Self-care, managing stress

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

tress is an engineering term that means a force that causes changes. In the same way in our bodies, stress is a force of change. The human body is designed to react to stress; that ability helped our ancestors run from the saber-tooth tiger and survive to live another day. What has happened to us in these modern times is that when stress is routine, the fight or flight stress response is working overtime. The human body was not designed to remain indefinitely in stress mode; feedback mechanisms are in place for the body to return to status quo or homeostasis. When there is no relaxation response, the body's internal equilibrium is disturbed, and this leads to physical problems. The list of physical symptoms is wide ranging; just a few are shown here.

Physical Symptoms of Stress

headache we upset stomach o elevated blood pressure ac problems sleeping ex sexual difficulties rac

weight gain or loss dizziness achiness exhaustion racing heart

Not all stress is bad. Stress can improve athletic performance, creating better focus, concentration, and reaction time. It can enhance creativity and serve as a source of motivation, and of course stress can protect us from real danger. Negative stress, however, can be from physical, environmental, biochemical, mental, and emotional sources.

Stress triggers the brain, which then sets into motion hormones and neurotransmitters. The fight or flight emergency system is activated through the sympathetic nervous system. Blood flow is diverted to the muscles for flight, the heart rate increases, and blood pressure rises. Digestion slows and sugars and fats pour into the blood stream for quick energy. Another system exists called the parasympathetic system, which is the rest and digest mode; it modifies the fight or flight reaction. Parasympathetic stimulation slows the heart rate and breathing; stomach and gastrointestinal activity increase for proper digestion; and energy is replenished. This system can be activated by relaxation techniques. This is the key to controlling the harmful effects of a perpetual stress reaction and returning the body (and mind) to homeostasis.

Through neurotransmitters like adrenalin (epineprine) and hormones like cortisol, a cascade of physical and mental symptoms is initiated through a feedback loop called the hypothalamuspituitary-adrenal (HPA) axis. This HPA axis is a circuit that not only readies the body for action, but also suppresses shortterm memory and rational thought, then stores emotionally-loaded experiences in long-term memory (as in post-traumatic stress disorder). Motivation, memory, and mood are affected in other regions of the brain. This stress circuit also switches off hormonal systems that regulate reproduction, metabolism, immunity, and growth. Short stature has been seen in emotionally-deprived children.

Cortisol released by the adrenal glands is the primary stress hormone. The high cortisol levels are designed to feedback to the brain that the stress has passed; this then switches off the stress circuit (HPA axis). What happens when the cortisol production is prolonged and the stress circuit is not switched off? The on-going high cortisol levels result in hyperglycemia, increased insulin,

continued on page 2

Burn more fat after eating a low glycemic index meal

Eating a meal that is made up of low glycemic index (LGI) foods oxidizes more fat than does eating a meal with high glycemic index (HGI) foods, according to the results found by researchers with Loughborough University, Leicestershire, United Kingdom. It was reported in *The American Journal of Clinical Nutrition*.

The researchers had women eat a breakfast made up of LGI carbohydrates and then exercise on a motorized treadmill for 60 minutes at 65% of their maximum oxygen intake. Next, the women were fed a breakfast of HGI carbohydrates and then followed the same protocol.

"The total amount of fat oxidized during exercise was greater when the LGI mixed meal was consumed [three hours] before than when the HGI mixed meal was consumed," the researchers concluded. In short, you burn more fat when exercising after a low glycemic index meal made up of whole foods.

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Nutritional Medicine

by Ron Hunninghake, M.D.

Lives of a cell

One definition of stress is "the difference between what you want and what you perceive yourself to be getting." This definition was conceived to pertain to the psychological domain. Looking at it from a nutritional/biochemical perspective is quite revealing.

Imagine each cell in your body to be a "you." In order to function normally, "you" must have over 40 biochemicals to maintain physiologic "happiness." Yes, "you" are quite self-sufficient and can synthesize thousands of enzymes, nucleic acids, and a whole host of biologic molecules which are used to orchestrate life in "you." But to produce these life-giving molecules, the proper selection of outside "building blocks" is an essential step.

