEWS make them. There is also another form of B1 available called allithiamine. This "fat-soluble" form of B1 is absorbed well. It is from Cardiovascular Research/Ecological Nutrients. Phone (800) 351-9429. There is also Benfotiamin or Befotiamine which is another fat soluble coenzyme form of B1.

Vitamin B6

Polly: If you have yeast overgrowth, there are many reasons that you may want to get extra B6, at least for a while.

- 1) You might be low on coenzyme B6 if you have been exposed to the yeast toxin acetaldehyde. [11] This toxin interferes with the production of coenzyme B6.
- 2) You might be low on coenzyme B6 if you have been exposed to alcohol for a long period. Some types of yeast and bacteria produce alcohol.
- 3) Dr. Shaw, in his book on autism, suggests that starting B6 supplementation early in your treatment might reduce die-off symptoms. Since B6 is an aldehyde, its effectiveness may be diminished by the presence of the yeast toxin acetaldehyde. For this later reason, Dr. Shaw suggests that the extra B6 might be particularly important during a yeast overgrowth condition, but might not be as critical after the yeast levels are reduced.
- 4) There may be a functional deficiency of B6 as well as the actual deficiency. When yeast

levels are high, often there are high levels of arabinose. According to Dr. Shaw, this can cause a functional deficiency of B6, lipoic acid and biotin.

- 5) Pentosidine formation may be prevented by higher levels of B6, glutathione and vitamin C. (High levels of arabinose formed by yeast can lead to pentosidine formation. Pentosidines interfere with many functions in your body and might be a contributing factor in Alzheimer's disease.)
- 6) B6 is important for both your cell-mediated immune response (Th1) and your humoral immune response (Th2). [12]
- 7) B6 is very important for the proper absorption of protein; protein is very important for your cell mediated immune response. [13] (It takes a while for the immune system to recover after a period of low protein.)
- 8) B6 and the other B vitamins are required to activate the liver enzymes that get rid of toxins.

For all of the above reasons, if you have yeast overgrowth, addition of B6 may be a wise investment, even if you don't notice anything spectacular from it.

Mrs. Generic: Wonder if B6 has a more "bioavailable" form, just like pantethenic acid has the form pantethine?

Polly: Just like the active form of pantethenic acid is called pantethine, the active form of B6 is called coenzyme B6, or sometimes Pyridoxal-5-Phosphate or P5P. Coenzyme B6 is the actual form of the vitamin that the body needs. Coenzyme B6 is a much better purchase than plain B6, in my opinion.

- 1) I strongly suspect that many of us who have had a long-standing yeast problem may have trouble converting B6 into its coenzyme form. You need the amino acid alpha-ketoglutaric acid and vitamin B2 to convert B6 into its active coenzyme form. Some of us may be low on alpha-ketoglutaric acid because the yeast toxin acetylaldehyde depletes this. [11]
- 2) Those with aluminum poisoning may be low on alpha ketoglutaric acid and have trouble using phosphates. [14] This could interfere with the formation of Pyridoxal-5-Phosphate (coenzyme B6) and riboflavin-5-phosphate (coenzyme B2).
- 3) Coenzyme B6 isn't that much more expensive and, when you consider its effectiveness is considered 3 to 10 times higher, it is actually cheaper. Country Life's "Active B6" contains coenzyme B6 and it costs about \$8 for 50 capsules of 50 mg each. This should be enough to tell if it is helpful. Solgar makes tablets of P5P (coenzyme B6). Klaire Labs makes a combination of P5P with magnesium glycinate. You might have to have your vitamin shop order one of these for you.
- 4) Personally, I'd try the coenzyme form of B6 before ever trying the high dose B6. I think the coenzyme B6 product should be much less likely to cause nerve problems. The liver has a limited ability to convert B6 into coenzyme B6. If you overload the body with plain B6, the B6 can theoretically become toxic by taking up the receptor sites meant for coenzyme B6. [15] If B6 starts to cause nerve problems, doctors suggest that you lower the dose, and add magnesium and other B vitamins, especially B2. B2 activates an enzyme that completes the conversion of B6 into coenzyme B6.

Here are some brief articles on coenzyme B6.

[www.medical-library.net/sitesd/framer.html?/sitesd/_pyridoxine_\(b6\).html](http://www.medical-library.net/sitesd/framer.html?/sitesd/_pyridoxine_(b6).html)

www.bioscienceproducts.com/bioscienceprod/products/bioal.htm

www.naturalhealthconsult.com/Monographs/Pyridoxal5Phos.html

Mr. Generic: How much coenzyme B6 or P5P should I take?

Polly: I was told to take 40 mg of coenzyme B6 three times per day (total of 120 mg) by the company that did my amino acid assay. In Dr. Shaw's book on autism, they talk about using 500 mg or more of regular B6 along with B2 and magnesium. If you assume that coenzyme B6 is up to 10 times as effective as regular B6, this translates into 50 mg or more of coenzyme B6 per day. However, one must always be careful to observe reactions carefully and not take too much. Those with a PST problem must be particularly careful with coenzyme B6. Coenzyme B6 can suppress the PST enzyme, phenol-sulfotransferase. [16] (There is some more information about PST, B6, autism and attention deficit in book 5.)

Bernard Rimland, MD, suggests that in order to avoid destabilizing the coenzyme B6, you take your coenzyme B6 after your meals, especially if you are taking other vitamins and minerals before your meal. However, nothing is perfect. I have heard of one autistic kid who can't tolerate the coenzyme B6, but who does well with plain B6. Part of the problem may be that the coenzyme B6 is used more quickly than plain B6. Of course, if you are taking prescription drugs, you should check for interactions before supplementing high doses of either form of B6. [17]

Vitamin B12

Polly: There are four types of vitamin B12 available.

1. cyanocobalamin
2. methylcobalamin
3. adenosylcobalamin
4. hydroxycobalamin

Cyanocobalamin is the form of vitamin B12 that you will find in most supplements. It is cheaper than the other forms and most people tolerate it well. However, because it contains cyanide, it might be toxic when used in high doses.

Methylcobalamin and adenosylcobalamin are the active forms of the vitamin found in nature. [18] You can purchase methylcobalamin fairly readily. Thorne Research makes it. Unlike cyanocobalamin, the methylcobalamin does not require intrinsic factor for absorption. [20] So when taken orally, the methylcobalamin has a better chance of being absorbed. Methylcobalamin can be found in the cerebrospinal fluid. It supports the healthy structure and functioning of the brain and nervous system. It is the form often recommended for those who have been mercury poisoned.

Adenosylcobalamin is also easily purchased, but it is often not found under that name. Adenosylcobalamin is also called coenzyme B12, cobamamide, cobinamide, or dibenzocozide. Ecological Formulas makes a separate supplement of it. DEWS includes this form of B12 in with their coenzyme B complex product too. The body readily stores adenosylcobalamin in the liver and mitochondria

The hydroxycobalamin must be ordered through a compounding pharmacy. The body will convert it into the active methylcobalamin and adenosylcobalamin. Large doses of hydroxycobalamin have proved useful in the

treatment of both fibromyalgia and chronic fatigue. The reason might be due in part to B12's ability to mop up excess nitric oxide. Dr. Martin L. Pall hypothesizes that elevated nitric oxide and peroxynitrite may be the common etiology of posttraumatic stress disorder, fibromyalgia, chronic fatigue syndrome and multiple chemical sensitivity. Hypoxia (lack of oxygen) or any traumatic stress can set in motion a vicious cycle that perpetuates the elevated levels of the nitric oxide and peroxynitrite in the body. See www.ImmuneSupport.com/library/showarticle.cfm?ID=2976

Those with mercury poisoning may not be able to tolerate B12 supplements. Try a sublingual B12 before experimenting with the higher dose shots. The sublingual methylcobalamin form of B12 might be the best to try since it is often recommended for the mercury poisoned. B12 should be balanced with folic acid. SAMe is also important to the proper use of folic acid and B12. If B12 levels are particularly low, check for a parasite infection. Giardia and Diphylobothrium latum interfere with the absorption of B12. Pancreatic enzymes are required to absorb B12. Also, adequate sulfates might be important since they activate the CCKA receptor that regulates intrinsic factor.

