

The Health Forum

Book 4

The Health Forum

Book 4

Hormones, Dysbiosis and Candidiasis

Edited and Compiled by Polly Hattemer



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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

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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.

What's Dysbiosis?

Dysbiosis means there is too much yeast, harmful bacteria, viruses or parasites in the intestines. Dysbiosis does more than interfere with digestion. Dysbiosis makes you tired. It alters your immune system. It upsets your hormonal balance. It can even make it difficult for you to think clearly. Dysbiosis can cause anxiety, depression or mood swings. Dysbiosis can affect almost every aspect of health. A person with dysbiosis is more likely to suffer from

Frequent Colds or Flu
Brain Fog
Attention Deficit
Autism
Crohn's, Colitis
Anxiety
Prostatitis
Interstitial Cystitis
Food Allergies
Mitral Valve Prolapse
Leaky Gut
Sinus and Ear Infections
Constipation or Diarrhea
Fatigue
Arthritis
Hypoglycemia
Eczema and Hives
Hypothyroidism
Carpal Tunnel

Asthma
Migraines
Poor sleep
Fibromyalgia
Depression

Notice that many of these same ailments are attributed to Candida or "The Yeast Syndrome." That is because the yeast syndrome is really dysbiosis. Dysbiosis is just a more general term. It encompasses the observation that yeast aren't the only intestinal residents that can cause these symptoms. In fact, intestinal bacteria or viruses may have center stage in some of these illnesses, not yeast. Even though yeast isn't the culprit every time, the presence of intestinal yeast can be a huge factor in the health of some patients. Unfortunately, yeast overgrowth is particularly hard to eradicate because yeast can live inside body cells where antifungals cannot kill them. The sickest dysbiosis patients will have both yeast and harmful bacteria in their intestines.

Depending on the situation, a person may want to employ antibiotics, antifungals, antivirals or antiparasitic medication to kill the pathogens inside the intestine. However, there is a lot more to the art of getting well than just killing pathogens. If you kill off one resident of the intestines, another is going to take its place. Will it be good? Seeding the intestines with good

bacteria can help ensure that the new growth is healthy. Sometimes the lining of the intestine must be washed in order to make space for the implantation of the good bacteria. Although this may be very helpful, this doesn't assure a successful outcome.

The situation is very analogous to farming. You can remove rocks, kill weeds and plant good seeds, but you aren't going to get a good crop if the soil is poor. Your body is the soil. Bacteria live off of the mucous lining of the intestine. You grow this lining. Therefore, the bacteria are living off of you. If your body chemistry is wrong, your intestinal bacteria aren't going to be healthy. That is one reason why some people get yeast/Candida after taking an antibiotic, and other people don't. Their body chemistry is different.

Proper hormonal support is another important aspect of healing from dysbiosis. Without the proper hormone balance, the intestinal movement is disrupted, and different flora is promoted. Once the poor flora is established, it will interfere with the hormonal balance. To recover the hormonal balance, the flora needs to change, the liver needs to be supported, and often thyroid hormone must be supplemented. Thyroid seems particularly important, possibly because toxins from yeast and gram-negative intestinal bacteria can lower the thyroid hormone level in the body. This book will help you understand why hormones are so important to your recovery. It will also cover some of the problems that may occur when supplementing hormones.

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!

Thyroid

Polly: Although a few people with dysbiosis have too much thyroid hormone, usually the opposite is true. People with dysbiosis often need more thyroid hormone. In the latter case, taking a supplement of thyroid hormone can help them heal. The change is sometimes dramatic, but most of the time it is a very gradual change.

Unfortunately, there is a huge difference of opinion on what constitutes enough thyroid hormone and what doesn't. Conventional doctors will test your blood, and will often find that the hormone levels are within "normal" range. Yet an alternative doctor will look at the same blood test and decide that it is too far from optimum, and will try a thyroid supplement. An alternative doctor will also weigh your symptoms more heavily than a conventional doctor will. He is more likely to give you a trial of thyroid to see how it makes you feel. Since there is such a huge difference of opinion, you will have to decide what to do yourself. I suggest you see an alternative doctor and possibly get a trial of a natural thyroid supplement, or at least a mixture of T4 and T3 thyroid. See how it makes you feel. If it doesn't help after a few months, then at least you didn't let the opportunity pass you by. What is at stake is well worth the effort.

Let's Start With The Basics

Mr. Generic: What do you mean by "taking thyroid?" What is there to take?

Polly: The nomenclature is confusing. The gland at the base of your neck is called a thyroid, the hormones it produces are called thyroid, and the medication that is prescribed is also called thyroid. To add further confusion, there are several different types of thyroid hormone medications. Some contain only one special type of thyroid hormone, and others contain all the different types of thyroid hormone.

Mr. Generic: You used the term "low thyroid." Can you explain what that means?

Polly: When you do not have enough thyroid hormone, you are said to be hypothyroid, which I sometimes refer to as being "low thyroid." Back when my brain was very foggy, I was always getting confused with the prefixes hypo and hyper. Hypo means not enough or low, and hyper means too much or high. It was easier for me to remember low thyroid than hypothyroid. Often, I still refer to hypothyroidism as a low thyroid condition.

Various Thyroid Medications

Mrs. Generic: You claim that people usually feel better using a natural thyroid supplement instead of a T4 thyroid supplement. What do you mean by a natural thyroid supplement?

Polly: If you cut out the thyroid gland in a pig, process it, freeze dry it, and make it into pills, then you have what is called natural (desiccated) thyroid pills. Thyroid from a cow is also available, but Broda Barnes, MD, felt the pig thyroid was superior. Others have come to similar conclusions as Dr. Barnes. However, once in a while, a patient will do much better on bovine instead of porcine thyroid. These natural thyroid pills contain all the different types of thyroid hormones that your body makes. These supplements contain T5, T4, T3, T2, and T1 thyroid as well as calcitonin. T5 thyroid has 5 iodine atoms attached, T4 has three iodine atoms attached, etc.

T4 and T3 are the most important of these forms of thyroid. T4 is sort of a storage form of the hormone. The cells of the body convert T4 into T3 as needed. T3 is the active hormone that your body needs to function properly. Not much is attributed to T2, except it is thought that T2 many stimulate the enzyme needed to convert T4 into T3. Doctors don't know the purpose of T5 and T1, although it is likely that all forms of the hormone have some function. The other component of natural thyroid, calcitonin, helps regulate calcium.

The most well known brand of natural thyroid is called Armour. However, there are other brands called Bio-throid, Westthroid, and Naturethroid. The Bio-throid and Naturethroid are hypoallergenic.

However, most doctors use thyroid supplements that only have T4 or T3 in them. The best-known of these thyroid supplements are

the brands Synthroid and Cytomel. Synthroid only contains the T4 thyroid hormone. Cytomel only contains the T3 thyroid hormone. Of these, conventional doctors usually prescribe the T4 and ignore the fact that your body usually needs some T3 too. The T4 stays in the body for a relatively long time. Therefore you only have to take one pill per day of T4, and if you skip a day, it usually isn't a problem. T3 should normally be taken several times per day, and therefore it is not as popular with doctors.

Usually it is best to take a natural thyroid or at least a mixture of T4 and T3. It is usually not a good idea to take only T4 thyroid. Taking only T4 can actually make some symptoms of hypothyroidism worse. In tissue that is not converting T4 into T3 rapidly, excess T4 can actually have an anti-thyroid action. [1] Nature didn't intend for the body to just get one of these hormones from the thyroid gland. Many people feel much better if they are given a combination of T4 and T3, and women seem to need a higher proportion of T3 than men. The need for T3 as well as T4 is finally being presented in some of the prestigious medical journals, but unfortunately it is still common practice for many conventional doctors to place their patients on just T4.

Hypothyroidism And Dysbiosis

Roxanne: I am new to this board and just found it. I have been researching about hypothyroid lately, because I am to begin treatment for a very mild case of it. But this morning I started thinking about my past medical history and thought about the production of yeast in the body. I have had 2 breast abscesses, both with the main content yeast, and I have been diagnosed with histoplasmosis, a fungal infection of the lungs. The symptoms I have been experiencing lately and the symptoms of candida mimic

hypothyroidism. Should I tell my doctor what I have learned about this? Is there a test I should ask for to rule out candida before starting the thyroid medication? Any advice would be appreciated. Also, I would like to know of other people's experiences, similar or not with candida. Thanks. Sorry this was so long!

Polly: Unless your doctor is an alternative doctor, he will likely not want to hear about yeast. I suggest that you try to explain, but do not insist. Not only does hypothyroidism mimic many of the symptoms of yeast overgrowth, it can also contribute to yeast overgrowth. Correcting your hypothyroidism will improve your immune response and will help you get rid of the fungus and yeast. Conversely, the yeast or fungus problem might be the cause of your hypothyroidism.

Be glad your doctor is going to treat you for the hypothyroidism. If he is a conventional doctor, he will likely give you a brand of thyroid hormone called Synthroid, or perhaps the newly FDA approved Unithroid or Levo-T. These products only contain one form of thyroid called T4. Usually, *but not always*, you will be better off with a different kind of thyroid supplement called desiccated or natural thyroid. Take a look at what the patients are saying on the Internet about the product differences. For instance, take a look at this conversation thread.

<http://forums.about.com/ab-thyroid/messages?lgnF=y&msg=21387.3>

Roxanne, if you have had 2 breast abscesses, both with the main content yeast, and have been diagnosed with a fungal infection of the lungs, that is plenty of reason to stay a while at this forum and learn more. Welcome to our group.

Roxanne: Thanks, this seems to make a lot more sense than a lot of the other ways that I have been

led. After feeling crappy for so long, and kind-of taking matters into my own hands, something just sort of clicked yesterday and I said there might be a connection with the yeast and my symptoms. I have already been to the library and got some books. I can kind of guess what my doctor's reaction is going to be because I have already asked him if there might be a connection and he just kind of laughed it off. Thanks very much for the help. It really means a lot knowing that you're not the only one and that you are possibly not going nuts!

Polly: You are more than welcome, Roxanne. If we are loony-tunes, then there are sure a lot of us watching the same cartoon.

Hypothyroid Symptoms

Polly: There are many manifestations of low thyroid. If you are hypothyroid, you may have a few of the following list of symptoms. Don't expect to have most of them.

- fatigue
- dry skin
- brittle nails or nails that grow slowly
- hair loss or slow hair growth
- difficulty with focusing in school
- poor athletic ability
- sleep disorders
- not sweating
- sensitivity to cold or sometimes to heat
- cold hands and feet
- anemia
- bedwetting
- eczema
- rough gray elbows
- edema (water retention)

puffy hard swelling of skin (especially noticeable on face)
 acne
 loss of memory
 loss of concentration
 mental confusion
 mood swings
 headaches
 poor teeth and gums
 asthma
 allergies
 depression
 weight gain or sometimes weight loss
 constipation
 arthritis
 aching joints (especially in the morning)
 high or low blood pressure
 bladder problems
 cystitis
 high cholesterol
 low libido
 menstrual disorders
 infertility
 premenstrual syndrome (PMS)
 slow Achilles reflex (the muscle takes longer to relax after the tendon is struck)
 yellowish cast to skin (especially on palms of hands or around eyes or cheeks)
 poor or soft heart tones
 visual disturbances
 night blindness
 carpal tunnel
 deep voice or hoarseness

hyperlaxity of joints (hands bend easily, or flat feet)
 poor muscle strength (a child may present with a weak grasp or a protruding belly due to poor muscle strength)
 low basal temperature (body temperature at rest)
 susceptibility to infections like tuberculosis (TB), colds, flu, and bronchitis.

There are also a couple of odd characteristics that are sometimes associated with deficient thyroid. These are premature gray hair, missing the outer third of the eyebrow, splayed fingertips, and a pinky finger that is short. (The smallest finger is shorter than the first knuckle of the adjacent finger.) The voltage on an electrocardiogram will be low. Low thyroid is often associated with dysbiosis (harmful intestinal flora), fibromyalgia, diabetes, hypoglycemia, and autoimmune diseases like multiple sclerosis, and lupus. Low thyroid can predispose you to cancer and atherosclerosis (heart disease).

Hypothyroid Symptoms in Children

Polly: The manifestations of hypothyroidism in children are a little different than in adults. A lecture by Richard S. Wilkinson, MD, and a lecture by Jaques Hertoghe, MD, (both available from the Barnes Foundation) described some low thyroid symptoms to look for in infants and in very young children. They are:

jaundice at birth
 low birth-weight
 birth defects
 problems with sleep
 developmental delays or mental retardation

poor muscle tone or flaccidness (eg trouble holding up head, or sitting up, or protrusion of belly due to poor muscle tone)

low body temperature

hyperactivity

lethargy (fatigue or non-responsiveness)

hyperlaxity of their joints (hands bend easily, or flat feet)

dry skin

pale complexion (anemia)

late teething

frequent ear infections

frequent colds, bronchitis or other infections

allergies

asthma

bedwetting

eczema

abnormal fatigue

difficulty with focusing in school

poor athletic ability

Sometimes the problems are not apparent until they are teenagers, where there is the greatest demand for thyroid. Eg, PMS, school problems, mood swings, and drug or alcohol abuse may appear at puberty.

If the hypothyroidism is severe, the bones will not develop properly. The child will look similar to someone with Downs Syndrome. They might have a wide distance between the eyes, deep nose root and middle bone structure, deep eyes, a big skull, and a flat appearance. The neck will be short, the body will look short with a deep bone structure (chest looks big in proportion to the rest of the body). They may also have a thick edematous tongue that protrudes or has teeth indentations. Other possible symptoms are thick lips, missing the outer third of the eyebrows, dry falling hair or hair that grows slowly, and maybe

they will develop puffiness under the eyes. Once in a while, you will see a yellow cast to the palms of the hands or around the eyes and cheeks, due to an inability to handle carotene.

Please be careful about the type of thyroid your child receives. According to the Barnes Foundation doctors, very often when you correct hypothyroidism with just T4, you still have many of the symptoms of hypothyroidism. Giving the natural will often clear up the remaining symptoms. Listen to the tape available from the Barnes Foundation on what happened to a developmentally retarded baby when she was switched from T4 to natural thyroid. The tape is "Baby Rachel: Physical Examination of a Hypothyroid Child," and is available from www.BrodaBarnes.org or phone 203-261-210.

What Causes Hypothyroidism?

Polly: There may be a birth defect or a dysregulation in the brain, but the most common causes of hypothyroidism are

1. Liver weakness/stress (The stress can be due to toxins produced in the gut by yeast or bacteria.)
2. Estrogens and estrogen-like substances (pesticides and plastics)
3. Polyunsaturated oils
4. Radiation
5. Fluoride
6. Excess or inadequate iodine
7. Mercury poisoning
8. Nutritional deficiencies

Hyperthyroid Symptoms

Polly: If you have too much thyroid hormone, you might have some, but not all of the following symptoms/signs:

heart palpitations
 heat intolerance
 nervousness/anxiety
 insomnia
 breathlessness
 more frequent bowel movements
 light or absent menstrual periods
 fatigue
 muscle weakness
 fast heart rate
 trembling hands
 weight loss
 hair loss
 eyelid lag
 staring gaze
 increased sweating

What Causes Hyperthyroidism?

Polly: In Ralph Golan's book, *Optimal Wellness*, he mentions mercury toxicity, food allergies, and abnormalities in the hypothalamus and pituitary glands as being possible factors in hyperthyroidism. Janet Starr Hull in her book, *Sweet Poison: How the World's Most Popular Artificial Sweetener Is Killing Us—My Story*, attributes her hyperthyroidism to the sweetener aspartame, found in NutraSweet.

In the book *Mineral and Trace Element Analysis* by Eleonore Blaurock-Bush, PhD, she mentions that the zinc to copper ratio is very important. [2] Low copper can aggravate hypo and hyper thyroidism. I saw a posting on the Internet where a person had hyperthyroidism, and he was able to control it with copper, trace minerals, calcium and magnesium. There is speculation that the reason low copper can lead to hyperthyroidism is that copper is needed to form

MAO (monoamine oxidase). MAO is an enzyme that breaks down serotonin, thyroid, tyramine and catecholamine hormones. Mineral balance is definitely something to have your doctor check if you are having thyroid problems, especially check zinc and copper. See this article, www.ithyroid.com/tyramines.htm. Also, there are some herbs that some people find helpful. See this article by Ryan Drum, PhD, on thyroid. www.planetherbs.com/articles/thyroid.html.

Among other herbs he mentions *Melissa officinalis* (lemon balm), *Lycopus virginiana* (bugleweed) and *Leonurus cardiaca* (motherwort) as having apparent thyrosuppressive effects.

There might also be a connection between a harmful intestinal bacteria, *Yersinia enterocolitica*, and hyperthyroidism. In the book *Probiotics, Nature's Internal Healers* by Natasha Trenev, she states,

"This bacteria has the ability to provoke the production of certain substances that attach themselves to cells in the thyroid, resulting in the overproduction of thyroid hormone... more than 80% of those with Grave's disease carry antibodies produced by the immune system to destroy Yersinia."

I've also heard rumors that *Yersinia* is associated with some cases of hypothyroidism. (Teresa Binstock, an autism researcher, has gathered abstracts on *Yersinia*, and they can be found at www.jorsm.com/~binstock/yersin-2.htm.)

Susan: *Yersinia* is the name of a genus of bacteria, of which *Yersinia pestis* (bubonic plague) is the most well known. In addition, there are several other species of *Yersinia* that can and do infect humans. One of the troubling aspects of *Yersinia* infections is that the immune response to them is severely impaired. Apparently one of the ways that *Yersinia* does this is to "hid" in macrophages (a type of white cell which, in the

blood stream, is called a monocyte) and then to suppress thyroid function, interact with the normal inflammatory response to cause it not to work correctly, alter the ability of the blood/brain barrier (which keeps out of the brain lots and lots of stuff) allowing foreign material, bacteria, etc. to get in there, and when the *Yersinia* infected cells are found in the gut, can contribute to malabsorption of gluten (breads) and to cause colitis.

Kimberly: Wow, I am definitely going to check into the connection between the *Yersinia enterocolitica* bacteria and hyperthyroidism. I suffered with hyperthyroidism for years. I just had a partial thyroidectomy in late Feb. '99 and when I came out of it I was a different person. It was amazing. The doctor didn't understand why the change, no more depression, etc, but was happy that I felt so much better. One of the first things I said to my husband was, "maybe the part they cut out was full of yeast and that's why I feel so much better." Well, I guess I was close. The experienced surgeon also indicated that the part of my thyroid he removed was very white, whiter than he had seen before, (for whatever this is worth).

Some history: They first discovered that I was hyperthyroid in my late teens, early 20's. Up to that point I was just considered to be "nuts." First I was given medication to lower my thyroid levels, then I took radioactive iodine (I-131) to kill the thyroid, then became hypothyroid and went on thyroid replacement hormone. I finally had a partial thyroidectomy in late Feb. of '99 due to increased discomfort and growth of the cystic mass in my neck. I was a vocalist and it had gotten to the point where I couldn't sing anymore—very depressing. Anyway, now my levels fluctuate up and down. They are still not stable since the surgery. I'm still hoping I did the right thing by having the surgery, although I

would never want to go back to the approximate 16 year depression, of which the last 6 years were the worst.

Polly: An alternative doctor might try iodine drops for about three weeks to control excess secretion of thyroid by the gland. This would probably be safer than the radioactive iodine that you were given. Yet, even treatment with the plain iodine is dangerous if you are pregnant.

Broda Barnes Basal Metabolism Test For Hypothyroidism

Polly: The Broda Barnes basal metabolism test is a simple test you do at home, using just an ordinary shake-down glass thermometer. It is an indication of whether you need thyroid hormone supplementation or not. If you take this test before your first appointment with an alternative doctor, you will have more information to help him with your diagnosis. Here is the procedure for the test.

Shake down a thermometer and place it on the bedside table before going to bed. Immediately upon awakening, place the thermometer snugly in the armpit for 10 minutes. Just relax for ten minutes without moving a lot. Don't place the thermometer in your mouth because if you have any type of a sinus infection or allergy this could elevate the mouth temperature above that of the rest of the body. Take your temperature in this manner for three days or more in a row and record the results. Don't pick days when you have a cold or fever. Women: Since the body temperature varies with the phases of the menstrual cycle (progesterone raises your temperature), the test should be made during the week of menstruation, but not starting on the first day. Eg, take your temperature on the second, third, and fourth days of menstruation, or maybe the fifth, sixth and seventh days. Children:

In young children, rectal temperature can be taken; two minutes are adequate. You might also try taking the temperature under their armpit, just before they wake. (Don't ever put a mercury-containing thermometer in a young child's mouth. They may bite it and release mercury.)

