

Nutrients and depression

by Chad Krier, N.D., D.C.

Depression is one of the most common emotional disturbances seen by doctors today. Around 25% of all Americans will suffer from some form of depression at some point in their lifetime. In fact, depression is the leading cause of hospitalization for mental illness. Warning signs for depression include poor appetite or increased appetite, poor sleep or too much sleep, fatigue, loss of interest in pleasurable activities, poor concentration, feelings of worthlessness, and suicidal ideations.

A few simple nutrients can have a profound effect on brain chemistry and mood.

Depression can be reactive (an external situation such as financial trouble), endogenous (no obvious trigger—perhaps biochemical, hormonal, or nutritional), or drug induced (oral contraceptives lowering B vitamins which are needed for neurotransmitter synthesis). Causal factors are varied but can include any of the following: abuse of alcohol, caffeine use, anti-hypertensive medications, hormonal imbalances, nutrient deficiencies, eating too many simple sugars, or brain chemical imbalance (neurotransmitters).

In this article, we will focus on nutrients that have a balancing effect on brain chemistry. How our brain functions is largely dependent on the molecular environment we provide for it. We know that our brain performs poorly when localized deficiency states exist in the nervous system. Our goal should be to prevent nutrient deficiency and promote balance to optimize normal brain metabo-

lism. When using nutritional therapy in the correction of mood disorders we often dose in amounts much greater than those required to simply prevent a deficiency. With the therapeutic loading of nutrients, it may be possible to overcome genetic roadblocks that have been passed onto us.

One of the most important things we can do for brain health is balance our neurotransmitters. Neurotransmitters are chemicals used to relay, amplify, and modulate signals between nerve cells. Amino acids (breakdown products of protein) serve as the building block for neurotransmitters. Both phenylalanine and tyrosine (amino acids) can be used to make the brain chemicals dopamine (motivation, “wanting,” pleasure, associated with addiction and love) and norepinephrine (wakefulness or arousal). Tryptophan (amino acid) is needed to make the neurotransmitter serotonin (memory, emotions, wakefulness, sleep, and temperature regulation).

How do we know which one to use? At The Center, we measure amino acids in the blood and neurotransmitters in the platelets in order to find an individual’s unique blood brain balance. For adults the recommended therapeutic dose for tyrosine is between 3000 and 7000 mg daily in divided doses. The therapeutic dose for tryptophan is between 1000 and 6000 mg daily in divided doses. Tryptophan tends to work best in depression populations that also suffer from insomnia (melatonin connection). Amino acids are best taken away from protein sources. I generally recommend taking amino acids away from meals with half a glass of

continued on page 2

LDL cholesterol: bad guy or bad science?

For years, low-density lipoprotein (LDL) cholesterol has been known as the “bad guy” for your coronary arteries. This appears to be the wrong information and the statins that doctors prescribe to correct the LDL problem appear to be wrong.

According to a research paper in *The Journal of the American Medical Association*, “Our findings do not support the hypothesis that hyper-cholesterolemia (high LDL cholesterol levels) or low HDL-C (high-density lipoprotein cholesterol) are important risk factors for all-cause mortality, coronary heart disease mortality, or hospitalization for myocardial infarction [heart attack] or unstable angina in this cohort of persons older than 70 years.”

Another research article entitled “LDL Cholesterol: Bad Cholesterol or Bad Science,” appeared in the *Journal of American Physicians and Surgeons*. The researchers came to the same conclusion about LDL cholesterol. ^[H]

Inside this issue...

The good humor man	2
Using estrogen and progestin or bioidentical hormones.	3
Information worth knowing.	4
Test of the Month—Vitamin B ₂ (riboflavin).	4
Gardening time again!.	5
Cardiovascular botanicals.	5
Food of the Month—Cabbage.	5
School days.	6
Choline and betaine combat inflammation.	6
Case of the month.	6
Special discounts.	7
Upcoming events.	8
Eat lean meat.	8

EDITORIAL BOARD

Gary Branum, Ph.D.

Mary Braud, M.D.

Joseph Casciari, Ph.D.

Donald R. Davis, Ph.D.

Michael J. Gonzalez, D.Sc., Ph.D.