Carol S: Personally, Dr. Cheney started me off on 5000 mcg/ml of cyanocobalamin, 1 cc sub Q, three times a week, in 1996. In the spring of 1998 he switched me to 10,000 mcg/ml of hydroxycobalamin, 1cc daily. After reading the Swedish research on B-12 depletion in Chronic Fatigue Syndrome patients in the cerebrospinal fluid (when blood levels showed normal!), Cheney wanted to raise the dose. He realized the only way to safely get the higher dose was to use hydroxycobalamin. He hadn't been aware of it. He said that most American doctors only know about cyanocobalamin. He read and learned that

the British used in it high doses as a detoxifying agent. It really excited him. I found the difference in dose and type of B-12 to be very significant. The hydroxy not only gave me a little more energy; it also helped me sleep more deeply if I took it at bedtime, and my pain level dropped some. It's definitely worth the much higher price.

Dr. Cheney employs B-12 injections of 10,000 mcg/ml of hydroxycobalamin, 1 cc or more daily at bedtime, given subcutaneously or intramuscularly. (Here is an article on his work: <http://virtualhometown.com/dfwcfids/medical/calvalry.html>) This form and dosage of B-12 is a potent detoxifier of the brain, increases energy, assists with sleep, and provides pain relief for some patients. Patients report that they needed to push to plateau (keep increasing dose until benefits stop increasing) to get a sustained effect. In a recent study most CFS patients had no detectable B-12 in their cerebrospinal fluid, though all had normal B-12 blood levels. It is suspected that there is dramatically increased consumption or destruction of B-12 in the brain. Another published study documents the use of up to 26 mg a day of B-12 with great benefits, and no side effects. At these high doses hydroxycobalamin rather than cyanocobalamin must be used to avoid the toxicity of the cyanide in the later.

A few patients have reported feeling hyper/jittery or lethargic or have experience acne and diarrhea when taking the hydroxycobalamin. The dosage should be reduced if this occurs. Cheney speculates that it's acting as a detoxifier and is pulling out toxins too fast. This problem with B-12 appears to generalize to other B-vitamins as well. (The British used hydroxycobalamin 5 gm infusions to successfully detox people with cyanide poisoning.) It's important to supplement other B vitamins moderately when taking high dosages of B-12. This form of B-12 is available only through a

compounding pharmacy and can be found locally. If there isn't a source near you, the Wellness Pharmacy offers 30 1cc injections for around \$80. This preparation is preservative free and contains 10 mg per mil. Website www.wellnesshealth.com and phone (800) 227-2627.

Polly: This is a quote from Raymond Peat's April 1999 newsletter:

"One of the most interesting approaches to inhibiting carbon monoxide production is to use vitamin B12, as hydroxocobalamin, as an antidote to nitric oxide, preventing the nitric oxide from stimulating the formation of heme oxygenase. Wherever carbon monoxide mediates a biological malfunction, as in acquired immunodeficiency, Alzheimer's disease, and cancer, vitamin B12 seems to have a place as a detoxicant."

These are a few tidbits from Dr. Mercola's article on B12 in his August 27, 2000 newsletter. http://www.mercola.com/2000/aug/27/vitamin_b12_deficiency.htm He states that an alternative to the injections would be to use DMSO to carry the B12 through the skin. Intranasal B12 is also available, but it is very expensive. Be careful about the use of Prilosec (an antacid) because it decreases B12 absorption.

Matt in UK: B-12 is one of the most common deficiencies with small intestinal candida and bacterial overgrowth. There is a paper available at www.biolab.co.uk correlating specific nutrient deficiencies with the above situation. I think the most commonly seen pattern is low B1, B2, B6 and zinc.

Biotin

Lucy: Has anyone used or heard of the benefits of biotin supplementation for yeast? At the Flora Balance Site, it says,

"Biotin helps to prevent Candida Albicans from transforming from yeast to fungal form and is created by normal flora in the intestinal tract which are most likely suppressed in the case of a Candida Albicans Overgrowth." www.flora-balance.com

They recommend 5mg which seems a little excessive, but willing to try anything that will stop it in its tracks ahead of time.

Jane: Hi, Lucy, I'm someone who tried biotin earlier in my illness and it made me much worse. I got horrible brain fog and couldn't do anything but sit in a chair. Couldn't follow a thought through. I still haven't tried it again, tho' am better over a year later. I also think in my case that the high mercury levels perhaps were affecting things. I think the yeast/bad bacteria were "recycling" any mercury in the bowel and the biotin helped them live in the unrooted stage. I read somewhere that biotin feeds the yeast in the bud stage, but keeps it from putting out roots.

Polly: Dr. Shaw recommends that you wait on supplementing biotin until you have brought the yeast levels down, because biotin might increase yeast growth. [20] If you take it, try it on an empty stomach with some garlic to inhibit the yeast or take it under the tongue.

Shelley: I have read recommendations for the B vitamin biotin from 1 to 5 to 10 mg a day. At present I am taking Solgar at 600 mcg. My GP/MD said that if candida is embedded in one's intestines, it is hard to get at. He suggests using biotin to get at the yeast. Yeast like biotin and

will be drawn to it in one's intestines. Then kill it with an antifungal.

Franca: I'm so glad that at least one medical practitioner somewhere has confirmed my suspicion that when I took Diflucan, it was like mowing a lawn: It cut off the tops of the yeast/bacteria, but left the roots embedded in my body! I think what you (or your doc) are trying to say, if I'm not mistaken, is that biotin will actually cause the yeast, root and all, to leave the intestinal wall it's living in, to take a closer look at the biotin. This is when you zap it with the antifungal, yes? Am I the only one who's reminded of that Whack-A-Gopher game that you find at fairs??

Polly: That is funny, and important. I'm sure the effectiveness of the antifungals that we use will depend on the form that the yeast has taken. Yet things never seem to be simple. Biotin might not be that important to the particular yeast that you harbor. One study showed that added biotin will induce the yeast called *Candida albicans* to convert from the invasive root-like mycelial form into the bud form, and yet another study showed that biotin wasn't that important to the form taken—glucose was the main factor. [21] The different experimental results may be due to something as simple as a different strain of *Candida albicans*. Different strains of *Candida albicans* have different conditions under which they will change form. [22]

Michael R. McGinnis and Stephen K. Tying wrote an article about the different forms that fungus could take. [23] Some fungus can be bud-like yeast under one condition, and act like an invasive mold under another condition. This fungus is called dimorphic. Temperature is the most important factor in determining the form dimorphic fungus will take. At temperatures like found in the body, dimorphic fungus tend to

remain a yeast. Other factors that influence the form are carbon dioxide, pH, zinc, cysteine, sulfhydryl-containing compounds, and serum transferrin (iron binding compounds).

Even though biotin might not be that influential to the form certain yeast take, it is still probably very important that we get some biotin into us. Normally, our flora makes much more biotin than our body requires. However, when the flora is destroyed, we can become deficient in biotin. Also, the increased arabinose due to yeast overgrowth may cause a functional deficiency of biotin.

Marilyn in Seattle: This is from *All Your Health Questions Answered* by Maureen Kennedy Salaman: p 667

"Biotin is a B vitamin whose primary role is to modulate fat metabolism. When liver damage occurs, the cells swell and become infiltrated with fat. This fat, when present, keeps the cells from healing. Biotin works well to remove fatty deposits resulting from toxins."

This woman is also totally hepped on Kyolic liquid garlic extract and I think I will get some of that as it is good for so many things—including she says, the fact that good bacteria thrive on it! I LIKE this book—taken in its entirety it has mucho info that is really educational.

Jenny: Wow, thanks. That sure makes me feel good—anytime I hear of fat leaving my body, plus my liver getting better. BIOTIN TO THE RESCUE!!!

Polly: That is interesting. I didn't know biotin was a lipotropic agent.

Kippy: What are lipotropic agents (I know, I know secret agents for the government of lipotropia)? Are they found in herbal remedies?

Polly: According to the dictionary, lipotropic means promoting the physiologic utilization of fat. The context I've seen it used in refers to removing fat from the liver. Lecithin, choline, TMG (tri-methyl-glycine), methionine, threonine, milk thistle, and lipoic acid are considered lipotropics. Recently pantethine (dosage 600 mg per day) has been added to the list of lipotropic agents that heal the liver. [24]

Shelley: Does Maureen Kennedy Salaman talk about dosage? That is my big question with biotin. Thanks.

