



Top 12 Brain-Boosting Foods



Healthy Choices For A Better Life

Top 12

Brain-Boosting Foods

Your brain pretty much controls everything that happens in your body. Information is constantly being passed along the nerves in your spinal cord to your brain. Nerve impulses carry valuable information that you use in countless ways every minute of your life. Your brain is the only organ that can make decisions about actions. It can base these actions on past decisions, present circumstances, or future events.

The cerebrum is the largest part of your brain and controls a lot of your physical and mental activities. Thinking and learning take place in the cerebrum. You can also store a lot of information in your cerebrum. Being able to recall information helps us to learn and tells us who we are. There are two different types of memory. There's motor-skill memory, which helps you to remember how to perform things such as walking. And then there is factual memory, which is being able to remember specific bits of information.

As we age, we can lose some of our ability to learn and to remember things. Our short-term memory may be affected. This is the type of memory you store for only a few minutes. When you need to remember information for longer periods, you are using your

long-term memory. You can store information about all kinds of things in your long-term memory that can stay with you your entire lifetime. Keeping cognitive abilities and memory strong is very important for living a healthy and long life.

Fortunately, even though the brain is an amazingly complex and sophisticated part of you, it is still just an organ. You can keep your brain healthy, just like you can your heart or your liver, by eating foods that nourish it. Brain-boosting foods can have a real and lasting impact when it comes to keeping thinking skills sharp and memory intact.

This report contains 12 of the top brain-boosting foods. Not only could they help offset the natural processes of aging, but these foods could also protect you from illnesses like dementia, Alzheimer's disease, and depression. Stocking your pantry with these foods could help you get rid of the cobwebs and sharpen your mind. And what better way to do this than by eating some delicious foods?

Brain Food No. 1: Berries

Believe it or not, those tasty berries found in the jam you spread on your toasted bagel in the morning are full of brain-boosting nutrients. But to get the full effect of these nutrients, it's time to start eating berries in their natural state—fresh, right from the supermarket produce section.

Blueberries

Blueberries can give a range of tastes from sweet, to tart, to tangy. They grow on a species of heath plant and are closely related to their cousins, the bilberry and cranberry.

Blueberry season runs from May to October, peaking in July—so be sure to look for them at your local grocery store all summer long. These little berries are full of antioxidants that pack a wallop when it comes to protecting the brain.

Special nutrients in blueberries increase the



production of brain cells in the hippocampus. These nutrients may help reverse age-related problems in the area of brain function. Blueberries' antioxidant power could reduce the stress of oxidation in the brain—which makes them strong allies in the fight against age-related memory loss. Studies done on rats have shown that blueberries improve the learning and motor skills in aging rats, making them mentally equivalent to much younger rats. Blueberries contain a kind of flavonoid called “anthocyanin.” Anthocyanin is known to work in critical areas of the brain. A 2005 study found that blueberries could reverse age-related declines in neuronal signal transduction as well as cognitive and motor deficits. And short-term blueberry supplementation was found to increase hippocampal plasticity.¹

Strawberries

Strawberries are delicious, no two ways about it. How lucky is it, then, that they are also extremely nutritious? They are high in vitamin C and contain a large amount of fruit sugar for quick energy. You can add strawberries to just about any dessert: ice cream, yogurt, muffins, pies, smoothies, shakes and, of course, the *crème de la crème* of desserts: strawberry shortcake.

Not only are strawberries a versatile and tasty fruit, but they could also help with brain function.

Strawberries contain anthocyanins, too, as well as another brain-boosting nutrient called “quercetin.” Evidence shows that strawberries control inflammation in the brain and maintain memory. One study found that strawberries played a role in helping to reverse age-related degeneration of the brain.²

Strawberry season is at its peak in April, May and June. Look for berries that are fresh, clean and bright in appearance. They should be a solid red color and have the green tops attached (if these tops are gone, the berries may be over-ripe). One helpful hint about strawberries; many people get hives from these delicious berries, which is a shame. If you have a mild allergy to strawberries, try this: run hot water over them, and then immediately follow this with cold water. It is believed that the fuzz on strawberries causes hives. This hot and cold rinse should remove the fuzz.