Ron Hunninghake, M.D.

Glen Hyland, M.D.

James Jackson, Ph.D.

Rebecca Kirby, M.D., M.S., R.D.

Chad A. Krier, N.D., D.C.

Xiaolong Meng, M.D.

Nina Mikirova, Ph.D.

Neil Riordan, Ph.D.

PUBLICATION INFORMATION

Editor: Richard Lewis

Associate Editors:

Marilyn Landreth & Barbara Dodson

Health Hunter Newsletter is published as a service 10 times a year by the Olive W. Garvey Center for Healing Arts, a division of The Center for the Improvement of Human Functioning International (CIHFI), a non-profit organization. A Basic membership is \$25 for one year, \$35 for outside the U.S. A Premium membership is \$57 for 1 year, \$67 for outside the U.S. To join, see the order form on page 7 of this issue. (Prices good through 2008.)

© 2008/CIHFI

Special written permission is required to reproduce, by any manner, in whole or in part, the material herein contained. Write: Permissions, 3100 N. Hillside Ave., Wichita, KS 67219, USA. Phone: 316-682-3100.

Clip art © 2008 JupiterImages Corporation.

The information in this publication is meant to complement the advice and guidance of your physician, not replace it.

Share information about The Center with your family and friends by inviting them to visit our websites. Meet us at the following addresses:

www.brightspot.org

or

www.healthhunteronline.org

Nutritional Medicine



by Ron Hunninghake, M.D.

The good humor man

The summer of my sophomore year of college was another turning point for me. I became a Good Humor Man. Living with my girlfriend's family on Long Island, New York, I took a job selling Good Humor ice cream. Being lowest man on the job totem pole, I filled in for the veterans who were on vacation. So, everyday was an adventure in discovery, as I would struggle through New York traffic in a slow, heavy ice cream truck that was loaded with chocolate éclairs, orange cream bars, and multiple flavors of ice cream cups.

Often, I wouldn't arrive at my designated route until late in the morning, and, not knowing the kids' schedules, I would miss prime time opportunities to sell them ice cream. I didn't sell much. I was often hungry and ended up eating the meager profits I did make.

Once, when I had stayed too late in the Bronx, a big gang of rough looking teens ran up and demanded that I stop the truck. The leader snarled, "Give me a chocolate éclair." (I would have given him the whole box if he had wanted it!) As he took the treat from my trembling hand, he looked me straight in the eye and said, "Have you got change for \$5?" I gave him the correct change and he and his gang meandered off without further incident, absorbed in the bliss of chocolate éclair. I made a bee-line back to home base.

Looking back, I realize that being a Good Humor Man wasn't funny...it was a lesson in attitude. Maintaining a sense of humor in even the worst of circumstances will usually carry you through. Always look for the lesson...it is there, much like the punch line of a good joke...waiting for you to appreciate its value. H

Nutrients and depression—Cont'd from page 1

juice (1/2 water and 1/2 juice). It is best to start with low doses and titrating up slowly to avoid adverse reactions. Side effects from too much tyrosine include anxiety, sweating, rapid heart rate, and an increase in blood pressure. Too much tryptophan can often lead to headaches.

What's the difference between drug therapy and amino acid therapy? Drug therapy for depression tends to work through inhibiting certain enzymes. By decreasing the functioning of brain enzymes the medicines can prevent the breakdown of neurotransmitters. If you don't break down the brain chemicals, you keep more of them around in the brain, which allows for more nerve communication. Supplementing with therapeutic levels of amino acids actually allows our nervous system to create more neurotransmitters from new material (amino acids) which allows for better nerve communication. The major difference between the two therapies is that the medicines make use of what is already there (recycled parts) and the amino acids build up a new supply (brand new / factory sealed) to replace what has been used up and to improve

on the total pool of neurotransmitters.


