

# Health Hunter<sup>®</sup>

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N E W S L E T T E R

NOV/DEC 2006

## Boost your mind with methylation

by Ron Hunninghake, M.D.

**W**ho doesn't need a mind boost?! Given the complexities and stresses of modern living, our brain power gets taxed to the max. Crowded schedules, mixed priorities, strained relationships, hovering deadlines, inadequate sleep...it all adds up to "brain drain." Throw in the exigencies of aging with its slippery cognitive slope, and it's no wonder surveys identify dementia as a greater fear than death!

*Many kinds of nutrients are required to feed the brain properly.*

Should we medicate this situation? While anti-depressant medication usage has soared in the last decade, concerns about side effects and suicidal ideation nag its advocates. Tranquilizers have a bad reputation and only dull the overburdened brain. Amphetamine use, in kids and adults, has been legitimized with the attention deficit diagnoses. It helps, but what about long term usage issues?

Isn't there some way to help the basic biochemistry of cognition? Can't we help the brain to make its neurochemical brew more reliably and safely? Yes we can! But to do it properly, we must, in the words of Dr. Hugh Riordan's immortal plea: *feed the brain!*

Our brains are living organs composed of cells called neurons. There are many support cells, but the main brain cells that allow us to think are the neurons. Neurons are major nutrient consumers! Although the brain occupies only 1/12 of our body's real estate, it consumes 1/5 of our nutrition.

Many kinds of nutrients are required to feed the brain properly. Antioxidants such as vitamins A, C, and E are needed to control the fires of oxidation and free radical formation. Colorful phytonutrients found in blueberries and other pigment-rich fruits and veggies corral free radicals and can function as intelligence boosters. Omega-3 fatty acids temper excess inflammation while contributing to the structural integrity of neuronal cell membranes and myelin sheaths. Minerals like zinc act as enzymatic cofactors in the biochemistry of intelligence. Hormones (nutrient dependent) modulate mood and brain metabolism.

A new kid has appeared on the brain-nutrient scene: methyl donors. Although methyl donors are safe and inexpensive, few people have heard the term and are often confused by it. But if you understand that adequate folic acid intake in women of child-bearing age will prevent the birth defect of spina bifida in their babies, then you know the power of an adequate methyl donor (which is exactly what folic acid is!). You may have also heard of homocysteine, a toxic by-product of protein metabolism. High homocysteine levels were originally associated with a higher risk of heart disease. Now it is known that such chronic illnesses as Alzheimer's and osteoporosis also are related to high homocysteine.

So, what's the relationship of high homocysteine to methyl donors? Simple: high homocysteine people are *under-methylated*.

Common methyl donors include three very special B vitamins—folic acid, B6, and B12. These are the three

*continued on page 2*

## Is fructose a bad guy?

By the 1980's, high fructose corn syrup had become the main sweetener used in soft drinks. It surpassed sucrose (table sugar) in the American diet.

Fructose has a low glycemic index, which is good, but we don't metabolize it very well. An article published in *Nutrition and Metabolism* by University of Toronto researchers stated that for thousands of years fructose was limited to fresh fruits in season. In the last 100 years, there has been a massive increase in our consumption of fructose.

Most sugars are absorbed by the cells throughout the body and ultimately end up as carbon dioxide and water. Not so with fructose. Fructose is metabolized almost entirely in the liver with the result being the creation of fats. The main types of fats are very low-density lipoproteins and triglycerides which increase the risk of heart disease.

It also affects the appetite hormones leptin (tells us we are full) and ghrelin (tells us we are still hungry). High levels of fructose tend to turn off leptin and turn on ghrelin, which leads to overeating. [H]

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# Nutritional Medicine

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

## Rediscovering ancient dietary wisdom

Never underestimate what bacteria do for us. We have about 6 pounds of bacteria (over 100,000 billion) living in our bodies, and 90% of them reside in the gastrointestinal tract. That's a lot of bacteria in the gut. A good population of healthy normal flora varies from individual to individual, from country to country, and is affected by our diet.