Black Currants

Black currants are high in vitamin C and in gamma-lineolic acid. Gama-lineolic acid is a rare fatty acid that is difficult to find in foods—but a bowl of black currants can give you a healthy dose. The gamma-lineolic acid is found in the seeds. Concentrated black currant is an effective monamine oxidase inhibitor. Don't worry about the name—the important thing to know is that concentrated black currant could act as a natural mood enhancer.

Researchers have found that these berries could protect brain cells against stress—specifically, the kind that causes memory-loss as you age. Black currants may be able to prevent or delay the onset of this devastating disease.

Black currants are a little difficult to find in the U.S. They have an interesting history of cultivation in Britain, though. During World War II, most fruits rich in vitamin C, like oranges, were difficult to come by in the United Kingdom. But since black currants were high in vitamin C and the British climate suited their cultivation, the government encouraged the planting



of black currant bushes. Soon the crop increased, and the government had almost the entire harvest of black currants made into cordial, which was given away free to the nation's children. If you can't find black currants in the produce section of your grocery store, then look for black currant juice.

Boysenberries

Not many people include boysenberries in their weekly diets. Like black currants, boysenberries are not readily available. But they are also excellent sources of anthocyanins and polyphenolics. Scientists and nutritionists have found that the darker the berry, the more potent these compounds tend to be. Polyphenols have been found in studies to protect the aging brain from damage.³

Brain Food No. 2: Fatty Fish

What's so special about fatty fish? And why is it the one time when you will actually hear nutritionists say "the fattier the better?" A recent study proved that older adults who ate fatty fish could slow their cognitive decline by 10% per year.⁴ This means that, if you eat one serving of fatty fish per week over a 10-year period, you could slow your mental decline by 100% of what it might have been had you not consumed any fish. Fatty fish contains DHA, an omega-3 fatty acid that plays a critical role in your brain's function. More studies are now being done to link fish consumption with a reduced risk of dementia, memory loss, and stroke.



One of the reasons fish oil plays such a big role in brain health and in the health of other organs like your heart is that many of the vitamins you need require fat to break them down. Vitamins A, E, D and K are all fat-soluble—so if you don't have healthy fat in your diet, very little vitamin A, E, D or K can get absorbed into your system!

Believe the studies; if you eat fish regularly, your brain could function as if you were much younger than your actual age. Some of the best sources of fatty fish are salmon, sardines, albacore tuna, halibut, trout, herring, cod, and whitefish. Keep in mind that eating fish fried in batter with a serving of fries is not really the way to go here. Buy fish fresh if you can and grill it at home. Most fish cook quickly and can easily be made into a tasty meal by adding some lemon, herbs, and a dash of pepper.

Brain Food No. 3: Green Tea

Green tea is made from unfermented leaves and reportedly contains the highest concentration of polyphenols of all the tea varieties. Green tea is full of these antioxidants—particularly one called EGCG. EGCG (the name is too long to try to pronounce) protects the brain. It lowers the amount of protein that builds up as plaque. This plaque has been linked to age-related memory loss and nerve damage. Green tea is said to be the world's healthiest beverage (if water is discounted, of course!). Two cups a day will give your brain a boost, enhancing your memory and your ability to concentrate. Green tea can also improve your mood. In one Japanese study, green tea consumption was analyzed in 1,003 participants who were 70 years of age or older. It was found that those with the highest consumption of green tea had the lowest prevalence of cognitive impairment.⁵

Before you reach for a box of green tea bags at the grocery store, here's a primer on what to look for and the different products you can consider buying. Most green teas available at the grocery store are either Chinese or Japanese varieties. Common Chinese varieties include the most famous Chinese green tea, Longjing (which means "dragon well"), and Gunpowder green tea. Japanese varieties include Matcha, a high-quality powdered green tea used in tea ceremonies, Bancha, and Kukicha—a roasted version of Bancha. Try buying

Bancha green tea, as it is one of the best all-purpose teas on the market today when it comes to healthy benefits. Bancha tea will not stimulate, medicate or sedate you in any way. It is very mild and has a subtle, pleasing taste.

Brain Food No. 4: Dark Chocolate

Dark chocolate is another antioxidant-rich food, believe it or not. It doesn't get any better than this! Eat dark chocolate and you could protect your brain as you age. Dark chocolate could help prevent oxidation in the brain, which is the precursor to many neurological diseases. It could also reduce inflammation. Both of these conditions are implicated in the aging process of the brain. Dark chocolate contains a special kind of flavonoid called "procyanidin." This flavonoid counteracts the damage caused by inflammation and oxidation. Procyanidins also boost the circulation of blood to the brain, and along with this blood come oxygen and nutrients for optimum health.