Vitamin B12 and folate are also important for neurotransmitter balance. Both are important for raising central nervous system (CNS) serotonin levels. Folate is important for making most of the neurotransmitters found in the brain through a process known as methylation. Nearly 1/3 of all depressed patients may have low folate levels. Conventional lab values (reference ranges) for both B12 and folate may be inadequate. We know that blood levels of nutrients do not equate with the CNS levels of nutrients. To achieve therapeutic benefit, we need therapeutic levels of B12 and folate much greater than normal lab parameters. Besides measuring absolute values of B12 and folate, we can measure a functional test known as homocysteine. High homocysteine means your brain could use more B12 and folate. The therapeutic dose for adults of folate is 2-15 mg daily in divided doses with food. Folate should not be used in high dosages if you are on anti-seizure medication. Methyl-B12 can be taken sublingually (under the tongue) at a

continued on page 3

of 5000 mcg daily. Injections of B12 and folate may work better initially to quickly reach therapeutic levels.

Beyond neurotransmitters it is important to support the structure and function of nerve cell membranes (where communication between cells takes place). Because the membranes are largely made of fat, it is important to optimize healthy fats in the diet and through supplementation. Omega-3 fatty acids (giggle juice) from cold ocean fish supply the right type of fats to support our brain health. Omega-3 fats play a major role in cell signaling (communication) and regulating inflammation in the central nervous system. Omega-3 fats also support the production of Brain Derived Neurotrophic Factor (a protein that supports the growth of nerve cells through adulthood). Low levels of brain derived neurotrophic factor have been correlated with depression. Supplementing 9-10 grams per day of cod liver oil can be effective for depression. It is best to take the cod liver oil with food in divided doses. After opening your cod liver oil it is best to keep it refrigerated.

Many who suffer from depression note that their mood often changes for the worse around wintertime. Researchers are beginning to pin this phenomenon on the sun and vitamin D. We know that depression scores are worse at northern latitudes where there is less sun and, hence, less vitamin D production in the skin. Many Americans are showing up extremely low in vitamin D on lab studies. This is a problem because vitamin D works as a hormone in our body which can have positive effects on our mood. The brain has vitamin D receptors which need to be stimulated for our brain health. With the fear of the sun and lack of dietary vitamin D our brains are not receiving the stimulus they yearn for. Supplementing with 1000-4000 IUs of active vitamin D (D3) with food daily can build up vitamin D to adequate levels.

A few simple nutrients can have a profound effect on brain chemistry and mood. You may want to pick a few of the above nutrients and slowly build up over time to see how they benefit your mood. The overall goal should always be to take the hitch out of your “get along.” 

HEALTH HUNTERS AT HOME

Using estrogen and progesterin or bioidentical hormones

The Women’s Health Initiative (WHI) trial was prematurely canceled in 2002. The trial was initially set to run from eight to nine years, but was ended in 5.6 years “...because of an increased risk of breast cancer and a failure to demonstrate overall health benefits,” wrote Gerardo Heiss, M.D., and cohorts. Now, three years later, *The Journal of the American Medical Association* (JAMA) published a study following up on the women in the initial study.

The original study used conjugated equine estrogen (CEE) plus progesterin (medroxyprogesterone acetate or MPA) versus a placebo. In addition to the breast cancer, the CEE plus MPA had higher risks of cardiovascular disease, coronary heart disease, stroke, and venous thromboembolism (a blockage of the blood vessels). Those taking CEE and MPA did have lower risks of broken bones and colorectal cancer.

In the follow-up study, the researchers concluded by writing, “...a greater risk of malignancies was observed in the CEE plus MPA compared with the placebo group.” They added that the women needed to continually have regular check-ups with doctors to see if this higher risk of malignancy continues.

But what would have happened if the initial WHI study had been conducted with bioidentical hormones instead of the CEE plus MPA? Bioidentical hormones were not used, so this is only speculation.

First of all, what is a bioidentical hormone? It is an exact chemical replica of what is produced in the human body—something that CEE and MPA cannot say. The sterols present in soybeans and yams are converted in the laboratory into human hormones. The bioidentical hormone is a replacement hormone, while synthetic hormones, such as CEE and MPA, are a substitution for the original hormones.

Bioidentical estrogens contain estrone (E-1), estradiol (E-2), and estriol (E-3). Estriol is the forgotten hormone, even though it is 80% of the estrogen

circulating in the blood. It also is the most benign of the estrogens. It exerts a counterbalancing effect against estradiol and estrone, it rapidly rises during pregnancy, and it is at much lower levels in women with breast cancer. Estriol also improves cognitive function.