What these bacteria do for us includes managing our immune system (60% of which resides in the gut), fighting off pathogenic bacteria, maintaining appropriate bowel permeability, providing nutrients for the colon cells (even making some vitamins for us), breaking down carcinogens, and modifying harmful allergens. That is the short and sweet list of benefits that a healthy population of bowel bacteria confers upon us, and the advantages have been appreciated for centuries.

The Roman historian, Plinius, in 79 BC commented on the use of fermented milk to treat diarrhea. It is said of Abraham in Genesis that he owed his longevity to the consumption of sour

milk. Longevity of certain peoples in more modern times has been attributed to their consumption of yogurt.

Now, we give these beneficial bacteria a name, probiotics, meaning "for life;" (the opposite of antibiotics which mean literally, "against life"). These bacteria ferment indigestible starches and fibers producing short chain fatty acids (and some gas) which research shows inhibit disease-causing bacteria, cancer cells, and nourish the absorptive surface of the colon; just a few of the benefits of these acid-producing bacteria.

Fermented food products (milk, soy, and vegetables) can contain these beneficial probiotic bacteria, as do some supplements. Look for labels that describe viable bacteria, with counts (called CFUs) in sufficient numbers (1 to 10 billion or more), or the National Yogurt Association's seal of live and active cultures.

Consider rediscovering this old wisdom about diet and health. Some sour milk for supper anyone? 

*Boost your mind—Cont'd from page 1*

musketees of methylation. Under-methylated folks with high homocysteine levels need a much higher intake of these. SAME is a fairly well known over-the-counter antidepressant and an excellent methyl donor (although, at a dollar a pill, it is the expensive exception). TMG (tri-methyl-glycine) is also called betaine. TMG is a powerful methyl donor and can easily offset the expense of SAME with similar benefits. SAME and TMG rapidly reduce depression through enhanced neurotransmitter production. Greater alertness, better concentration, and enhanced visual clarity are commonly reported benefits. Some studies show a slowing of ARCD (age-related cognitive decline) with methyl donor supplementation that also includes choline and inositol, two additional methylators.


I discovered methylation power this past summer while on vacation.

While reading Dr. Craig Cooney's wonderful book, *Methyl Magic*, I was struck by his personal observation that methyl supplementation had changed his reaction to alcohol. My whole life I have been what my wife describes as a "cheap drunk!" Half a beer and I get sleepy, lethargic, and apathetic. This has proven a problem when I go to visit my Italian in-laws, who are avid wine connoisseurs. But, after beefing up on methyl donors, my alcohol tolerance was greatly enhanced! I could have a couple of glasses of wine and still participate in table conversation! This is not the main reason to take methyl donors, of course, but it does illustrate how they can enhance brain (and liver) function.

Let you think that more is always better, keep in mind that methyl donors increase neurotransmitters like  
*continued on page 3*

epinephrine and norepinephrine. The common names for these are adrenalin and noradrenalin. Hence, if you take too much, you may experience restlessness, nausea, headache, and insomnia. Under-methylation is not good...but neither is over-methylation. The best laboratory method for managing this is your own homocysteine level. Shoot for a level around 6-7 mg/dl for optimal functioning. High histamine levels can also suggest under-methylation, since histamine is metabolized with methylation.


For more ideas on how to boost your mind, you can read a free book online at:

<http://mindboosters.libraryonhealth.com>  
Included in this fine book by Dr. Ray Sahelian is a great chapter on methylation. Go for it! 

## Diet and waist size

"The diet may influence the development of abdominal obesity," wrote Dr. Jytte Halkjaer and colleagues in a report that appeared in a recent issue of *The American Journal of Clinical Nutrition*. Your diet does affect changes in waist size in a big way.

For instance, they found the total carbohydrates you consume are a weighted average of the different types of carbohydrates you consume in your diet. Carbohydrate energy from fruits and vegetables shows up as a possible reduction in waist size. However, carbohydrate energy from all other food groups shows up as a gain in waist size. Food items with a high glycemic index, such as refined grains, often promote fat accumulation.