A study sponsored by the U.S. Department of Agriculture looked at 12 people aged 25 to 35. They ate 100 g of dark chocolate, 100 g of dark chocolate along with a glass of milk, or 200 g of milk chocolate. Just 60 minutes later, those who ate dark chocolate alone had the most antioxidants in their system, including "epicatechin"—a polyphenol that improves blood flow.⁶

So remember: when you buy chocolate, go for

the dark stuff. A really good dark chocolate shouldn't be too hard to find. Most grocery stores have a large collection of chocolate bars available for purchase. How can you tell how dark a chocolate bar actually is? Look for the percentage of cacao listed on the wrapper; the higher the number, the darker the chocolate.

Brain Food No. 5: Grape Juice

Did you know that drinking grape juice could help prevent the decline of short-term memory? It's true! But that's not all. Grape juice could also help keep your neuromotor skills alive and kicking. Grape juice is full of nutrients, including valuable antioxidants that could reverse the sensitivity of certain receptors in the brain and, in so doing, enhance its overall cognitive function.

Grape juice also has an uncanny ability to increase the production of dopamine in the brain. Dopamine functions as a neurotransmitter. And that's not all—grapes contain another important chemical called "resveratrol." You might have heard of resveratrol. It is the ingredient found in red wine that is being touted for its health benefits in all sorts of medical journals. Well, resveratrol comes from grapes and, as far as your brain is concerned, it could help reduce the level of plaque that builds up within the brain. This plaque can be responsible for disrupting memory and bringing on age-related memory loss.⁷

Is one type of grape healthier than another? Red





grapes are high in resveratrol, so if you're going to buy only one bunch, go for these rather than the green ones. You might also want to consider buying organic red grapes, as grapes are a fruit that can retain a lot of pesticide residues. These residues can be harmful to your health, and if you can avoid them by buying organic, go for it.

Brain Food No. 6: Apples

An apple a day could help keep Alzheimer's away. Well, that's not exactly how the saying goes; nonetheless there is some truth in it. A study has been done showing that apples could have dementia-fighting qualities. The study looked at fruits as a source of vitamin C, a known factor in the reduction of memory loss.⁸ The researchers also noted that these same fruits are a valuable source of quercetin. Quercetin is a flavonoid, and flavonoids are powerful antioxidants. Other studies have linked the concentrated juice of apples to a reduction in cell death and oxidative damage in the brain.

The old proverb goes, "An apple a day keeps the doctor away." Apples have been shown to have many health benefits when it comes to keeping you and your organs healthy. Research suggests that apples may reduce the risk of colon cancer, prostate cancer, and lung cancer. That alone is an amazing accomplishment for one single fruit. But apples also contain a group of

chemicals that could protect the brain from neurodegenerative diseases like Alzheimer's and Parkinson's. In a study done at Cornell University, Dr. Chang Y. Lee found that apple phenolics—the kind of antioxidants found in fresh apples—could protect nerve cells from damage. They do this by preventing neurotoxicity caused by oxidative stress. Red delicious apples from New York State were used in the study. According to Dr. Lee, although all apples are high in critical phytonutrients, the amount of phenolic compounds in the apple flesh varies from year to year, and from growing region to growing region.⁹

There are many varieties of apples to choose from. Granny Smith, Royal Gala, Fuji, Spartan, Braeburn, MacIntosh, and even a variety called Pink Ladies are just a few examples. You can buy apples all year round, they are inexpensive, and make a healthy, easy-to-pack snack. Apples can be used in all sorts of healthy dessert recipes. You can set aside an hour to make your own apple pie—it can be a relaxing and comforting thing to do. Make your own whole grain pie crust and fill with apple slices. Avoid using a lot of sugar—apples are quite sweet on their own—but don't forget the cinnamon! While the pie cooks, you can enjoy the delicious smell that will fill your kitchen. And when it is done, invite a friend over to share a piece. What a great way to get a brain-boosting treat!

One final note: buy organic apples if you can. The skins of regularly grown apples may contain traces of chemicals from pesticides and fungicides. If you can't buy organic, wash the skins with a mild fruit soap. Don't peel and eat! The skin contains a lot of the apple's beneficial nutrients.