Breast cancer is the number one fear expressed by women when discussing hormone replacement therapy with doctors. This is because studies such as WHI have been well circulated. At the same time, nine independent studies in five countries failed to demonstrate any increased incidence of recurrent breast cancer with bioidentical hormone replacement therapy. This gets little notice in the public press.


Women who are taking bioidentical hormones have little to worry about when it comes to recurrent breast cancer. Two studies using bioidentical HRT in breast cancer survivors followed patients with all stages of breast cancer



for either 24 months or 36 months. They concluded by saying that “HRT had only beneficial and no discernable effects on breast cancer detection and outcomes.” They added “HRT for menopausal

symptoms by women treated for primary invasive cancer is not associated with an increased breast cancer recurrence or shortened life expectancy.” According to this, bioidentical hormones are safe to use.

There is the second concern about CEE and MPA—heart disease. Cardiovascular disease is the number one killer of women in the United States. Bioidentical hormone replacement therapy helps protect the heart and its circulatory system, according to research. For instance, a University of California, San Diego study shows a decrease in plaque with HRT. Two other studies show estrogen actually lowers blood pressure for women, a heart protector.

According to these studies, bioidentical hormones may be woman friendly. 

—Richard Lewis

INFORMATION WORTH KNOWING

by Marilyn Landreth, M.A.

Asthma is a serious life-threatening, widespread problem affecting an estimated 15 million men, women, and children in the United States. F. Batmanghelidj, M.D., explores the meaning of asthma, why it happens, and discusses how it can be managed, prevented, or cured. Research is now focusing on the interactions of genetics, the environment, and the immune system in causing asthma. One question that needs to be answered is, "Why has asthma increased so dramatically although the gene pool has not changed in the last two decades?" What is happening to make breathing so difficult? Does the intentional dehydration of the body cause many painful, degenerative diseases? Dr. Batmanghelidj explores these and other questions in his book, *ABC of Asthma, Allergies & Lupus*. The questions this month are taken from his book.

1 Many people believe that their body only needs water when their mouth is dry. Our bodies give out clues when we are dehydrated and that lack of water affects various organs in different ways. The _____ is made up of 85% water and is most sensitive to dehydration.

- a. liver
- b. heart
- c. brain
- d. pancreas

2 When there is a water shortage in the brain various symptoms develop: feeling tired although not working strenuously, feeling flushed, and feeling _____ are all symptoms that the brain is experiencing dehydration problems.

- a. irritable with little cause
- b. anxious without justification
- c. dejected and inadequate
- d. all of the above

3 Heartburn, dyspepsia, joint pain, back pain, migraine headaches, and fibromyalgia are crisis calls by the body for water. Even bad breath is an indicator of a shortage of water in the body.

- a. True
- b. False

4 The lungs and heart muscle exhibit a(an) _____ process that is produced by dehydration—to

bring more microcirculation to the sites of dehydration.

- a. dyphoid
- b. inflammatory
- c. circulation
- d. nutritional

5 Water is important to the act of breathing and forcing air out of the lungs. It is also vital for enabling _____ blood cells to pick up more oxygen as they pass through the lungs.

- a. white
- b. red
- c. blue
- d. myoglobin

6 Salt is vital for the regulation of the acid/alkali balance in the body, especially for the brain cells.

- a. True
- b. False

7 When we become dehydrated, _____ sees to it that the available water in the body is strictly preserved and is distributed according to priority of function.

- a. potassium
- b. manganese
- c. heparin
- d. histamine

• FOR ANSWERS, SEE PAGE 7 •

Test of the Month

by Dr. James A. Jackson,
Director, Bio-Center Laboratory

Vitamin B₂ (riboflavin)

Riboflavin is a member of the B vitamin family. If one searches the old medical literature one may come up with 22 different B vitamins. Most now consider eight vitamins to make up this important group of essential nutrients. Remember, essential means that our body cannot make them.

As with most nutrients, B vitamins often work together to deliver many health benefits to the body. They support and increase the rate of metabolism; maintain healthy skin and muscle tone; enhance immune and nervous system function; and promote cell growth and division, including the red blood cells that help prevent anemia. Also, together they help fight the symptoms and causes of stress, depression, and cardiovascular diseases.