"You" know what "you" need based upon genetic "memory," and com-

ing down the gastrointestinal pike is a diverse array of culinary "experience." From this "you" must be able to differentiate what is useful from what may be harmful. This perceptual digestion is designed to allow only need-fulfilling biochemicals to enter "you."

If "you" are not getting what "you" need, the stress of deprivation may weaken your perceptual abilities. Toxic molecules may get in and disrupt your fine-tuned cellular orchestra. Over time, the accumulation of stress and imbalance may lead to a degree of dysfunction and "unhappiness" commonly called sickness.

To stay well, feed your inner needs, make good choices, take good care of your cells...for they ARE YOU and the quality of their lives is a direct antecedent to the quality of your life.

Self-care - Cont'd from page 1

insulin resistance, excess fat storage (obesity), type II diabetes, inflammation, depression, hypertension, and susceptibility to disease. Prolonged stimulation can cause atrophy of nerve cells and an inability to keep track of information and places. It can also trigger the immune system to become hyperactive when inflammatory cytokines and autoimmune responses are no longer contained. This exacerbates arthritis and autoimmune diseases and results in chronic fatigue.

To stop this merry-go-round of stress hormones we need to evoke the body's natural antidote to stress, the relaxation response. Relaxation can be initiated with something as simple as deep breathing, petting the cat or dog, taking a walk, or soaking in the tub (try it with some epsom salts or lavender). The body wants to go back to homeostasis and balance. Assist this balance by doing something pleasurable, whether it is gardening, listening to music, getting together with friends, or dancing. Active physical relaxation can include exercise in moderation (severe exercise causes stress), walking, stretching, or yoga. Relaxation techniques can be learned by teaching the muscles to relax. Biofeedback is a helpful tool for learning these techniques.

Relaxation can also be achieved through meditation, prayer, and guided imagery. Deep breathing is a wonderfully calming technique; try sitting up straight or lying down and inhaling slowly to the count of 6, hold for 6 seconds, then exhale slowly over 6 seconds. Repeat this 5 times and do the breathing relaxation technique several times over the day. You may also emphasize positive words while breathing in (energy, peace, self-confidence) and exhale negative words (disorganization, anger, anxiety).

In addition to relaxation, it is also important to manage stress. Our lives are not expected to be stress-free, but we can learn time management and attitude management. Take a stand against over scheduling and delegate. Try not to be responsible for everybody. Make a To-Do list (and remember to look at it). Practice self-care and schedule some time for something you enjoy—a massage, a swim, a nap, or a funny movie. Try to schedule 8 hours of sleep; sleep is *very* important. Make a comfortable sleep environment and practice

continued on page 3

Self-care - Cont'd from page 2

sleep hygiene which is no television or reading in bed, and go to bed at the same time every night. Avoid alcohol, caffeine, stimulating movies, television, or exercise before bed.

Managing stress also includes attitude management. Watch what you are thinking. Look at situations in a more positive light; the glass is half full. Researchers have shown that a positive attitude and cultivating contentment may protect you against dementia. Be realistic; fight perfectionism and do not expect it of others. Ask for directions.

Avoid procrastination and complete small tasks (you get to cross it off your To-Do list); this gives you a sense of control. This is important in order to manage the stressor of helplessness. Learn to be assertive in a positive fashion and not bottle up frustrations. You can also practice positive self-talk; instead of lamenting that there is so much to do, say "this is what I choose to do." Express gratitude. Do not worry about things you cannot control; learn to worry effectively and worry only about those things that you can do something about, and just do it.

Be aware of anger and develop techniques to defuse it. Take a break, put your mind somewhere else, and take a deep breath (or two). Remember, the true cause of feelings is not the event but the beliefs and reactions to these events. Make up your mind to react more positively.