Marilyn in Seattle: Well, there's a hole in the book there because she is recommending a B complex since all Bs work together. She does have one interesting bit on diabetes and biotin. It seems that when a group with type 2 insulin dependent diabetes were given 16 milligrams of biotin per day for one week, they saw their blood glucose level drop. Another test was with 9 milligrams of biotin per day for 2 months and all 43 participants saw their glucose levels fall to nearly half their original levels. So long term users saw more benefit...I wonder what role biotin/candida has to play in hypoglycemia??? Still working on the IHMD.

Note: IHMD is a forum joke. It means In-Home-Medical-Degree.

Polly: In one of the newer Prevention books, I saw similar doses of biotin recommended for carpal tunnel syndrome and other ailments.

Jennifer: I found a product called Biotin 5000 Yeast Free by Nutricology/Allergy Research Group (website www.nutricology.com and phone (800) 782-4274). It has 5mg of Biotin per capsule. Most Biotin supplements seem to be

measured in mcg, which is a much smaller measurement.

Later—**Polly:** Many of us have a deficit of the B vitamin biotin, and we are employing large doses of biotin to correct this problem. However, some caution must be exercised. Biotin must be balanced with inositol, which is another B vitamin. This is a quote from Raymond Peat's book, *Nutrition for Women*, page 50:

"Very large doses of biotin cause experimental animals to develop fatty livers (developing into liver cancer), but this effect can be offset by feeding the animal another B vitamin inositol."

Those with multiple sclerosis or those who have antibodies to myelin protein (as found in many of the autistic) might also want to pay attention to this other quote from the same book, page 52:

"Biotin is involved in the synthesis of fats in the nervous system, and so should probably be given special attention in the MS diet."

Biotin is necessary for the proper use of the branch chain amino acids. Branch chain amino acids are helpful in cases of hypoglycemia and they are depleted when the body needs to remove lots of ammonia, so it isn't too surprising that a lack of biotin will cause hypoglycemia and excess ammonia. A biotin deficit can also lead to depression, muscle pain, fungal infections of the skin, rashes, nausea, sleepiness, acidosis, fine and brittle hair, dry skin, hair loss, seborrheic dermatitis and a poor fatty acid profile due to interference with the desaturase enzymes. It serves as a carrier of carbon dioxide. A deficit of biotin can be caused by prolonged antibiotic treatment, the ingestion of raw egg whites, or the use of certain anticonvulsant drugs. [25]

Coenzyme Q10

Polly: Coenzyme Q10 is an important nutrient for those with chronic fatigue, fibromyalgia, or dysbiosis. According to Jacob Teitelbaum, MD, without adequate supplies of electron carriers like coenzyme Q10, we have problems producing ATP, the energy molecule. (Iron-sulfur proteins, copper proteins, and riboflavin-based proteins are also electron carriers.) [10] Coenzyme Q10 is used in the treatment of cancer, mitochondrial disease, and heart disease. However, there is another very important use of coenzyme Q10 that is less well known. In animal models and in a few human examples, pre-treatment or immediate post-treatment with large doses of coenzyme Q10 is extremely important for recovery from stroke. People that are more likely to have a low level of coenzyme Q10 are the elderly, cancer patients, surgical patients, HIV patients, people taking cholesterol blockers, and people with poor nutrient status.

Low levels of coenzyme Q10 can be caused by a poor ability to manufacture it in the body, poor intestinal absorption, and/or higher than normal use (eg lots of exercise). A poor ability to manufacture coenzyme Q10 can be caused by a lack of tyrosine, B6, B2, B3, folic acid, B12, C, pantethenic acid and other nutrients. Yeast interfere with you obtaining coenzyme Q10 from your food. They use it and alter it before you can absorb it. If the upper bowel is colonized by yeast, you can end up with such a low level of coenzyme Q10 that it is life threatening. You may need intravenous feeding of this nutrient. (See these articles on coenzyme Q10 by John Ely. <http://faculty.washington.edu/~ely/> Also see this article by Hugh Fudenburg, MD on the “Typical course of an Autistic Patient,” www.whale.to/v/fudenburg.html)

How much should one take? I tried only one 50 mg capsule per day and I noticed a difference

in energy. It took several months at that dose before I didn't seem to need it to keep my energy up. I read a suggestion that breast cancer patients should take 300 mg per day of coenzyme Q10. This is similar to the amount taken by many with mitochondrial diseases. The body usually uses about 500 mg per day with a reserve pool of 2 grams. [26] I'd try close to the 300 mg at first, to shore up your pool of coenzyme Q10. After a while, you might be able to reduce the dose. Many people can use less for maintenance, about 30 mg per day. Also, it is safest to keep coenzyme Q10 in balance with other antioxidants.

There are currently two forms of coenzyme Q10 on the market. One is liposoluble (fat-soluble) and is widely available from many different distributors, and the other one is hydrosoluble (water-soluble) and available from Country Life. Both are important for your health. However, I can't tell you which form would be best for which person. The hydrosoluble coenzyme Q10 might not increase the brain levels of coenzyme Q10 as quickly as the other form. (The blood-brain barrier passes fat-soluble nutrients more easily.) Therefore there should be at least some initial differences in your reaction to these two types of coenzyme Q10, with perhaps the hydrosoluble being gentler. Take the fat-soluble supplement dissolved in oil or eat some fat with it to improve absorption. Thorne Research and Allergy Research/ Nutricology carry a fat-soluble coenzyme Q10 mixed with rice bran oil and vitamin E. DEWS Twenty-first Century Products carries a product called Qzyme that is approximately equivalent to 100 mg of coenzyme Q10 per tablet. (Qzyme supplies the nutrient building blocks necessary for the body to make coenzyme Q10. Qzyme also contains some tyramine.) Any of the above should be a fairly stable preparation (less likely to degrade before you get it), and thus would be a good choice.

Here is one place to purchase the hydrosoluble form of coenzyme Q10: Phone (800) 649-4372 and website: www.mellenmedical.com/coq10.htm

There is also a relatively new product on the market called idebenone. It is a coenzyme Q-10 derivative with increased blood-brain barrier penetration. Under low oxygen conditions, regular coenzyme Q10 can change from an anti-oxidant to a pro-oxidant. However, idebenone does not have this problem. The Vitamin Research site has a lot of information on idebenone. www.vrp.com Phone (800) 877-2447. Here is another good article on idebenone, www.smart-drugs.com/ias-idebenone.htm. The product can also be found at Kirkman labs, which carries many of the supplements used in the treatment of autism. www.kirkmanlabs.com phone 800-245-8282.

Food will not provide as high a dose of coQ10 as you can get from these supplements, but for general health maintenance, you might try eating very lightly cooked liver. It has a fair amount of coenzyme Q10. However, if you overcook the liver, you will destroy the coenzyme Q10 in it. [27]

Molybdenum

Mr. Generic: After trying some molybdenum, something miraculous has happened. My brain fog is totally gone!

Polly: That is great that it helped you so much. Once in a while, we get someone at the forum for whom molybdenum has been unusually helpful. In my case, the molybdenum made me feel a little better, but it didn't really help much with the brain fog. Molybdenum is needed to remove acetaldehyde, a yeast toxin that is suspected of contributing to the brain fog. Perhaps this is why it helped you.

Kathleen: I also found molybdenum helpful. In fact, the MSM supplement I take has 25 mcg molybdenum per 500 mg MSM (plus 100mg Vitamin C).

Polly: Kathleen, that is pretty strange that the MSM sulfur had molybdenum packaged in with it. Was it supposed to be especially for people with yeast? Or was it just because excess sulfur can reduce molybdenum levels?

Kathleen: No, I don't think it is made especially for people with yeast. It is called Fundamental Sulfur by Amni. Website www.amni.com and www.douglaslabs.com Phone: (888) 368-4522. This is from the website: AMNI uses licensed, patented MSM as a source of bioavailable sulfur in the following products: Fundamental Sulfur: Provides 500 mg of MSM per tablet together with 100 mg of ascorbic acid and 25 mcg of molybdenum for synergistic benefit. Fundamental Sulfur II: Contains 500 mg of MSM per tablet plus 25 mcg of molybdenum to assist sulfur metabolism. It does not contain vitamin C.