Animal protein works differently. For both men and women, total animal protein was associated with a reduction in waist size. Other recent studies have shown that a protein rich diet is the way to go if you want to lose weight and maintain or lower your waist size. In the present study, animal protein helped both men and women lose weight, but there was no clear association with vegetable protein. One explanation for this is that animal protein induces a greater degree of satiety and possibly a larger energy expenditure. 

## HEALTH HUNTERS AT HOME

### Do we get enough vitamin D?

"Vitamin D deficiency is an unrecognized epidemic that occurs throughout the life cycle and is associated with numerous age-related health problems," wrote Mary Ann Johnson, Ph.D., and Michael Kimlin, Ph.D., in a research paper that appeared in a recent issue of the journal *Nutrition Reviews*.

Dr. Johnson is with the University of Georgia in the USA while Dr. Kimlin is with Queensland University of Technology in Brisbane, Australia. The great difference in location of the two emphasizes the world-wide epidemic of vitamin D deficiency.

The two researchers continue by saying that the 2005 Dietary Guidelines for Americans recommends that older people should consume 25 micrograms (1000 IU) of vitamin D daily. This can come from your diet, the sunlight, and from supplements. By the way, for many years The Center has been recommending supplements of this amount and, when laboratory testing shows the need, even more.

The old guidelines from 1997 recommended a maximum 10 micrograms (400 IU) for each person. This was quite low.

According to the researchers, it will be difficult to get 25 micrograms from your diet. That means you will have to get it from sunlight or from supplements.

Ultraviolet radiation from sunlight promotes skin synthesis of vitamin D, but it also is a known risk factor for skin cancer and eye disorders in humans. In addition, Healthy People 2010 recommends increasing sun protection measures to decrease the risk of skin cancer which reduces the amount of vitamin D you can get from the sun. This leaves us with supplements of vitamin D for increasing vitamin D in our blood or 25(OH)D that is actually measurable in the blood.

"Low serum 25(OH)D concentrations in older adults are associated with limited sun exposure, darker skin, living in high-latitude regions, low intake of

vitamin D, advanced age, winter season, poor mobility, and living in a nursing home or assisted care environment," the researchers said.


In the winter in the southern United States (25° to 34.9° latitude) vitamin D from the sun and from the diet is low, according to the NHANES III study. The only group to approach the 2005 recommendation for vitamin D was the non-Hispanic white Americans, and they were low. Just think what the northern part of the United States is like.

"Poor vitamin D status has been associated with many chronic conditions including osteoporosis, fractures, falls, colon cancer, breast cancer, prostate cancer, pain, multiple sclerosis, type 1 diabetes, poor glucose homeostasis, rheumatoid arthritis, hypertension, and cardiovascular disease," according to the researchers. That is a lot of diseases.

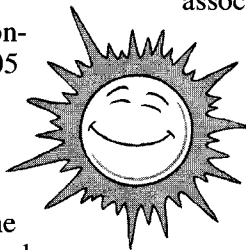
Take falls, for instance. About 30% of older adults fall each year and of these about 40% end up as nursing home admissions. You can easily see that adequate vitamin D from food and supplements would be a good thing if it would help eliminate falls.

This brings us to the use of supplements. It is difficult to find the vitamin D content of all foods or to estimate the vitamin D intake of our population. The USDA National Nutrient Data Base shows vitamin D for some foods but not for all. When reading labels, the Daily Value for vitamin D is based on 10 micrograms (400 IU) so it is easy to reach 100% and still be below the new 25 microgram (1000 IU) limit, which may actually harm your health.

"Older adults can be confident that consuming 25 micrograms of vitamin D daily will improve vitamin D status and may reduce the risk of falls and fractures and possibly other age-related conditions," the researchers concluded.

I have started supplementing my diet with vitamin D. Have you? 