Brain Food No. 7: Leafy Greens

You know they're good for you. But did you know that leafy greens could strengthen your memory? That's

because they are high in iron. And iron deficiency has been linked to lagging memory. Without iron, you can't produce enough blood cells, so less oxygen gets to your brain to feed those important cells. Researchers have found that spinach, in particular, helps protect the brain from oxidative stress and could counteract age-related cognitive decline.¹⁰

Besides spinach, leafy greens include a wide variety of vegetable greens (there's more than just lettuce out there), which includes mustard greens, turnip greens, collard greens, bok choy, romaine lettuce, arugula, kale, Swiss chard, and dandelion greens.

Put some of these greens in your pasta or rice dishes. Or, better yet, make a delicious salad dressed with olive oil, herbs, and balsamic vinegar. Your brain and your body will thank you.

Brain Food No. 8: Avocados

You might know that avocados are an excellent source of healthy fat. And this healthy monounsaturated fat increases blood flow to the brain. That means more oxygen and more nutrients getting to those parts of your brain that help you to think and to remember details. Avocados could also help lower blood pressure, a condition that can put you at risk for cognitive decline.

The avocado contains 14 minerals. Of special importance are copper and iron. Both minerals aid in blood regeneration and help prevent anemia. Avocado oil is used universally for its anti-bacterial, anti-wrinkle and healing properties. Avocado oil is rich in vitamins A, B1, and B2 and essential fatty acids. Avocado fruit contains natural antioxidants that protect the body from stress and age-related damage. For some reason, avocados often drop off our grocery radar. Many people never eat avocados, which is a shame because they're tasty and healthy, too. We often get cravings for fat because our Western diet has all but removed fats from our meals. This is totally unnecessary. The body absolutely needs fats to stay healthy. Unfortunately, restricting fats from the diet usually causes us to reach for unhealthy sources, like potato chips and

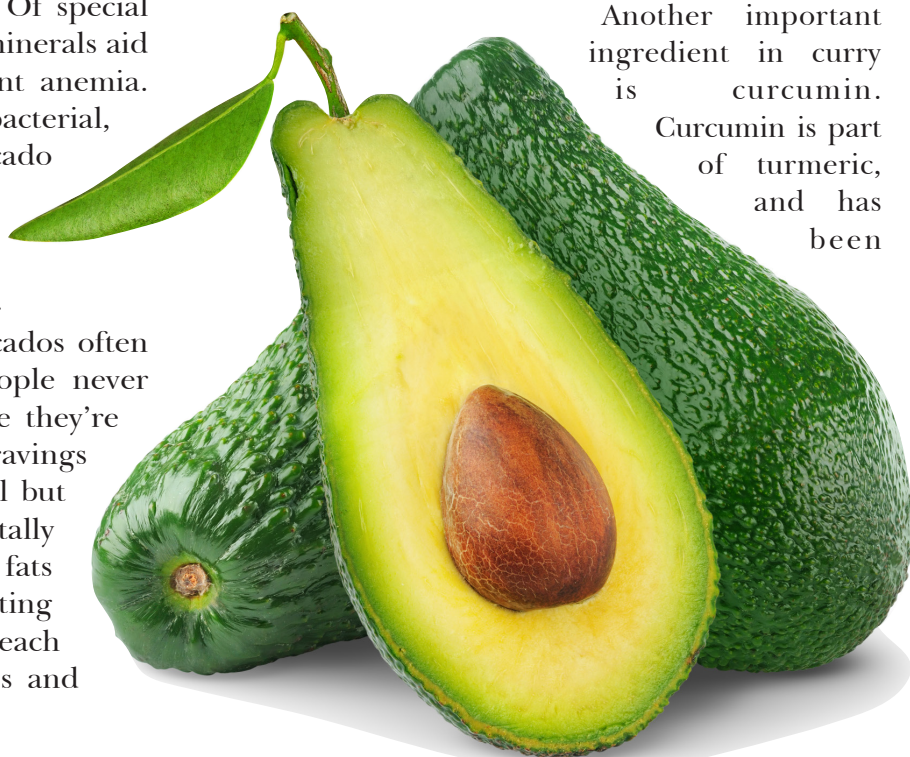
French fries, where we don't get the nutrients we need. Avocados are a perfect solution when these cravings hit. You'll give your body the fat it needs and a whole bunch of nutrients, too.