Polly: There is a nice discussion of molybdenum in the book *Mineral and Trace Element Analysis, Laboratory and Clinical Application* by E. Blaurock-Busch, PhD and Veronica Griffin, PhD. (The book is quite informative, and available through a company that does mineral analysis—Trace Minerals International. www.tracemin.com (800) 437-1404.) Here are a few notes of mine taken from their discussion on molybdenum. The recommended daily allowance (RDA) for molybdenum is 150 mcg to 500 mcg per day. Molybdenum is just like so many other minerals. Too much or too little is not good. Too much can cause gout, and oddly enough, too little can cause gout too. Supplemental molybdenum may help reduce sulfite sensitivity. Excessive molybdenum can cause deposits in soft tissues and joints, and

trigger arthritic symptoms. Excessive molybdenum can also cause copper deficiency and hence anemia, diarrhea, and growth depression. Good sources of molybdenum are liver, kidney, wheat germ, leafy vegetables, and legumes. Molybdenum interacts with sulfur and copper.

Mrs. Generic: I have a book called *Optimal Wellness*, by Ralph Golan MD. In it he suggests taking 500 micrograms (mcg) of molybdenum twice a day for sulfite sensitivity. BUT TO TAKE 2-4 MILLIGRAMS A DAY OF COPPER BUT NOT AT THE SAME TIME. Anyone know where to purchase molybdenum? I've had trouble finding it.

Alison: I got mine at the Vitamin Shoppe. Look under A to Z. Website www.vitaminshoppe.com and phone (800) 880-3055.

Mr. Generic: Solgar also makes it and this brand is carried in most vitamin shops. Which brand are you using? Do you know anything about the effectiveness of the different brands?

Alison: I chose the Douglas Lab/Amni because it was free of yeast and other common allergens. I cannot speak to the effectiveness of the others, as I have only taken this one. Frankly, I cannot tell what positive effects it has had on me, but I feel the same way about other important vitamins and minerals like my multi, C, and B6. After reading the same article you mentioned, I decided to add it to my arsenal. I only take 250 mcg a day, because I am too lazy to split the tablets and too scared to do a double dose!

Polly: Here are two other places to purchase various brands of molybdenum:

www.vitaminlife.com phone 800-996-8599

www.modernherbalist.com

Shelley: People on metals lists have talked about taking 250 mcg of molybdenum 3 times a day. That is to help with sulfur intolerance due to mercury toxicity. It helps convert sulfites into sulfates. I asked my doc about this dose, he said cool.

Mrs. Generic: What do you know about sulfur intolerance? I am sure I suffer from it, but I've not heard anyone else talk about it.

Shelley: This is a common “ailment” of the mercury toxic—and mercury (read dental amalgams) and candida go hand in hand. My doctor started suspecting mercury amalgam toxicity when he realized how I couldn't get rid of candida. The test for sulfur intolerance comes from Great Smokies—called comprehensive liver detox panel. Trouble is that one needs a doctor that understands the subject! Look at www.cfsn.com. I think there should be more there about sulfur stuff.

The best way to figure out if sulfur is a problem is to cut out sulfur containing foods (I think they are actually called thiols in case you do a search)—all cruciferous vegetables, coffee, onions, garlic, eggs, spinach, are a good start. If I remember the rest, I'll post. I have just sort of internalized not eating them so intensely now.

Jane: I've recently started taking some molybdenum, and lo and behold, I can eat eggs without bad leg pains/aches. I am hopeful this will allow my body to get the needed sulfur into it. This is a mercury allergic or poisoning problem, according to Shelley, as found out on the metals list. Anyhow, thought you might want to know, it's true for me.

Mr. Generic: Jane, how much do you take?

Jane: I only take 500 mcg /day at this point. It hasn't helped 100%, but enough to notice a difference.

Polly: If you get the liquid sublingual form, the recommended dose is less because it is absorbed better in this form. This form is carried by Allergy Research/Nutricology.

Zinc Is Important

Polly: One of Crook's older books on the yeast syndrome encouraged the use of zinc. Why? Zinc is very important for the health of the intestines, lungs, and skin. It has been a big help to some people with dysbiosis. Perhaps compared to the rest of the population, many of us are relatively low in zinc. Hypothyroidism, estrogen dominance, and mercury poisoning, which many of us have, will tend to cause you to lose zinc.

A sign of zinc deficiency is white spots in the fingernails. Sometimes you will see white horizontal lines in the fingernails of women, corresponding to about once a month, when the woman is estrogen dominant.

To keep your zinc levels up naturally, you might try avoiding grains that are in the form of cereal or pasta, and substituting leavened bread or sprouted grain products. Grains contain phytic acid, which binds zinc and inhibits its absorption from the intestinal tract. However, the addition of yeast when making bread destroys the phytates. Sprouting the grains destroys the phytates too. The same caution goes for beans and soy products, which contain phytates. (The cookbook, *Nourishing Traditions* will teach you a lot about why the food preparation method is so important to good health. I highly recommend the book.) Alcohol depletes zinc, so avoid alcohol.

Zinc Taste Test

Marilyn in Seattle: Just wanted to say I passed the zinc taste test yesterday! It was my chiropractor that first gave me one of these tests. You drink a liquid (zinc sulphate I believe) and if you can't taste the liquid, then you have a zinc deficiency. Well I first did this test in 1985 and have done a couple of times in the years since, but yesterday was the first time I could taste the bitterness.

Why the difference? One, I got rid of my amalgams and since zinc is a mercury antagonist, maybe I am not using it up so fast. Two, I think that the hydrochloric acid is a big component I was missing. I am a blood type A and we don't secrete much stomach acid anyway (I think this is why I have always loved coffee as it stimulates the release of hydrochloric acid and I was always convinced that coffee with breakfast made me feel better.) I think the HCL is helping me derive benefit from all these supplements I am taking. I have taken supplements for years and kept thinking they weren't doing much, but now I think I wasn't maybe digesting them properly. Also, it seems to be a feedback loop. I tested so low on zinc that I probably wasn't producing enough hydrochloric acid, which probably interfered with breakdown/absorption of the zinc supplements I have been shoveling into me. Anyway, I passed! One small step at a time is what I am working on and it's nice to see even one small victory.

Linda in Virginia: Marilyn - Congrats! I just recently was tested and was very low on zinc and had high mercury levels. Now I know the connection! Thanks.

Polly: I found an explanation of how to do the zinc taste test in the book *Dental Mercury Detox* by Sam Ziff. (See www.bioprobe.com) You hold

the liquid in your mouth. You should experience a “furry” unpleasant taste immediately or within 5 to 10 seconds. If not, then you need more zinc. Of course, no test is perfect for everyone. Use common sense. If you can’t find zinc sulfate liquid at your health store, then you can make your own by mixing 100 milligrams of zinc sulfate powder in 100 milliliters of water. Metagenics makes two liquid zinc sulfate products. One of these products is specifically for testing, called Tally Zinc. The other has to be diluted by about a factor of three if you want to use it for testing. If your vitamin store doesn’t carry Tally Zinc, the product can probably be ordered through the parent company, Ecological Formulas, phone (800) 351-9429

Be Careful With Zinc Or Iron

Polly: Zinc is very important for the health of the intestines. Yet, I’m still quite wary of zinc supplements. No one talks about the downside of taking too much zinc. Yet I suspect zinc poisoning can exist. More isn’t always better. In malnourished infants, a supplement of zinc was shown to encourage yeast growth. [28] This is an excerpt about zinc and iron from Raymond Peat’s 1985 lecture on Candidiasis, given to the Candida and Dysbiosis Information Foundation.

“Female animals are known to be able to take up iron out of their food much more efficiently than male animals or non-pregnant animals. ... If you give extra iron to a pregnant animal or an animal under the influence of estrogen, it is much easier to poison the animal because they are in a state receptive to absorbing iron ... iron stimulates their growth [the growth of yeast cells] and their formation of mycelia. Zinc at a high level does the same thing, at a level you can reach if you take a zinc supplement. ... But just the iron associated with an ordinary diet and high estrogen, the amount of iron that the body

gets soaked with eventually, is stimulatory to the yeast, whereas a supplement of zinc seems to be necessary to reach that same pro-candida level.”

Have you ever noticed how much iron some doctors routinely prescribe to their pregnant patients? A pregnant friend of mine was given a prescription for 150 mg of elemental iron per day. (This is equivalent to about 800 mg of iron sulfate.) She wasn’t anemic. The RDA for iron is only 18 mg per day. Why so much?