—Richard Lewis



## INFORMATION WORTH KNOWING

by Genavieve Meyer

Free radical damage is the basis of some of the most deadly, degenerative diseases facing the world today. Heart disease, cancer, and Alzheimer's disease have all been linked to cellular damage caused by free radicals. Fortunately, protection from free-radical damage is readily available in the form of antioxidants such as vitamin E. The body's principle fat-soluble antioxidant, vitamin E has been shown to significantly reduce the risk of heart disease, cancer, Alzheimer's, cataracts, infertility, and even menopausal hot flashes. In their book, *All About Vitamin E*, Jack Challem and Melissa Diane Smith explore this remarkable anti-aging nutrient and its many benefits on the human body. Utilizing information found in hundreds of scientific references, Challem and Smith answer commonly asked questions about how vitamin E works, who should take it, and how to make it work effectively for you. The questions this month are taken from their book.

**1** Vitamin E is an essential nutrient that cannot be synthesized by the body. The Recommended Dietary Allowance for vitamin E is 15 IU daily for an adult. Unfortunately, the average American gets only about \_\_\_\_ from their diet.

- a. 6 IU
- b. 8 IU
- c. 10 IU
- d. 12 IU

**2** Cataracts are caused when free radicals from pollution and ultra-violet radiation damage the proteins that form the lens of the eye. It has been shown that vitamin E supplementation can delay the onset and slow the progression of cataracts. Cataracts are the leading cause of blindness world-wide, accounting for \_\_\_\_% of all vision loss.

- a. 16
- b. 24
- c. 42
- d. 65

**3** The best food sources of vitamin E are those high in fat, due to the fact that vitamin E is a fat-soluble nutrient. Therefore, a diet rich in vegetable oils, such as peanut or soybean oil, will provide your body with the adequate amount of vitamin E needed to protect the heart.

- a. True
- b. False

**4** The amount of vitamin E most frequently recommended to obtain benefits to the heart is \_\_\_\_\_. This dosage lessens the oxidation of cholesterol and, based on human studies, leads to dramatic reductions in the incidence of coronary heart disease.

- a. 100 IU
- b. 200 IU
- c. 400 IU
- d. 600 IU

**5** Research appears to indicate that vitamin E has the ability to block the formation of blood vessels in tumors. In order to grow, tumors need their own network of blood vessels. Angiogenesis is the process of the creation of new blood vessels. According to cell and rodent studies, vitamin E, especially in the form of \_\_\_\_\_, has anti-angiogenic properties.

- a. d-alpha tocopheryl succinate
- b. d-alpha tocopherol
- c. d-alpha tocopheryl acetate
- d. mixed natural tocopherols

**6** Vitamin E hasn't always been regarded as the powerful antioxidant it is known to be today. Shortly after its discovery in 1922, vitamin E became jokingly referred to as the "sex vitamin" because its lack could cause sterility in rodents.

- a. True
- b. False

**7** A deficiency of vitamin E can not only make you more prone to illness but also more susceptible to virus mutations that can cause a more serious disease. For instance, when a person or animal is deficient in vitamin E or \_\_\_\_\_, the coxsackie virus can mutate into a strain that inflames the heart muscle, leading to such heart conditions as cardiomyopathy and heart failure.

- a. zinc
- b. beta-carotene
- c. alpha-lipoic acid
- d. selenium

## Great dirt and how to get it—part 2

by Gary Branum, Ph.D.

Here are a few quick tips that result in good compost with little or no cash investment.

### What to Put in the Pile

Kitchen waste, grass clippings, garden debris, hair, dryer lint, coffee grounds, newspaper, cardboard, manure, wood ashes, leaves, and pine needles are all good additions to a compost pile. Avoid dairy products, meats, meat by-products or waste that contains large amounts of fat (like salad dressings) because these substances smell bad as they decompose and tend to attract unwanted pests. Also avoid any pet droppings as they may contain disease organisms.


### How to Build the Pile

We've found that building the pile on an old shipping pallet works well. The pallet allows air to circulate, and good air circulation is critical to the composting process. Divide your materials into "brown" and "green." Brown materials are paper, dead leaves, dead grass and other dead plant material, and manure. Green materials are fresh grass clippings, green leaves, rotten vegetables, and most wet kitchen waste.

Composting works better and faster if the materials are in small pieces, but the process will work even if you can't grind the material up before you put the pile together. Try to make the pieces as small as you can. For newspapers or cardboard, running the pieces through a shredder works pretty well.