Nourishing the body is essential for healing and handling stress. It is important to eat a good diet rich in colorful vegetables, fruit, and beans, plus omega-3 rich fish and nuts. Aim for a diet that has about 80% wholeness; foods that are refined, especially grains, are stripped of B vitamins. Consider checking your urine vitamin C level in order to measure whether your tissues are adequately saturated to handle stressors. Eat calmly and chew your food. Avoid excess alcohol, sugar, and caffeine, which can aggravate hypoglycemia and mood swings. Try some of the soothing herbal teas, like chamomile.

Give yourself permission to improve the quality of your life and practice self-care. Be patient and recognize that habits take a while to build and break. Manage stress, de-stress, and practice relaxation; you deserve it.

HEALTH HUNTERS AT HOME

Some studies on exercise and health

Four recent studies show exercise for health is a good idea. One study is a mouse study while the other three are human studies.

First of all, the mouse study divided the mice into two groups—those who were excluded from exercise and those who had access to an exercise wheel that mice love to use. Then, they were all exposed to ultraviolet rays that naturally come from the sun and unnaturally come from tanning beds three times a week for 16 weeks. During the next 14 weeks, the exposed exercise mice had access to the running wheel while the exposed non-exercise group just hung out in their cages.

The researchers found that exercise reduced the number of cancers by 34% per mouse and the running substantially reduced the size of non-cancerous or malignant tumors. They added that this research might not apply to humans and suggested that clinical trials be conducted. This study appeared in the journal *Carcinogenesis*.

Now, for the research that involves humans. The first one shows that the ill effects of inactivity can be reversed with exercise. To do this, the researchers had men and women whose health was waning when they volunteered to be physically inactive for six months. Then, they had a complete reversal of most of the subsequent deterioration in health measures when they increased their activity level during the next six months. Jennifer Robbins, an exercise physiologist at Duke University, presented her team's findings during a recent annual meeting of the American College of Sports Medicine held

The researchers studied mildly overweight but otherwise healthy individuals whose assignment was to not make any changes in their diet or exercise, just continue their normal pattern of inactivity for six months. After the six months were over, the participants followed the study's exercise program for the next six months.

in Denver, Colorado.

During the period of inactivity, the men and women experienced deterioration in 12 of 17 variables studied, such as increased waist size, increased fat surrounding internal organs, which is a known predictor of cardiovascular disease, and how quickly they became exhausted on a treadmill.

After six months of exercise, the participants decreased their waist size, lost weight, exercised longer on a treadmill before exhaustion, lowered their cholesterol—otherwise improved 13 of 17 variables studied.

In the next study, researchers found that among 274 middle-aged men and women at risk of developing type 2 diabetes, those who were leaner, were more confident in their abilities to be active, or had lower stress and depression levels were more likely to exercise. These results come from a larger study that showed exercise and other lifestyle changes could cut the risk of getting type 2 diabetes by more than 50% in adults at high risk of getting the disease.

The last study found that if a child exercised during childhood and adolescence, she/he built more peak bone mass, which helps protect against osteoporosis later in life. These results particularly applied to girls but not as much to boys.

For both sexes, the rate of bone growth was found to be higher with increased physical activity levels. In girls especially, the more intense the physical activity that is associated with sports also leads to greater increase in bone density.

The researchers urge girls to exercise regularly during childhood because they are at increased risk of developing osteoporosis later in life. These findings confirm that physical activity is important for bone growth during childhood.

For this study, more than 1,000 individuals ages 50 and over responded to an internationally recognized questionnaire that included questions about osteoporosis and physical activity between the ages of 10 and 19.

All four studies show that physical activity is good for you, no matter what your age.

-Richard Lewis

INFORMATION WORTH KNOWING

by Genavieve Meyer

The staggering number of children taking prescription drugs for ADHD, allergies, depression, and the like have left some doctors questioning whether today's youth are under-nourished and over-medicated. In their book, *Is Your Child's Brain Starving?*, Michael R. Lyon, M.D., and G. Christine Laurell, Ph.D., examine the idea that proper nutrition, not drugs, may be the means to a healthy brain and ultimately a healthy life. They contend that by consuming a more nutrient-rich diet we can naturally treat numerous childhood ailments. Dr. Lyon has experienced firsthand the remarkable power of good nutrition. In both his personal and professional life, he has witnessed the amazing effects proper nutrition has on the mind, body, and spirit. The questions this month are taken from his book.