If you have anemia, it isn’t necessarily due to a lack of iron. A lack of vitamin B12, A or E could also cause it. The problem could also be due to a lack of copper, since the transport of iron in the intestines is dependent on a copper-containing enzyme. [29] In fact, if you were low on copper, it wouldn’t be a good idea to supplement just iron. Iron competes with copper and could thus suppress your copper levels further. Before trying iron, you might employ a homeopathic remedy called Ferrum Phos. It gets rid of anemia by mobilizing the iron stored in the body.

If you must take iron, consider a supplement of lactoferrin. Lactoferrin binds iron and makes it unavailable to the yeast and bacteria in the gut, yet your body can obtain the iron. (Lactoferrin is found in colostrum, undenatured whey, and raw milk products. Allergy Research / Nutricology makes a separate supplement of lactoferrin. It is rather expensive.) Also, the iron salts in supplements can destroy vitamin E. [30] Possibly take your vitamin E supplement at a different meal than the iron supplement. The iron supplement will also decrease zinc levels, so be careful. Here is an article by Leo Galland, MD, on the dangers of iron supplements, and how to use them properly.

www.healthy.net/asp/templates/column.asp?PageType=column&ID=68

Zinc And Copper Balancing

Polly: Zinc is a very important nutrient, but be sure that it is balanced with other minerals. In the book, *Wellness Against All Odds* by Sherry Rogers, MD, she mentions that zinc can decrease copper, iron, manganese and molybdenum levels. In particular, be careful of balancing zinc with copper. Maureen Salaman, in her book *All your Health Questions Answered*, warns that both zinc and copper need each other in order to be properly absorbed. Thus if you aren't getting enough zinc, you can become low in copper. Yet, the opposite is true too. If you take too much zinc, you can become low in copper. It becomes quite a balancing act if you are low in both of these and need to correct such a deficiency.

Harold: For years I suffered off and on with prostatitis and the pill rollers could only stand and go HMMMMMMMM! Then about 25 years ago I heard that zinc was good for said misery, (Adelle Davis' book, *Lets Get Well*) so I got zinc and I took zinc and LO!!!!!! and behold, such blessed relief, not only to yours truly but there was much joy in Dogpatch too, need I elucidate? For a long time I took Saw Palmetto and Pygeum to keep same problem in check when I found zinc to be as effective and safer.

Polly: It just dawned on me how the lack of zinc fits in with the excess estrogen associated with prostatitis. Guess I've only been thinking in terms of PMS and how the zinc/copper ratio can be thrown off due to too much estrogen in women. I can be very chauvinistic in my thinking. Hmm.. Maybe I should apologize to all the men I've ever implied were chauvinists? Nah. It's too much fun to razz them.

Doris: Hi, I had a hair analysis and blood tests three years ago and they showed I had too much

copper in my system. What is a good starting dosage of zinc to take? I no longer see any doctors at all and would rather not waste any more time messing around experimenting. Is 50 mg a day of zinc too much?

Polly: Initially, to help correct the problem that may be a good strategy. However, I wouldn't take that much zinc for any length of time without a blood test or some other means of monitoring your progress. The doses that are usually recommended are about 15 mg per day. According to Joel Wallach in the book *Rare Earths - Forbidden Cures*, there are 1.4 to 2.3 grams of zinc in the adult human. If you took 50 mg per day, and were able to absorb a third of it, you would be able to supply all the zinc in an adult human body in 90 to 150 days. Therefore, I would guess that 50 mg pills are too strong if you were going to take them for any length of time.

Doris: Anything else I can do to reduce the copper levels?

Carole: I just found this book by Ann Gittleman, *Why Am I Always So Tired?* It explains how a lot of people have too much copper, and that this can lead to health problems. One of the ways to get rid of this excess copper is sulfur. Another good reason to take MSM! Also, you should take zinc supplements, along with B6 and manganese, and get most of your carbohydrates from veggies. Sounds good to me, I'm adding it to my list of things to try when I can afford it. This may be one of the less expensive ones, since I already have MSM.

Polly: If you are high in copper, then avoid estrogen, since it causes the retention of copper. Vitamin C helps lower copper levels and the sulfur amino cysteine is very effective in

reducing copper levels. Dr. Braverman, in his book *The Healing Nutrients Within*, found that when he treats patients for low cysteine and cystine levels with cysteine, not only do the copper levels go down as expected, but the zinc levels rise to normal also.

Andy: Rats too high in copper die if given cysteine. It is important not to just dump a bunch of cysteine down your throat to start off. It may be helpful later. The way to reduce copper is MODIFY YOUR DIET TO REDUCE INTAKE, then take ZINC and MOLYBDENUM with every meal to reduce absorption (eg 10 mg zinc and 250 mcg molybdenum), and take manganese too in order to help your body deal with the copper. The Pfeiffer Center is experienced in treating copper excess and will consult with your physician.

Henry: When I was taking zinc 20 years ago, on the label (and my doctor stressed it too) it stated not to take zinc within one hour of milk or dairy products, because the zinc will be poorly absorbed.

Jane: Now I'm confused! Copper was one thing low in my hair analysis recently. So it was one of the supplements advised by the environmental allergist. Our bodies need some copper apparently. But Hulda Clark who wrote an odd but possibly true book about parasites said to avoid copper piping, and copper in general, as it feeds or allows parasites to flourish. Who's to know?

Carole: Jane, this author also said that copper is hard to detect because it's deeply imbedded in the tissues (like mercury?). The fact that some showed up in your hair may indicate an excess. I'll be doing some more research (at Chapters,

my local bookstore/library). I respect this author, she's written many health books.

Jane: Thanks for the info. So, should I take all the supplements that were low in my hair analysis test?

Carole: Just as Polly said, the book I got my information from said it's the ratio of copper to zinc and other minerals that matters. Apparently excess copper can cause low thyroid as well. The author recommends 10 to 25 mg zinc, as well as manganese, B6, C, and lipoic acid or black radish for sulfur. Hope this helps. Polly, any advice? Have you studied nutrition, or are you self-educated?

Polly: I'm self-educated. I've never taken a formal biology or nutrition class.

Jane, the proper zinc and copper levels seem very important to our immune system. The hair test is pretty unreliable for zinc because many shampoos contain zinc. The blood serum levels can be misleading too. So ask for a red blood cell test. If the hair test shows that a mineral level is low, then that is a pretty good indication that it is low. However, if the hair shows that a mineral level is high, you can't count on that being the truth. However, if mercury or some other poisonous metal showed high, I'd take the reading seriously.

Zinc and copper supplements aren't that expensive. If you have reason to believe that you are low on copper or zinc, try taking the one you think you are low on. If it makes you feel worse, or if you don't notice anything, I'd leave it alone. Get your hormones straightened out, and your digestive pH correct, and let your body do the zinc/copper balancing for you. Perhaps take only a small amount of both zinc and copper as support.

MM: I'm struggling to rebalance my zinc-copper-iron-manganese-magnesium-potassium and so forth. I had LOW copper levels. Then I took copper, but I took it for too long so I ended up with high copper. Then I took zinc and manganese to get the copper down. Of course, I took these for too long, and went back to having too little copper again.

This time, I took copper for only 8 days. I've been trying to add zinc and manganese, but I still get hot and sweaty when I do this, so I must not have taken copper for long enough yet. Blood levels for several of these minerals (such as zinc and copper) are totally worthless. So it really becomes a trial and error approach.

Polly: Sounds like you are pretty low on both zinc and copper. That may be why it is such a tricky balancing act for you. For those of us who aren't as sensitive, it might be simpler to supplement zinc and copper at the same time. I'm reading a book by Pat Lazaus called *Healing the Mind the Natural Way*. It mentions the correct ratio of zinc to copper supplementation. Psychiatrist Michael Schachter, MD stated: "*The ratio of zinc to copper should be 7:1, up to 14:1,*" Zinc can lower manganese, so Dr. Pfeiffer regularly includes manganese with any zinc supplementation. (But again, take the correct proportion of manganese. You don't need a lot of manganese. The RDA is 2.5 to 5 mg per day.) It is important to take your zinc supplement separate from other mineral supplements to avoid competition for absorption. The people on the autism lists are using a specially compounded zinc sulfate skin cream to get around the poor absorption in the intestines. Many of those with mercury poisoning or autism need a lot of zinc.