The mixture of the pile should be about 1/3 green and 2/3 brown material. Spread a thin layer of your mixture on the pallet, and then add water. The final mixture should be about the dampness of a wrung-out wet sponge. Add another layer, dampen, and repeat until all your material has been added. The final pile should never exceed five feet high by five feet wide. Cover the final pile with a plastic tarp and allow Mother Nature to do her thing.

### The Finished Product

The entire process should take 4-6 weeks. Mix the finished product into your clay soil and after two or three years the improvement will be remarkable. 

• FOR ANSWERS, SEE PAGE 7 •

# The Bio-Center Laboratory


## CLIA

Congress passed the Clinical Laboratory Improvement Amendments (CLIA) in 1988, establishing minimum quality standards for all laboratory testing to ensure the accuracy, reliability, and timeliness of patient test results regardless of where the test was performed. A laboratory is defined as any facility which performs laboratory testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention, treatment of disease, or impairment of, or assessment of health.

The Centers for Medicare and Medicaid Services regulates all laboratory testing performed on humans in the United States through CLIA. In Kansas, the Laboratory Improvement Program Office of the Division of Health and Environment Laboratories administers the CLIA program. There are approximately 2200 certified laboratories in the state of Kansas.

CLIA inspections take place every two years. Every facet of the laboratory is covered from protocols for tests, proficiencies of laboratory personnel who perform the tests, accuracy of the tests, test procedures, and many other areas.

The Center's Bio-Center Laboratory was established in 1975 and has dedicated itself to providing accurate clinical assays focusing on nutritional medicine. Its specialities include testing for pyrroles, histamine, spermidine, spermine, cytotoxic food sensitivities, parasitology, analysis of red blood cell fatty acids and minerals, along with many vitamins. It has received continuous certification from state and federal agencies since 1976.

Under the direction of Dr. James Jackson and the supervision of Jerry Tiemeyer, the Bio-Center Laboratory was recently given a perfect score by the State of Kansas CLIA inspector, meaning zero deficiencies — an unparalleled accomplishment. 

# Herbal History

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

## Break out the elderberry

Elderberry (*Sambucus*) is a fruit that contains minerals, vitamins, pectin, and flavonoids. The flavonoids are believed to account for the therapeutic actions of the elderberry berries. The berries contain anthocyanidins which act as antioxidants and prevent the release and synthesis of compounds causing inflammation (i.e. histamine, prostaglandins, and leukotrienes).

The berries are useful for joint diseases, allergic conditions (i.e. sinusitis and asthma), colds and coughs, diarrhea, and rheumatism. The high content of vitamin C in the berries potentiates the powerful effects of elderberry.

The recipe below is great for the holidays and healthy (for the most part) for all of your family and friends.


### ELDERBERRY COBBLER

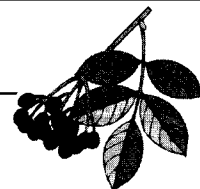
5 Tablespoons of butter  
1/4 teaspoon vegetable oil

1 cup chopped pecans or walnuts  
1 cup of brown or unrefined sugar  
4 cups uncooked oatmeal  
1 cup unbleached white flour

Melt the butter in a pan, add the vegetable oil and the pecans and toast them slightly. Stirring frequently, add the rest of the above ingredients to the pan.

In a large baking pan, mix together:  
6 cups of washed elderberries  
6 small cut and peeled apples  
3/4 cup honey  
1/4 teaspoon ground cardamom  
1/4 teaspoon ground cinnamon  
1/4 teaspoon ground anise