The following table can help you interpret the results. However, if your basal temperature is not low, but you have arthritis, then you still probably need thyroid. According to Broda Barnes, most arthritics need thyroid, yet the arthritis may artificially raise the basal temperature because of the pain. Very high adrenaline and cortisol or a restless and bad night's sleep will also raise the morning basal temperature and throw off the interpretation.

Average Basal Temperature	Interpretation
Above 98.2	Weak indication of hyperthyroidism
Between 97.8 and 98.1	Normal
Between 97.5 and 97.8	Weak indication of hypothyroidism. The problem could be just weak adrenals.
Between 97.0 and 97.5	Fairly strong indication of hypothyroidism
Below 97.0	Very strong indication of hypothyroidism

Some people claim that the low basal temperature is due to toxins in the body, and is not due to low thyroid. They claim that all you have to do is remove the toxins and your body temperature will go up. In my opinion, this is only a half-truth. Yes, you should go about getting rid of toxins with saunas and nutritional

support, and every way you can think of doing so. Maybe afterwards your body temperature will rise and you won't need the hormonal support. Yet in the mean time, you need the thyroid or other hormonal supplements to help your liver get rid of toxins, and to help your immune system function. Thyroid and progesterone will help you absorb your nutrients and keep them from being wasted. Hence I feel thyroid and progesterone supplementation can help you get healthier faster. Trying to get nutrients and trying to detoxify your body without hormonal support is an uphill battle. I know from personal experience. Several years ago I finally got some thyroid. I've made much more rapid progress since getting this thyroid than the many previous years. Thyroid, progesterone, DHEA, and pregnenolone support your body and allow it to heal.

No Treatment?

Donna: My thyroid is low, I think it is my T4, my doctors just took more blood tests this past Tuesday and I am waiting for the results as I type this. I don't know if they will give me something for it if it still comes back low. In that case, I will treat myself for it. Where can I get these products? Health food store?

Polly: It is best that you get someone to help you with this. However, you do have the option of trying the thyroid glandulars that you can get from Nutri-meds. (More about this later.)

In my opinion, if your tests were borderline, that deserves a trial prescription of the hormone, not a repeat of the blood test. Many people think that the normal ranges are too wide to begin with. A "borderline" measurement is a pretty strong indication that the level isn't right.

Some doctors are way too conservative in how they treat with thyroid. I've heard of doctors giving patients just enough thyroid so that the test

results barely creep into the “normal” range, even though the patient is still exhibiting many hypothyroid symptoms. That is unacceptable treatment. A person deserves to feel well.

I even have a friend whose blood tests were *outside* of the standard ranges; still her doctor wouldn't give her thyroid. Her doctor just said the thyroid was fine. Yet this friend knew that she felt just like she did at another time when she needed thyroid. So she got a copy of her test results, discovered the discrepancy, and went elsewhere. Her new doctor couldn't understand how those tests could have possibly been interpreted as normal.

If you want a second opinion, ask the receptionist for a copy of your thyroid test results. Make sure it isn't just a slip of paper with a number scribbled on it. It should have the “normal” ranges for each test printed on it. Different labs may use different units and ranges. So you want a copy of the whole lab test printout. Then show it to another doctor, preferably an alternative doctor. (Keeping your own records is a good idea anyway. Then if the blood thyroid levels change with time, you might catch a problem early.)

There is such a difference of opinion on the use of thyroid. Sometimes a patient's new doctor will take them off of desiccated thyroid. Even if the patient feels much worse, the patient can't convince the new doctor to give them the original prescription. Many people have been totally frustrated with the situation. They don't know where to find a doctor that will treat them. So with limited energy and funds, they suffer in silence.

Thyroid Glandulars

Polly: Thyroid glandulars are the ground up and dried whole thyroid gland. The product isn't as processed as the prescription desiccated thyroids.

Yet, it may still contain the active hormones. Several years ago, a bill passed in the US congress made it legal to buy and sell thyroid **glandulars** without a prescription, even if they still contained some of the thyroid hormones. However, the FDA is not too pleased with making thyroid glandulars available. There is a chance that the public will abuse the product and someone will get hurt. Therefore, the FDA does its best to monitor the way the glandulars are marketed. If you sell this product, then you cannot imply that it will help a person with any physical or mental problem.

Because the FDA is especially strict with this product, it is difficult to find a source for it. Most glandulars on the market have been denatured. (Denatured means that the thyroid hormones have been removed.) The only place that I've found to purchase the undenatured thyroid glandular by itself is through Nutri-meds. It is a good product. Some people are even getting better results with this thyroid glandular than they did with their prescription desiccated thyroids.

People on the Internet have surmised that each Nutri-meds pill is roughly equivalent to a fourth grain of the prescription desiccated thyroids. This is not very much, but it is enough to help an adult. One Nutri-meds pill per day is good general nutritional support. If we were still eating blood pudding and other such traditional foods, then we would be getting about a fourth grain in our daily diet. Most healthy people will have no problem with this much. However, if you are particularly weak, you need to be more cautious.

If you decide to purchase these undenatured thyroid glandulars, then you must take on the responsibility of this choice. Do not abuse them, or the FDA will take away everyone's right to use them. Especially if this is the first time you have taken such a product, you need some

guidance. Look for a progressive MD or seek the advice of a naturopath. You should request that your doctor take periodic blood thyroid tests. Or order your own blood thyroid tests. (See the section on ordering hormone tests in the progesterone/estrogen chapter.) Also, read and understand the precautions section in this chapter.

Thyroid glandulars that have not been denatured can be purchased at www.nutri-meds.com/thyroid.htm, phone (888)-265-3353. Both the porcine (pig) and bovine (cattle) glandulars are available. Although people usually react better to the porcine, once in a while, a person will do better on the bovine.

The Blood Tests For Thyroid

Polly: Many doctors, especially those bound by HMO (Health Maintenance Organization) rules, rely only on the TSH (thyroid stimulating hormone) blood test to screen for thyroid problems. However, this can miss some cases of hypothyroidism. For instance, excess serotonin influence in the brain of people with autism or fibromyalgia could suppress TRH (thyrotropin releasing hormone), which tells the brain to create TSH. Both the autistic and those with fibromyalgia will very often have a lowered TSH response to TRH. [3] These thyroid problems will be missed with just a TSH test.

Recently, the conventional dogma has come closer to the position of the alternative doctors. Mary Shoman's newsletter contains an article entitled "Major Reversal at American Association of Clinical Endocrinologists Regarding TSH and Diagnosing Hypothyroidism." The essence of the article is that The American Association of Clinical Endocrinologists (AACE) was previously adamant that patients not be treated if their TSH reading were within "normal" limits. Now they

state in their material provided for the January 2001 Thyroid Awareness Month that:

"Even though a TSH level between 3.0 and 5.0 uU/ml is in the normal range, it should be considered suspect since it may signal a case of evolving thyroid underactivity." (AACE Press Statement, January 18, 2001)

This new lower acceptable TSH range for treating patients is one step in the right direction. At least, if your doctor has heard about it, then it may help. In contrast, many of the alternative doctors had already been using a TSH of 2.0 or higher as the range of readings where they suspect a thyroid problem.

Rue: Just wanted to add that candida can cause a thyroiditis that will not raise the TSH above normal limits or just a bit above. However, the person may have symptoms of someone with a TSH of 60.

Polly: Yes. If you only test TSH, then you could miss that condition. There are many different tests for thyroid function, and not one of them will catch all the cases of low thyroid.

However, some doctors say that all those problems are now solved because they have the latest and greatest tests—free T4 and free T3. The hope is that the "free" or unbound thyroid levels will show what the cells actually have available to them for use. Yet, this isn't completely true. These tests ignore the protein bound thyroid, which is 95% of the thyroid found in the blood. The brain is an example where the protein-bound hormone is the active form, not the free thyroid hormone. But the test for free thyroid is important. If free thyroid is low, yet the bound thyroid looks normal, then this is an indication that the body might be suffering from too much estrogen.

When the symptoms of hypothyroidism are present, and yet all the aforementioned blood tests don't show a problem, then a few doctors will resort to the more expensive thyrotropin releasing hormone (TRH) blood test. This test will show if the brain is having trouble producing enough TSH. The TSH response can be suppressed by stress, lack of sleep, or exposure to lipopolysaccharides from gram-negative intestinal bacteria. [4] About half the people with fibromyalgia will fail this test. About a third of those with autism will fail this test. [5] Many of those with depression will fail this test, especially if it is given in the evening. [6]

However, don't be in a hurry to get the TRH test. With this test, you are given an injection of TRH to stimulate the pituitary into producing TSH. There is a chance that the TRH will over-stimulate a weak pituitary and harm it. There would be less risk and certainly less expense if more doctors were willing to give a trial of thyroid based on symptoms.

Every doctor should know that the standard blood tests couldn't possibly cover all the possibilities. Yet many doctors won't treat unless they have found a blood test that indicates a problem. Even if the blood test shows a problem, they are very reluctant to treat if it is a child. Doctors are acutely aware of peer pressure, their employer's guidelines, and/or the opinion of their local medical board; they feel their hands are tied. These policies may save the doctors from getting sued, but it isn't helping the patient. It would be almost impossible to prove that a lack of thyroid hormone treatment was the reason a patient later developed pneumonia, heart disease or cancer. Yet it would be fairly easy to drag a doctor into court claiming that unnecessary treatment harmed someone. Unfortunately, our litigious society creates a situation where it is safer for doctors not to help their patients.

Why Isn't The Blood Thyroid Level A Reliable Indicator?

Polly: Many of us seem to require more thyroid hormone than the blood tests indicate. Some think it is due to the yeast or bacteria toxins that are in the gut. Others, point to the interference caused by high antibody levels that can be associated with yeast overgrowth.

The blood tests can be dangerously misleading. An example was a man admitted to a French hospital with severe hypothyroidism. He was so bad off that he was exhibiting full-blown myxedema (puffy skin that doesn't indent when pressed due to accumulation of mucopolysaccharides). Still his blood thyroid tests were normal. (One of the Barnes Tapes by Dr. Hertoghe mentions this incident.).

According to a 1994 lecture by Jacques Hertoghe, MD, the blood tests are a poor indicator of the less severe forms of hypothyroidism because *there is a slow clearance* from the blood of the thyroid hormones when there is hypothyroidism. The thyroid hormones aren't being used very quickly, so more remains in the blood. This makes it look like there is enough thyroid hormones in the blood even though the patient is hypothyroid. Dr. Hertoghe listed these reasons for the slow clearance:

- 1) a reduced blood volume, with overall arterial vasal constriction (including in the kidneys)
- 2) accumulation of waste products and mucopolysaccharides in extracellular spaces (acting as a barrier),
- 3) lazy lymphatic drainage,
- 4) fewer cellular receptors for T4 and T3
- 5) slower conversion of T4 to T3,
- 6) lower intracellular demand for thyroid hormones

Hypothyroidism, High Antigen Levels, And Lyme

John Q: I was in great health, ran more than 20 miles weekly while playing and refereeing soccer. I went to seven doctors and three shrinks before I went to a doctor that understands the relationships between allergies and thyroid. My thyroid was in a low normal range $T4=.93$ normal range = .9 to 2.0. The problem with my blood was that my antigens were all extremely elevated, thus blocking the low normal T4 from working at the cellular level. IgA, IgG and IgM antigens should all be less than 75—mine were: IgA=540, IgG=177 and IgM=110. You can have your doctor culture your blood and see what your antigens are. When they are out of balance as bad as this, then your thyroid will not work properly and you won't have an ounce of energy.

Note: John Q was subsequently diagnosed with Lyme. After an intensive course of antibiotics, he is doing much better. Although it was his Lyme that led to his high antigen levels, other conditions can lead to high antigen levels, and theoretically, these can interfere with your thyroid use.

Hypothyroidism And Hepatitis

Paula: I just visited a new doc today. I have hepatitis C liver problems and probably ongoing intestinal problems including candida. I also have a thyroid nodule that was irradiated 2 years ago. I am supposed to have normal TSH and T4. My new doctor has requested several thyroid tests, such as T3 and reverse-T3 that my endocrinologist never did. The new doc is guessing that my dysfunctional liver is not converting T4 to T3, causing hypothyroid symptoms in spite of a diagnosis by an endocrinologist of hyperthyroidism.

He also thinks I have possible estrogen dominance since the liver clears excess from blood and mine isn't doing a good job of that either. (PMS worsening as I approach mid life). Hope this helps someone and proves that we need to find a doc who can see these things that regular docs just don't see at your run of the mill medical clinics...!

Polly: That is interesting that you were almost diagnosed as hyperthyroid instead of hypothyroid. I've heard of people being misdiagnosed hyper instead of hypo because they had an inability to convert T4 into T3. These people have some indications of hyperthyroidism, like nervousness and suppressed TSH, and yet they are actually hypothyroid. Glad you found a doctor that is exceptional.

Note: See the chapter on Liver Health in Book 1, for some common treatments of hepatitis. The chapter on Estrogen And Progesterone has some suggestions on how to deal with estrogen dominance.

Armour, T3, and T4

Patti: Just to share my experience here. I switched to Armour after I began to suspect my Synthroid wasn't working well any more. The dose went up a bit too. But nothing much seemed to occur. My TSH number was low-normal which means good and healthy according to standard medical practice. But I wasn't feeling better; and I suspected the thyroid still. An additional increase in the Armour led to a horrible migraine that lasted 2 weeks! Eeeeks!

Finally still suspecting a thyroid imbalance I switched to taking T4 plus T3 separately. I also avoided getting possibly allergic to the Armour, which had also been a concern. I have actually

been much happier with my new thyroid; energy is coming back to normal levels. Apparently some people do better on this regime.

My doctor says people don't know how much T3 is in an Armour dose and this way I can be exact. For what it is worth, it worked for me. I am way more energetic...and just like, NORMAL- A success- Yay!

Sarah: I was taking just thyroxine (equivalent to Synthroid or T4) for my thyroid disease. When I first got ill, I thought it was all about my thyroid. So I tried Armour. Armour gave me bad chest pains, but otherwise I did feel better. Now I am back to taking thyroxine (T4), but have added T3 with it in small doses. This, with the anti-candida diet, made quite a big difference in my health. The diet helps with brain fog and fatigue and the T3 seems to help with pollution in London and environmental allergies in general.

I think that when the candida is cleared up, I will probably not have to take T3. I could be wrong, but it seems that when your immune system is down and you have dysbiosis, the body has problems converting T4 into T3.

Patti: Yes, somehow I stopped converting T4 into T3 as easily as before....interesting, huh? I wonder if this is a common occurrence. I asked my doctor friend why I might have lost my ability to convert to T3 from T4 and he said maybe it's genetic and was a latent inability that showed up more so as I grew older.... I don't know why I stopped making the T4 to T3 conversion. I was hoping someone else did.

Polly: I have the same problem converting T4 to T3. I think part of my problem is the kidney I had removed. The kidney secretes an enzyme the helps convert T4 to T3. There are several things that are a factor here. Natural progesterone helps you convert T4 into T3. You need certain basic

nutrients for this conversion, like selenium, zinc, copper and iron. Low cortisol or not enough glucose or calories in your diet can cause a problem with the conversion too. Cirrhosis of the liver can interfere with the conversion. (About 70% of the conversion of T4 to T3 is done in the liver.) Low body temperature can interfere. There may be some toxin similar to estrogen, possibly from the gut, which is interfering with the liver's ability to convert T4 into T3.

Patti: Thanks for your hypotheses. I bet it's the one with the estrogen like toxin. Estrogen and I don't get along at all, and I do take a lot of progesterone.

Polly: Patti, how much T4 and T3 are you taking?

Patti: 0.1 mg Levoxyl and 12.5 mcg Cytomel

Polly: The ratio that you are presently taking is 8 parts T4 to one part T3. That ratio seems a little high on T4 compared to what is in natural thyroid. Natural thyroid is 3 parts T4 to one part T3. Yet, I guess one can't expect too much of a comparison between what you are taking and natural thyroid. Natural thyroid contains more than just T4 and T3.

Personally, I was on a grain and a half of just desiccated thyroid for about four years. I had tried increasing the dose to 2 grains and noticed no improvement. Then, we dropped the desiccated thyroid dose from a grain and a half to just one grain and concurrently added 15 mcg of Cytomel (T3). I definitely feel much more energetic and clear-headed with this. I think everyone, especially women, should look into this. Raymond Peat has found that a woman is more likely to need additional T3 than a man. Also, the wrong balance between T4 and T3 in a

supplement can actually interfere with the body's ability to create T3.

For me, it doesn't seem to make much difference if I space the T3 out during the day or just take it all with my morning desiccated thyroid. That is strange because for most people, the T3 needs to be spread out through the day.

Geo in Jersey: I definitely do better when I add some Cytomel (T3) to my Armour. I am taking 1 grain (60 mg) Armour + 2.5 mcg Cytomel, both three times daily on an empty stomach. Just the other day, I ran out of Cytomel and tried to simply up the Armour to 1.5 grains and felt really awful. I also remember feeling much better when I initially added the Cytomel. The doctor wanted me to take both only twice a day. This didn't work for me, so I started taking them three times daily. I was feeling way too unsteady on two times daily. The uninformed doctors pay no regard to the much shorter half-life of T3 with respect to T4. Some doctors recommend taking the T3 six times daily or in the case of Raymond Peat, nibbling on a tablet throughout the day. (I'm not sure how well that would work!) I am fairly sure that I have trouble with converting T4 to T3, probably due to my mercury poisoning.

Thyroid and Allergies

Patti: I remember when I started Synthroid 12 years ago; my allergies cleared up (to airborne stuff). All of a sudden they had become severe, (actually I never even had allergies before a certain spring and then they exploded to the point of being disabling; I had to wear a dust mask just driving around in the country.) I guess that's when I needed the thyroid, and the thyroid cleared them up in one month, no more airborne allergies, since then. (I don't think this applies to mold which is disastrous for me.)

Sarah: I find that all the small amount of T3 does for me is to help ward off environmental and chemical pollutants as well as maybe helping with headaches. It doesn't help with tiredness etc and food allergies. No one has been able to explain why it helps with outside allergens.

Polly: Thyroid can raise your blood sugar. Higher blood sugar can reduce your allergies. Often the addition of T3 will improve many different conditions. I almost think that the T3 supplement helps "prime the pump." It may give your cells just enough energy to help them start making their own active T3 from T4.

Sarah, earlier you reported that you weren't able to tolerate the natural Armour thyroid. (Armour is the most common brand of natural thyroid.) If you have allergies, perhaps you would have been able to tolerate one of the hypoallergenic natural thyroid supplements.

Avandish: Armour is good but it contains some inactive ingredients that can be allergenic. A company called Bio-tech uses the same pharmaceutical grade thyroid glandular powder that Armour uses, but the only other ingredient in the Bio-tech product is cellulose. Armour contains titanium dioxide (for color), a corn derivative (very allergenic), etc. Bio-tech is also by prescription only and the dosages are the same as used with Armour. Your pharmacist can order it or call Community Pharmacy in Madison Wisconsin if you have trouble finding it. (phone 608 251 3242) I bought it there with a prescription. I didn't have any problems with the old formulation of Armour, but when I tried the new Armour formulation, I had an allergic reaction (Scratchy throat, trouble breathing, itchy all over). I switched to Bio-tech and the allergy symptoms went away.

Polly: The price for the Bio-tech thyroid (called Bio-throid) is presently about the same or sometimes less than the price of Armour. (The price of the Bio-tech product doesn't ratchet up quickly with dose.) If you want to try it, you can have either your pharmacy or your doctor order it. The Bio-Tech product is encapsulated powder. The Armour is a tablet. If you suspect the Armour isn't dissolving, you could crush it. Even though I've heard of people doing better on Bio-throid than Armour, I've also heard the opposite. Some people do better on Armour. It is rather hard to figure out what is going on here.

Hypothyroidism, Thyroid Nodules, and Progesterone

Barbara: I am now on thyroid medication. I have an enlarged thyroid with benign nodules. My blood tests are all normal. The doctor is reluctantly treating me now to shrink my thyroid.

Polly: Nodules such as you describe can be formed when the thyroid gland is constantly stimulated beyond its capacity to produce thyroid hormone. If this goes on too long, you get thyroid cancer. As in your case, doctors will usually prescribe thyroid hormone to lower the stimulation of the thyroid gland. This will help reduce the size of the nodules.

Raymond Peat, PhD describes something else that can be tried in the situation that you are relating. After the thyroid supplements have reduced the size of the nodules, then you can take natural progesterone to release the thyroid hormone from the colloid. When the thyroid is released from the nodules, this may temporarily create hyperthyroid symptoms of rapid heart rate and higher temperature. This should be a safe protocol, so long as the goiter isn't too big (about the size of a normal pregnancy goiter), and assuming your heart can tolerate some

stimulation. Once the thyroid has been released from the nodules, the nodules will disappear. [7] Since unsaturated oils interfere with the release of thyroid, these are something else to avoid in this situation.