All B vitamins are water-soluble and are spread throughout the body. Most must be replenished daily as any excess is excreted in the urine. The exception to this rule is vitamin B₁₂ (cobalamin). A six-year store of this vitamin is found in the liver, despite its water solubility.

Some of riboflavin's functions are energy production; synthesis and breakdown of fats; it activates B₆ and folic acid; and it is important in the synthesis of corticosteroids, red blood cells, and glycogen. Deficiency symptoms include cracks in the facial skin and inflamed lips, smooth tongue, growth retardation and birth defects, sensitivity to sunlight, pharyngitis, and dermatitis.

Good sources of riboflavin are brewer's yeast, wheat germ, broccoli, kidney, liver, almonds, milk, cottage cheese, and yogurt. Riboflavin is unstable in light or alkaline conditions, and oral contraceptives increase the need for this vitamin. The RDA for riboflavin is 1.3 mg. Supplementation may be from 1.7 to 50 mg or higher. There is no toxic level established. We routinely measure this vitamin in the Bio-Center Laboratory at the request of the Center's physicians. [H]

Life has no other discipline to impose, if we would but realize it, than to accept life unquestioningly. Everything we shut our eyes to, everything we run away from, everything we deny, denigrate, or despise, serves to defeat us in the end. What seems nasty, painful, evil, can become a source of beauty, joy, and strength, if faced with an open mind. Every moment is a golden one for him who has the vision to recognize it as such.

—Henry Miller

Gardening time again!

by Gary Branum, Ph.D.


Thunderstorms, warm weather, buds on the trees, grass starting to green up...it just feels like spring! It feels like it's time to get out there and PLANT something.

But let's not get in too much of a hurry. It's still early, and the average date of last frost for our area is about April 9-15, depending on who you talk to and depending on whether you take global warming into account. The latest on record is May 13.

Remember last year? We had extremely cold weather from April 5-10 and we lost most of our fruit crop. If you have a small garden or just a few plants, you might be able to get them in the ground at the beginning of April as long as you can cover them if the temperature drops. The Brightspot Garden usually has about 100 tomato plants, so it's a little impractical to try to cover them. As much as I think it's not going to freeze again this year, it's prudent to wait a couple of weeks.

However, we can start to get ready. It's time to start preparing the garden, cleaning up any over-winter debris, and turning the soil for the first time. All those perennial herbs should be cleaned up by removing any of last year's dead vegetation. Irrigation lines should be checked, repaired, and replaced. If you're going to apply soil amendments or compost, do it now. If you have strawberries, be sure they're watered well so they can get off to a good start under their winter layer of straw. Blackberries should be trimmed to remove any dead shoots and trellised to make picking easier. Keep an eye on the asparagus. I'm thinking we should be starting to harvest some soon.

We can plant some things. Beets, turnips, cabbage, broccoli, lettuce, radishes, and other cool weather crops can be planted any time and should probably be in the ground by now. And, according to tradition, St. Patrick's Day is the time to plant potatoes, so if you don't have them in the ground yet, don't wait much longer.

After I wrote this it started to rain. It looks like we'll have to let things dry out a few days before we can get out there, but that's gardening! 

Herbal History

by Chad A. Krier, N.D., D.C.


Cardiovascular botanicals

Heart palpitations are a common complaint often seen in clinical practice. Palpitations are heartbeat sensations that make you feel like your heart is pounding or racing. You may have an unpleasant awareness of your own heartbeat or may feel skipped or stopped beats. The heart's rhythm may be normal or abnormal. Palpitations can be felt in your chest, throat, or neck. Palpitations are usually not serious and are most often caused by anxiety or stress. However, they can represent an abnormal heart rhythm (arrhythmia). After ruling out heart problems with the help of a cardiologist, patients are often left wondering what they can do to control their abnormal heart sensations.

Botanical therapy can be very useful in controlling palpitations. Lily of the Valley root, Motherwort leaf, Lemon balm, and Hawthorne, used alone or in combination, can often ameliorate

palpitations.

