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livingwell

Train your brain

Physical exercise important; don't neglect mental stimulation

BY PATTY LEON
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Being healthy is not just about the foods we eat and exercises we do to get our bodies physically fit. You can be at your ideal weight and have rock-solid abs and muscles, yet still be severely unhealthy if you don't take the time to train your brain.

Your brain is the most important organ in your body. It sends signals to the muscles and tissues and controls all your bodily functions, as well as all the or-

gans in your body, such as the heart and liver.

Most people easily can recognize the benefit of training the heart through aerobic activities like walking, running or cycling. It helps increase blood flow throughout the body and aids in building overall endurance while helping to decrease blockages, and reduces the risk of cardiac disease and heart attacks.

It is just as important to the brain.

Signs of an unhealthy brain can manifest in the form of depression, anxiety, eating disorders and cognitive disorders, such as dementia and Alzheimer's disease. A healthy brain will reduce the risk of strokes, help prevent memory loss, maintain the body's motor functions and improve your overall mood. But how do you train your brain?

There are several easy ways to give your brain a healthy boost. Here are three easy ways you can train your brain.

Exercise

According to Harvard Health Publications, if you currently ex-

ercise, you are already on the right path.

Exercise — especially aerobic activities — stimulates the release of growth factors, which are chemicals in the brain that affect the health of brain cells. Exercise also increases the growth of new blood vessels in the brain and ensures the survival of new brain cells.

The increased blood flow helps repair damaged nerve tissue in the brain. It also increases the production of certain hormones such as serotonin.

Serotonin is a chemical that helps regulate mood. Having deficient levels of serotonin is linked to elevated levels of depression and anxiety.

Medical News Today reports that serotonin is manufactured in the brain and intestines. The serotonin that is used within the brain must be produced in the brain.

Research shows that at least 30 minutes of aerobic activity three times a week is sufficient to increase blood flow to the brain.

Harvard adds that the indirect benefit of exercise is improved sleep and mood and reduced stress and anxiety.

Play some games

Train your brain with fun activities like quizzes, puzzles and video games. If you ever needed the perfect excuse to say playing "Super Mario Brothers" or "Grand Theft Auto" was an absolutely necessary great way to spend your time, here it is.

The Guardian reports that a study done by the University of California found that older people who played specially designed video games improved their multitasking abilities, memory and at-

tention.

The study found that 60-year-olds who played the custom-designed game for 12 hours over a one-month period improved their multitasking abilities to levels better than those achieved by 20-year-olds playing the game for the first time.

Experts suggest brain training that involves real-world activities. The brain works through association. Staying within a specific routine limits brain activity. Simple things such as brushing your teeth with the opposite hand, taking a different route to work on certain days, or playing simple word games like Sudoku or crossword puzzles help keep the brain's neurons engaged, according to David Eagleman, Ph.D., a neuroscientist and assistant professor at Baylor College of Medicine in Texas.

The simple task of learning something new — such as a foreign language, new sport, drawing, painting, putting together a puzzle or doing math in your head — helps to train the brain and increase memory recall.

Quiet the mind

Controlling stress is a major factor in creating a healthy brain.

Certain stressors cause the brain to release chemicals that activate the adrenal system in what is normally called the "fight or flight syndrome." Those chemicals increase the heart rate, elevate blood pressure and increase the release of adrenaline, which prepares the body to deal with the stress or risk at hand.

Everyone is faced with stress daily. Money issues, health issues, job pressures and peer pressures all can cause undue stress to the brain

and body.

Being in a constant state of stress can lead to an increase in anxiety, severe mood swings, inability to sleep properly and a decrease in memory function. It also inhibits the body's ability to fight disease and muscle discomfort.

Reduce stress by taking a few minutes of your day to meditate and disconnect from the stressors around you. Turn off the computer, shut off the cellphone, unplug the TV, find a quiet place and just sit and be still. Don't fight all the thoughts running through your head. Just let them flow.

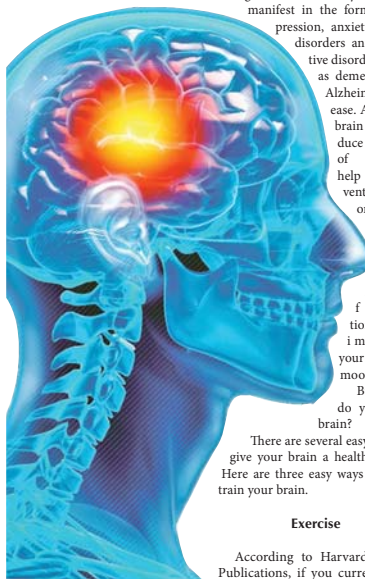
Research done by Harvard in 2014 showed that meditation helps to rebuild brain matter in just eight weeks. The study participants meditated for 30 minutes each day during the research.