Wilson's Syndrome

Michele: Have you checked out Wilson's Syndrome? There is a web site and an excellent Physicians Manual with very specific testing and treatment protocol that is aimed at restoring T3 conversion.

Polly: Yes, I've considered Wilson's Syndrome as a possible problem for myself. I even bought their physician's manual. Their protocol seems to work best for patients who have suffered a traumatic incident, which lowered their T4 into T3 conversion capability. This protocol gives these patients a much-needed boost to help them start the conversion again. However, I suspect it is not the protocol of choice for most of us here. But I could easily be proven wrong. I don't know until others report on this.

Briefly, people with Wilson's Syndrome are converting too much of their T4 into reverse-T3 instead of regular T3. Reverse-T3 interferes with the action of the thyroid hormone. The treatment for Wilson's Syndrome is to give the patient so much time-release T3, that it suppresses the patient's own production of T4. When this happens, supposedly there is no T4 from which to make reverse-T3, and therefore the body stops making the reverse-T3. This protocol will hopefully raise the body temperature and give all the enzymes in the body a chance to recover. After the T3 supplementation has been gradually removed, hopefully, the body has forgotten how to make "reverse-T3," and only makes normal T3. (The protocol has merit, yet not everything in this theory makes sense. The theory ignores the

fact that the body can make reverse-T3 from T3.) Another option that might help is natural progesterone. Natural progesterone inhibits the formation of reverse-T3.

Michele: That is a new piece to the reverse-T3 puzzle. I can't even use the T3 plan because of too many heart irregularities. I got the impression that any severe stress could cause this reverse-T3 to form excessively, like severe candida or mercury toxicity.

Polly: If any severe stress can cause this reverse-T3 to form excessively, then even if you temporarily get rid of the reverse-T3 formation, I'd think that the problem would return unless that stressor is no longer present. Therefore, I would guess that the Wilson protocol is more appropriate if the initiating stressor has already been removed.

Michele: It is really exciting to me that you said this reverse-T3 process can be inhibited in another direction through natural progesterone. I have been searching for a safe alternative. Do you have any source material for that information that you could direct me to?

Polly: Raymond Peat, PhD, mentioned in his book *Nutrition for Women* (page 20), that progesterone inhibits the formation of reverse-T3. He also stated that reverse-T3 blocks the action of the thyroid hormone. However, that is all the detail he went into on the subject of reverse-T3. It is a relatively small book, but it reads like a set of lecture notes on the interaction between nutrition and hormones. I've read it four times, and I still haven't fully absorbed all the information.

Tracy: I've been on the T3 for eight months now. When I started taking it in May, I started

feeling better right away. I had been trying to get a doctor to treat me for low thyroid for over two years, all of them saying there was nothing wrong because my tests were normal. Then I found the Wilson's Syndrome website. I got a referral from them and went to see her right away. Finally, a doctor that would listen! I was lucky because she was only 45 minutes from me. Some of the people at their forum have to travel to other states. But it's worth it. The T3 really is helping; my body is having a hard time holding the temperatures though. Whenever I have stress, mental or physical, my temperatures will drop. I think it is because my adrenals are exhausted from the lack of thyroid function. I have an appointment at an endocrinologist tomorrow to get an adrenal stress index done. I hope I don't have to argue with him. I think if I get support for my adrenals, the T3 will be able to keep my temperatures up.

Do Thyroid Supplements Ruin The Thyroid Gland?

Polly: Many people are worried that if they take a thyroid supplement, then it might ruin their thyroid gland. This doesn't happen. Even if you take enough thyroid to completely suppress your own thyroid hormone production, it will not ruin your thyroid gland. If you decide to gradually stop taking it, your body's own thyroid production will return to its previous level and/or sometimes it will end up even better than before. [8]

Do Thyroid Hormone Supplements Cause Bone Loss?

Polly: Hyperthyroid people tend to suffer from bone loss. Animal experiments also show that high T4 levels are associated with bone loss. [9] So some caution is warranted. However, there are

doctors that are too conservative. They only give enough thyroid to keep the patient's readings in the low end of normal. This policy does not protect the patient from bone loss. In fact, it may be doing the opposite by harming the patient's bones.

Here are a few mechanisms by which insufficient thyroid could lead to bone loss.

- 1) Thyroid is needed to keep your cortisol levels under control. Cortisol needs to be kept under control because it contributes to bone loss. [10]
- 2) Low thyroid often leads to hyperprolactinemia, which contributes to bone loss. [10]
- 3) Hypothyroidism produces a predisposition to hyperventillation, and hyperventillation tends to cause calcium loss. [11]
- 4) Thyroid is needed to keep progesterone levels up. Progesterone promotes the growth of bone. [9] Note: When you first start supplementing natural progesterone, there will be an initial drop in bone density. This is because the oldest, most brittle bone is being discarded in preparation for new bone growth. [12]

Good nutrition plays a key role in keeping the bones strong. In the body, new bone is constantly being created and old bone is constantly being discarded. If this process is accelerated by the addition of thyroid, more nutrients are needed. Vitamin E protects one from bone loss in hyperthyroidism. [13] Other nutrients like calcium, phosphorus, and vitamin K and D are also very important. If rats are given adequate calcium and decent nutrition, and if these animals are made extremely hyperthyroid by giving them huge doses of natural thyroid, there was:

"... no evidence of failure of calcification in the bones of rapidly growing rats or of decalcification of the bones of older rats" [14]

In fact, the bones were about 5% heavier in the severely hyperthyroid rats. (There was more ash in the bones, but most of the extra weight was due to a higher water content. This suggests that the bones were less brittle.) One has to remember that thyroid not only accelerates bone reabsorption, but it can accelerate bone formation. [15] With good nutrition, the body should be able to keep these two processes in balance even when there is too much thyroid present. (If you get rid of the intestinal inflammation and dysbiosis, then you will improve the absorption of minerals and vitamins; this might help your bone density. Also gelatin in your diet will likely improve bone density. [16].)

One should not be afraid of taking enough natural thyroid to feel decent. The current medical literature does not show any decrease in bone density associated with correcting a hypothyroid condition. Even giving a large TSH suppressive amount of thyroid doesn't seem to be much of a problem. [17] A study of using TSH suppressive thyroid to treat depression in 11 patients showed an increase in bone density instead of the expected decrease. [18] Taking thyroid hormone is sometimes helpful for bone density.

My Pharmacy Doesn't Carry Natural Thyroids

Polly: Not all pharmacists and doctors are familiar with the natural thyroids. There are four brands of natural thyroid: Armour, Westhroid, Naturethroid, and Bio-throid thyroid. Most everyone uses the Armour thyroid. However, once in a while, someone cannot tolerate the Armour. Armour has fillers derived from corn

and potato. In the new formulation of Armour (starting in 1996), they also added titanium oxide for coloring. (In one study, 3% of the patients had an immune reaction to titanium dioxide. [19]) Westroid contains corn, so avoid that if you are sensitive to corn. Naturethroid and Bio-throid are hypoallergenic, and only contain the desiccated thyroid and cellulose.

Armour is made by Forest Pharmaceuticals. Westroid and Naturethroid are made by Western Research. Bio-throid is made by Bio-Tech Pharmacal. Bio-Tech Pharmacal ships the Bio-throid thyroid to other countries. At this time, Western Research does not ship outside the US. Forest Pharmaceuticals does not ship Armour to other countries because they do not have the distribution rights outside the US. To purchase Armour outside the US, contact the Broda Barnes Foundation.

If you live outside the European Union, a hypoallergenic natural thyroid can be ordered from International Anti-Aging Systems (IAS) without a perscription. Currently they carry 1/4 and 1 grain capsules. (IAS also carries a homeopathic thyroid supplement called Thyrium. So don't get the two mixed up.)

Forest Pharmaceuticals
13600 Shoreline Drive
St. Louis, Missouri 63045
phone 800-678-1605 extension 7037
fax 314-493-7457

Western Research
12209 North 32nd street
Phoenix, Arizona 85032
phone (623) 879-8535
website www.westernresearchlaboratories.com

Bio-Tech Pharmacal
3481 North Hwy 112
Fayetteville, Arkansas 72703
phone 800 - 345-1199 or 501-443-9148

Fax: 1-501-443-5643.

website www.bio-tech-pharm.com

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phone 203-261-2101

Fax 203-261-3017

Email for Barnes Foundation:

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website www.brodabarnes.org.

International Anti-Aging Systems (IAS)

Channel Islands

Great Britain

telephone: +44 870 151 4144

website www.antiaging-systems.com.

Starting Thyroid Supplements— Precautions

Polly: When starting a thyroid supplement, you and your doctor should be aware of certain possible consequences. This knowledge will help you participate in the presevation of your own health and exercise some common sense. Here is a list of precautions that I've found to date.

- 1) Watch for symptoms of too much thyroid. Symptoms of too much thyroid include heart palpitations and perhaps chest pain, excessive sweating, heat intolerance, or nervousness.
- 2) Most people have no problem starting thyroid supplements. However, a few people will have symptoms of anxiety or palpitations when they first start. You are more likely to have this reaction if you have thyroiditis (antibodies to thyroid), if you are already having problems with anxiety, or if your adrenals are weak. These reactions to thyroid may be due to an increased sensitivity to adrenaline. [20] If you happen to have high

adrenaline, the thyroid supplement should gradually help bring your adrenaline levels back down to normal. With time, you will adjust.

If you have anxiety or palpitations upon starting a small dose of thyroid, you can stop the thyroid and go on some adrenal support for a while, and then try again. Or you can use a lower dose of thyroid and give your body more time to adjust. A quarter grain is usually tolerated, but once in a while, even less must be used to start. Stephan Langer, MD, starts some patients out on as little as 0.025 grain of thyroid in a liquid form. Dr. Langer also suggests that vitamin D may help a person eliminate the palpitations or anxiety symptoms. In his book on hypothyroidism, *Solved the Riddle of Illness*, he suggests that if you are not getting sunlight then you might need as much as 2000-4000 IU of vitamin D. (The RDA is 400 IU.) Another suggestion—Jacob Teitelbaum, MD, suggests that taking 100 mg to 200 mg of vitamin B1 each day may help your body adjust to taking thyroid. [21] Dr. John Lowe suggests that you may have to eliminate narcotics/opiates.

- 3) People with heart disease or who are extremely hypothyroid must start out very slowly with a half grain or less. Less is especially appropriate if you have problems with anxiety or thyroiditis. The heart needs to get use to working harder gradually. You never start on any thyroid hormone within a month after a heart attack. Your doctor may decide to be a bit more conservative on your final maintenance dose too. A doctor had my mom on a half grain of thyroid for a year before he finally increased her dose to a grain. That is more conservative than Broda Barnes, MD would have probably done, but you get the picture. Also, just because you have heart problems, you shouldn't avoid

taking thyroid. Heart irregularities/problems can result from not enough thyroid too.

- 4) T4 and desiccated thyroid take weeks to build up in your body. So you will not find the proper dose by experimenting with a different dose each day. To find the proper dose, you start with a relatively low dose and keep it there for at least two weeks before deciding to increase it. (Eg, start with a half grain or less and keep it there for at least two weeks.) Then you stay at the increased dose for at least another two weeks before you consider increasing the dose again. If at any time you get symptoms of a rapid heartbeat, you back down on the dose. Broda Barnes would usually start a relatively healthy woman out on 1 grain a day for a month before considering increasing the dose. With some of the larger men, he would start them on 2 grains a day. This is where your doctor's experience and guidance are so important. However, your observations and common sense play a very big part in this too. When in doubt, go slow.
- 5) People with very low blood pressure (below 100 systolic) likely have poor adrenal function. It is dangerous to give thyroid when the adrenals are very weak. Thyroid clears cortisol and this could put a strain on weak adrenals. Adrenal support in the form of Cortef or mixed cortisols is often added to the thyroid treatment protocol in this case.
- 6) If you are taking anti-coagulants, you should have your doctor monitor your protime. He may have to reduce your blood thinning medication. Also, check your iodine status, because aspirin and other anti-coagulants can deplete iodine. (Iodine should be measured via a urine test, not blood.) See this article by Ryan Drum, PhD, entitled "Botanicals for

Thyroid Function and Dysfunction.”
www.planetherbs.com/articles/thyroid.html.

- 7) The package insert on your thyroid supplement may mention a possible change in insulin requirement. However, Broda Barnes did an experiment with diabetic patients and found that none of them had to adjust their insulin medication. Of course, he was using Armour thyroid, not just T4. Perhaps there is a difference. Also, Broda Barnes's experiment was in a hospital setting, so the patients weren't changing their exercise levels. If thyroid makes you feel more energetic, you may end up exercising more, needing more fuel for your cells, and thus may need to adjust your insulin.
- 8) By increasing your metabolism, thyroid may also uncover nutritional deficiencies. In particular, when thyroid is given, there is increased need for B vitamins. [22]
- 9) If you are taking prednisone for asthma, you may have to adjust your dose since thyroid clears (removes) cortisol from the blood.
- 10) Don't stop medication prematurely. Some people notice a difference immediately, but most take much longer. A month or even two is often required. That is why an alternative doctor will usually give a three-month trial of thyroid.
- 11) After you have been on the thyroid for a few months, be sure that your doctor checks your blood thyroid levels. You can't rely on your basal temperature or your TSH to tell you when to stop increasing the thyroid dose. Your basal temperature might not rise that much, especially at first. Sometimes the temperature will even initially decrease as a hyperadrenaline/ hypervigilant state disappears and you get better sleep. If your tests show that your TSH has been suppressed by the thyroid supplements, that might be okay, depending on the circumstances. However, you don't want your T4 and T3 levels well out of range. Typical end-point doses are between one and two grains of desiccated thyroid for an adult.
- 12) Don't take your thyroid supplement at the same time as a calcium supplement or with milk. Less thyroid will be absorbed. The thyroid absorption problem also applies to the concurrent ingestion of iron, some cholesterol lowering drugs (cholestyramine, colestipol), or antacids that contain aluminum, or sucralfate (an ulcer drug that contains aluminum). [23]
- 13) Pay attention to when you take your thyroid supplement. Personally, I can't tell any difference between taking the thyroid with or without meals or at any particular time of the day. Yet there are others that find this quite important. Many thyroid specialists advise that T4 thyroid supplements (like Synthroid) be taken alone, first thing in the morning, and that nothing else be ingested for at least 30 to 45 minutes afterward. Some doctors suggest that the non-time release T3 supplements should be taken with meals to spread out the dose. I've also heard a suggestion that you just lick or nibble the regular T3 throughout the day because the time-release T3 isn't reliable.
- 14) If you are switching from T4 to the natural thyroid, do so gradually to give your body a chance to adapt. Eg, start by cutting the T4 dose down by 25% and substituting 25% of the natural thyroid dose. Stay on this mixture for at least a week before changing it to a half-and-half mixture, etc. One grain of the natural thyroid is roughly equivalent in strength to 0.1 mg of pure T4. However, there can be quite a bit of variation between

individuals. One grain of the natural thyroid is usually labeled 60 mg.

- 15) If you are coming off thyroid, do so gradually over a few months to give your body time to adjust.
- 16) Be sure to ask your doctor about any concerns you have with your particular situation. If you are suffering from “brain fog” write key points down on paper to remind yourself what to ask or do.

Where To Find A Doctor

Polly: Ask at your local health food store. They are an excellent referral source for the best doctors in your area. For top doctors recommended by patients, do a search at these sites.

<http://thyroid.about.com/health/thyroid/>

www.thyroid-info.com

This list is not just alternative doctors. Any doctor that is exceptional can be placed on this list. There are doctors listed for many different countries there. Not all of them believe in using a natural thyroid. If you find no one on this list that is suitable, you might try finding a doctor through one of the companies that make the natural thyroid. For US doctors, Western Research will give you the name of a doctor near you who uses their Westroid and Naturethroid products, phone (602) 482-9370. Bio-Tech will also give you the name of a doctor near you who uses their Bio-Tech product. phone 800-345-1199 or 501-443-9148 Unfortunately, Forrest Pharmaceuticals does not have a list of doctors who regularly use Armour.

Some of the best alternative doctors are at the Barnes Foundation. If you have a very unusual situation, you might want to contact them directly. However, they are swamped with work,

and you may wait a very long time for results. Alternatively, you might write a letter to the Broda Barnes Foundation, enclose \$15, and ask for their literature and a list of doctors in your area. Interview the doctors on their list about prices and tests. Prices vary widely. Some want \$75 for the first visit, plus a very nominal amount for testing, and others want as much as \$300 for the first visit and \$500 for testing.

You can also attempt to work with an HMO or more conventional doctor. Unfortunately, HMOs are very reluctant to spend money on tests. In Mary Shomon’s book, *Living Well With Hypothyroidism*, she suggests that you can often get your HMO to test you if you go about it correctly. (See page 83.) If being persistence in your request doesn’t work, get a list of your hypothyroid symptoms, and some articles, and show this to your doctor. If he refuses to test you, then you have him sign a simple letter stating that even though he has reviewed your list of hypothyroid symptoms, it is his opinion that you do not need to be tested. Have him put the letter and the list in his chart. Get a signed copy for yourself. Then you can use the letter to petition the HMO for referral to a different doctor or for testing.

I suggest that you keep a copy of your test results. You don’t want to pay for these tests again if you decide to see any other doctor. Ask the receptionist for a copy. You don’t have to bother the doctor directly if you feel uncomfortable about it. In some establishments, records are **very easily lost**; so get a copy of the test results immediately. If you have the money, you might avoid the hassles, and go directly to an alternative doctor. Most (not all) alternative MDs will help you. In certain states, even a naturopath can prescribe thyroid.

If your doctor is unwilling to test you for thyroid function, and you are willing to spend anywhere from thirty to two hundred dollars

(depending on the number of tests ordered), you can order the tests yourself. (See the section on ordering hormone tests in the chapter on Progesterone And Estrogen.)

Books And Websites

Polly: The classic book on the alternative treatment of hypothyroidism is *Hypothyroidism: The Unsuspected Illness*, by Broda Barnes, MD. It is very straight forward, very easy to understand and entertaining. A good place to learn about the treatment protocol is the tape “If You Want to Be Confused, Run a Blood Test for Thyroid Function” by Broda Barnes, and available from the Barnes Foundation. It is also very entertaining and easy to understand.

I love this book by Mary J. Shomon, *Living Well with Hypothyroidism*. She covers the subject of hypothyroidism from several different doctors’ perspectives. She also gives you the patient’s perspective. Her book is informative, entertaining, and it gives great insight into the situation. Mary J Shomon also hosts www.thyroid.about.com, which is one of the best websites on thyroid problems. (My other favorite website on thyroid is www.ithyroid.com)

There is another informative book, *The Thyroid Solution*, by Ridha Arem, MD. The author is very orientated to blood testing, and has a conventional viewpoint. The book will take you through some of the physical changes that happen when you are hypothyroid. He explains T3/T4 balancing, and the importance of sometimes using T3. He also explains why the TSH, T4, and T3 blood tests are not always adequate.

Since Dr. Ridha Arem’s book is written from a conventional viewpoint, you *might* be able to use it to convince a conventional doctor that further testing is needed, or that an addition of T3 to the usual T4 regimen could be helpful. Since

the explanation is coming from a conventional doctor, other conventional doctors might be more inclined to listen. Yet don’t get your hopes up. Doctors need both information and time to adjust their thinking. One book is usually not enough to get them to think differently.

Dr. Raymond Peat’s books are always full of the most wonderful information about the effects of nutrition on hormones. They are written in layperson’s terminology. Sometimes they can be a bit of a challenge, but they are well worth the effort. His book *Nutrition for Women* is still available if you write to him and send in the appropriate amount of money. Presently, it is only \$10 plus \$2.50 shipping.

Raymond Peat’s latest book is perhaps the easiest to read. It is *From PMS to Menopause* for \$12 plus \$2.50 shipping. Even though this latest book is relatively easy to read, I suggest that you start with one of the more introductory books on hormones by John Lee, MD. Afterwards, you may enjoy learning some more about hormones from this book by Raymond Peat.

Raymond Peat, PhD, also has a book called *Progesterone in Orthomolecular Medicine* currently for \$6.00 plus \$2.50 shipping. This one gives you information on your adrenals, pregnenolone and thyroid too.

His monthly newsletter is fascinating to me. It is usually fairly technical, yet it is well enough written that us lay people can catch on to a fair amount. His newsletter is currently \$24 for 12 issues.

If you would like to order any of his books or subscribe to his newsletter, include your check or money order, your name, address, phone, and if available, your email address with your order. This is his website and address www.efn.org/~raypeat/index.html.