The average child gets more than one-third of his/her daily calories from snack food, according to recent research. In fact, the majority of North American children get most of their daily iron and vitamins from

- a. fried chicken nuggets
- b. packaged breakfast cereals
- c. peanut butter
- d. hamburgers

Attention deficit hyperactivity disorder (ADHD), autism, obsessive-compulsive disorder, oppositional defiant disorder, and depression have become widespread problems in today's kids. In fact, a recent Surgeon General's report states that _______ North American children now suffers from a diagnosable psychiatric condition.

- a. 1 in 25
- b. 1 in 5
- c. 1 in 10
- d. 1 in 50

Studies have indicated that children with behavioral problems often struggle with blood sugar regulation. Meals that are low in carbohydrates and high in protein have a tendency to drive blood sugar levels upward initially and can result in rapidly dropping blood sugar levels later on.

- a. True
- b. False

The gastrointestinal tract has enormous influence over both the immune system and the brain. When the gut is under stress, the immune system is immediately affected. In fact, more than _____ of the cells in the immune system are located in and around the gastrointestinal tract.

- a. 25%
- b. 80%
- c. 15%
- d. 50%

Essential fatty acids are required by every cell in the human body. They are integrated into cell membranes and are imperative for brain and immune system function. The area of the brain most affected by ADHD is made up of nerve endings composed of 80%

- a. docosahexaenoic acid (DHA)
- b. gamma linolenic acid (GLA)
- c. arachidonic acid (AA)
- d. alpha hydroxy acid (AHA)

From can be found within the cellular energy generators of our body known as mitochondria. Brain cells, which require tremendous amounts of energy, are packed with these power stations. Research has suggested that children with marginal iron deficiencies tend to have problems with attentiveness, behavior, and intelligence even if the iron deficiency is not sufficient enough to cause anemia.

- a. True
- b. False

In behavioral disorders such as attention deficit disorder, it has been shown that certain brain regions have low levels of the neurotransmitters dopamine and norepinephrine. Drugs like Ritalin are used to raise the levels of these neurotransmitters. However, dopamine and norepinephrine are manufactured by the body from the amino acids tyrosine and ______, which are abundantly available in certain high protein foods.

- a. lysine
- b. threonine
- c. phenylalanine
- d. histidine
- FOR ANSWERS, SEE PAGE 7 •

Great dirt and how to get it—part 1

by Gary Branum, Ph.D.

A recent visitor to the Brightspot Garden commented on the "looseness" of the soil, and said, "I wish my soil was this good."

The soil in the garden wasn't always like it is now. In fact, the native soil in this part of Sedgwick County tends to be heavy clay. The soil that is currently in the garden is the result of good organic gardening practice and time.

Beginning about this time of year, the garden is dying off. All of the garden debris like weeds, cornstalks, dead squash plants, and rotten fruit must be disposed of, both for aesthetic reasons and to maintain the health of the garden. The debris is collected at a central site to await the creation of a new compost pile. The compost pile will "work" over the winter. Then it will be applied to the garden and plowed in prior to spring planting.

After the garden has been cleared of debris for the winter, we plant winter wheat and winter peas. These plants help to keep moisture in the soil and minimize erosion during the winter. Then in the spring, we plow the green plants under as "green manure" or "green compost." This green plant material provides another addition of organic material to the soil, and as it decomposes it will provide the same benefits as compost.

Compost is one of nature's best mulches and soil amendments, and certainly the cheapest. In fact, all the best natural soil in the world is the result of Mother Nature's original free composting process. Compost loosens clay soil and improves soil texture, which allows for easy transport of water and air. Compost is also rich in nutrients, so rich in fact that we don't use any other form of fertilizer, and compost contains natural beneficial microorganisms which contribute to the overall health of the ecosystem.