Eat avocados plain, right out of the skin, or add them to sandwiches, salads or dips. Many cultures make delicious drinks with avocado. You can also use avocados to make wonderful homemade bread, which tastes even better when toasted.

Brain Food No. 9: Curry

Spice up your life and add some curry to your meals. It could boost your brain's thinking power, too! An essential ingredient in curry is turmeric, which is a herb that could protect your mind from diseases that ravage the memory. Curry, of course, is a classic ingredient in Indian cuisine. And guess what? Population studies done in India have found that neurological problems are low in this country. Researchers believe that eating curry every day, specifically turmeric, may halt the production of a certain protein in the body that is linked to the destruction of nerve cells. And it pushes the level of antioxidants in your body through the roof. How does it manage this? Well, it seems that turmeric helps to activate a system in the brain tissue that then causes a potent antioxidant called "bilirubin" to be released, which protects the brain almost like a shield.

Another important ingredient in curry is curcumin. Curcumin is part of turmeric, and has been





proven to have antitumor, antioxidant and anti-inflammatory properties. In one animal study done by the Department of Physiological Science at the University of California, curcumin helped rats with traumatic brain injuries. One group of rats was fed a high-fat diet. The other group was given curcumin supplements. It was found that the curcumin helped to dramatically reduce the damage caused by oxidation. And it counteracted the cognitive impairment caused by the traumatic injury.¹¹

There are many different ways to add curry to meals. Many curry pastes and powders can be bought at the supermarket. Curry is an excellent addition to any vegetarian entrée, as well as any meat dish. Curries can be mixed with secondary ingredients like yogurt to give them added flavor. Entire cookbooks have been devoted to the art of cooking with curry, so find a few favorite recipes and spice up your dishes with these healthy ingredients.

Brain Food No. 10: Coffee

Believe it or not, coffee could be a healthy way to boost your brain power as you age. And I'm talking about the good stuff—caffeinated coffee. A study done a few years ago found that older adults who tended to drink one cup of caffeinated coffee before they took a memory test performed better than those who drank decaf coffee. Researchers concluded that older people had better memories in the morning, regardless of coffee consumption (remember that the next time you have to perform a task that requires a lot of thinking, such as writing your memoirs—try to do it first thing in the morning!). But, as the day went on, if they didn't drink any coffee, their memories faded. It seems a cup or two helped them to avoid this decline. Another study suggested that short-term memory improvement

was more pronounced in women in the evening after caffeine consumption.¹² So take your pick—a cup of coffee at breakfast or at dinner could help keep your mind sharp. Just remember; drinking coffee in the evening can disrupt your sleep.

In another study, coffee drinking was studied in a group of 676 healthy elderly men from Finland, Italy, and the Netherlands. The study spanned a 10-year period. The researchers discovered that the more coffee a participant drank, the less cognitive decline occurred. Those who drank three cups of coffee a day showed 4.3 times less cognitive decline than those who consumed no coffee.¹³

What's in coffee that could help the brain? Powerful antioxidants found in coffee beans. Coffee could be a potent healer even when working in tandem with other vices. Researchers have found that people who smoke and are heavy drinkers have less heart disease and liver damage when they regularly consume large amounts of coffee compared to those who don't. There's also some evidence that coffee may help manage asthma and even control attacks when medication is unavailable. It could also stop a headache and even prevent cavities! So drink in moderation and try to avoid adding lots of cream and sugar to your coffee.

Brain Food No. 11: Olive Oil

Use olive oil liberally in your cooking. It's high in monounsaturated fats. And this means that you are getting the healthiest fat for keeping your cognitive abilities strong. In Italy, researchers gave short tests designed to measure a person's mental state, and found that older adults who had higher intakes of these fats had better scores. In another study, researchers at the Department of

Neurobiology, University Hospital, Stockholm, gave patients omega-3 fatty acid supplements. It was found that the omega-3 fatty acids had a beneficial effect on the mental health of these individuals.¹⁴

You can find these fats within olive oil, canola oil, peanut oil, and sunflower oil, to name a few. Olive oil, however, is a great choice, because it keeps its nutrients even when heated, and it has a versatile flavor that goes well with many different types of dishes. Use olive oil on salads, or use as a spread on bread instead of butter or margarine. It tastes great on toast—so give it a try!