Raymond Peat, PhD
P.O. Box 5764
Eugene, OR 97405

There are several thyroid lists on
www.yahooogroups.com

Thyroid Top Doctors is at
www.thyroid-info.com/topdrs

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Adrenals

Polly: The adrenals are small glands located on the top of the kidneys. The center of the gland creates adrenaline and noradrenaline. The outer portion of the gland produces many different hormones. The most well-known are pregnenolone, DHEA, progesterone, aldosterone, and all the cortisols. The hormones of the adrenals help you regulate your sugar, salt, electrolytes and blood pressure. Supplements of any of these hormones may be necessary to support the adrenals. However, usually the first hormone that comes to mind for adrenal support is cortisol. Sometimes licorice is employed because it has cortisol like substances.

A classic symptom of adrenal exhaustion is low blood pressure. However, everyone with poor adrenal function does not display this symptom. Fatigue is quite common, but not always apparent. Since progesterone and cortisol facilitate the conversion of T4 into T3, a lack of either of these hormones may manifest itself as a problem with this conversion. Some other possible symptoms of adrenal exhaustion are

dizziness, lightheadedness, thirst, craving for salt, sugar or both, joint or muscle pain, headaches, vision disturbances, cold hands and feet, cold and/or heat intolerance, red palms and fingertips, panic and anxiety, intolerance to heat and humidity, sinusitis, frequent colds, flu, infections, sore throats, allergies, asthma, skin

problems, digestive disturbances, and emotional problems (mood swings, weeping, fears, phobias ...). [1]

The possible symptoms of adrenal exhaustion are very similar to that of hypothyroidism. However, certain symptoms and physical characteristics are more prevalent in one than the other. Eg, the cheeks are more likely to be puffy in hypothyroidism, but sunken or dark in hypoadrenalism. Here is an article by Dr. Rind that helps differentiate between these two conditions. <http://drind.com/symptoms.asp>.

Stress And The Adrenals

Polly: When the body is under stress, either physical or emotional, the adrenals will try to produce more cortisol or adrenaline. Cortisol can bring the blood sugar levels up by increasing the burning of protein. Adrenaline causes fatty acids to be drawn into the blood to help increase the burning of fat. If the stress goes on too long, eventually the adrenals become exhausted. Exhausted adrenals produce very little cortisols. When the adrenals are exhausted, the body down-regulates the thyroid (lowers thyroid production). This spares the remaining cortisol. Exhausted adrenals cause fatigue. The way out of this mess is to remove the stresses and to supply the nutrients needed to restore function.

Mrs. Generic: When I'm stressed-out, I can't sleep well and I can't tolerate very many carbohydrates in my diet. I think this could be caused by my cortisol levels shooting up too high when I'm under stress.

Avandish: Cortisol levels don't just get stuck on high output for no reason. It is a response to other metabolic abnormalities like chronic infection, prolonged malabsorption / digestion, radiation exposure, surgical removal of vital organs such as the thyroid, ovaries, etc. Cortisol elevates chronically to catabolize body proteins as an energy source. High cortisol on a chronic basis is usually caused by a low blood sugar issue. Normally, with good digestion, your body can maintain blood sugar levels necessary for proper brain function. Thyroid hormones are also involved in this process. However, when the thyroid is malfunctioning or you have chronic malnutrition from digestion problems, increased cortisol is a life saving reaction needed to maintain blood sugar levels. Cortisol increases the catabolism (burning or conversion into fuel) of your muscle proteins to form adequate sugar levels at a controlled rate.

When cortisol production and reserves are depleted, the body produces excess adrenaline to promote the same catabolism of body tissues. Adrenaline, though, will make you hyper. Thyroid levels, especially T3, should be checked in this case. If low, a natural thyroid with T3 and T4 should be gradually introduced as tolerated. Too much, too quick will make you hyper and cause heart arrhythmia and palpitations. If this occurs, stop until resolved and start at a lower dose.

Each organ requires specific nutrients to produce its typical byproducts of metabolism. When anything is short, the organ can't meet demand for its products. This includes your hormone production. If you continue on the same

path, eventually your production of cortisol will fall also. If it falls because of a lack of nutrients, this is bad. If it falls because nutrients are restored and cortisol is no longer needed in the same high quantities, this is good.

Polly: Stress, whether it is from infection, nutritional or emotional problems, will increase the demand placed on the adrenals. There are a couple of ways to reduce this reaction, but these suggestions won't make much sense unless I first explain why they are important. Stress may increase the demand placed on the adrenals via a very curious mechanism, as follows. Stress mobilizes free fatty acids and increases their presence in the blood. If these free fatty acids are unsaturated, they will increase free serotonin. [2] (Free serotonin means serotonin is outside of cells.) Free serotonin increases Corticotropin Releasing Hormone (CRH) and this interferes with sleep and increases ACTH. [3] ACTH signals to the adrenals to work harder.

Here are a few suggestions on how to reduce this reaction. When you are a bit better, add fruit, or even cooked fruit to the diet. This will reduce the amount of free fatty acids released into the blood. Reduce the percentage of polyunsaturated oils in the diet. Another way to lower this demand is to get rid of the dysbiosis. (Eg, lipopolysaccharides from the shell of gram-negative intestinal bacteria increase the tendency for platelets to aggregate and release their serotonin. The hypoglycemia caused by the dysbiosis will cause the release of free fatty acids.)

I know it isn't much help to say "get rid of the dysbiosis." You already know that. However, it may give you hope that this problem will disappear once you get the dysbiosis under control. Also, work on getting rid of the allergies because this will reduce the amount of serotonin released by platelets and mast cells. Magnesium

might help because it stabilizes platelets and mast cells, so less serotonin is likely to be released. Taurine reduces platelet aggregation and so may help too. If you can tolerate it, add some gelatin or soup broth to your diet. The glycine in it counters many of the effects of free serotonin. Don't take 5-HTP unless absolutely necessary because it may raise serotonin levels too high. Or if you do take it, don't take it for an extended period of time. The 5-HTP will increase the formation of serotonin and probably lead to additional free serotonin in the blood. The foregoing was merely some suggestions on how to reduce the effects of stress on the body.

To repair the capability of the adrenals, the classic recommendation is to take dried adrenal glandulars, B vitamins (especially niacin), lots of pantethenic acid and vitamin C. [4] However, pantethenic acid will inhibit taurine metabolism. [5] So, a few people might have a problem with very large doses of pantethenic acid if their taurine levels are low. Pantethenic acid competes with biotin and alpha lipoic acid. So these should not be forgotten if a lot of pantethenic acid is supplemented. Here is a little more information about some substances that support various functions of the adrenals. Not all of them may be appropriate for everyone.

1) Taurine: The amino acid taurine is particularly abundant in the adrenals. Those of us with yeast overgrowth are more likely than the general population to be low on taurine. [6] Taurine will inhibit the release of adrenaline. [7] Thus it might help with some anxiety reactions or certain blood pressure problems.

2) Tyramine, Or Tyrosine to increase adrenaline: Adrenaline can be produced via two different pathways. If you have a fatty liver or a genetic condition where certain enzymes are low, you might have trouble creating an adequate amount of adrenaline from phenylalanine and/or

tyrosine. In this case, tyramine may be better suited for you. [8] Tyramine is in many foods. However, the only place I know to purchase unbound tyramine is from DEWS, website www.DEWSnatural.com or phone (940) 243-2178. They call their tyramine product TAT. They also have a product called BHB that contains both the tyramine and beta hydroxy butyric. (Another name for beta hydroxy butyric is threonine. Threonine is an amino acid.) The beta hydroxy butyric helps to remove fat from the liver. If you work on removing the fat from the liver, you may improve the liver enzymes and eventually, you might eliminate the need for the tyramine product.

There are a few precautions. Just because a little is good, it doesn't mean a lot is better.

- A. Tyramine is an inhibitor of pyridoxal kinase, which decreases the active form of vitamin B6 in the body.
- B. Tyramine may increase blood pressure. It does this by releasing neuronal norepinephrine.
- C. In some people, tyramine will trigger a migraine.
- D. Tyramine should be used with caution if you have a heart condition, have low copper or are on MAO inhibitor drugs. Tyramine is broken down by MAO. So is thyroid hormones. Therefore, you could end up with both hypertension and hyperthyroidism if you were taking MAO inhibitors and tyramine at the same time. If you are very low on copper, the same problem could occur with taking tyramine because MAO is dependent on a copper enzyme. So if you have an unusual reaction to the tyramine, check to see if you have low copper. This article explains what is happening,

www.ithyroid.com/tyramines.htm.

3) Salt and sugar: Enough salt in the diet is very important when the adrenals are weak. According to Raymond Peat, PhD,

“...animal experiments have demonstrated that with adequate sodium and sugar, animals can function normally without their adrenals.”

He also states that magnesium and potassium can be helpful when the adrenals are under stress.

4) Progesterone: Adequate progesterone is very important to the health of your adrenals. Progesterone regulates your body's level of sodium and glucose (a sugar)—perhaps that is why animals given enough natural progesterone can live without their adrenals. (Thyroid, pantothenic acid, vitamin A, E, and C support the production of progesterone. [9])

5) SeriPhos Or Phospholipids: If the problem is poor regulation of the adrenals by the brain, you might consider a product called SeriPhos, by T.E. Neesby. (phone (800) 633-7294 or (559) 433-3110) SeriPhos is also available from N.E.E.D.S., www.needs.com, or (800) 634-1380. The product contains phospholipids, which are normal constituents of the brain. (Phosphatidylserine and phosphatidylcholine are phospholipids.)

7) Hypothalamus raw tissue concentrate: This may also be of some help with the regulation of the adrenals by the brain. There are many places to purchase it. Ask at your local health food store, or here is a place that carries the Atrium brand, phone (310) 395-1131 and website, www.smhomeopathic.com/inventory.html Some of the other brands contain added ingredients.

Adrenal Exhaustion And Hormone Supplements

Sarah H: This is a long post but please bear with it if you know anything about the adrenals / thyroid and candida link, as I am desperate for

advice. I'm so confused. I have just searched the forum archives under cortisol and ACTH and I can't make head nor tail of all the advice on the above.

I have Hashimotos (auto immune thyroiditis ie hypothyroidism) and have been on the synthetic form of thyroid hormones (thyroxine here in the United Kingdom—Synthroid to you) for three years now. It never really did much for me but I supplement it now with a small amount of T3, which seems to help with my environmental allergies but not food allergies. For me it was the thyroid disease that marked the definitive start of all my problems. After that came the allergies and eventually the stomach troubles.

About a year ago, I saw a doctor who talked about adrenal exhaustion and small doses of steroids, but I fiddled about with a few things and never did it properly. He never ran any tests to substantiate what he said either. I then discovered I had candida, went on the diet and dismissed all other advice as the diet helped. However, I can't take anti-fungals, I can't get anywhere with treating the candida, and I still need T3 supplementation, as things aren't working well in the thyroid camp.

Twice I have been told that checking my cortisol levels would be beneficial, but my regular doctor has dismissed this saying it's not straightforward and therefore 'difficult' to arrange. I don't think she sees any point in it! Recently, however, I have been told I have low blood pressure and things seem to be clicking into place for me.....this diagnosis of Chronic Fatigue Syndrome (CFS) could be completely misplaced. If I have problems with my adrenals, then surely this could be causing a lot of my problems and preventing me from getting rid of my candida too?

I have just read that you have to treat adrenal exhaustion (with cortisol) BEFORE putting

someone on T4. The doctor that I mentioned (that tried to put me on steroids without any tests) took me off T4 and played around with natural thyroid at the same time. I ended up in a really bad way and blacked out on my way to work and suffered really really bad irregular heartbeats for weeks before I settled back onto T4 again. Has anyone out there been treated whilst taking thyroid supplementation already? Seems like the medical profession has made a bit of a mess of me!

Shelley: Sarah! What a big mess for you! I read your post much earlier when I couldn't sleep and have been thinking of you ever since... I have chronic systemic yeast, hypothyroidism and now Chronic Fatigue Syndrome (CFS). When I first read your post, I thought to tell you to visit this site: www.chronicfatigue.org. That is the site of a medical facility that believes that CFS is largely due to adrenal "exhaustion." These (MD's) were trying to treat Candida when Candida was a figment of the imagination for most others in the medical field. The clinic is in Eastern Pennsylvania in the US.

I also want to tell you that I was on cortisol (Cortef, as in the Jefferies research—right under the mark that is supposed to make your adrenals shut down—about 25 mg) and I was also on thyroid medication (Armour—a mixture of T3 and T4). I did it like a good soldier for 4 months, and it was a horrible experience. I have never been so revved up and exhausted at the same time. I was like on a roller coaster of up and down energy levels.

I have been mediating for 25 years, every day twice a day without fail. I could hardly settle my brain to meditate and that was a first for me. I am still on the thyroid medication, but a different doctor took me off the Cortef. I didn't know what exactly she was talking about (chemically) but she said my brain was way too over-stimulated (no kidding). She also told me the combination is

used for treating MS patients as kind of a last resort—only in that it is pretty hard to be in the state I described above.

There may be others that know much more about all this on this forum—I'm hoping there are. And of course the doctor was speaking from her own point of view about me, specifically. I just thought I'd add what I could.

You need a good doctor (of course you know that) and I am thinking about you. I wish I could suggest more, but I am in the throes of all of this too, but coming from a different place. I would like to hear how you are doing. Stay calm and one thing at a time. I'm thinking of you.

Sarah H: Shelley, thanks for your message. That sort of information is so helpful to me. As I am sure you know, this is all so confusing. If I find out once and for all what the underlying problem is here, then I would use all my savings to see the best possible doctor, even if that means flying to the States. But, as you say, one thing at a time.

Do you find your doctor helpful in your battle with all of this? Your steroid experience sounds frightening! I suppose that what I would really like is to find a clinic where they are extra extra knowledgeable about EVERYTHING to do with Chronic Fatigue Syndrome and candida and thyroid hormones and adrenals. Every time I see a doctor they look at just the one thing and then when I have problems they give up on me. I guess I am living in a dream world! Anyway, thanks for your help. If I find out any information I'll mail back. Nice to hear you're battling on.

Polly, you sound really knowledgeable about hormones like progesterone and the other one beginning with 'p'. Do you have any comments? Thanks.

Polly: Sarah, perhaps the best way to know what is happening is to get a 24 hour urine test from the Broda Barnes foundation. This will test more

than just DHEA, thyroid, and cortisol. And it will give you an idea of what is being used by your body. Unfortunately, it usually takes many months to get a result back from them. Another option is to have your doctor do saliva tests on the main hormones. These saliva tests don't cover as many of the hormones as the Barnes test, but they have the advantage of only taking a week or two to get your results back. (See the section on ordering hormone tests in the chapter on Progesterone And Estrogen. If you are willing to pay for the tests yourself, you don't need a doctor's okay to get tested for hormones.)

If your body doesn't have enough cortisol, then your pituitary will (usually) produce more ACTH as a signal to the adrenals to make more hormones. Sometimes the pituitary can't make enough ACTH and so your adrenal output suffers. At other times, the adrenals are getting plenty of ACTH, but the adrenals are just too exhausted to produce the hormones. In either case, you may need to supplement with some of these hormones. When there are weak adrenals, usually the first thing doctors want to try is cortisol. However, before trying cortisol, you might first consider trying natural progesterone. This is not to say that cortisol supplementation is to be shunned. Cortisol supplementation may be exactly what is needed. However, I suggest trying the natural progesterone first because it is a more general support for the adrenals. Plus you don't have to take progesterone as many times per day as you do the cortisol. (The cortisol should be supplemented four times per day. Progesterone is usually supplemented only once or twice per day.) Many of the benefits that Dr. Jefferies attributes to small physiological doses of cortisol are exactly the same ones attributed to natural progesterone. This is not totally surprising. Often functions of the hormones overlap. Raymond Peat, PhD made a very

interesting statement concerning the adrenals and progesterone. He wrote,

"Hans Selye demonstrated that progesterone supplements keep animals healthy for their entire life after their adrenals have been removed."

On the next page there is a simplified diagram of the relationship between the hormones. (John Lee's book on menopause has a more complete diagram in his appendix.) Pregnenolone is at the top of the diagram and progesterone is near it. They are closely related chemically. The other hormones are more distantly related, and are placed further down on the diagram. According to Raymond Peat, supplements near the top of the stream, like progesterone and pregnenolone, are generally safer than taking supplements that are further downstream like DHEA, testosterone, estrogen or cortisol. Read Dr. Raymond Peat's paper at his website under hormones entitled "Three Youth Related Hormones", which refers to pregnenolone, progesterone, and DHEA. See www.efn.org/~raypeat/index.html.

The arrows in the diagram represent how the body will normally convert one hormone into another. Any one of these conversions may not be proceeding at the correct rate. If a conversion is blocked, the logical approach is to supplement the hormone that is right after the blockage. However, the body is such a complex machine that this strategy probably isn't perfect. It is just something to try.

What do you do if a conversion is proceeding too quickly? For instance, if one is under a lot of stress, the adrenals may be producing a lot of cortisol. (This will eventually exhaust the adrenals.) One might guess that the solution is to limit progesterone, because cortisol is made from progesterone. It doesn't work that way. In fact, you may be able to reduce the fast conversion and excess cortisol by supplying more progesterone. (Confusing, right?) The reason is

that progesterone can reduce stress, and stress can be the reason for the fast conversion. Pregnenolone, DHEA, progesterone, thyroid, sunlight, vitamin A, protein, and other nutrients can alleviate stress and improve hormone balance. Thus, using some of these precursor hormones may actually slow down a later

conversion that is proceeding too quickly. Pregnenolone, and progesterone also tend to dilute the adverse effects of too much of the other adrenal hormones. (A much more comprehensive explanation is in Raymond Peat's chapter on arthritis in his book *From PMS to Menopause*.)

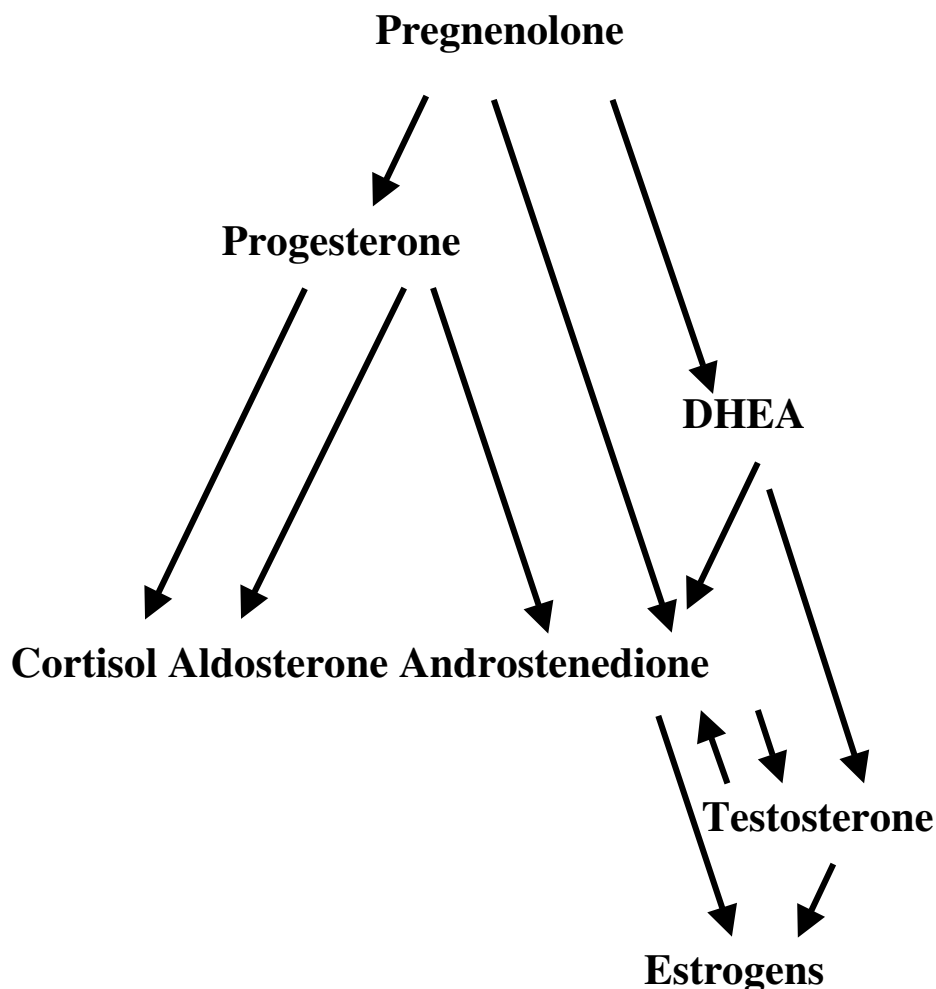


Figure 1. Hormone Cascade

If I were you, I'd concentrate on reducing stress, and improving your liver's ability to get rid of estrogen and other toxins. If you experiment with hormone supplementation on your own, start with the hormones at the top of the stream, which are pregnenolone and progesterone. It is much safer.