Acetylaldehyde Poisoning

Polly: Acetylaldehyde is the first break down product of alcohol. It is a toxin that is believed to cause most of the damage from alcoholism. Unfortunately, yeast make this toxin. Those with long-term yeast overgrowth may be suffering from the effects of this toxin (and other yeast toxins). Therefore they may want to pay particular attention to certain nutrients that remove or protect a person from the yeast toxin acetylaldehyde. I've heard of these: vitamin C, B1, coenzyme B6, B12, folic acid, pantethine, NADH (coenzyme form of niacin), selenium, molybdenum, iron, zinc, lipoic acid, glutamine, alpha-ketoglutaric acid, taurine, and N-Acetyl-Cysteine. What follows is some information on why these supplements are important.

Dr. Stephan Cooter states that you need glutamine, selenium, niacin, folic acid, B6, B12, and iron to metabolize the aldehydes into acetic acid, which can then be excreted or converted further into acetyl coenzyme A (this is not vitamin A). (See his article at www.mall-net.com/cooter/moly.html) Zinc is also required for the detoxification of acetylaldehyde, as mentioned in many papers of John Cleary, MD. Pantethine is another important nutrient. (Pantethine is the coenzyme form of the B vitamin pantethenic acid, available from Ecological Formulas, phone (800) 351-9429.) Pantethine is necessary for the conversion of acetylaldehyde into CoA. (See this article "The Candida/Aldehyde detox pathway and the Molybdenum Connection" by Jann Weiss, at www.panix.com/~candida/aldehyde.shtml)

Pantethine also supports the growth of friendly bacteria in our intestines and is excellent support for the adrenals. It is also important for the proper use of biotin.

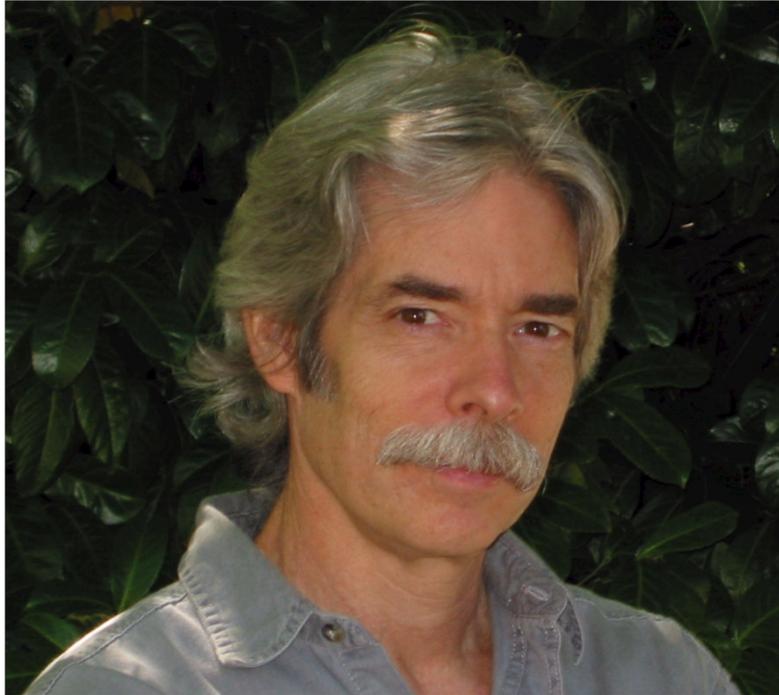
Vitamin C, B1, lipoic acid, and N-acetyl cysteine are not necessarily what is needed to convert acetylaldehyde into CoA, but they should help protect you from being poisoned by the acetylaldehyde. Herbert Sprince, MD and colleagues showed this in rat experiments in the 1970's.

NAD is converted to NADH (coenzyme niacin) when acetylaldehyde is oxidized. In Truss's classic paper on acetylaldehyde poisoning by candidiasis, he hypothesizes that the acetylaldehyde causes a shift from NAD to NADH concentration in the body, and this is responsible for many of the problems we experience. Not fully understanding the implications, I was hesitant to try a NADH supplement for this reason. However, when I did finally try NADH, I experienced a very noticeable increase in energy. I'd tried plain niacin before, and had not experienced this improvement. Perhaps it had to do with my lack of coenzyme B6 at the time, which is needed to convert niacin into NAD? According to Dr. Truss, acetylaldehyde depletes the body of coenzyme B6 (also known as P5P). In his paper on the yeast syndrome and acetylaldehyde poisoning, he found that his patients were also depleted of certain amino acids: glutamine, glutamate, glutaric acid, alpha-ketoglutaric acid, and asparagine. Another amino acid might also be low in those with yeast overgrowth. In Phyllis Balch's *Prescription for Nutritional Healing*, she mentions that taurine is spilled in the urine of those with yeast overgrowth. The same spilling of taurine is found when one drinks alcohol.

references

1. Parry GJ, Bredesen DE, "Sensory neuropathy with low-dose pyridoxine" *Neurology* 1985 Oct;35(10):1466-8
2. Rimland B, PhD, "What is the right 'dosage' for Vitamin B6, DMG, and other nutrients useful in autism?" Autism Research Institute, 4182 Adams Avenue, San Diego, CA 92116 The article is at www.autism.com/ari/editorials/dosage.html
3. Hanson, Lars a., and Yolken, Robert H., *Probiotics, Other Nutritional Factors, and Intestinal Microflora*, Nestle Nutrition Workshop Series, Vol. 42, Lippincott-Raven Publishers, Philadelphia, Pennsylvania, 1999, Phone (800) 638 - 3030Lars Hanson book
4. Owens, Susan Costen, "Explorations of the New Frontier between Gut and Brain: A look at GAGs, CCK and Motilin," 1998 Durham Conference on Autism <http://osiris.sunderland.ac.uk/autism/owens.htm> The printed version of this paper is for sale at <http://osiris.sunderland.ac.uk/autism/>. Owens, SC. Explorations of the new frontier between gut and brain: A look at GAGs, CCK and motilin. From Psychobiology of Autism: Current Research and Practice. Van Mildert College, University of Durham, April 15-17th, 1998, pp. 45-70.
5. Roche pharmaceutical site provides information on accutane at www.rocheusa.com/products/accutane/pi.html
6. Koo, S.I. and Ahn, J. Lymphatic absorption of vitamin A and fatty acid is restored to normal in zinc deficient rats by intraduodenal infusion of phosphatidylcholine. *FASEB J.* 9:A166, 1995.
7. Interview with Mary Megson, MD, "Clinition of the Month," *Functional Medicine Update* & trade <http://home.att.net/~pediatricaac/jan10/jan10.html> Mary Megson can be reached at Pediatric and Adolescent Ability Center, 7229 Forest Avenue, Suite 211 in Richmond, Va. 23226
8. Fallon, Sally, *Sally Fallon's 1996 Lecture on Nourishing Traditions*, Price-Pottenger Nutrition Foundation, a Peli-Graphic Production (video tape) to order phone PPNF at (800) 366-3748
9. Rogers, Sherry, *Wellness Against All Odds*, Prestige Publishing, 1994, page 135 and page
10. Teitelbaum, Jacob, MD, "Mitochondrial Dysfunction", *Fatigued to Fantastic Newsletter*, Volume 1, issue 2, July 1997 phone (800) 333-5287
11. Truss O. "Metabolic abnormalities in patients with chronic candidiasis: the acetaldehyde hypothesis." *J*