Test of the Month

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

Parasites

OK...I have heard from several of you that I have written too many articles on urine tests. I feel your pain, so this report is about a test done on feces. We examine feces, usually in three different specimens, to look for intestinal parasites. We also look at stool swabs for parasites.

Intestinal parasites are an oftenoverlooked disease in the U.S., mainly because most medical professionals don't believe they are here. They are very common in towns along the Mexican border. The CDC states that pinworms (an intestinal parasite) are twice as common in children than head lice. In one study, the Bio-Center Laboratory found a greater percentage of parasites in patients than did the Kansas Department of Health. (Hunninghake, R. E., Jackson, J.A. Illness and Intestinal Parasites. Amer. Clin Lab., 1993:10.)

Symptoms of intestinal parasites are G.I. symptoms and persistent diarrhea. People are infected from contaminated food and/or water, soil, or sand boxes. Parasites may be round worms, flat worms, flukes, cysts, flagellates, etc. We have found many different parasites, including Giardia lamblia, Cryptosporidium parvum, Blastocystis hominis, Endolimax nana, Dientamoeba fragilis, and Entamoeba histolytica.

Here is an example: A 50-yearold female and her two sisters traveled through California. They stopped at roadside stands and bought "fresh peaches." By the time they reached Colorado, all three had acute diarrhea and abdominal pain. In Kansas, one of the women visited her physician where several tests failed to diagnose her. At The Center a rectal swab was done and sent to the lab. Three parasites were found (presumably from the contaminated fruit). These were *Blastocystis hominis*, Entamoeba histolytica, and Ascaris lumbriocoides. Following treatment, her symptoms completely disappeared. H

Herbal History

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

Oregano

Oregano is really the common name for a broad aroma and flavor complex that is derived from several species of Origanum. European, or "true" oregano, often called wild marjoram or winter marjoram, comes from Origanum vulgare. More than 40 plant species in 18 genera may be labeled as commercial oregano. True oregano is a close botanical and chemical cousin to thyme and savory. All are in the mint family, and contain thymol and carvacrol (antiseptic constituents). The United States is the largest importer of oregano in the world. About half of the supply is actually "Mexican oregano" (Lippia graveolens). Mexican oregano oil has about equal amounts of the main active constituents, carvacrol and thymol, as does the European "true" variety.

Oregano oil is strongly antibacterial and antifungal. Compared to the antibacterial drug phenol, carvacrol is 1.5 times more potent, while thymol is 20 times

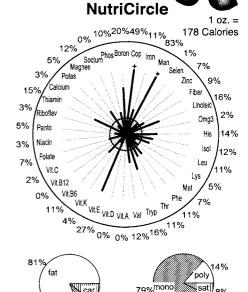
more powerful. Oregano has been shown to affect all fungi species known to cause illness. At low concentrations, as low as 0.05%, oregano oil has been shown to totally inhibit all fungi growth. One study looked at the efficacy of oregano oil and carvacrol in 18 mice infected with staph bacteria. The researchers compared oregano oil to streptomycin, penicillin, and vancomycin (antibiotics). Oregano oil was found to suppress the growth of the bacteria as effectively as did the antibiotics. Further, test tube experiments indicate that oregano oil inhibits yeast quite effectively. It was effective against three strains of Candida, at very low concentrations.

At The Center, we are currently having good luck using ADP (an emulsified oregano product) to treat Candida and dysbiosis. We generally use 50 mg of ADP 6-12 times daily for several weeks to knock out different strains of "unfriendly critters."

Food of the Month

by Donald R. Davis, Ph.D.

HAZELNUTS and FILBERTS are closely related nuts, usually considered to be the same. They are the seeds of hazel trees, which are native to Europe and Asia. Turkey supplies about 80% of world production. U.S. crops come mainly from Washington and Oregon. Contrary to past assumptions, frequent nut consumption is associated with favorable changes in blood lipids and reduced rates of heart disease and obesity. So enjoy. But eat filberts fresh; long exposure to air causes rancidity. Of 35 nutrients shown here, 21 are adequate relative to calories. Filberts also contain good amounts of plant sterols, mostly β-sitosterol.