DHEA would be next in line to try, and perhaps would be particularly appropriate for men since it converts into testosterone. However, some men are using the 7-Keto DHEA because they think it is safer. 7-Keto DHEA usually doesn't increase estrogen and testosterone in men. (Yet, it will usually

increase estrogen and testosterone in women.) Less estrogen means less chance of prostate problems in men. DHEA and 7-Keto DHEA have some blood thinning properties, so one must be careful if using prescription anti-coagulants with it.

Men can also try a little of the progesterone. However, it may inhibit sperm maturation. According to Raymond Peat, PhD, there are times when men, especially older men, can take a little natural progesterone and benefit from it. Dr. John Lee suggests that the natural progesterone, combined with a program of eliminating outside estrogen sources, might be beneficial for the treatment of prostate cancer.

Sarah H: Polly, thanks so much for replying. I am in a right quandary at the moment. However, I don't fancy fiddling around with my hormones without expert guidance so I'm going to find a good doctor for that. What are your experiences on these hormones if you don't mind me asking? Have you tried DHEA or progesterone?

Polly: Progesterone helped me keep my health when going through menopause. Without it, I would have lost a lot of ground. If instead, I had succumbed to the estrogen hype, I don't think I would be here today.

My measured DHEA levels were normal. However, out of curiosity, I did try one 25mg pill of regular DHEA (not time-release). It wasn't right. I had lots of wonderful energy at first, but four hours later I was very tired. Perhaps it has to do with a cortisol release that happens when you take the non-time-release DHEA, and/or perhaps it had something to do with my low sulfur levels at that time. Low sulfates can cause an exaggerated response to DHEA. Raymond Peat talks about using only 4 mg of DHEA for most people over 50 years old. Maybe I just tried way too much DHEA. I find pregnenolone very mild and helpful.

Salt, Low Blood Pressure, And Cortisols

Polly: Weak adrenals can allow your blood pressure to drop too low. In this situation, Cortef (hydrocortisone) or Florinef (fludrocortisone) is sometimes prescribed to bring your blood pressure back up. However, before starting these, you should first increase salt and water intake. This may be all that is necessary. Besides, these drugs won't help you retain salt if there is not enough salt available to retain. Cortisols, progesterone and thyroid help you regulate and retain salt. Both Cortef and Florinef help you retain salt and can be used to increase low blood pressure. (Florinef will help you retain salt better than the Cortef. Yet Florinef's anti-inflammatory effects aren't as good as Cortef's.) If you take Florinef, potassium should be supplemented and monitored. In fact, if you use either of these drugs you might need a little more potassium and magnesium.

Licorice contains cortisol-like substances. You might want to try it instead of the prescription drugs. Licorice also has the property of slowing down the clearance of cortisols. Using licorice in the morning makes the most use of licorice's ability to spread out the available cortisol, since in the morning, the amount of cortisol is usually at its peak. Since cortisol levels are lower during the rest of the day, you don't have this same advantage later. Hence, some people suggest taking licorice only in the morning. Eating a lot of licorice all day long isn't a particularly good idea because licorice has estrogenic properties. Licorice will also speed up Phase I detoxification in the liver, which you may or may not want to do. [10] If you buy licorice candy, it must have the licorice herb in it, anise, instead of the artificial flavoring.

Instead of the prescription drugs, you can purchase mixed cortisol products like Drenamin. Any health professional, including your chiropractor, can purchase Drenamin or BioMax Adrenal Cortex

Extract. Standard Process makes the Drenamin, phone 262-495-2122 or 800-848-5061. BioMax Formulations makes the other product. It is not a prescription item, because the Dietary Supplement Health and Education Act of 1994 allows for low dose hormones to be sold and marketed as dietary supplements. Yet the manufactures only distribute through health practitioners (including chiropractors) because they want to make sure the product is used properly. You can also purchase these adrenal cortex extracts from various companies who have health professionals on staff to answer basic questions. See

www.thewayup.com/products/0076.htm

phone (800) 289-8487 or (760) 322-7797,

<http://healthchoice.net/supplements/ace.html>

phone (800) 908-0000 Ext. 409

www.gaines.com/store/BioMax/BioMax.html

phone (888) 248-7159 or (619) 229-2121

Unless you are rich, the price (approximately \$36 for 15 ml) should keep you from abusing the product. Remember, you need to take the recommended amount approximately every 4 hours during the day. Eg, take upon arising, at noon, at 4 PM and 8 PM. Don't take the day's dose all at once. Don't take much more than suggested. If there are any unusual reactions to this (or any substance for that matter), discontinue its use, and contact your doctor. Although we trust our manufacturers to give us quality products, once in a while, there are contaminants. In 1996, there was a contaminated batch of *injectable* adrenal cortex extract made by Hallmark Labs, which produced sores at the sites of injection. (See article at www.cdc.gov/ncidod/eid/vol5no5/galil.htm)

For More Information

Polly: There is a fairly recent book called *Adrenal fatigue: the 21st Century Stress Syndrome*, by James Wilson, ND, PhD. There is a lot of good information

in it, and it is easy to read. There is also conventional medical site that has particularly good articles on hormones. You might want to take a look at the patient information on adrenals at this site, www.uptodate.com. It may help you understand what your doctor is saying. Of course, Raymond Peat's book, *From PMS to Menopause*, is a very good choice too.

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Progesterone And Estrogen

Polly: If you are a woman and you have a significant intestinal yeast problem, then there is a fairly high probability that you have too much estrogen compared to progesterone. Generally, low thyroid hormone, low progesterone, and high estrogen are associated with yeast overgrowth.

It isn't that hard to understand the basics. However, if this is the first time you have heard about these hormones, you may have to do some additional reading to feel comfortable with the subject. Usually, you will want to stop using birth control pills and hormone-replacement-therapy (HRT) because the hormones in these treatments increase yeast growth. If you have PMS during the last two weeks of your cycle, or other estrogen dominance symptoms, then check for a thyroid problem, and consider trying a little natural progesterone and/or pregnenolone.

Premenstrual Syndrome (PMS)

Taylor: Got this in my email today...

10 WAYS TO KNOW IF YOU HAVE PMS

1. Everyone around you has an attitude problem.

2. You're adding chocolate chips to your cheese omelet
3. The dryer has shrunk every last pair of your jeans.
4. Your husband is suddenly agreeing to everything you say.
5. You're using your cellular phone to dial up every bumper sticker that says, "How's my driving call 1-800-***-****."
6. Everyone's head looks like an invitation to batting practice.
7. You're convinced there's a God and he's male.
8. You're counting down the days until menopause.
9. You're sure that everyone is scheming to drive you crazy.
10. The ibuprofen bottle is empty and you bought it yesterday.

Sue BC: For the first time in my whole adult life I have had no PMS. I have been on a strict diet and antifungals for almost a month. I have had severe PMS and never knew a month without sore breasts, severe cramps, Naproxin and a hot

water bottle. Not to mention the emotional outbursts, bingeing on chocolate and potato chips and threatening to leave my poor unsuspecting mate for some unfounded reason. This month...Nothing! I've been active and cheerful and loving. No cravings. No pain. No headaches. I have this forum to thank. While treating my candida I accidentally cured my PMS. My husband is now the greatest supporter of my diet regime. He has had to live with my rages and crying jags once a month for several years and even he says I'm never cranky any more. GOD BLESS ALL OF YOU who have added your words of wisdom to this forum.

Dong Quai—Took this Phytoestrogen for PMS

Franca: Hi all! This forum is great! Thanks to the information here, I managed to get a 3 month Diflucan treatment from my gynecologist 4 months ago. The only problem is, that I don't think it's got rid of the problem for good. (In culture tests, only normal flora was found, but I do live in the tropics, and suspect that I may have had Gardnerella).

By chance, as the symptoms were returning (external vaginal itch, discharge, bleeding gums, crusty eyes, waxy ears, etc), I decided to take some Dong Quai for PMS. ALL of the symptoms went away that same day!! This was about 3 weeks ago, and I have been taking between 600 and 1300 mg/day, with no return of the symptoms.

What was especially weird is this: The Diflucan seemed to beat back the yeast, but for the first time since getting the infection (2 years ago!), it feels like the Dong Quai is killing it at its roots. I don't know much about Dong Quai at all, except that it's supposed to have a positive effect on PMS (which it does—better than Evening Primrose oil, in my opinion).

Can anyone tell me more about how it works? Whether it has any side-effects if taken long-term? Combined with other food/medication? I'm very curious! All I know so far, is that it has an effect on hormones. Can anyone tell me more?

Marilyn in Seattle: In the days before the doctor put me on progesterone cream, which regulates my cycle to a normal 28 day cycle, I gave up dairy products and switched to soy milk. When I did this I found that soy products added 3-4 days to my 18 days, so that it was lengthening the time between menses. I assume from this experience that the soy was having beneficial effects, either on progesterone levels or mopping up excess estrogen. Earl Mindell in his book on soybeans says that soy acts like an adaptogen—that it regulates estrogen either way needed in the body. I don't know if this is true, but his book is very interesting.

Polly: You have to be careful about the amount of phytoestrogens in your diet and supplements. In the May 15, 1999 issue of Science News, there is an article on soy and cancer. One of the phytoestrogens in soy, genistein, inhibits the formation of a certain precancerous change in cells if it is in low concentrations, but at higher concentrations this phytoestrogen fosters this same precancerous change. (The saponins in soy turned out to be much more cancer protective than the phytoestrogens.)

In a journal published by the National Institute of Health, there was another example of how important the dose can be. If given in low doses, certain phytoestrogens will inhibit the conversion of testosterone to estrogen, and thus can reduce the amount of estrogen in the body. However, at higher doses, the inhibitory effect disappears and the extra phytoestrogens only add to the estrogenic effects in the body. [1]

Dr. John Lee thinks it is okay to use phytoestrogens to help with hot flashes if you have enough progesterone to balance them. John Lee might be right, but you have to be very judicious in how much and for what reason you ingest them. At the 29th Cancer Control Society's annual convention, Vicki Hufnagel, MD, said that some women are getting themselves into trouble by using a lot of phytoestrogens that are not balanced by enough progesterone. She knew of 10 women with uterine cancer who had been taking large doses of phytoestrogens to get rid of their hot flashes. I'd first try to find other ways to deal with a health problem before resorting to something that contained phytoestrogens.

Raymond Peat, PhD, also warns us that phytoestrogens can be dangerous. In the March 1999 issue of Raymond Peat's newsletter, he wrote about estrogen receptors and the current concept being fed to the public that they could be saturated with weak protective estrogens. Basically, he said that thinking only in terms of receptors would lead you to false conclusions. Estrogens have a lot of actions that can't be explained just by their attaching to receptor sites. Here is a list of some things estrogen can do that has nothing to do with the receptors:

- 1) changes the activity of existing enzymes,
- 2) immediately increases the cell's affinity for water,
- 3) modify ionic balances,
- 4) act on the mitochondria,
- 5) cause mutations,
- 6) produce massive amounts of free radicals,
- 7) accelerate cellular aging,
- 8) cause an unsaturable dose-related increase in active electrons,
- 9) cause inflammation,
- 10) epileptic seizures,

- 11) birth defects,
- 12) activate the stress/shock proteins,
- 13) disrupt microtubules,
- 14) disorganize the mitotic apparatus in a dose related manner, up to the point that it produces genomic instability
- 15) three-cornered cell division,
- 16) loss of gain of chromosomes,
- 17) multipolar cell divisions, and
- 18) cellular disintegration.

Julia Chang, MSc, also feels that we should not be using phytoestrogens on a regular basis. According to her, an herb containing phytoestrogens may make you feel better at first, but if you take it for more than a little while, it is going to make you sicker. Here is a quote taken from her website (with permission).

"There seems to be a common misconception in the natural health community that women with high estrogen levels should take phytoestrogen (plant estrogen) because phytoestrogens are "protective estrogens" which reduce estrogenic activity. It is believed that phytoestrogens compete with endogenous estrogens for estrogen receptors. When the estrogen receptors are occupied by phytoestrogens, cell divisions are reduced because phytoestrogens are "weak estrogens". This theory made sense to me until my own experience showed otherwise. With my endometriosis, my pain level was a measurement for my condition. When I tried Don Quai, Licorice, Ginseng and Royal Jelly, I did feel better initially for a few weeks because they helped my blood circulation. As I continued to take these remedies, my pain would come back with a vengeance, more severe than before. I realized that weak estrogens could add up significantly if given enough time. I believe that many women are misled by initial feelings of

wellness without realizing that longer periods of usage actually makes the problem worse. Many other endometriosis sufferers that I know also have had similar experiences with phytoestrogen.

Interestingly, one of the three common estrogens, Estriol, has similar properties. Being a less potent cell stimulant, Estriol was once classified as an estrogen antagonist. In the book "Estrogens in the Environment," it was mentioned "because it failed to induce breast tumors in susceptible rodent strains and appeared to block such induction by Estradiol and Estrone, it was considered to be a safe estrogen." However, later studies showed that Estriol was safe only if it was administered as a single injection. A continuous administration of Estriol showed the same responses from that induced by Estradiol, which is the most potent estrogen. Continuous administration of Estriol was also shown to induce breast tumors in rodents. [2]

Generally I have found that estrogen contents in foods are less than in herbs. My suggestion for women with hormone imbalance is to avoid estrogen-containing herbs such as Don Quai, Licorice, Ginseng, Royal Jelly, fennel, hops, anise, clover, flax seed oil and evening primrose oil even though they may make you feel better initially. Estrogen-containing foods such as alfalfa, chickpea, carrot (or beta-carotene) can be taken occasionally but not on a regular basis.

Pesticides sprayed on fruits or vegetables are another source of estrogen (xenoestrogens). Soaking them in a water-vinegar mixture for 20 to 30 minutes followed by rinsing in clean water can remove much of the pesticides if organically-grown vegetables or fruits are unavailable."

Julia Chang, MSc, sells Chinese herbs to treat the liver and gallbladder. This is her website: www.sensiblehealth.com/prime.html You can

contact her company by phone at 416-248-2930, fax: 416-233-5347, or by mail at

Prime Health Products
15 Belfield Road, Unit C
Toronto, Ontario, Canada M9W 1E8

Estrogen and Yeast

Pamela: I want to express my gratitude for this group. I have learned so much and you are wonderful support. I have been reading most of the posts, but remain confused about the connection between candida and estrogen. How exactly does it increase estrogen? Thanks

Polly: Quite simply, yeast make estradiol, a strong estrogen.

Susan in Olympia: I had a violent reaction to birth control pills. They kicked off the candida-festival that is now going on its fifth year. I just quit work to take a medical leave for Chronic Fatigue Syndrome... so maybe one of these days I'll recover from the damage that was started in 1994 by those little pills that doctors claim are safe. I used about 3 different pills with varying recipes of hormones... over about 7 weeks time... with devastating results. I cringe whenever anyone mentions using birth control pill for anything at all. (I was prescribed them for endometriosis.)

Polly: Everyone needs to be careful about supplementing any estrogens. It increases yeast growth. Too much estrogen also suppresses our liver's ability to get rid of toxins. Estrogen also reduces the number of secretory antigens that can reach the yeast and help our body kill the yeast. [3] For most of us, I feel that more estrogen isn't the correct treatment. We get plenty of estrogen in the meat we eat and from the estrogen

produced in our fat. Adding more only fuels the yeast growth.

However, there are always exceptions to the rule. There are a few instances where a tiny bit of additional estrogen has been helpful, especially if the woman is very thin. Sometimes a little more is needed for about five days near ovulation if the body's rate of production starts too slow. There is a condition dubbed "reverse PMS" where the symptoms of PMS occur during the first two weeks of the cycle. Often giving a little estrogen during this time helps relieve the symptoms. [4] However, if the PMS occurs during the last two weeks, there is usually too much estrogen compared to progesterone. Then you may want to add some natural progesterone and/or work on helping your body get rid of the estrogen.

I've heard of several ways to help the body to get rid of estrogen. The liver dumps some of the unwanted estrogen into the intestines. A little roughage in your diet will help move the estrogen out of the bowel before the estrogen has a chance to be reabsorbed. Raymond Peat suggests eating a carrot per day to provide the roughage. Perhaps grate it and use a dressing with coconut oil in it. He suggests that coconut oil and milk in the diet will be helpful in removing estrogen.

Before dumping the estrogen into the bowel, the liver conjugates the estrogen. In this form, the body cannot use the estrogen. However, bacteria in the intestine can break down the conjugation and allow the estrogen to be reabsorbed and used again. Calcium-d-glucarate can help with the disposal of estrogen (and other hormones) by preventing the conjugated estrogen from converting back into a form that can be reabsorbed. Calcium-d-glucarate can be purchased in many health food stores, or it can be ordered from places such as Wilner's Chemists, phone 800-633-1106. However, ask your doctor's opinion before using it. Calcium-d-glucarate can speed up the disposal of other toxins/drugs too. If

you are on medications, it is particularly important that you ask your doctor before trying calcium-d-glucarate. If you try it, start with just a small amount to allow your body to get used to the change in hormonal balance. Too fast a change could set off a migraine.

Make sure you are getting enough protein in your diet, as protein is necessary for the disposal of estrogen. Natural progesterone and thyroid also help the liver get rid of estrogen. If tolerated, additional B vitamins, A, E, C, and magnesium may also be helpful here.

Doesn't Estrogen Protect My Heart and Bones?

Polly: That isn't so obvious anymore. The old studies that say estrogen is good for your heart were probably not valid because the groups chosen to receive estrogen were generally in better health than those who were not given the estrogen. After following 2,763 women for five and a half years, the recent results of the Heart Estrogen-progestin Replacement Study (HERS) indicate that hormone replacement therapy does more harm than good. Hormone replacement therapy (HRT) was of *no overall benefit* in the secondary prevention of coronary artery disease events in postmenopausal women, and HRT was associated with a threefold increase in thromboembolic events. [5] A larger study, the Women's Health Initiative clinical trial, was halted May 31, 2002. After 5 years of data collection, they concluded that Prempro increases a woman's risk of breast cancer, heart disease, and stroke. They also found that treatment with Prempro doubled the chances for Alzheimers for women who began taking the drug at age 65 or older. Also see these articles about estrogen.

www.mercola.com/2000/apr/9/estrogen_heart_disease.htm

www.mercola.com/2000/aug/27/hormone_replacement_heart_disease.htm

www.mercola.com/2000/mar/19/estrogen_no_benefit_heart_disease.htm

If you read Dr. John Lee's book *What your Doctor may NOT tell you about Menopause*, you may come to the conclusion that progesterone is much more important than estrogen for strong bones. Progesterone promotes the formation of new bone. In contrast, estrogen slows down the formation of new bone. [6] Estrogen's benefits are limited to its ability to slow down the resorption of old bone.

Progesterone and Yeast

Ruby: Progesterone fosters candidiasis. Taking progesterone alters mucous membranes of the mouth, throat, lungs, and vaginal vault. 2,000 birth control users studied in 1983 at the University of Southern CA School of Medicine indicated ALL possessed vaginal yeast invasion and approximately 30% suffered chronic vaginitis, fatigue and depression. Estrogen also encourages yeast growth.

Kippy: Ooooh, now you've done it, you're going to get Polly all riled up! I am no expert on this subject, however, I wouldn't believe a 15-year-old study of birth control users. Birth control pills contain both estrogen and progestins. They're administered throughout one's cycle (unlike progesterone cream which is administered on days 12-25 only), and birth control pills in the early 80s contained much higher levels of hormones than current versions.

There is still some question in the alternative medical community on the subject of progesterone causing yeast overgrowth; however, it appears from my limited research that the

scales are tipping in favor of progesterone not causing yeast, while estrogen does cause yeast.

Polly: Ruby, I can easily believe you when you say that the patented progestins (which most doctors prescribe) will increase yeast growth. However, the patented progestins are not the same type of progesterone that the body makes. Those patented progestins should never be used. One reason they are still in use today is that you can patent altered progesterone and make money from the patent. You can't patent the type of progesterone that the body makes because the law classifies it as a natural substance. Substances that can't be patented can't generate enough revenue to justify studying them. The patented progestins are so unlike natural progesterone that I feel they should really be called artificial or unnatural progesterones.

You cannot generalize studies done with those patented progestins and say they apply to the natural progesterone. For one thing, the patented progestins lower your own body's natural progesterone levels, and interfere with the receptor sites that require the natural progesterone. When you take the patented progestins you get many symptoms that correspond to a lack of the natural progesterone, eg blood clots, hypoglycemia, depression, some cancers. For this reason, studies done with the patented progestins can give exactly the opposite result as using the real progesterone.