- Orthomolecular Psychiatry 13:66-93, vol. 13, no. 2, 1984
12. Long KZ, Santos JL, "Vitamins and the regulation of the immune response." *Pediatr Infect Dis J.* 1999 Mar;18(3):283-90.
 13. Lotfy OA, Saleh WA, el-Barbari M. "A study of some changes of cell-mediated immunity in protein energy malnutrition." *J Egypt Soc Parasitol.* 1998 Aug;28(2):413-28.
 14. Ganrot, P.O., "Metabolism and Possible Health Effects of Aluminum", *Environmental Health Perspectives*, 1986; 65: pp.363-441 and *Elemental Analysis Hair lab report notes from Great Smokies Diagnostic Laboratory*, August 2001
 15. Werbach, Melvyn, R. MD, "Carpal Tunnel Syndrome," *Townsend Letter for Doctors and Patients*, July 1997
 16. Bartzatt R, Beckmann JD, "Inhibition of phenol sulfotransferase by pyridoxal phosphate." *Biochem Pharmacol* 1994 Jun 1;47(11):2087-95
 17. Ebadi M, Gessert CF, Al-Sayegh A. "Drug-pyridoxal phosphate interactions." *Q Rev Drug Metab Drug Interact.* 1982;4(4):289-331."Review
 18. Gregory Kelly, ND, "The Coenzyme Forms of Vitamin B12: Toward an Understanding of their Therapeutic Potential," *Alt Med Rev* 1997;2(5):459-471 www.thorne.com/altmedrev/fulltext/b122-6.html
 19. Ward, Dean, MD, VRP newsletter, August 2002, www.vrp.com
 20. Shaw, William, PhD, *Biological Treatments for Autism and PDD*, 1998
 21. Yamaguchi, H,"Mycelial development and chemical alteration of *Candida albicans* from biotin insufficiency" *Sabouraudia* 1974 Nov;12(3):320-8 and Vidotto V; Picerno G; Caramello S; Paniate G, "Importance of some factors on the dimorphism of *Candida albicans*" *Mycopathologia*, 1988 Dec, 104:3, 129-35
 22. Manning M, Mitchell TG, "Strain variation and morphogenesis of yeast- and mycelial-phase *Candida albicans* in low-sulfate, synthetic medium," *J Bacteriol* 1980 May;142(2):714-9
 23. McGinnis M, Tyring S, "Introduction to Mycology" University of Texas Medical Branch Graduate School of Biomedical Sciences. As displayed at <http://gsbs.utmb.edu/microbook/intomyco.htm>
 24. Osono Y, Hirose N, Nakajima K, Hata Y, "The effects of pantethine on fatty liver and fat distribution" *Atheroscler Thromb* 2000;7:55-58
 25. Sloan H, MD, PhD "Biotin Deficiency" *eMedicineJournal*, <http://author.emedicine.com/PED/topic238.htm>
 26. Dr. John Ely has an article on coenzyme Q10, at <http://faculty.washington.edu/~ely/turnover.html> in which he gives these references: Bliznakov EG, Wilkins DJ: Biochemical and clinical consequences of inhibiting Coenzyme Q10 biosynthesis by lipid-lowering HMG-CoA reductase inhibitors (statins): A critical overview. *Advances in Therapy*, 1998; 15(4), 218-28; Kalen A, Appelkvist E-L, Dallner G: Age related changes in the lipid composition of rat and human tissue. *Lipids*, 1989; 24: 579-584; Ernster L, Dallner G: Biochemical, physiological and medical aspects of ubiquinone function. *Biochim Biophys Acta*, 1995; 1271:195-204.
 27. Peat, Raymond, PhD, "Endocrine System and the *Candida* Patient", 1985 lecture tape given to the *Candida and Dysbiosis Information Foundation*
 28. Schlesinger L, Arevalo M, Arredondo S, Lonnerdal B, Stekel A, "Zinc supplementation impairs monocyte function." *Acta Paediatr.* 1993 Sep;82(9):734-8. PMID: 8241668; UI: 94060572
 29. *Science News*, "A Greek God Explains Anemic Mice", April 10, 1999.
 30. Peat, Raymond, PhD, *Nutrition for Women*, 1993, page 67



Kelly Nowicki, the Rainmaster

Thank You Rainmaster!

Kelly: I am a self taught artist and computer programmer. I created the Healthy Awareness website in 1992 when I was very ill with a systematic candida infection. Drugs and diet had helped little in relieving my symptoms, and I became reclusive and depressed. I knew very little about computers then, but I was desperate to find a cure for my condition. I made it my mission to create an open discussion on the web that might get the attention of others who suffered from candida. Soon after creation, my website became very popular. I knew I was not

alone. Thanks to many supportive and knowledgeable discussion members, I found my healing path. HealthyAwareness.com was a godsend for me. I hope that many others find it helpful too.

Marilyn in Seattle: Rainmaster (Kelly), you are a hero of mine. What you have done by creating this forum is great beyond words. I thank you for making my connection to all these wonderful souls possible.

Mona: This is the best site I have ever gone into on the Internet. Thanks for all your time and money and trouble you have put out in helping others and giving people a place of refuge. God Bless You!!

Taylor: Folks here at the forum know by now that I am not usually at a loss for words. In fact, “she does go on” a weeeee bit. But as I try to think of how to describe my feelings of gratitude toward Kelly for this forum, my mind expands to the place of no words...no words sufficient to relate how profoundly thankful I am...no words to convey how helpful this stream of information has been to me.

I line that awareness up next to the not-distant-enough memory of asking my doctor for detailed information about the digestive system, especially as it relates to the candida vs acidophilus balance. I told him, I want to really

know this system, in case I can discover clues to help me work on this problem. His response was to hand me a small tri-fold pamphlet containing perhaps as many as 75 words. It was clear he thought that that information corresponded with my ability to understand this complicated system. I was stunned. Then I find the forum, where we each bring every bit of helpful information that we find to share. So much material, that information overload can be a real problem. One must keep lists of treatments to try first, second and third, and lists of new sites and materials to plan to get to and to read as fast as possible. This forum is a life saver. If we are going to be able to conquer this candida overgrowth, then streams of information and experiments to try are our only hope. As inadequate as it is, let me offer up my heartfelt, boundless thanks to Kelly.

Index

A

acetylcholine · 17, 23
acid, alkaline and pH · 12,
13, 17, 48, 50, 75, 82, 90
acidophilus · 28, 39, 43, 46,
47, 53, 54, 55
allergies · 12, 15, 16, 17, 18,
19, 20, 22, 23, 30, 31, 32,
34, 56, 64, 65, 86
Allergy
 Research/Nutricology · 17,
19, 37, 48, 58, 77, 88
aloe vera · 18, 66
alpha-ketoglutaric acid · 70,
78, 91, 92
aluminum · 18, 28
amino acids · 18, 21, 22, 25,
26, 66, 67, 92
ammonia · 31, 42, 48, 70
Ann Louise Gittleman · 21,
43
antibiotics · 17, 31, 32, 38,
39, 41, 48, 62
antifungals · 27-41, 52, 56
arthritis · 16, 30, 68, 69, 86
asthma · 15, 16
Attogram · 27, 28
autism · 19, 23, 37, 38, 46,
56, 65, 74, 75, 76, 79, 83,
85, 92

B

bacteria overgrowth · 38, 39
Baker, Sidney, MD · 50

bentonite · 28
Beta glucan · 38
beta-sitosterol · 38, 61
Bifidus · 46, 48, 54
bile · 12, 15, 20, 21, 42, 44,
65, 75, 76
Biocidin · 34
bioflavonoids and flavonoids
 · 34, 65, 66
Bio-K · 55
bladder and urinary · 15, 16,
21
Blastocystis hominis · 41,
42, 61, 64
bulgaricus · 46, 53

C

calcium · 17, 25, 64
Campbell-McBride, MD · 56
candida tropicalis · 39
caprol · 28
caprylic · 23, 28, 30, 35
carbohydrates · 15, 18, 50,
89
carbon dioxide · 82
casein · 19, 46, 50
celiac · 15, 16
cellulase · 56
CFIDS (Chronic Fatigue
 Immune Dysfunction
 Syndrome) · 37, 41, 50,
80, 84
charcoal · 27, 28, 64
Cheney · 37, 38, 80
cholestyramine (Questran) ·
64

choline · 83
Clostridium or Clostridia ·
27, 38, 39, 40, 62, 64
coenzyme Q10 · 11, 72, 84,
85, 93
coffee · 28, 86, 87
colitis · 16, 55, 60
colloidal minerals · 17, 18
colloidal silver · 18, 30, 34
colon cleansing · 15, 29, 32,
53
colonics · 29, 43
colostrum · 37, 66, 88
constipation · 15, 17, 27, 32
copper · 25, 37, 65, 67, 84,
86, 88, 89, 90, 91
craniosacral therapy · 15
Crohns · 52, 60
Crook, William, MD · 30, 87
Culturelle · 48
Custom Probiotics · 39, 47,
50, 51, 53, 55
cysteine · 26, 27, 40, 65, 82,
89, 90, 92

D

depression · 31, 86
DEWS · 19, 20, 75, 77, 79
diabetes · 15, 16, 83
diarrhea · 16, 30, 42, 48, 56,
62, 67, 80, 86
Diflucan · 28, 30, 31, 32, 33,
34, 36, 82
digestion · 11-21, 74
digestive cascade · 12

digestive enzymes · 12, 18,
19, 20, 32, 43
dioxychlor · 35
DMSA (2,3-
Dimercaptosuccinic Acid)
· 26