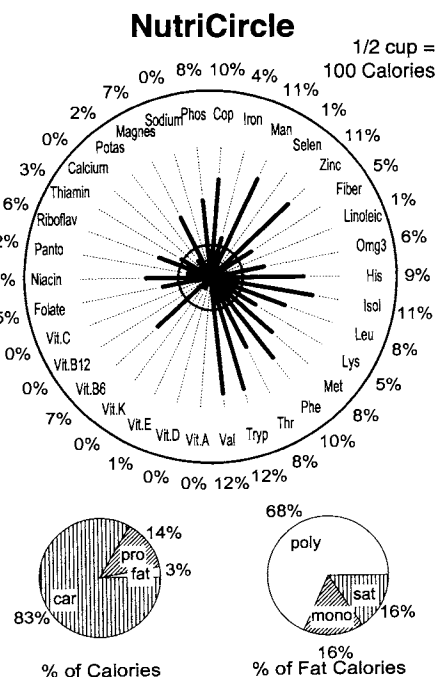
Now add the first set of ingredients to the top of the elderberry mixture. Spread evenly over the top, but don't mix it in. Bake at 375° F. for 35 minutes. 




# Food of the Month

by Donald R. Davis, Ph.D.

**WILD RICE** is only distantly related to common rice. It is native to the Great Lakes region, where it was a central part of the food and spiritual life of certain Native American tribes. Some Native Americans still collect it from natural lakes by canoe. Domesticated "wild rice" has been altered for machine harvesting, and it is grown in man-made paddies, now mostly in California. Native American collectors scorn the flavor of these crops and command premium prices for true wild rice. Compared to brown rice, wild rice has more protein, omega-3 fat, and zinc, but less manganese and selenium. Both cook in about 45 minutes, so mixtures work well.



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.


## Rainy day thoughts

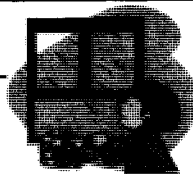
Does your behavior change more because of positive or negative feedback? Many times we focus on the undesired outcome rather than taking time to figure out just what we do want. When I tell my grandchildren that they need to be careful and not spill the water, the negative “not” is often passed over and what the brain hears is, “spill the water.” We focus on what we don’t want to happen rather than what we want to happen. If we say “keep the water in the glass,” we would be sending a much different message.

Have you noticed that a lot of the daily news deals with what is going wrong in the world? Sometimes we need to be reminded of all the many things that are going right. There is always room for improvement, and when we focus only on what is wrong in the world or in our life it can lead to depression and a feeling of hopelessness. Sometimes it

is helpful to turn the evening news off as well as turning off the negative feedback we give ourselves in order to lead us to a more productive and happy life.

There are so many uplifting and incredible stories of people overcoming tremendous odds that we need to remind ourselves of those stories over and over. Hugh Prather said, “The longer you dwell on another’s weakness, the more you infect your own mind with unhappiness.” We could change that to, “The longer you dwell on your weakness, the more you infect your mind with unhappiness.” We need to “dwell” on our strengths.

The goal is to make changes that serve to get us where we want to be. Sometimes we are right where we want to be, but we are just not aware that we are because our focus is on the negative. Living in the present is a gift that we can give ourselves. 



## Case of the month


In September, a tall, thin woman in her mid 40’s came to The Center concerned about irritable bowel syndrome, fatigue, cold hands and feet, irregular menses, chronic sinusitis, and vaginal yeast infections. She said that she runs marathon races regularly. She craves sugar and will “eat a lot of it once I start,” but she rarely eats fried foods. She has always been thin and ran cross-country in high school.

Dr. Rebecca Kirby performed the initial evaluation and then suggested the following laboratory tests: C reactive protein; coenzyme Q10; H Pylori antibody; vitamins A, C, E, B12, and folate, as well as a vitamin B assessment profile; vitamin D; magnesium/calcium ratio along with zinc, copper, manganese, and selenium; amino acid-fractionated; candida profile; chemistry profile; fatty acids profile; hair tissue profile; stool exam; cytotoxic food sensitivity—all in the blood. She also had her complete urinary peptides, indican, pyrroles, a urinalysis, and urine vitamin C tests.

Dr. Kirby also had her start intravenous Meyers Cocktails that included vitamin C, B plex, vitamins B5 and B6, as well as magnesium. She has completed five IVs at this point.

When she came again in October, she said she was feeling somewhat better. She is working with the Cytotoxic Food Sensitivity that she has received. She particularly likes receiving the Meyers Cocktails and said she “feels very good after the Meyers Cocktail—almost euphoric.” She will continue the Meyers Cocktails for now for her low white blood count and low B vitamins.