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). $\overline{\mu}$

Mental Medicine

by Marilyn Landreth, M.A.

Decisions, decisions

Have you ever noticed how easily other people can make decisions for us? Have you ever noticed that some decisions are more easily made than others? But many times the major decisions we have to make in our life are not so clear cut and obvious.

We can listen to advice and input from other people, then mix it all up with our observations and experiences. My moment of decision seems to be attached to that little voice somewhere deep inside myself (conscience) and a gut feeling. Sometimes it is impossible to go against that small voice. Other times it takes several months or years before that small voice and gut feeling get into agreement with what I need to do.

Oresin Swett Marden said, "You



will like yourself better when you have the approval of your conscience." Over the years, I have learned to trust when it finally feels "right" to make a decision that will lead to a major change. Other times I know that it is not the "right" time to do something different.

Giving and taking advice is an art with which many of us struggle. While it may be quite clear to us that someone else "should" do a specific thing, they may seem to be oblivious to the needed action. It is helpful for me to remember that they may also be getting their conscience and feelings into agreement. Samuel Taylor Coleridge said, "Advice is like snow; the softer it falls, the longer it dwells upon, and the deeper it sinks into the mind." Now, if I can just learn to take my own advice.

CENTER UPDATE

Risk of heart attack from tobacco use

"Tobacco use is one of the major avoidable causes of cardiovascular diseases," wrote Koon K. Teo and colleagues in the first sentence of the study appearing in *The Lancet*, a leading medical journal in both the United Kingdom and the U.S.

"Most tobacco-related deaths occur among men, but female mortality from tobacco is expected to increase substantially as a result of large increases in smoking among women in many developed countries," the researchers continued.

Their study resulted in identifying five findings about tobacco use. First of all, the use of tobacco is associated with risk of heart attacks (they used acute myocardial infarctions) worldwide. Second, smoking patterns differ between men and women and across different regions of the world. Third, the size of the risk is closely, and linearly, related to the number of cigarettes smoked. This risk factor even showed up in people smoking as few

as five cigarettes a day, the researchers said. Fourth, former smokers have a higher risk of having a heart attack than nonsmokers, but their risk decreases with time after the smoker stops. Fifth, exposure to second-hand smoke increases the risk of heart attack, both in non-smokers and former smokers.

The researchers used a standardized approach across several countries worldwide for this study. They showed that the increased risk of having a heart attack with smoking is seen in individuals from several different ethnic groups and regions around the world.

The researchers concluded by writing that, "Tobacco use is one of the most important causes of [heart attacks] globally, especially in men. Among smokers, even levels of smoking (eight to ten cigarettes a day) increase [having a heart attack] two-fold. This increase applies to all forms of tobacco use, both smoking and smokeless, and to second-hand smoke.

Case of the month

This 44-year-old patient first came to The Center four months ago concerned with her low thyroid. But she said that she also had insomnia, chemical intolerance, fatigue, sinus problems, allergies, and weight gain, even though she doesn't eat very much. She said that she eats less than her husband and continues to gain weight while he loses weight. "It just isn't fair."

After seeing Dr. Hunninghake, he had her take the following laboratory tests: ASI-Adrenal Stress Index; Coenzyme Q10; CRP; Homocysteine; Thyroid Stimulating Hormone; Thyroid Free T3 (Unbound); A, C, E, B12, and Folate: B Assessment Profile: Vitamin D; Magnesium/Calcium ratio, Zinc, Copper, Manganese, and Selenium; Candida; Essential Fatty Acids; and Standard Cytotoxic List-all using blood. In the urine, she did an Indican, Iodine Loading, Pyrroles, Urine Analysis with urine vitamin C, and a 6-hour DMSA test. She also did all the other testing that a new person does for a full-day evaluation.

Dr. Hunninghake recommended Prolive capsules, DMSA capsules, and Iodoral tablets, and that she listen to an audio tape of his iodine lecture. After giving her a physical examination that comes as part of the initial evaluation, Dr. Krier suggested she take Beyond C powder one to three times a day and watch the video of a lecture he did on sinuses.