Meditation doesn't require any fancy equipment. There are several courses on meditation, but you don't have to get too complicated.

Reconnect with nature by taking a calming walk in a park. Take a moment to take off your shoes and socks and feel the cool grass underneath your feet. Set up a warm, soothing bubble bath and soak away the stress. Take a yoga class to release the stress while exercising the body for double the bonus.

Sit quietly just before going to bed each night and just focus on listening to your breath. Soon, these meditation habits will become second nature, and you will find it easier and easier to quiet the mind, focus inward and temporarily shut out external noises and influences.

Your brain works overtime everyday. Trying these quick and easy techniques can help you stay alert way into your golden years.



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Compound that reins in cancer cells found

BY DOUG BENNETT
University of Florida Health

A compound that disrupts enzyme function has been found to inhibit the growth of breast, colon and other cancer cells in laboratory testing, according to researchers.

The compound, known as UF010, blocks a crucial enzyme function that cancer cells need to replicate, said Daqing Liao, Ph.D., an associate professor in the Department of Anatomy and Cell Biology in the University of Florida's College of Medicine.

Liao, a UF Health researcher, collaborated with scientists from The Scripps Research Institute and Reaction Biology Corp., who published their findings recently in the journal Chemistry and Biology.

UF010 works by halting a biochemical reaction catalyzed by enzymes known as histone deacetylases (HDACs). That changes the way cells modify proteins and express genetic information, which ultimately leads to tumor suppression, the researchers found.

UF010 is one of a group of compounds known as HDAC inhibitors, which are used as mood stabilizers, epilepsy therapy and, more recently, as a cancer treatment. But they also have limitations, including undesirable pharmaceutical properties

that can cause poor tolerance of the medicine in patients.

The discovery of UF010 as an anticancer agent is important because it's one of a new class of chemical compounds that are more target-specific and safer to use because they are less toxic, Liao said. It also represents a potential advance in the fight against solid-tumor cancers. The HDAC inhibitors now in use are only approved for blood cancers such as T-cell lymphoma and multiple myeloma.

The research group led by Liao set out to find a new, chemically distinct compound that works the same way to inhibit cancer but has fewer limitations such as off-target effects. Scripps Florida, a Jupiter, Florida-based nonprofit biomedical research facility, has a library of more than 600,000 unique chemical compounds that can be used to treat diseases. Using a sophisticated drug-screening facility, Liao and colleagues worked with Scripps scientists to identify compounds for testing.

"We're fortunate that we found one compound — UF010 — and it's been shown to be quite interesting," Liao said.

In the laboratory, UF010 was found to be five times more potent than another histone deacetylase inhibitor, called MS-275, when test-



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ed on liver and colon cancer cells, researchers found. It also inhibited cancer growth when tested on a panel of 60 diverse cancer-cell lines including breast, colon, prostate and ovarian, that were tested in collaboration with the National Cancer Institute.

UF010 has novel enzyme-inhibiting properties that heighten its potential as a cancer therapy, researchers found. The compound was found to be particularly effective at halting the spread of tumors and inhibiting several major mechanisms that cause them.

"We showed the compound can activate tumor suppression pathways, and it can inhibit the oncogenic pathways. This is an exciting new property for these inhibitors," Liao said.

It's particularly encouraging that UF010 can activate two major pathways that suppress tumors while also suppressing three pathways that cause them, Liao said. Researchers don't yet fully understand why the compound works that way.

UF010 also appears to be less toxic than other similar compounds, according to work that

Liao and his colleagues have done in a preliminary, unpublished study that used a mouse model.

Next, Liao hopes to study UF010's effect on tumors in a mouse model. The ultimate goal is to assess whether the new compounds would be effective for treating cancer patients.

Other members of the 14-person research team included William R. Roush, Ph.D., a professor of chemistry and associate dean of graduate studies at Scripps Florida, who contributed to the chemical optimization of UF010 to identify target-specific drug leads for potential applications in treating cancer patients; Peter Hodder, Ph.D., formerly a senior director and associate professor at Scripps Florida and now at Amgen, who contributed to the identification of UF010; Yunfei Wang, a former visiting Ph.D. student who worked in Liao's lab and helped identify and characterize the new inhibitors; Ryan Stowe, a Ph.D. student at Scripps Florida; and Christie Pinello, a former postdoctoral associate at Scripps Florida who helped identify UF010.

The research was supported by grants from the William B. Bankhead Jr. and David Coley Cancer Research Program, the Florida Department of Health and the National Institutes of Health.

Five habits to help you lose weight, keep it off

By BISTRO MD
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To many Americans, weight loss remains a pie-in-the-sky desired outcome to a laborious process that is never undertaken.