She also will start sublingual vitamin B complex, Vital Eyes Complete, Pro EFA, Cal/Mag/Zinc with vitamin D, Enteropro (a probiotic), and CoQ10 by mouth daily. All of these were the results of low laboratory tests. She will start the Vital Eyes Complete as soon as she uses up her current supplements.

She plans to continue improving and continue to run marathons with enthusiasm. 

## CENTER UPDATE

### Stimulating muscle growth in young and old

“Aging is associated with a slow, progressive loss of skeletal muscle mass,” said the researchers in a recent report in *The American Journal of Clinical Nutrition*. They went on to say that this muscle loss is accompanied by a reduction in strength, loss in functional capacity, and an increased risk of developing chronic metabolic diseases such as obesity, type 2 diabetes, and osteoporosis.


The researchers say there is hope. They first measured whole-body protein turnover. They also determined mixed-muscle protein after having both younger men and elderly men drink carbohydrates with or without protein and free leucine, combined with exercise.

Consuming a drink with protein and leucine showed improvement in whole-body protein in both lean young and elderly men when compared with men who consumed a drink that only had carbohydrates in it.

The researchers took eight men about 75 years old and eight men about


20 years old and randomly assigned them to consume either a carbohydrate drink or a carbohydrate combined with protein and free leucine drink following 30 minutes of exercise. The drinks were combined with glucose, maltose, and citric acid so that it was not possible to tell which drink was which.

Blood and muscle samples were collected over a six-hour period following exercise to assess whole body protein turnover and protein fractional synthesis in the muscles.

The mixed-muscle protein synthesis were significantly greater for both the young and elderly men taking the protein and free leucine combined with carbohydrate drink when compared with the men who drank the carbohydrate only drink. Actually, those drinking the carbohydrate only drink lost muscle during the six-hour follow-up period while those drinking the protein and leucine combined with the carbohydrate drink gained muscle during the follow-up period. 



Answers from page 4

- 1 b. In fact, Americans generally eat so many polyunsaturated fatty acids that they need supplemental vitamin E.
- 2 c. In a recent study among 744 senior citizens, those who took supplemental vitamin E had a 57% lower risk of developing cataracts.
- 3 b. Vegetable oils are loaded with polyunsaturated fatty acids, so a person's vitamin E requirements actually increase when he or she consumes a lot of them.
- 4 c. Although higher doses of vitamin E can further reduce the oxidation of cholesterol, it is preferable to take 400 IU vitamin E along with a combination of other antioxidants.
- 5 a. The most promising studies on vitamin E's anticancer properties have used this particular form.
- 6 a. Vitamin E has since been shown to help a wide variety of reproductive problems.
- 7 d. Selenium works in conjunction with vitamin E. Studies are currently being conducted on how deficiencies of selenium and vitamin E might result in the mutation of certain viruses. 

## SPECIAL DISCOUNTS

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# Upcoming Events. . .

## Lunch & Lectures:

### November:

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

## Thanksgiving

One of the best locations to see the changing of the seasons and to reflect is the Olivia Garvey Lincoln Gratitude Trail at The Center. Come and experience our very unique trail designed for the expression of thanksgiving, appreciation, and gratitude. Fresh air, a bit of exercise, and a lot of beauty are a few extra reasons you can be grateful on your stroll.

## Vitamin K—is yours enough?

We read a lot about vitamins A, C, and E, but vitamin K is one of those vitamins we only see occasionally, and then it is only mentioned in passing.

Vitamin K is important for building and maintaining a good, healthy bone mass. It is also important in eliminating blood clotting and preventing coronary heart disease. The participants in the Nurses' Health Study tended to have lower rates of heart attacks if they consumed more foods that contained larger quantities of vitamin K.

A rich source of vitamin K in the American diet comes from dark green leafy vegetables—another excellent reason to eat a good helping of salad at your meals.

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INSIDE THIS MONTH'S ISSUE . . .

- Boost your mind with methylation
- Is fructose a bad guy?
- Rediscovering ancient dietary wisdom
- Do we get enough vitamin D?