Lily of the Valley root contains cardioactive glycosides (steroid type molecules that control heart rate and rhythm). It is known as a positive inotropic (improves strength of heart contraction) and a negative chronotropic (does not increase heart rate). Lily of the Valley also works as a potent antioxidant and diuretic. Motherwort leaf works as a cardiac tonic, sedative, nerve (calming), and antispasmodic. Lemon balm works as a carminative (calming agent) through its effects on the thyroid gland. Hawthorne is high in flavonoids which fight oxidation and strengthen the vascular system. The amines in Hawthorne improve contractility (contraction strength) of the heart.

The botanicals tend to work fairly quickly and can be a great adjunct in controlling the uncomfortable feelings associated with heart palpitations. 

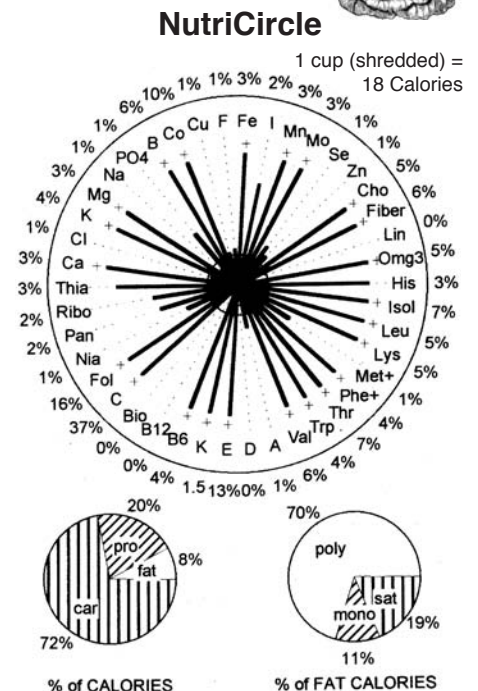



Food of the Month

by Donald R. Davis, Ph.D.



CABBAGE contains an impressive 36 of 42 nutrients in adequate amounts relative to its few calories. A one-cup serving supplies 5% to 150% of recommended amounts of 14 nutrients, including vitamins E, K, and C, folic acid, choline, omega-3 fat, and 5 amino acids—all in only 18 calories. These nutrients and beneficial phytochemicals may explain why cabbage lovers have little bowel cancer. Add cabbage to salads, stir fries, soups, and stews, or serve as steamed wedges. For coleslaw, reduce or eliminate mayonnaise by using plain, whole-milk yogurt, mashed cottage cheese, buttermilk, chopped walnuts, or even sour cream.



The length of each bar shows the amount of one nutrient. If a bar extends out to the inner circle, the food has enough of that nutrient to match the calories it contains. The numbers show nutrient amounts in RDAs per serving shown. The pie charts show the sources of calories (left) and the types of fat (right). 

Mental Medicine

by Marilyn Landreth, M.A.


School days

School plays and/or musicals have always been a part of the educational experience. Even at our one-room schoolhouse we put on at least two performances a year. One would be at a box supper in the fall. Every woman and girl would decorate a box and fill it with good things to eat. The suppers would be auctioned to the highest bidder and the money was used to buy treats for the neighborhood at Christmas. The other program was for the "Christmas Tree."

Our programs were always pretty simple, but the parents and some of the children enjoyed the experience. We usually had costumes that our mothers made out of crepe paper. One year I had a red crepe paper dress that was very full with ruffles tied to my legs to look like pantaloons. The only problem, though, was my legs were very skinny and the ruffles were tied too loose. On my way to the stage I could feel them slipping. During our song we had to

do a few dance steps and curtsy from time to time as we sang "School Days." Every time I dipped down I pulled my ruffles back up. By the end of the song everyone in the audience was not even trying to contain their laughter and my face was red to match the dress.

This memory popped into my head as I watched a second grade boy at my granddaughter's school on their program night. The children were doing a tango about exercise. The boys had on plastic vests and they had to partner with a "girl." This particular young man looked like he would rather be any place but where he was. He did a great job of doing the steps but we did not do as good of a job at containing our laughter. He was ready to untie that vest when the last note sounded. It still brings a smile when I remember the look on his face.