She came back about three weeks later and Dr. Krier discussed the results of her laboratory tests with her and recommended she use vitamin A suppositories for 10 days at bedtime and start taking two grains of Armour Thyroid in the morning. At the end of the month since she first came to The Center, Dr. Hunninghake sent her a note saying that mercury had been found and suggesting she continue DMSA on Friday, Saturday, and Sunday, as well as take licorice extract in the morning and at noon to help her adrenals work better.

Nurse Clinician, Mavis Schultz, spoke to her in September and she told Mavis that she is "starting to feel like her old self again."

Answers from page 4

b. Chemically laden processed foods are prime sources of toxic stress on the brain.

c. Sedentary lifestyles, increased exposure to processed food, pesticides, and pollutants, as well as dramatic dietary changes, are all probable contributors to the dramatic downward spiral in the health of children's brains.

b. Meals that are *low in protein* and *high in carbohydrates* cause the blood sugar roller coaster.

d. If a gastrointestinal problem such as leaky gut syndrome is present, the brain is ultimately affected. Leaky gut syndrome has been found in cases of autism and ADHD.

a. Studies have suggested that children with ADHD are unable to convert alpha linolenic acid (ALA) efficiently into the brain crucial DHA.

a. It has also been shown that iron supplementation improves behavior and cognitive performance in such cases.

c. Eating a high protein breakfast provides the amino acids to meet the brain's neurotransmitter needs.

SPECIAL DISCOUNTS

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Is Your Child's Brain Starving?

by Michael R. Lyon, M.D. & G. Christine Laurell, Ph.D.

Do environmental toxins and inadequate nutrition play a part in the development of learning and behavioral problems in school age children? Drs. Lyon and Laurell have researched and developed non-drug approaches to dealing with childhood disorders. Soft cover. Retail Price: \$16.95 Health Hunter: \$15.26

Still Nuts About Nuts, 12 Years Later with Donald R. Davis, Ph.D.

Twelve years ago, it seemed strange to many that nuts improve blood lipids, reduce the risk of heart disease, and might not make us fat. Time has strengthened these ideas and added new evidence that nuts are healthy, including for weight loss.

Tomatoes: Wolf Peach or Love Apple

with Gary Branum, Ph.D.

Tomatoes are one of the most widely grown vegetables (or is it a fruit?) in the world. Dr. Branum focuses on the history of the tomato, its relatives, the properties that contributed to its reputation, and what is growing in today's tomato gardens. He compares hybrids to heirlooms and discusses what is best and what is available.

The Role of the Compounding Pharmacist in Health Promotion

with Jim Swartz, R.Ph.

Compounding is the traditional method of preparing customized medications to help meet the unique patient and physician needs. Learn about innovative patient care and problem solving through unique dosage forms.

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Lunch & Lectures:

October:

- 5 Mind Boosters: to Improve Mood, Memory, and Mindfulness
- 12 Healing with Probiotics, the Good Bacteria
- 19 The Food Pharmacy
- 26 Taking a Journey Through the GI Tract: the Irritable Bowel— Tamed

November:

- 2 Aging Eyes
- 9 Health Hunter/Beat The Odds—"Ask the Doctors"
- 16 Overdosed America

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Health Hunter

Is magnesium needed for muscles in older persons?

The role magnesium plays in maintaining muscle integrity and function in older persons was mostly unknown until a recent Italian study. Ligia Dominguez and colleagues looked at the relationship of magnesium and muscle strength in older Italians.

"Using data from...older men and women, we found a significant, independent, and strong relation between circulating magnesium and muscle performance, which was consistent across several muscle variables for both men and women," the research team concluded in their study published in *The American Journal of Clinical Nutrition*.

When the circulating magnesium in the blood serum is high, the muscles of the body remain strong. Is your magnesium level high enough to keep your muscles strong?

 Hisk of heart attack from tobacco use

Decisions, decisions

Some studies on exercise and health

· Self-care, managing stress

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