E

eczema · 15, 16, 48
ENIVA · 18
environmental · 90
enzymes · 12, 18, 19, 20, 69,
75, 78
Epstein Barr · 38
Epstein Barr Virus · 38
estrogen · 87, 88, 89
exercise · 24, 84

F

Fallon, Sally · 92
fats and oils · 15, 18, 20, 38,
50, 56, 65, 74
butter · 74, 76
coconut · 35, 66
emu · 66
fish · 65, 74, 75, 76
olive · 28
primrose · 17
feverfew · 26
Feverfew · 30
fiber · 32, 65
fibromyalgia · 28, 48, 77, 80,
84
folic acid · 80, 84, 91
FOS (fructo-
oligosaccharides) · 47, 48,
62

G

GAGs · *See*
glucosaminoglycans
Galland, Leo, MD · 58, 65,
88
garlic · 26, 28, 30, 34, 35, 39,
44, 47, 69, 82, 86
Giardia · 21, 42, 43, 44, 64,
80
gingko · 26
ginseng · 26
Ginseng · 17
GLA (gamma linolenic acid)
· 65
glucosaminoglycans · 67, 69,
74, 92
glutamine · 16, 17, 67, 69,
70, 91, 92
glutathione · 27, 37
gluten · 19, 20, 21, 44
glycine · 21, 70, 83
Golan, Ralph, MD · 12, 86
Grapefruit Seed Extract
(GSE) · 30, 34, 36
Great Smokies Laboratory ·
41, 42, 64, 86

H

H. pylori · 17, 56
hepatitis · 16, 33
HHV-6 · 38, 69
histidine · 17
HIV and AIDS · 37, 38, 42,
51, 69, 84
Hulda Clark · 43, 90
hydrochloric acid · 12, 13,
14, 15, 16, 44, 87
hypoglycemia · 83
hypothyroid · 17, 40

I

immune system · 11, 12, 34,
35, 37, 38, 42, 46, 50, 51,
58, 61, 78, 90
Imunovar · 37
inflammation · 12, 22, 23,
58, 61, 65, 66, 67, 69
interferon · 12
iodine · 34, 35, 36
ionic · 18
iron · 16, 82, 88, 89, 91
Isoprinosine · 37

J

Jarrow · 50, 58

K

Kava · 30
Kenneth A. Bock, MD · 37
Kolorex · 34
Kutapressin · 37, 38
Kyolic · 34, 82

L

Lahoz, S. Colet, RN, MS,
Lac · 28, 29
Lamisil · 29, 30, 31, 32, 33,
34, 36
leaky gut · 11, 12, 28, 32, 64-
71, 73
lectins · 69
licorice · 16, 17, 44
lipoic acid · 27, 77, 78, 83,
90, 91, 92
lipoic acid or alpha lipoic
acid · 27, 77
liver · 11, 24, 26, 30, 31, 33,
34, 35, 36, 37, 65, 66, 72,

74, 75, 76, 77, 78, 82, 83,
85, 86

M

magnesium · 17, 23, 26, 27,
29, 73, 78, 79, 91
magnets · 44
manganese · 89, 90, 91
Mannatech · 66
Manuka honey · 17
Mead oil · 66
Mercola, Joseph, MD · 12,
62, 81
mercury · 17, 23, 24, 26, 27,
31, 40, 65, 76, 77, 80, 81,
86, 87, 90
methionine · 26, 65, 83
migraines · 53, 61
milk · 13, 16, 22, 37, 46, 47,
50, 83, 88, 90
molds · 19
MSM (Methyl-Sulfonyl-
Methane) · 17, 22-26, 30,
42, 45, 69, 70, 85, 89
multiple sclerosis · 16, 26, 83

N

N.E.E.D.S. · 20, 66
NAC · *See* N-Acetyl-
Cysteine
N-Acetyl-Cysteine · 17, 26,
27, 40, 65, 91
NADH · 91, 92
Natren · 49, 50, 51, 53, 55
Nature's Biotics · 56
Nizoral · 29, 36
NSAID · 30
Nystatin · 27, 28, 31, 32, 34,
36, 39

O

olive leaf extract · 34
oregano · 29, 35
organic · 22, 50, 69

P

pancreas and pancreatic
enzymes · 15, 18, 19, 20,
66, 75
pantethenic acid · 78, 84, 91
papain · 20
parasites · 21, 41-45, 58, 61,
63
Pau D'Arco · 18, 35
Peat, Raymond, PhD · 81,
83, 88, 93
Pepto-Bismol · 17
pesticides · 38
pH · *See* acid, alkaline and
pH
phenolated iodine · 35
phosphatidylcholine · 75
phytoestrogen · 38, 61
Pine Cone extract · 37
potassium · 17
probiotics · 29, 30, 35, 38,
39, 41, 46-53, 55, 56, 58,
66
proline · 70
prostaglandins · 65
psyllium · 28, 30

Q

Qzyme · 84

R

Rogers, Sherry, MD · 39, 89

S

Saccharomyces boulardii ·
39, 58
saffron · 44, 67
saliva · 65
salt · 22, 23
Schachter, Michael, MD,
F.A.C.A.M. · 91
Seasilver · 18
seizures and epilepsy · 61
selenium · 17, 25, 91
Shaw, William, PhD · 27, 77,
78, 79, 81
slippery elm · 44, 67
soil-based organisms · 46,
47, 52, 53, 56, 58
soy · 50, 87
Specific Carbohydrate Diet ·
19, 59, 60
Sporanox · 29, 31, 34, 36
St. John's Wort · 26
sterolins and sterols · 38
stomach acid · 12, 13, 14, 15,
16, 17, 18, 19, 42, 49, 87

T

Tannalbit and Tanabilt · 34,
35
taurine · 17, 21, 26, 67, 70,
91
Taurine · 6, 21, 70
Teitelbaum, J., MD · 84, 92
Th1 and Th2 · 37, 38, 50, 51,
58, 78
threonine · 83
thyroid · 24, 34, 65, 76, 90
TMG (tri-methyl-glycine) ·
83
Torrance Company · 55
Transfer Factor · 34, 37, 38

Trowbridge, John, MD · 13
Truss, O., MD · 92
tyramine · 84

U

UltraseMT20 · 20
UniKey Health Systems · 43
urinary · 61
urine test · 39
Uva Ursi · 34

V

vaginal · 11, 24, 31, 68

vitamin A · 15, 20, 65, 77
vitamin B1 · 77, 81, 91, 92
vitamin B12 · 15, 73, 79, 80,
81, 84, 88, 91, 93
vitamin B2 · 73, 78, 79, 81,
84
vitamin B6 · 27, 65, 73, 77,
78, 79, 81, 84, 86, 89, 90,
91, 92
vitamin D · 20, 65
vitamin E · 15, 20, 26, 65,
77, 84, 88
vitamin K · 20, 26, 35, 65

W

WaterOz · 18
whey · 37, 47, 88
Wisdom of the Ancients · 35

Y

Yoga · 15

Z

zinc · 17, 25, 67, 81, 82, 87,
88, 89, 90, 91, 92

More *Health Forum* books can be found at www.dysbiosis.com

Book 1: Candida's Impact on your Health

Book 2: Candidiasis and Dysbiosis Abatement Techniques

Book 3: Diets for Immune Support and Gut Health

Book 4: Hormones, Dysbiosis and Candidiasis

Book 5: Hope for Autism through Nutrition

Book 6: Cleansing the Body of Mercury

Book 7: Fibromyalgia Treatment Options

About Polly Hattemer, PhD — editor of *The Health Forum*

Polly Hattemer's formal education is a doctorate in System Science Engineering from UCLA. She has spent over 20 years working in the aerospace industry. Specifically, she analyzed and helped to design missile guidance systems, satellite sensors, and radar waveforms. This background perhaps explains the way she looks at health. Because of her systems engineering background, she is always looking for the interactions between different "systems" in the body. However, her perspective is just one of many that will be found in the *Health Forum* books.

Polly Hattemer used to have intestinal yeast overgrowth with the accompanying symptoms of migraines, food sensitivities, fatigue, brain-fog, and of course, intestinal upsets. Over many years, she accumulated information on how to get rid of these ailments and how to heal the damage left in its wake. Several years ago, she started chatting with others on the Internet about this problem. She discovered that the Internet was a vast resource of technical information and an interesting source of personal experiences. With the permission of her Internet friends, she recorded their personal experiences and organized them into the *Health Forum* books. She also added references to tutorial and technical articles.