I've only seen a couple studies that look at the real (natural) progesterone, and these studies seem to indicate that progesterone helps keep the yeast at bay. Here is the first study. A Czechoslovakian researcher, Alena Tomsikova, found that 23% of patients with chronic, recurrent vaginitis (CRV) had elevated estrogen levels, and that progesterone was decreased in 22% of these same CRV patients. [7] (Note: The term "vaginosis" refers to bacterial vaginal

infection vs the term “vaginitis” which usually refers to a yeast/fungal vaginal infection.)

This next study was on yeast infections in rats that had had their ovaries removed, and then were treated with either estrogen or progesterone.

Quote:

“Estrogen dosing following ovariectomy predisposed toward infection, while progesterone dosing did not.” [8]

The abstract is at

www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?uid=3527984&form=6&db=m&Dopt=b

Patti: A note from the school of personal experience (mine—a sample of one). The few times I began birth control I always (100% of the time) got a vaginal yeast infection. (I went back and forth between the patch and the pill for a while, like a frog jumping from frying pan to fire). I don’t know whether it was the estrogen or the progestins. I’d believe either, or both! I have not had a vaginal yeast infection since using natural progesterone cream. I have been using the cream for 6 months now. Your mileage may vary but this is my experience.

Ruby: Thank you for citing the website. Where do you put the natural progesterone cream?

Polly: Rotate the places on your body where you use it. Rub it on just about anyplace. The cream absorbs well on the inside of the arms, the palms of the hands, the soles of the feet (if not callused) and on the neck. For the oil, it is suggested that you rub it on your gums, or put some on a toothpick and place it between your cheek and your gums. If you get good at this, you don’t taste the oil. I’ve also heard that if you are using it to treat acne, to rub it near but not on the acne.

If you can’t tolerate the taste of the oil, you can mix it with a tiny bit of olive or coconut oil, and use it just like you would the creams.

Mrs. Generic: But progesterone makes me feel worse.

Polly: When you start natural progesterone, it can sometimes give you symptoms of an estrogen overdose. It has been suggested that this estrogenic effect is due to the progesterone sensitizing the estrogen receptors and making the estrogen stick better to the cells. However, Raymond Peat, PhD points to references that state progesterone degrades and eliminates estrogen receptors. [9] So the answer isn’t so obvious. What makes the most sense to me is that the initial symptoms are due to the movement, conversion, detoxification or redistribution of estrogen. Raymond Peat, PhD states,

“Progesterone activates enzymes which physically/chemically detoxify estrogen, converting it to a water-soluble sulfated form, in which it tends to be expelled from cells and to be excreted in the urine.” [10]

Progesterone seems to prevent the tissue from concentrating/storing estrogen. Each month it displaces the estrogen in the tissue.

To counter this initial effect, and to gently get you off estrogen supplements, Dr. John Lee suggests that you should cut your estrogen dose in half as soon as you start the progesterone. (A couple months later you can cut the estrogen dose in half again.) If you continue to have problems after a few months, then maybe something else needs to be corrected. Try to support your liver’s ability to eliminate unwanted hormones as much as possible (Try sulfates, protein, thyroid hormone,...).

Of course, your symptoms might also be due to some interplay with the yeast. Since estrogen

is leaving your body's cells, perhaps the yeast temporarily have more access to estrogen. Some people have reported a temporary flare up of yeast symptoms when they first start progesterone. [4] So be observant. Work on getting the yeast growth down before you try the progesterone. If after a few months, you are still having problems with the progesterone, consider adding pregnenolone or a tiny bit of DHEA. Once in a while, you will find someone who doesn't tolerate the progesterone unless it is balanced with pregnenolone or a little DHEA.

Susan in Olympia: I'm glad you mentioned the initial effects of supplementation with natural progesterone. For the first six weeks or so of taking it my body was really mixed up. I had my first two periods very very early and things were all jumbled up. I'm glad however, that I gave the progesterone a chance, because within three or four months the magic had begun to work... and it's all been good ever since.

Mrs. Generic: Why do some people think that progesterone increases yeast growth?

Polly: The only reasons that I've heard proffered are that:

- 1) Progesterone increases blood and tissue sugar levels.
- 2) Yeast symptoms are more prevalent during pregnancy when progesterone levels are high.
- 3) Women have found that their yeast problems flare during the last two weeks of the month when progesterone levels are at their highest.

So where are the flaws in the original logic?

- 1) Progesterone increases blood and tissue sugar levels, but it can also improve tissue oxygenation and enhance the immune

system. There is a lot to consider besides sugar levels.

- 2) You have to look at the ratio of estrogen to progesterone in pregnancy, and the normal levels of both of these, not just the amount of progesterone present.
- 3) During the last two weeks of a woman's cycle, progesterone is at its highest, but so is estrogen. If you look at the ratio of estrogen to progesterone, the ratio is generally at its highest around ovulation and in the week before menstruation. [11] Estrogen dominance is more likely the culprit.

From the above and my own experience, I conclude that if you correct a hormonal imbalance by adding natural progesterone, there is a good chance that it can help with a yeast problem. What if you take more natural progesterone than you need? I have taken very large doses of natural progesterone with no ill effects. However, everyone's situation is different. Sometimes people take too much progesterone and have problems eliminating the estrogen released from the cells and/or dealing with other downstream hormones. Sometimes the added progesterone must be balanced with pregnenolone or DHEA to make one feel right. Healing is an art form. Trends and other people's experience are helpful, but your own body must decide how much of a substance to take and when to do so.

Mrs. Generic: Which do I need, progesterone or thyroid hormone?

Polly: That is tough. The symptoms of low thyroid hormone and low progesterone overlap a lot. Thyroid hormone promotes the production of progesterone. Similarly, progesterone supports the secretion of thyroid hormone and enhances its use. John Lee, MD feels that often people are

given thyroid hormone when what they actually need is progesterone. A good clinician may be able to tell the difference, but barring that, I guess you can try the progesterone, and see if that is all that is needed. If your basal temperature isn't too low, then perhaps that is all you need. Yet with this yeast syndrome, it is fairly likely that you will need to take thyroid hormone. Once the thyroid is corrected, the need for progesterone will be less.

What Kind of Progesterone Cream?

KW: What kind of progesterone cream do you use?

Polly: I started with Progest, and I think it is a good brand. You can purchase this brand in almost any health store. Some people find other brands better for them. Everyone is a bit different in their response. Dr. John Lee has a list of brands in his book rated by the amount of progesterone in it. This is in his book, *What your Doctor may NOT tell you about Menopause*. There is a wide variation in the amount of progesterone in the creams. Even once you take into consideration the amount, there is also absorption to consider and stability of the product.

Please don't buy plain "Yam Cream" and think that it is going to contain progesterone. Check the label. The wild yam itself is considered a phytoestrogen. The wild yam has to be converted into progesterone by a chemical process. Your body will not do this.

If you are concerned about money, quality, and allergies, the best way to go that I've found is the Progest-E-complex by Kenogen. There is over three times as much progesterone in one bottle of it compared to most of the rest. If you buy it from www.vitaminexpress.com, it works

out to be quite affordable—only a few dollars a month. Phone (800) 500-0733, and FAX (800)218-7900. Nutri-meds also carries the Progest-E-complex at an excellent price. phone (888) 265-3353, website www.nutri-meds.com

However, there are a couple of disadvantages to this oil. The Progest-E complex oil by Kenogen (Raymond Peat's company) is so concentrated that measuring it is somewhat difficult. You use only three or four drops for a typical dose. Until you get used to it, a good way to measure it is with a toothpick. Dip a toothpick in the room temperature liquid to a depth of one inch to get a typical dose. If the oil has been in the refrigerator, the liquid will be thicker, and so dip the toothpick in only about ½ inch. (Wait a couple of seconds to let the excess oil drip off.) You can then place the toothpick between your gum and cheek until it is absorbed. Or you can mix the oil with a tiny bit of olive oil and rub it on your skin. However, absorption through the gums is probably the most effective. Please realize that there is a great deal of variability between people in how much natural progesterone is appropriate. [4] If you are having an unusual reaction to a "normal" dose of progesterone, or if you have no improvement, you may have to adjust your dose up or down. Also, it is probably best to break up the dose into several smaller doses in the day.

The delivery of the progesterone through the skin will be slower and longer lasting than through the gums. Depending on your purpose, you may want to use one or the other means of application. Dr. Lee would suggest that you use the progesterone on your skin, unless you are trying to avert a migraine by using the more quickly absorbable route through the gums. Another doctor may prefer using the progesterone on the gums, so that you can orchestrate a sharper cut-off of the progesterone when it is time for the menses. For those with a

poor thyroid condition, sometimes the progesterone will not be absorbed through the skin. In this case, the gums must be used. (I have two friends like this. Any oils just sit on their skin without being absorbed.)

There is another progesterone oil on the market with almost the same name. This other company doesn't have the use-patent. For this reason, I don't like the idea of buying that other brand. Perhaps even more relevant for most of us, presently, the other brand costs almost twice as much as the Kenogen brand. So if you decide to try the oil, look for the one made by Kenogen, called Progest-E-Complex.

KW: I'm taking Estratest, which has NO progesterone (I don't think), but has testosterone. I've never been sure why I need that anyway."

Polly: The testosterone helps with the libido (sex drive) and the bone density. There isn't any progesterone in it because the current mainstream protocol is to give estrogen without patented progestins if you have had a hysterectomy. The reason? Adding patented progestins after a hysterectomy seems to have more risks than benefits. The patented progestins protect against uterine cancer but they increase the risk of getting breast cancer. [12] Provera (medroxyprogesterone acetate, a patented progestin) can also make a heart attack more severe in rhesus monkeys. [13] Yet, natural progesterone does not make the heart attack more severe. Therefore, if the uterus has been removed, it is all risk and no benefit when adding in a patented progestin. However, it is a different story when adding in the natural progesterone. The natural progesterone will protect you from all of the effects of estrogen. It appears to be appropriate to use it in most cases where estrogen is supplemented.

I don't like the idea of using the patented progestins. However, I'd take the natural progesterone with confidence. If you read one of Dr. Raymond Peat's books, you will realize that natural progesterone has anti-cancer properties. Dr. John Lee put his breast cancer patients on natural progesterone, and none of them had a reoccurrence of this cancer. Dr. John Lee also mentioned in a lecture that an invitro experiment showed that the natural progesterone stopped a deadly form of lung cancer. Much closer to home, my dad used some natural progesterone to get rid of his cellulitis and to help him control his chronic lymphocytic leukemia. Within two weeks of using the natural progesterone everyday (one jar altogether), the turnaround in his health and the change in his blood tests were miraculous. Instead of two months to live as predicted, he lived another 6 years. (He used only very small amounts of natural progesterone after that.) In my mind, there is little doubt that natural progesterone, when used appropriately, has very strong anti-cancer properties.

If you stop to think about it, it is ridiculous to insist on using the unnatural/altered hormones instead of the same hormone that the body makes. Unfortunately, mainstream medical practice still employs the patented progestins. This is considered the responsible course of action because they have large-scale studies on them. Natural progesterone has just animal and small-scale studies, and anecdotal evidence to its credit. Unfortunately, those large-scale studies on natural progesterone aren't just around the corner. No one is going to pay that much money to study a natural substance. Natural substances can't be patented and hence there is no venture capital to pay for large studies. Doctors who employ natural progesterone must base their actions on logic and observations. Without the public's widespread acceptance of natural progesterone, their position is tenuous.

There is a practical reason for doctors to prescribe the unnatural/patented stuff. Their liability is much less. Doctors can give you estrogen and patented progestins and they will be immune from prosecution, even if it gives you cancer, because these substances are part of the “standard and customary practice.” The doctors can’t give you natural progesterone, which protects you from cancer, without taking a risk that you will sue them. They do not have blanket immunity with the natural progesterone because it is not yet “standard and customary practice.” Attitudes are rapidly changing, yet, natural progesterone is still not yet “standard and customary practice.” Great laws we have. And last but not least, we have pride and comfortable old habits slowing down the widespread acceptance of natural progesterone.

Migraines And Hormones

Marie: I get migraines along with very bad PMS every month. This month the headache won’t go away. I’m starting to lose my mind. What can I do? Thank you everyone. You’ve all been of great support to me.

Polly: Since your headaches are associated with your PMS, you need to do something about your hormonal status as soon as economically feasible. Rapid changes in hormone levels can cause a migraine. Generally, if PMS occurs sometime during the last two weeks of your cycle, then you may need some thyroid hormone and/or progesterone. (Often the PMS symptoms peak around ovulation or a few days before the period.) If the problem occurs during the first two weeks, adding more estrogen is more likely to get rid of the migraines than is adding progesterone. [4] However, before trying estrogen, I’d first try DHEA and/or pregnenolone, which are generally safer than estrogen.

Read one of these books: *What your Doctor may NOT tell you about Menopause* or the book *What your Doctor may NOT tell you about Pre-Menopause*. Both books are by John Lee, MD. Both are excellent and will help you use the natural progesterone properly. In my opinion, one or both of these books should be required reading for every woman. Dr. John Lee also has a website (www.JohnLeeMD.com) and newsletter.

The PMS is also associated with low calcium, magnesium, B6, or zinc. Some of these deficiencies can be due to estrogen dominance. (Excess estrogen wastes B6, folic acid, B12 and zinc.) Migraines in particular are associated with low magnesium and a need for more B6. (See the chapter on migraines.)

Patti: As someone who has had major migraines, I sympathize totally. Progesterone.... natural lots of it helped me, although maybe not after ten days. It is best to look up the information in the forum archives and start using it systematically as suggested. Leaky gut also causes my migraines. I am healing that too. I had to get rid of the yeast first, though. The good news: I found a nutritionist whom I have been working with for about 6 months now; every month I am getting better. It took a while though. But it is happening for me and I feel “recalled by life”. This yeast is a terrible monster and I have been lucky to have the long-term support of this group as well as my nutritional program.

Not everyone has similar causes for their migraines. I feel lucky I ever found out so much about how to heal mine. I am winning my battle, though slowly. Hope has kept me alive so don’t ever give up. You can win! The progesterone is essential as a start, at least to try out. It may take a few months to sink in fully. My nutritionist feels strongly that I use the cream, not oil, so that excess gets stored in fat cells to mop up estrogen after the cycle begins. Oil is good for sudden

onsets of migraines; it can be fast acting, rub it into your gums! Keep in touch and good luck!!!

Pamela: I used to have killer migraines when I was younger, but my mother told me to start taking B6 and I've never had one again (except when I have stopped taking B6)!

Christine: The contraceptive pill that I had had in my early twenties had not given me migraines. So when (10 years ago) my doctor wanted to put me on the contraceptive pill to control my heavy periods, I didn't think about migraines, even though he mentioned it as a possible side effect. Now, the very first month, I had a migraine on day 2 of my period. This went on for three months and I had to stop the pill because of the migraines. Over the last few years, I occasionally had migraines, but not related to my periods. When I used the Progest cream, I had no migraines for six months. However, migraines started in the seventh month of use, and were so severe that I didn't even recognize it as migraine for three months. I thought it was flu that was going around. The migraines lasted two to three days with every period. In between these times, I often had a muggy head but no migraine. With the migraines, I had a lot of retching with it. In fact the sickness reminded me of the sickness that I had in the first four months of pregnancy—so sick that I couldn't get out of bed at all. I would like to warn people that when using progesterone, the migraines don't come on immediately like they do with progestins, so you don't necessarily link it to the cream. The migraines stopped seven months after I last used the cream.

Polly: The progesterone helped me with my headaches and sinus pain. I took lots of it continuously for several years, with no adverse reactions. (I was using it to avoid hot flashes.) I wish I knew why our bodies reacted so

differently. Yet, it is perhaps enough to know that everyone will not react the same way to natural progesterone, and people should be careful.

Hot Flashes—Thyroid, Progesterone, And Pregnenolone

Polly: Natural progesterone helped me tremendously. When I was going through menopause, it was the only thing that kept me from slipping backwards in my health. Most of the time it kept the hot flashes under control too. However, I found that once in a while, the natural progesterone wasn't enough to control the hot flashes. At those times, I'd add in some pregnenolone and the hot flash would immediately go away. Later, after I received thyroid hormone supplementation, I didn't need to use the progesterone and pregnenolone to control the hot flashes. The thyroid hormone supplement did it by itself. I assume part of the reason that the thyroid hormone worked is that thyroid hormone (and the retinol form of vitamin A) helps your body make progesterone and pregnenolone. My sister and several of her friends just use the pregnenolone (150 mg per day) to control their hot flashes. For them, it works better than the progesterone.

Vitamin E is also helpful with hot flashes. However, you need sufficient vitamin A and selenium to keep your store of vitamin E up. Also coconut oil seemed to help me a little, perhaps because coconut oil spares vitamin E. [14] Usual recommended doses of vitamin E are 400 IU to 800 IU per day. Do not take more vitamin E than this unless a doctor directs you to do so. If you have high blood pressure, you may wish to start at only 100 IU of vitamin E until your body adjusts to it. (At first the vitamin E might increase blood pressure, but after a while, it will end up lowering high blood pressure.) [15] The natural vitamin E (dl-alpha tocopherol) is much

more effective than the man-made (d-alpha tocopherol) vitamin E. The natural may cost a little more, but the effectiveness more than makes up for the price differential.

Some people use an extract of the cruciferous vegetable macca to help with hot flashes. Supposedly macca is helpful for the thyroid. Macca doesn't contain the dangerous phytoestrogens found in soy, black cohosh, and other herbs sold for menopausal symptoms.

MSM may be helpful. In Dr. William Regelson's book on MSM he mentions Lynne Chauncey, who was able to control the hot flashes, night sweats, and headaches by using a tablespoon of MSM each day. However, if you try MSM, start with much less. You need to give your body a chance to get used to MSM.

KW: What is pregnenolone?

Polly: Every cell in your body makes pregnenolone from cholesterol. Your body can convert it into the hormones progesterone and DHEA. In general, pregnenolone will balance your hormones and protect you from stress and toxins. Some people use as much as 600 mg per day to help with their arthritis. However, there have been side effects reported by some people using this much. They get symptoms of excess downstream products, like DHEA, testosterone or estrogen. Hence, if you need to take high doses, then you might want to get your hormonal levels monitored before and after supplementation. Also, you may want to make sure that your body has enough sulfates and other nutrients that the liver needs to eliminate downstream hormones.

Some of the companies who sell pregnenolone have considered it appropriate to include all the warnings on the label that are associated with excess amounts of the downstream hormones. However, I think that

reasonable doses of pregnenolone are much safer than what is implied by those labels. In fact, at physiological doses (similar to what the body makes), pregnenolone seems unusually safe.

How much pregnenolone should one take? According to Raymond Peat, at age thirty, the body normally makes about 30 mg to 50 mg per day; but for some people, a supplement of this much isn't enough. 50 mg should be sufficient to keep levels near optimal for most of the older adults. Yet, just 10 mg per day is sufficient for some people. One dose of approximately 300 mg keeps acting for about a week. Pregnenolone should help with your allergies, support your adrenals, reduce stress, and generally make you healthier.

Personally, I found pregnenolone gentler than the natural progesterone. It had a subtle, but very nice effect. If you need it, it is great stuff. If you don't need it, you probably won't notice a thing. Since pregnenolone most likely improves the body's own production of pregnenolone, eventually you may no longer need to supplement it. As always, try to learn as much as you can about any supplement before taking it, and then if you try it, start with low doses, and trust your body's reaction to it more than any theoretical arguments that you hear. Children usually make a lot of pregnenolone. I don't think there have been any studies with children, so one needs to be very careful there. There are reports of some children with autism doing better with a small dose of pregnenolone.

Endometriosis

Susan in Olympia: I have had endometriosis since I was 14 (I am 38 now). I had surgery for it in 1995. I have read quite a bit about its links to candida. Endometriosis is characterized by extremely painful cramps. Usually a person is out of commission for from one to three days each

menstrual cycle, and the cramps may be accompanied by vomiting or passing out FROM PAIN. Medication is an absolute necessity.

In my case, what has seemed to make my endometriosis go away (besides the surgery which helped for a while...) has been cutting way down on caffeine AND... (most important) using natural progesterone. Since starting natural progesterone in July I have had my cramps fade away to virtually nothing for the first time in my life (except when I was pregnant and for a short time after surgery). It is nothing short of amazing.

If you do have endometriosis, your doctor's likely treatment will include surgery (a laparoscopy through your belly button) and putting you on birth control pills to simulate pregnancy. The theory is that if your body thinks you are pregnant you will not menstruate and your body will have a rest from the wandering uterine tissue that swells and aches monthly. In my case they found endometrial tissue throughout my whole abdomen.