Brain Food No. 12: Barley

Many people will go to the trouble to make and eat their oatmeal in the morning. Which is great, but what about barley? Most people only eat a little barley when it is thrown into a beef soup. That's too bad, because barley could actually help your brain cells communicate with each other more effectively. Barley, when eaten, releases glucose into your system, which helps it to produce a chemical called "acetylcholine." It is this chemical that helps with the functioning

of your brain. In a Canadian study, people aged 60 to 82 improved their memory by 37% by eating lots of barley.¹⁵

Half of the world's barley production is used in animal feed. A large part of the remaining crop is used for malting in the creation of beer and whiskey. But don't let that stop you from using barley as a wholesome grain in your favorite recipes. When you buy barley, be aware that the kernels are polished or pearled to remove the inedible hull part of the grain. Pearl barley is barley in which the kernels have been polished, making the grains smaller. Pot barley contains larger kernels. Pearl barley is good for salads and puddings, and cooks a little faster than pot barley. Pot barley is a great comfort food and can fill you up, even when the weather outside is frigid.

Barley is unique in that it is a grain that contains both soluble and insoluble fiber. In comparison, wheat flour is very low in soluble fiber. Try using barley flour when baking. And don't forget you can buy barley flakes at the grocery store and cook up a warm bowlful for breakfast—add some dates and your favorite fruit and you've found a great way to start the day.



Barley

One other thing to note about barley: if you have a wheat allergy, try this grain instead. Barley has

much lower gluten content than wheat. Many people who cannot tolerate wheat can eat barley.

Sources

1. Lau, F.C., et al., "The beneficial effects of fruit polyphenols on brain aging," *Neurobiol. Aging* Dec. 2005; 26(1): 128-32.
2. Bickford, P.C., et al., "Antioxidant-rich diets improve cerebellar physiology and motor learning in aged rats," *Brain Res.* June 2, 2000; 866(1-2): 211-7.
3. Lau, et al., "The beneficial effects of fruit polyphenols on brain aging," *Neurobiology of Aging* 2005; 26(1): 128-132.
4. Morris, M.C., et al., "Fish consumption and cognitive decline with age in a large community study," *Arch Neurol.* Dec. 2005; 62(12): 1,849-53.
5. Kuriyama, S., et al., "Green tea consumption and cognitive function: a cross-sectional study from the Tsurugaya Project," *American Journal of Clinical Nutrition* Feb. 2006; 83(2): 355-361.
6. Serafini, M., *Nature* Aug. 28, 2003; 424: 1,013.
7. Marambaud, P., et al., "Resveratrol promotes clearance of Alzheimer's disease amyloid-beta peptides," *J. Biol. Chem.* Nov. 11, 2005; 280(45): 37,377-82.
8. Martin, A., et al., "Antioxidant vitamins E and C and risk of Alzheimer's disease," *Nutr. Rev.* Feb. 2003; 61(2): 69-73.
9. Lee, K.W., et al., "Major phenolics in apple and their contribution to the total antioxidant capacity," *J. Agric. Food Chem.* Oct. 22, 2003; 51(22): 6,516-20.
10. Bickford, P.C., et al., "Antioxidant-rich diets improve cerebellar physiology and motor learning in aged rats," *Brain Res.* June 2, 2000; 866(1-2): 211-7.
11. Wu, A., et al., "Dietary curcumin counteracts the outcome of traumatic brain injury on oxidative stress, synaptic plasticity, and cognition," *Exp. Neurol.* Feb. 2006; 197(2): 309-17.
12. Arushanian, E.B., et al., "Factors affecting the ability of caffeine to improve the short-term memory in man," *Eksp. Klin. Farmakol.* Jan.-Feb. 2003; 66(1):17-9.
13. VanGelder, V.M., et al., "Coffee consumption is inversely associated with cognitive decline in elderly European men: the FINE Study," *Eur. J. Clin. Nutr.* Feb. 2007; 61(2): 226-32.
14. Freund-Levy, Y., et al., "Omega-3 fatty acid treatment in 174 patients with mild to moderate Alzheimer disease: OmegAD study: a randomized double-blind trial," *Arch. Neurol.* Oct. 2006; 63(10): 1,402-8.
15. Kaplan, R.J., et al., "Cognitive performance is associated with glucose regulation in healthy elderly persons and can be enhanced with glucose and dietary carbohydrates," *Am. J. Clin. Nutr.* Sept. 2000; 72(3): 825-36.



Healthy Choices For A Better Life