Do you have memories that over the years have mellowed and can bring a smile to your face? 



Case of the month


In early February of 2008, a 75-year-old male came to The Center with concerns about dust allergies, arthritis, peripheral neuropathy, and cardiac problems. But his primary concern was restless leg syndrome. This involuntary leg movement in the evening was keeping both himself and his wife awake during the night. Both were getting little sleep.

Dr. Hunninghake did his initial hour and a half interview and then recommended the following laboratory tests: coenzyme Q10; DHEA-S; homocysteine; T3 free thyroid hormone; vitamins A, C, E, B12, and folate; B vitamin profile; vitamin D; magnesium/calcium ratio; zinc; copper; manganese; selenium; essential amino acids; comprehensive metabolic panel; complete blood count; essential fatty acids; lipid profile; and a standard cytotoxic panel—all in the blood. He also recommended doing a urinalysis and urine vitamin C. The patient did these tests.

In addition to the laboratory tests, Dr. Hunninghake had him begin taking magnesium injections twice a week for two weeks, have a diagnostic chelation, and watch the video about chelation in the library. He did these, including the magnesium injection, the day he came.

The next day he called and said that he was extremely tired last evening and wondered if the magnesium could have caused this? Dr. Hunninghake said that he had not seen this before and suggested that he do the diagnostic chelation the next Monday.

Five days later he called and wanted to know if he could get another magnesium sulfate injection since he was able to sleep well on the weekend without muscle cramps in his legs. The nurses did this for him.

Three weeks after his first visit, he came to see Dr. Kirby for a follow-up appointment. He reported that he was much improved and magnesium injections were helping the cramps in his legs. Both he and his wife were sleeping during the night. Dr. Kirby extended the magnesium sulfate injections to once a week for eight weeks for him. 

CENTER UPDATE

Choline and betaine combat inflammation

"In this issue of the journal, Detopoulou, et al, report that higher dietary intakes of choline and betaine in the Greek population reduce inflammation," wrote Dr. Steven Zeisel in an editorial for *The American Journal of Clinical Nutrition*.


In the study, Paraskevi Detopoulou and colleagues enrolled 1514 Greek men between the ages of 18 and 87 and 1528 Greek women between the ages of 18 and 89 who had no history of cardiovascular disease. The researchers collected fasting blood samples from the group, and their intake of choline and betaine were calculated using food questionnaires.

Choline is found in meats such as liver, eggs, pork, beef, cod, shrimp, and salmon and plants such as dried soybeans, oat bran, Brussels sprouts, broccoli, and cauliflower.

Betaine, a derivative of choline, is found in wheat germ, spinach,

shrimp, whole wheat bread, and raw mushrooms. Betaine acts as a methyl donor in many pathways, including the methylation of homocysteine, converting homocysteine from a bad guy for the heart into a good form. Higher choline and betaine in your diet means a lower level of homocysteine in your body.

Low-grade inflammation is generally recognized as a central step in making atherosclerosis—a common heart problem. Established inflammation biomarkers, such as C-reactive protein, interleukin-6, and tumor-necrosis factor- α , also have been connected to the risk of cardiovascular events. Low-grade inflammation leaves the heart and circulation system in potentially bad shape. Choline and betaine are very effective in getting rid of inflammation.

Choline and betaine from food and supplements are the way to go, the researchers concluded. 

Answers from page 4

- 1 c. A reduction in fluid to the brain has an effect in several areas.
- 2 d. Feeling depressed and craving alcohol, drugs, and/or cigarettes can also indicate a water shortage.
- 3 a. Bad breath is sometimes produced by the fermentation of food that has not been washed from the inside of the stomach.
- 4 b. In pain producing dehydration, build up of local toxic chemicals in drought stricken areas triggers the onset of pain.
- 5 a. Water is also important in acid/alkali regulation of the kidneys.
- 6 a. The element sodium in salt is involved in the extraction of acid radicals from inside the cells for secretion by the kidneys.
- 7 d. As the water supply to the body is increased, histamine production and its excess release are decreased proportionately. HH