My word of caution about the treatment: it was this doctor ordered treatment with birth control pills in 1994 (preparing for my surgery in early 1995) that started my whole candida ordeal. I was absolutely miserable on the pill, even though we tried various hormone cocktails and the doctor kept telling me that it was impossible that my symptoms were from the innocent pill! I would have rather suffered monthly with endometriosis for the rest of my life (and it was BAD) than to suffer daily while my body went out of control with candida. No going back now... so I'm still dealing with the results of that decision to go against my own instincts and meekly (or not so meekly...doesn't matter!) follow doctor's orders.

Polly: Sometimes doctors will give a lot of unnatrual/patented progestins to try and do the

same thing—give the body a rest from the cycles. That can make you very sick, because the patented progestins compete with the type of progesterone that your body makes (natural progesterone). One of the forum members ended up with porphyria shortly after such treatment. (Porphyria means there is an abnormal number of pigment chemicals called porphyrins in the blood and urine. If you are interested, there is an article in the *Townsend Letter* about the relationship between porphyria and hormones. [16])

The best alternative, by far, is to try a lot of the natural progesterone for a year or so. John Lee, MD describes this in his book, *What Your Doctor May Not Tell You About Menopause*. If your doctor is unfamiliar with this, the Women's International Pharmacy may be able to help him with the dose, phone (608) 221-7800. Their current recommendations are 100 mg of micronized progesterone in oil taken 4 times per day on days 14 to 28. If you want to be more aggressive, you can add 100 mg in divided doses on the other days. They suggest the same dose for their creams as their pills, which is a bit of an enigma, since John Lee feels that less is needed in the creams. Perhaps it has to do with which oils each pharmacy has chosen to mix with the progesterone in order to facilitate absorption. Oils are used for both the creams and the pills. Without them, the absorption/use of the micronized progesterone changes.

Vaginal Infections And Pain

Polly: Check with a doctor for initial diagnosis, since the treatment is different for yeast than it is for a bacterial infection or for a sexually transmitted disease. Here are a few things that have helped others with some of their problems.

- 1) Address the reservoir of yeast or detrimental bacteria that is probably in your intestines. This will bring the total body load down, and

- help you deal with the vaginal problems. Even just eating yogurt or adding a L. acidophilus supplement is known to help. Merely restricting sugar can reduce vulvovaginal inflammation in cases of Candida overgrowth.
- 2) Consider coming off oral estrogen. Estrogen encourages yeast growth.
 - 3) Get your thyroid checked. Thyroid helps the liver remove estrogen and promotes the formation of progesterone.
 - 4) Part of your discomfort could be due to an allergic reaction to yeast or some other pathogen. Allergies to yeast will cause swelling and will actually increase the food available to the yeast that may be hiding in the deeper layers of the vagina. You can try traditional desensitization injections or the newer methods like EPD or NAET to get rid of these allergies. (See www.NAET.com) Sometimes cortisone products and anti-histamines (eg. Benadryl or Atarax) reduce the reaction. (The cortisone cream is not suggested for long term use.)
 - 5) To help with the vaginal pH and discomfort, some women insert plain (no flavors) yogurt with active cultures. Store-bought is okay. However, homemade yogurt is fresher and probably has a higher bacterial count. It can also be fermented longer to get rid of the sugar, and thus might be better. Please note that the lactobacillus in yogurt is not the same kind of lactobacillus that flourishes in the vagina. Yet, it seems to help. Check with your doctor before trying this remedy.
 - 6) Vinegar and water douches may help with a severe yeast problem, but it isn't a good idea in general. Lay off the usual douches. Hillier and her colleagues published a study in the November 1996 *Journal of Infectious Disease* showing that women who douched at least monthly doubled their risk of vaginosis. (Vaginosis usually refers to a bacterial imbalance.)
 - 7) Keep the area dry by wearing cotton-crotch underwear and pantyhose. Don't use feminine deodorant and perfumed soaps. This site by Sota Omoigui, MD has numerous practical suggestions that will help you deal with the sore irritated tissue. See website: www.medicinehouse.com/vulvodynia.html
 - 8) I've heard reports that Maelina Feminine Care is a very good product. It contains silver, zinc and copper. phone (800) 284-6263; or (305) 759-9500 or www.galaxymall.com/medical/vaginal
 - 9) Another treatment is adding to your bathwater a half pound of table salt and 5 half-eyedroppers of one of Dr. Ken Seaton's Clean Zone products called Facial Dip C (his iodine product). (Or you could try a few drops of plain iodine in the bathwater. Iodine kills yeast and many other microbes.) This is an article about the Clean Zone products. phone 888-262-5700
www.mercola.com/article/colds/hygiene_systems.htm
 - 10) Dr. Ralph Golan's book *Optimal Wellness* lists some other remedies, like a boric acid wash, and inserting a clove of garlic wrapped in gauze.
 - 11) If the doctor does not find an infection, but you are in pain, then you may have something called vulvodynia. If you have vulvodynia, consider using some of the mast cell stabilization treatments that are also used for Interstitial Cystitis like magnesium, Atarax, and very low dose Elavil. Make sure you are not low on copper and/or zinc. (See section on bladder pain in the Common Symptoms chapter of Book 1.) Vulvodynia

and Interstitial Cystitis (bladder pain) occur more often in people who have fibromyalgia or bowel problems. It may be due to increased allergies or perhaps the release of histamine caused by the LPS in the shell of gram-negative bacteria. (A viral infection of gram-negative bacteria will release more LPS.) So work on clearing these other problems up and it may help with the vulvodynia. If you have vulvodynia, go to the library, use their computer, and get a copy of this excellent and vital article. www.vulvodynia.com/faq.htm. Biofeedback to strengthen the muscles is sometimes helpful with vulvodynia.

Ordering Saliva And Blood Tests

Amy: Could someone please explain these saliva tests? What is the name of them? Where are they sent? I would like to share this information with my doctor on my next visit. He is always open to new things and suggestions. Does the lab have a website? Thanks in advance.

Polly: Most people don't have to go through a physician to order these saliva tests. Those unfortunate souls living in New York can't send specimens outside their state for testing. Those living in California must at least get permission from a health professional like a pharmacist. The saliva tests aren't that expensive. Saliva tests for cortisol, testosterone, DHEA, melatonin, progesterone and estrogens are readily available. So if you are worried about your hormone levels, you could order the tests yourself. Then if the tests indicate a hormone imbalance, you can show the results to your physician. If you have trouble understanding the jargon on the lab results, some labs like ZRT have physicians on staff that would be willing to answer a few questions. This is the ZRT website.

www.salivatest.com and phone (503) 466-2445 and Fax 503 466-1636 e-mail: info@zrtlab.com You can order the saliva test kits there. Presently, the prices run about \$30 for each saliva hormone tested, with a minimum of two tests.

For thyroid testing, the ZRT laboratory suggests that blood is more accurate than saliva. You can get the thyroid tests without a professional blood draw, because all you need is a couple of drops of blood. You don't need a prescription. Currently, the free T4, free T3 and TSH tests are each \$60. Other thyroid blood spot tests are available too. However, you must call them to order the blood spot tests. The blood spot tests currently cannot be ordered through their website. BIOSAFE carries the home blood spot test kit of TSH for \$40. They don't have the other thyroid blood spot tests at this time. Their web site is www.ebiosafe.com, and their phone is 1-888-700-TEST (8378).

You can order the Great Smokies hormone test kits from various places. Here is one. The Health and Science Company, phone (888)-222-1415 or (904) 267-9001, www.health-science.com/order.htm They will also answer basic questions. Your doctor can also use a second party called BioHealth Diagnostics. They don't do the actual testing, but they send your doctor their interpretation of any test ordered through them. www.BioDia.com, or phone (800) 570-2000 or (619) 223-7074.

Be sure to follow directions for the saliva collection time. Usually, the best time for the estrogen and progesterone collection is in the morning on day 19, 20, or 21 of the cycle. If you want to check the female hormones, you will need to test at least estradiol and progesterone. It is the ratio of estrogen to progesterone that is the most important. Dr. John Lee's website has some suggestions on which hormones to test, www.johnleemd.com. The test kit instructions from the ZRT lab also have some suggestions on

the most pertinent tests to take given your symptoms.

Healthchoice.net offers a blood test for thyroid that includes T3, T4, reverse T3, and TSH for \$175. This includes the price of the blood draw and shipping. No prescription is needed because this is considered a wellness check; however, you probably aren't going to get your insurance to pay for it either.

This particular company has decided to fill a niche market for the educated public. If a person cannot find a doctor to order a test that they feel is desirable/necessary, they can pay for it themselves through this organization. The organization offers liver profiles, amino acid assays, urine organic acids, heavy metal tests, metabolic assessment profile, various hormone tests and more. For an additional charge, they will send you information on the meaning of the amino acid profile or the organic acid test. However, their main product is an individualized vitamin/mineral supplement they create based on your tests results. The lab test prices are at www.healthchoice.net/lab/labtest_menu.html.

Phone (877) 339-2444.

It only takes a week or two to get your saliva tests back, and according to John Lee, saliva tests are a much more accurate way of testing progesterone than using blood samples. [17] However, if you have something very unusual going on, you might inquire into a urine test for hormones. The 24-hour urine tests offered by the Barnes Foundation will give you and your doctor the most information, phone (203) 261-2101. However, before ordering a test from them, check on the time it will take to get the results back. At times, they have been so backlogged that it takes forever to get the results back.

Too Much Progesterone And DHEA

Marilyn in Seattle: Just want to post a note here. I went back to my doctor and told him that Prometrium (pill form of natural progesterone) was not working for me, that I was spot bleeding all through my cycle. So he wrote me out another prescription for progesterone cream—this time 100 mg of progesterone per CC. Wow. I didn't know they could do this. Anyway, instructions were to apply 1/2 cc twice a day. 15 cc cost \$15.00. This cream is made up by a compounding pharmacy. They use a base of PLO I believe. PLO is a delivery system and all the progesterone gets “delivered” through this medium very quickly.

Well, the first four or five days were okay. After that, that much progesterone made me very edgy, nervous, and I was getting estrogenic effects—I believe any excess of progesterone can get turned into estrogen. Breasts got sore, I got bloating, etc. The doc prescribed this amount on the theory that I needed more progesterone than I was getting in the pill form as most of the 100 mg of oral progesterone gets destroyed by the stomach acid. I told the doctor it was more likely that every time my liver has to process something it gets screwed up. I have a long history of hypersensitivity to drugs.

However, just the other day I read on the AAAMSM website that MSM can reduce hypersensitivity to drugs and I thought BINGO!!! I am so low in sulfur that I bet deficiency in sulfur can cause hypersensitivity to drugs. Maybe lack of sulfur is why I get totally exaggerated side-effects any time I try to put a pharmaceutical into my body. The neurologist said my reaction to Baclofen was very rare—it is an anti-spasticity drug and it me it creates “paradoxical spasticity”—makes me stiffer when it is supposed to relieve stiffness.

Anyway, from my 100 mg/day progesterone experience, I would say it is possible to get too much progesterone that goes estrogenic. I had this trouble with DHEA, also in prescribed form. It turned to estrogen in my system, as did pregnenolone. Some of us must be more “estrogen” prone, and maybe we are more sensitive to endocrine disrupters like mercury and organophosphates.

I know a couple of people that had wonderful reactions to DHEA. I tried it—got it prescribed by an HMO doc. I had to convince him that I wouldn’t sue him. For me, DHEA was horrible. It turned totally estrogenic in my system. The first two days, it gave me this “rosy” feeling, like Cole’s *What a Wonderful World*. I was taking 1 mg drops, 2 times per day. Each drop contained 1mg DHEA. By the 3rd day, I started to develop incredibly sore breasts, a kind of torso stiffness that is hard to describe...and MOODINESS...needless to say, I backed off. I tried smaller dosages, but the same thing happened. My suspicion is that some of us are more likely to turn hormones into estrogen. I had the same type of reaction to pregnenolone—estrogenic effects—but have reacted totally positively to progesterone. Just thought I would relate my experience. One woman I know uses DHEA to put her multiple sclerosis symptoms into remission—we are all different.

Shelley: Thank you Marilyn. I am not taking progesterone but am pondering the whole situation and know that I am, like you, super sensitive to drugs. DHEA was a disaster and so was pregnenolone. I am going to look at my hair analysis chart from a few months ago and see if I can figure out if I am low on sulfur. And also just try MSM, first.

Sarah H: Shelley, why was DHEA a disaster?

Shelley: It gave me acne that didn’t clear up for months and months—all over my chin. I never had acne before. Now the doctor wants to try it again. I don’t know. The acne didn’t seem like a good sign. Wish I knew more. Sometimes I wish I had studied something more “useful” than art.

Marilyn in Seattle: DHEA was a disaster for me too. Really bad signs of estrogen dominance. Same with the pregnenolone. My MD said that was why it was better to use progesterone—because the DHEA pathways and pregnenolone are more likely to be converted into estrogen.

I call progesterone cream my miracle cream—no more PMS from hell. But I think 100 mg a day was overkill. Looks like my liver may be involved here too.

Polly: Shelley, DHEA can also convert into testosterone. An increase in testosterone is associated with acne. The effect may go away after you have been on it for a while. However, that was a long time that you had problems.

Marilyn in Seattle, your doctor gave you a very large dose of progesterone. The dose for creams and the dose for pills should be a lot different. Typical doses of the micronized progesterone are 100 mg to 200 mg. Typical doses of the cream are 15 mg to 30 mg—not the 100 mg that your doctor gave you.

Your doctor said that the stomach acid was destroying the oral progesterone. That doesn’t make sense. Progesterone is made by boiling its steroid precursor in hydrochloric acid. So a little stomach acid shouldn’t hurt it. What happens when you take progesterone orally is that about 85% to 90% of the natural progesterone is quickly destroyed by the liver. Potentially harmful metabolites are circulated too. In order to prevent so much of the progesterone from being destroyed, some pharmacies put the micronized

progesterone in oil. This may help a little. However, Raymond Peat's company thoroughly mixes the natural progesterone in vitamin E and oil, and this avoids the problem with the liver immediately destroying it, even if the progesterone is ingested orally.

Christine: I was mercury poisoned, but after a full chelation program, I was doing wonderfully. I should have left well alone, but I felt on a roll and wanted to sort out minor remaining problems, such as low body temperature, weight gain, etc. (The low body temperature is definitely not due to my thyroid because my TSH is normal.) A doctor looked at my temperature chart for the month, and concluded that as it was low in significant places, I was low in progesterone. I said straight away that I couldn't take progesterone. All of my candida problems started ten years' ago when my doctor put me on the progestin-only contraceptive pill. The doctor explained that 'natural' progesterone cream was completely different from artificial progestins.

So I tried the natural progesterone cream, but it was disastrous for me. Within hours I started my 'period,' so I stopped the cream. The 'period' stopped and I came on a few days later, when I was due. After the period, I started rubbing in the cream again, and I started bleeding straight away. The bleeding got heavier and heavier. After a few days, I rang the doctor who told me to stop using the cream immediately. She explained that my body was converting it to estrogen, but according to the doctrine as put out by the Californian advocates of 'natural' progesterone cream, this meant that my body *really* needed progesterone.

A month later, I restarted the cream, and all went well for three months. After that point, I think I just had too much progesterone—in fact too much of every hormone as I now know. A downwards spiral set in—muggy heads every day, migraines and sickness with periods,

drugged feeling for three days when I ovulated, huge weight gain, the candida came back (after an absence of six years!) gum and teeth troubles, etc. Worst of all, I had sharp pains in the abdomen. This pain was eventually diagnosed as due to a nasty ovarian cyst. In fact scanning showed that I have six cysts. As I had three good months with the natural progesterone, I didn't connect these symptoms to the cream.

It was my alternative doctor who realized what was going on and told me to get off the cream that she had recommended I use. Saliva testing showed that I had sky-high progesterone during my period (hence the migraines) then normal the rest of the month; sky-high estrogen (and a blood test showed the same for luteinizing hormone) when I ovulated hence the drugged feeling; and sky-high testosterone all the time.

That's the thing about this blasted 'natural' progesterone cream. Advocates say that progestins are synthetic and so can't convert to other hormones if you need them. Well progesterone may be able to convert, but the downside is that it *will* convert, so you can end up with too much of every hormone. When women experience hormonal problems they shouldn't guess what their hormones might be doing. They can do the 28-day saliva test to find out what the hormones are doing over the whole month. If they do need to balance their hormones there are plenty of herbs and foods which do this which they could try. Hormonal creams really should be a last resort because once lodged in the system, it doesn't seem easy to get them out, and no women should have unnecessarily high levels of hormones.

Polly: Your initial symptoms from using the progesterone could have been caused by the body releasing estrogen from the tissue. However, your sequence of events starting several months later leaves me puzzled. It certainly sounds like you

had an overload of many of your hormones, as if your body couldn't dispose of them. Why would your regulation of hormones be so far off? And why would the ovarian cyst show up? Your case is a strong warning to others to be careful with the progesterone cream.

Marilyn: Look at the article by Dean Raffelock, DC, in Dr. John Lee's September 1999 newsletter. It is about DHEA and progesterone intolerance.

Polly: Interesting. The article says that a lack of sulfates is quite common in those with intestinal problems. (A lack of sulfates is also extremely common with mercury poisoning.) A lack of sulfates or other liver detoxification weaknesses could make it difficult for the body to deal with added hormones. A person may have an intolerance even if their tests showed they needed the hormones. He suggested using sulfates, coenzyme B6, and magnesium to help the liver deal with the detoxification of the hormones. I have one more thing to add. The body uses sulfates to transfer many hormones to and from cells. So if your hormones aren't following the normal "rules," look to low sulfates as a possible problem.

Sulfur And The Detoxification Of Hormones

Marilyn in Seattle: This lack of sulfur is turning out to be an explanation for a number of things that have baffled me for years.

Polly: Perhaps you are on to something here with the sulfur. Taking pregnenolone, DHEA, and progesterone are usually not a problem. These improve liver health, and in general, help your liver balance out your hormones. However, people like yourself, who have been mercury

poisoned, are much more likely to have sulfation defects. I've heard that sulfation defects can cause the hormones to be metabolized into toxic by-products.

Marilyn in Seattle: I was talking to a friend yesterday and she mentioned something she had never told me before. She developed MS after having her gall bladder out. The neurologists said was coincidental, but I am sure the liver is heavily involved in MS. I am going to urge her to start working with her liver and see if detoxification/liver support helps her symptoms. She doesn't have mercury poisoning like myself. She has perfect teeth—never a filling in her life. What a joke it is—the number of things that neurologists don't find to be significant.

Shelley: Marilyn, I am glad that the pieces may be falling together for you. A couple of things. First, regarding progesterone. I don't know what planet I've been living on but I have never heard of using this, except for on this forum. Again, I remember years ago that my Candida symptoms would only clear up during part of my cycle. I have no gall bladder either. I blew that out about 10 years ago with an unexplainable (and unverifiable) hepatitis...hmmm. I don't test for having had any hepatitis...My poor liver!

I am going to start my new (IH MD pending) regimen tomorrow with a trip to the health food store. (Editor's note: IH MD is our little joke. It stands for In-Home Medical-Degree.) Here is my tentative plan. What I don't know is the order in which to introduce these or if some are counterproductive to others...and the all-important which bank to rob.

- 1) Vitamin C
- 2) MSM

- 3) B-12 - I have all three kinds: sublingual, spray, and injections. Think I'll go w injectable unless someone hollers "stop!"
- 4) Folic Acid
- 5) MSM
- 6) tri-methyl-glycine (TMG)
- 7) Taurine?
- 8) P5P or Coenzyme B6 (Dr Cheney recommends this for chronic fatigue syndrome.)
- 9) CoQ 10 sublingual (Cheney recommendation again)—I love this stuff
- 10) Reduced Glutathione or undenatured whey, Immunocal ?
- 11) Ultrazyme, a brand of digestive enzymes (Cheney)
- 12) Silymarin /milk thistle (Cheney)
- 13) Magnesium Glycinate (Cheney)
- 14) EFA (Cheney)

I'll continue Lamisil, probiotic, Armour thyroid, and aspirin. Have been trying NADH (coenzyme niacin). I'm not sure what I'll do. I think it helps.

I feel like a light bulb is slowly coming on in my brain. Maybe the pieces will make more sense soon. Do more women get Candida problems than men do? I'm thinking that might be because of hormonal balancing act? (Are both of you saying "duh..."). I wonder. Many more women get chronic fatigue syndrome (CFS) than men. (80% women).

Polly: Yes, more women get candida problems than men do. More women get MS, scleroderma, and Lupus than men do too. Hormones are a big part of the picture in all of these conditions. Your liver health has a lot to do with your hormones.