SPECIAL DISCOUNTS

Audio Tapes: Regular Price—\$7.95; Health Hunter Price—\$7.16
 Video Tapes: Regular Price—\$9.95; Health Hunter Price—\$8.95
 CDs: Regular Price—\$14.95; Health Hunter Price—\$13.45
 DVDs: Regular Price—\$14.95; Health Hunter Price—\$13.45

ABC of Asthma, Allergies & Lupus: Eradicate Asthma—Now!

by *F. Batmanghelidj, M.D.*
 Why has the incidence of asthma increased so dramatically over the last two decades? Dr. Batmanghelidj discusses how unintentional dehydration may play a part in many painful, degenerative diseases.
 Softcover. \$17.00 HH price \$15.30

MSM: 14 Days to Natural Pain Relief and Expanded Wellness

with *Ron Hunninghake, M.D.*
 This elegant little molecule can reduce inflammation, strengthen connective tissues, detox the liver, enhance brain chemistry, control allergies, stop esophageal reflux, renew adrenal function, and more. Dr. Ron presents a 14-day MSM initiation plan to relieve your pain and expand your wellness.

Hyperbaric Oxygen Therapy (HBOT): How Oxygen Under Pressure Can Help Heal Many Diseases

with *James A. Jackson, MT(ASCP), Ph.D.*
 HBOT is gaining in popularity as a treatment for enhancing the body's natural healing process by breathing pure oxygen under varying pressures. Dr. Jackson discusses some diseases responding to HBOT and includes a case presentation of a post-stroke patient and his response to HBOT treatment.

Eating Low on the Glycemic List for Better Health, Weight Loss, and a Healthier You

with *Rebecca Kirby, M.D., M.S., R.D.*
 Learn how to eat to manage blood sugar, weight, inflammation, and more. Not all carbohydrates are created equal. Dr. Kirby explains the Glycemic Index and how it can work for you.

• To Order, Fill Out the Form Below •

TITLE	AUDIO TAPE, VIDEO TAPE, CD, OR DVD <small>circle one</small>	PRICE	QUANTITY	TOTAL
ABC of Asthma, Allergies & Lupus (book)		_____	_____	_____
MSM	audio video CD DVD	_____	_____	_____
Hyperbaric Oxygen Therapy	audio video CD DVD	_____	_____	_____
Eating Low on the Glycemic List	audio video CD DVD	_____	_____	_____
Health Hunter One-Year Basic Membership/renewal - \$25 (\$35 for outside the U.S.)		_____		_____
Health Hunter One-Year Premium Membership/renewal - \$57 (\$67 for outside the U.S.)		_____		_____
** Kansas residents add 6.3%. *** Add \$3.00 for first book or tape; 50¢ for each additional book or tape. Outside U.S.—additional postage is required.		Subtotal **Add Sales Tax ***Add Postage & Handling TOTAL		_____

Payment:

Check
 VISA
 Am. Exp.
 Discover
 M. C.
 Exp. Date _____
 Card # _____ Signature _____

Ship to:

Name _____ Address _____
 City _____ State _____ Zip _____

Mail form and payment to:
 The Center for the Improvement of Human Functioning International • 3100 North Hillside • Wichita, Kansas 67219

Prices good through 2008.

Upcoming Events. . .

Lunch & Lectures:

April:

- 10 Supporting the Health of the Gallbladder Naturally: Part 1
- 17 Healthy Eating Tips for Vegetarians
- 24 Lose Weight and Control Prediabetes with the Unique Power of PGX™

May:

- 1 Migraines: Prevention and Natural Treatments
- 8 Supporting the Health of the Gallbladder Naturally: Part 2
- 15 Healing the Body with the Mind
- 22 The Newest Methods in Organic Pest Control

Eat lean meat

Beef, pork, chicken, and seafood are approximately equivalent in protein but vary in key nutrients that are important to children and women. These meats particularly vary in vitamin B6 and iron. Eating leaner cuts of these foods will help boost vitamin B6 and iron, while reducing exposure to dioxins and mercury.

Leaner choices of commercially available fish and seafood that do not appear on the federal fish advisory for contaminants such as dioxins and mercury may be among your choices. These fish are particularly low in heavy metal contaminants such as mercury.

Leaner meat means good eats.