Shelly: Regarding reduced glutathione (or Immunocal like Dr. Cheney uses), Cheney says

that if one cannot tolerate high doses of glutathione that "*indicates defects in liver sulfoxidation*" Is that what you are talking about with MSM and building sulfur, Polly? Would the reduced glutathione be counterproductive?

Polly: I'm not sure why he came to that conclusion. However, when a supplement of glutathione is taken, some of it breaks down into its component parts in the stomach. One of these is cysteine. The cysteine may reduce to taurine then sulfite then sulfate. However, some people have a problem converting the cysteine into these other substances. Perhaps that is why they are intolerant to glutathione supplements. Or it might have something to do with the thyroid. Cysteine suppresses thyroid. I know that even one pill of glutathione or cysteine use to give me a headache. (Now, subsequent to getting some thyroid, these don't bother me.) Personally, I did better with tri-methyl-glycine, MSM, and coenzyme B6.

Shelley: Cheney says,

"EFA's can help regulate menses and reduce PMS through its conversion by gut bacteria into adaptogenic estrogen-like compounds."

But didn't you just say that the liver needs to get rid of estrogen and we need to protect the poor liver from the extra estrogen being recirculated back to the liver from the gut? Am I lost?

Polly: You are lost, but it isn't your fault. Some doctors still think that phytoestrogens and adaptogenic estrogen-like compounds are good for us. If essential fatty acids (EFA) oils or their lignans can be converted into any estrogen-like compound, this property would lead me to avoid EFA oils, not take them.

Christine: I was able to stop heavy bleeding by taking mega-GLA oil for three months. A gynecologist explained to me that the bleeding was not caused by low progesterone but by my prostaglandins being ‘on the blink.’

Polly: Interesting. Vitamin E and A got rid of my heavy bleeding. I’ve read articles that claim these particular vitamins have helped many women with this problem.

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Migraines

Polly: There are many things associated with dysbiosis that make a person more susceptible to migraines. Often this person has food allergies, hypoglycemia, low magnesium, low taurine and low coenzyme B6. Sometimes the bowel flora creates substances that either dilate or constrict blood vessels, depending on what we have eaten. For example, Clostridia is a bacteria that is more likely to take over the bowel environment after administration of antibiotics. When Clostridia is grown in a medium containing casein (a milk protein), then the Clostridia produces the vasoactive amines of histamine, tyramine, agmatine, serotonin, putrescine and cadaverine. [1] These could cause a migraine. All of these factors makes us more susceptible to migraines. Fortunately, there are a few things you can do to help yourself.

How A Migraine Starts

Polly: A migraine starts with a clumping of platelets, and a release of serotonin from the platelets, which raises the free serotonin in the plasma. This free serotonin causes the constriction of blood vessels. There is also a release of polyunsaturated linoleic acid during a migraine. This increases the loss of serotonin

from platelets and adds to the blood vessel constriction. This initial phase is followed by the painful rebound phase where the release of serotonin diminishes, and the blood vessels expand. This expansion is believed to be the source of the pain.

Magnesium

Polly: Additional magnesium is one of the first things to try. In people with very low serum magnesium, a simple drip of magnesium sulfate may eliminate the migraines. [2] Magnesium is very important in the treatment of migraines. Magnesium inhibits platelet aggregation and stabilizes platelets and mast cells. This keeps them from dumping their serotonin and initiating a migraine. Oral magnesium might not be adequate to correct this problem. Intestinal absorption of magnesium can be impaired by intestinal irritation. Therefore, you may want to ask your doctor for a magnesium drip, or perhaps try Epsom salt baths.

However, be wary of treating yourself with oral magnesium during the painful stage of a migraine. Magnesium causes blood vessels to relax. Therefore, although very important to the treatment of migraines, if taken during the

painful stage, magnesium may make things worse by adding to the expansion of the blood vessels. In contrast, calcium causes blood vessels to contract, and one might want to use a little calcium during the painful stage of a migraine.

B6 And B2

Polly: In general, all the B vitamins can be helpful in the treatment of migraines. However, B6 and B2 seem to be the most important. B6 is needed to convert tryptophan into serotonin. It is also needed for many liver functions. One of the reasons that B2 is important is that it helps the body convert B6 into its active coenzyme form. MSG will often trigger a migraine. If you are particularly sensitive to MSG (monosodium glutamate), this is an indication that you might be very deficient in B6 or coenzyme B6.

Unsaturated Oils

Polly: Eating unsaturated oils can trigger a migraine. Unsaturated free fatty acids liberate serotonin from platelets. During a migraine, the omega-6 essential fatty acid called linoleic acid increases in the blood. Since linoleic acid liberates serotonin from platelets (both invitro and invivo), this is probably a key factor in the etiology of migraines. [3] The increased linoleic acid may also increase the formation of prostaglandins, which are also a key player in migraines.

Fish oil is unsaturated, yet a moderate amount of it can help people with their migraines. Fish oil makes the platelets less sticky, so they are less likely to clump together and release their serotonin. Fish oil also helps balance the prostaglandin profile and can reduce inflammation. However, I wouldn't use an excessive amount of fish oil, because any

unsaturated oil in excess could initiate a migraine.

Food And Herbs

Polly: Many people have been able to avoid migraines merely by identifying and avoiding foods that trigger the attacks. You need to do some detective work here. However, there are several foods that are more likely than others to trigger an attack.

1. Identify and avoid allergenic foods. Food allergies can initiate a migraine because they cause platelets to clump. This releases serotonin.
2. Tyramine is an amine that can cause blood vessels to alternately constrict and expand. Tyramine can raise blood pressure. Many people have noticed that tyramine can trigger a migraine. Tyramine is high in wine and aged cheese. It is also high in aged, cured or spoiled meat. Some types of bacteria can create tyramine from the amino acid tyrosine.
3. Nitrates in cold cuts, hot dogs, sausage and bacon may trigger a migraine.
4. Caffeine constricts blood vessels. Caffeine withdrawal can precipitate a migraine. However, a little caffeine during the painful stage of a migraine (when blood vessels are expanded) may help get rid of a migraine. (My husband uses coffee ice-cream. The calcium in ice-cream also constricts blood vessels.)
5. During the painful stage of a migraine, don't drink or eat food that is high in potassium (bannas, oranges, dried fruit, nuts, tomato juice). Potassium causes the blood vessels to expand.

6. The beta-phenylethylamine in chocolate is thought to precipitate a migraine in some people.
7. Avoid MSG (monosodium glutamate) and its cousins of modified food starch and hydrolyzed protein.
8. Alcohol dilates blood vessels and is a trigger for some people. Of the alcoholic beverages, the most apt to trigger a migraine are red wine, beer, champagne and Scotch. The phenols, sulfites and tyramine in red wine are some of the factors that make red wine high on the list of triggers. The estrogen in beer may be a trigger for some.
9. Rapid changes in blood sugar can precipitate a migraine. Eating many small meals may help by reducing the swings in blood sugar. When the blood sugar drops, the body increases the free fatty acids (a form of fat) in the blood. As mentioned earlier, the unsaturated free fatty acids release serotonin from cells, and this may precipitate a migraine. Also, the body will try and stop the drop in blood sugar by releasing adrenaline (epinephrine). This also affects the blood vessel constriction and expansion.
10. Often, migraines will occur in the early morning hours. If you take some cornstarch before bedtime (like diabetics often do) this will help keep your blood sugar from dropping so much in the night.
11. Ginger may help with the nausea associated with migraines. 4 to 6 grams. [4]
12. Ginkgo biloba extracts may help by reducing the formation of platelet-activating factor. [5] (Ginkgo biloba is also an anticoagulant.)
13. The leaves from the plant feverfew are used as a migraine preventative. A component in feverfew, parthenolide, restricts the release of serotonin. The feverfew may also have some anti-inflammatory properties. Feverfew should not be taken with aspirin. A tea may be more effective, since many of the capsules on the market may have very little of the herb in them.
14. Butterbur Extract (Petasites Hybridus) is an anti-inflammatory and a vascular anti-spasmodic herb that can prevent migraines. Taken twice a day, it cuts the frequency of migraines in about half. [6] One place to purchase is at www.vrp.com, phone (800) 877-2447
15. Lemon balm relaxes the nervous system, acts as an antispasmodic and helps with both migraines and intestinal upsets. Here is one place to purchase it. Phone (800) 780-5902 or <http://www.rain-tree.com/rtmprod.htm> This company has an excellent reputation for the quality of their herbs.

PST, Sulfates And Bioflavonoids

Willis: Dr. Waring states that those with the PST/low sulfation problem have central nervous system problems from the toxic amines. [7] For example, migraine sufferers usually have low PST activity, and are readily affected by dietary "triggers", especially those with amines. Compounds such as flavonoids (red wine and citrus fruits), aged cheese, beers, chocolate, and strong odors inhibit PST leading to headache in the less resistant. Apple juice, citrus fruits, chocolate, and paracetamol/acetaminophen (Tylenol) were precisely those substances that were known to precipitate migraine attacks in susceptible individuals.

Polly: Thank you Willis. So you're saying that one way to help get rid of migraines is to increase your intake of sulfates and to avoid things that interfere with the PST enzyme.

Willis: Sulfates or lack of them will affect the brain, the pancreas, the digestion, the bowel, everything. If low, sulfates need to be supplemented to restore the liver's sulfation pathway and to help the liver remove some of the dietary migraine triggers.

Polly: The sulfation pathway may be important for removing migraine amine triggers, but it is also important for removing excess serotonin. On one of the autism lists, I read that excess serotonin can cause migraines, especially if it throws off the ratio of dopamine to serotonin in the brain. (Dopamine is made from norepinephrine/tyramine.)

Some people recommend using bioflavonoids to reduce the inflammation associated with migraines, yet you implied that too many bioflavonoids may actually contribute to migraines in some people?

Willis: Bioflavonoids are valuable antioxidants in the modest amounts found in most foods, and perhaps are useful for short-term supplementation (eg. Quercetin for resisting hay fever). However, bioflavonoids can greatly hinder the liver's Phase I detox pathways. Citrus fruit, primarily grapefruit and Grapefruit Seed Extract, hinder this pathway so much that we are told to never take drugs and these together for the combination could produce overdose. This Phase I hindrance can be very detrimental unless the Phase I pathway is overactive initially.

Hormones

Polly: Quick changes in estrogen and progesterone levels seem to be part of the problem. Estrogen can contribute to the constriction of blood vessels and can enhance the leaking of serotonin from cells. Hormones can also change the density of serotonin receptors.

Women who experience migraines during the last half of their cycle usually do better with a supplement of natural progesterone at that time. Women who experience their migraines during the first half of their cycle usually do better with a small estrogen supplement at that time. (See section on migraines in the Estrogen And Progesterone chapter.)

Taurine

Polly: Correcting a taurine deficit would help prevent migraines by stabilizing the platelets against aggregation. [8] At 400 mg per day, taurine reduced platelet aggregation by 30%, and at 1600 mg per day, taurine reduced platelet aggregation by 70%. Taurine may also be useful in the treatment of migraines because it may help calm the nervous system and reduce high blood pressure. Taurine is also needed to retain magnesium. [9] Magnesium is very important for the prevention of migraines. Unfortunately, blood levels of taurine aren't necessarily indicative of brain levels of taurine.

Aspirin

Polly: Aspirin, naproxen (Anaprox) or other prostaglandin blockers may be helpful because they can reduce inflammation. However, if you know that you are reacting to a food, don't take aspirin. Aspirin will increase the absorption of the food and could make your reaction worse. Also, be careful because there can be contaminants in aspirin, and perhaps for this reason aspirin has been known to induce asthma in some people. Those with autism or mercury poisoning should be wary of using aspirin because salicylates inhibit the PST enzyme.

However, if you aren't sensitive to aspirin, it is very good for you. Aspirin improves respiration and energy production of the cell's

mitochondria. Also, aspirin decreases the production of estrogen. (Aspirin inhibits the release of fatty acids from both phospholipids and triglycerides. This reduces the level of circulating free fatty acids. Unsaturated free fatty acids stimulate the enzyme that synthesizes estrogen. Thus aspirin can reduce the production of estrogen.) [10]

Aspirin (acetylsalicylic acid) releases tryptophan from storage. Dr. Gedye suggests that the best time to try aspirin at the very beginning of the painful stage when the increased tryptophan has the potential to slow down the drop in serotonin levels. However, if you take too much aspirin at this time, you might induce a rebound (medication-induced) headache. [11]

Stress

Polly: Stress releases fatty acids from storage. If these free fatty acids are unsaturated, this causes serotonin to leak from cells. This keeps the blood vessels constricted. Constriction followed by relaxation can cause a migraine. Sometimes it is the change in stress levels that trigger a migraine. Eg, you are fine during the week, but when the weekend comes and you are able to relax, the migraine shows up. (Migraines are not just constricted or expanded blood vessels. They are a problem with regulating the change in the size of the blood vessels.)

Histamines

Polly: Some, but not all migraines involve a strong release of histamines, which expand blood vessels. Therefore, for some people, anti-histamines can be helpful. Getting your magnesium levels up can also help because low magnesium leads to high histamine levels. Unfortunately, opiate pain killers increase the release of histamine. [12]

Migraines And Tryptophan

Polly: Dr. Gedye [11] has suggested that when the migraine pain first starts, it may be helpful to take a combination of blood vessel constriction agents—caffeine, calcium, anti-histamines, aspirin, tryptophan and niacin. [11] (The niacin was to help the tryptophan convert into 5-HTP.) It was very important to use the combination when the pain first started. However, if this initial dose isn't enough to help, then he suggests repeating the dose four hours later. This combination helped 9 out of 12 people to obtain 90 to 100% relief in about an hour. Although this was a preliminary study, it sounds like it may be a good method for many people. Of course, don't overdo the constriction agents. All you want to do is keep the blood vessels from expanding too quickly. You don't want to hit the body so hard with these constriction agents that you end up with a rebound headache.

Dr. Gedye used 500 mg of L-tryptophan in his migraine study. Without a prescription, the only place that I've seen L-tryptophan available is for pets. That isn't a very reassuring source for a nutrient. 5-HTP can be expected to create a much stronger increase in serotonin than just tryptophan. Therefore, the dose of 5-HTP should be much much less. However, I don't know how much to use. The body usually converts only about 1% of its tryptophan into 5-HTP, but under stress, more of it is converted to 5-HTP. So it is very hard to say how much 5-HTP would be helpful during a migraine and not cause a rebound effect.

Susan in Olympia: I am convinced that my migraines were a part of this whole candida complex. I started getting migraines last spring and was having one to two headaches per week, some lasting as long as three days. They rendered me completely bedridden. I even checked into a

hotel once because I knew I couldn't rest at home. Anyway, when this started happening to me I read everything I could about migraines, did research online, etc, in addition to seeing a neurologist and trying various drugs my doctor gave me. The drugs usually made me feel nearly as bad as the headaches, except that I could function. One of the books that I read mentioned 5-hydroxy-tryptophan, which is a precursor to serotonin. I started taking it. I didn't notice anything for weeks, but after about four weeks the headaches suddenly dropped off in frequency. I went back and read about 5-HTP again, and noticed that the literature said that results would occur about 30 days after starting the supplement, and would improve after 60 days, and again after 90 days. I've been taking 5-HTP ever since, and it is safe to say I never get those insufferable migraines now. My last bad headache was at least five months ago.

Polly: Susan, How much 5-HTP were you taking each day? 5-HTP is not good for you if you don't need it. How did you determine that you were deficient in it?

Susan in Olympia: I started taking 100-200 mg per day, and kept that up for about six weeks. Now I take about 100 mgs. per day. I do remember reading somewhere that too much 5-HTP isn't good, but I can't remember where I read that or what the reason was? I thought I remembered that it wasn't good to take long-term. Anyway, whatever I read didn't cause me to think there would be any problem in trying it. Fortunately it has made a big difference for me. However, it looks like I need to do a little research to find out more about it so that I can stop taking it if that is what is indicated now. I remember that most of the studies I found on 5-HTP had to do with helping people to lose

weight. It has not had that effect on me in any way.

Polly: Glad you are doing better. I've also heard that the 5-HTP gets rid of migraines in some people. A normal amount of serotonin may make it easier for the body to control fluctuations. However, you probably don't want to take more 5-HTP than necessary. If you take too much 5-HTP, it might even contribute to migraines by increasing serotonin too much.

Dr. Felix Sulman, head of the Applied Pharmacology department at Jerusalem University, found many stress-related symptoms in those unable to eliminate serotonin, such as aggression, hot flashes, irritability, sleeplessness, pains around the heart, difficulty in breathing, a worsening of bronchial complaints, irrational tension, anxiety and nightmares.

Serotonin depresses blood circulation in the brain when animals are pretreated with estrogen and progesterone. [13] Pancreatic secretions normally induced by secretin and acetylcholine are inhibited by serotonin. [14] Serotonin can cause muscle rigidity. Serotonin promotes lipid peroxidation and blood clotting. It suppresses mitochondrial respiration and thus causes fatigue. [15] Besides a well functioning liver and adequate sulfates, natural factors that keep serotonin levels under control are thyroid, protein, magnesium, vitamin B1, lowered tryptophan consumption, progesterone and light. [16]

You will find an excellent interview by Mary Shomon of Raymond Peat, PhD, at this site: <http://thyroid.about.com/health/thyroid/library/weekly/aa110800a.htm> He said,

“tryptophan excess is significantly antagonistic to thyroid function. The muscle meats contain so much tryptophan and cysteine (which is both antithyroid and potentially excitotoxic) that a

pure meat diet can cause hypothyroidism. In poor countries, people have generally eaten all parts of the animal, rather than just the muscles—feet, heads, skin, etc. About half of the protein in an animal is collagen (gelatin), and collagen is deficient in tryptophan and cysteine. This means that, in the whole animal, the amino acid balance is similar to the adult's requirements."

Not much tryptophan is needed by the body. However, some is required. Here are a few more considerations when using tryptophan:

1. It is important to keep tryptophan balanced with tyrosine, phenylalanine and the branch chain amino acids. [17]
2. Children probably need more tryptophan than adults because they are growing so fast
3. The amino acid alanine is required to use tryptophan and B6 properly. (Yet, don't take alanine if you don't need it. Alanine will inhibit taurine metabolism. [18] Alanine will also cause taurine to be lost in the urine.)
4. You also want to be careful about combining 5-HTP with drugs, including weight-loss, antidepressant and migraine drugs. Anyone with poor liver function should be wary too. If you are taking anti-fungals or something else that interferes with the liver, the 5-HTP could pose a serious health risk.

Susan in Olympia—later: I took 5-HTP for migraines and it was very effective. However, it gave me severe stomach pain... and eventually (after many expensive and inconclusive tests...) I found out that 5-HTP can cause serotonin production in the stomach, which is very painful.

Marilyn in Seattle: When I took 5-HTP, I wanted to sleep 10 hours a day, and I would wake unrefreshed. My organics acid test

indicated that there was need for it. My levels of 5-hydroxyindolacetate were low and this supposedly indicates serotonin catabolism. The test report suggested 5-HTP, but I didn't like the decrease in energy—I want to sleep a lot as it is. I didn't notice the 5-HTP affecting bowel behavior. Maybe I didn't take enough or take it long enough to affect things.

Branch Chain Amino Acids

Polly: Branch chain amino acids should be kept in balance with tyrosine and tryptophan. All of these compete for the same transport system. I've not seen anyone else mention this, but it seems logical that this balance is important in the control of migraines. The branch chain amino acids could act as a buffer preventing large percentage swings in tyrosine and tryptophan. Also, branch chain amino acids are a fuel source that is readily converted into glucose to help the body keep the blood sugar from dropping too low. Unfortunately, supplementation with branch chain amino acids can increase ammonia production, and reduce taurine. Therefore, you don't want to take more branch chain amino acids than the body can handle. I suggest that the branch chain amino acids should be gradually restored to normal levels if they are low. Also, taurine levels should be brought up before trying branch chain amino acids. Branch chain amino acids should be taken at a separate time from any tryptophan or tyrosine supplements to improve absorption.

Other Things To Try

1. A sinus infection can irritate nerves that send messages to the hypothalamus. Spraying the analgesic lidocaine intranasally may abort a migraine.

2. Keeping the same bedtime and wakeup time throughout the week helps.
3. Drink plenty of water. Try ice water or ice-cream to cool the back of the throat. (Assuming you aren't sensitive to milk.)
4. Ice packs at the back of the neck or around the eyes may help.
5. MSM lotion rubbed on the back of the neck can help control muscle spasms and thus may reduce the pain. MSM (a form of sulfur) when taken consistently, helps some people get rid of their headaches. [19]
6. There are some other aspects to migraines like posture and exercises, which are covered in the book *Migraine What Works*, by Joseph Kandel, MD and David Sudderth, MD.
7. There are headache clinics where you can receive help too.

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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.