According to a Gallup poll, 51 percent of American adults want to lose weight, but only 25 percent say they actively work toward that goal.

But with only 18 percent of Americans at their ideal weight, and eating and exercise habits steadily on the decline, would-be weight-lossers should not allow their desire to lose weight outweigh their will to undertake weight loss. Recognizing the ease in which healthy habits can be adopted into your diet and fitness regimen can motivate you to achieve your ideal weight and maintain it for years to come.

Take 'wholistic' approach

While fad diets may come and go, one diet never goes out of style: a wholesome diet that helps boost energy and mental clarity so you can maintain laser focus on living productively. Infuse your diet with fresh, minimally processed whole foods such as fruits, vegetables, lean proteins, beans, eggs and nuts; low-fat dairy; and whole grains. Additionally, adding low-density foods that are high in fiber to your diet can satiate you for hours and keep your weight low because they occupy more space in the stomach but with fewer calories than high-density foods that pack on the calories but not always the nutrients.

Eat like clockwork

When incorporating healthy habits into your weight-loss regimen, recognize that when and how often you eat is as critical as what you eat. While many dieters skip meals to aid in caloric restriction and weight loss, the opposite is true: After a few hours without eating, the stress hormone cortisol rises and signals the body to store fat in the abdomen. A diet plan that begins with breakfast and continues with small meals at frequent intervals not only will help reduce body fat and cortisol levels, but also will en-

sure that your metabolism runs like clockwork throughout the day.

Move it to lost it

While conventional wisdom indicates that dieting promotes weight loss more effectively than exercise, studies show that individuals who lose weight and maintain it engage in regular fitness activities, whether jogging, walking or gardening, or even cleaning the house or shopping. Rather than crash-dieting or dramatically reducing calories to stretch your diet plan further, incorporate a fitness regimen alongside your diet plan to help build muscle and boost your metabolism so that you can be a lean, mean, fat-burning machine even when you're not exercising.

'Wet' your appetite

You may have heard of the often cited "8x8" rule — drink eight 8-ounce glasses of fluid each day. However, drinking as little as two cups of water before a meal can help you lose weight. This is not because water itself has a mystical, fat-burning property, but because proper hydration can relieve the thirst that is often confused as hunger, helping to suppress appetite and prevent overeating. Water also can help replace the intake of hypercaloric, sugar-laden sodas and juices that often contain high-fructose corn syrup.

Let old habits die hard

After incorporating healthy habits and losing weight, one of the greatest setbacks to weight maintenance is relapsing into damaging dietary habits. Weight losers may once more turn to comforting, high-density foods such as saturated oils and butter, along with processed foods with artificial ingredients. These foods can quickly reverse your weight loss, sap your energy and vitality, and renew a vicious cycle of weight gains and losses that is bound to take its physical and emotional toll. Instead of taking the view that a diet is a one-time activity, embrace your new meal plan not as a restrictive diet, but as a positive lifestyle change.

Carter's cancer is advanced

By GERDEEN DYER
Georgia Health News

Former President Jimmy Carter, who is both a pre-eminent citizen of Georgia and a history-making figure in international public health, announced Aug. 12 that he has cancer.

Carter, 90, had surgery earlier this month to remove a small mass from his liver. Tests showed that it was malignant and that the cancer had spread to other parts of his body, he said in his announcement. He will be cutting back his travel schedule to remain in Atlanta for treatment at Emory Healthcare, he added.

Before serving as president from 1977 to 1981, Carter was a naval officer, a south Georgia peanut farmer, a state legislator

and governor of Georgia. Since leaving the White House, he has devoted himself to peace and philanthropy. He founded the Carter Center in Atlanta in 1982 and won the Nobel Peace Prize in 2002.

Among other projects around the world, Carter and the Carter Center have promoted public health as a way to increase prosperity and advance peace. He is the individual most identified with the campaign to eradicate guinea worm, a tropical disease caused by parasites in drinking water.

The Carter Center is a key forum for discussions of health policy in all its aspects.

Carter has been involved in anti-cancer efforts for years and has spoken publicly about the toll the disease took on his



JIMMY CARTER

family. All three of his siblings died of pancreatic cancer, as did his father, and he lost his mother to breast cancer.

Though several presidents had close ties to Georgia — including Franklin D. Roosevelt, who died in Warm Springs in 1945 — Carter is the only native of the Peach State ever to hold the nation's highest office.

Carter is one of four living former presidents. He and the oldest member of the group, George H.W. Bush, were born a few months apart in 1924. Coincidentally, the other two living former presidents, Bill Clinton and George W. Bush, were born about a month apart in 1946.

State outlines arguments against Medicaid 'waiver'

By ANDY MILLER
Georgia Health News

The state's Medicaid agency has all but ruled out Grady Health System's "waiver" proposal to cover more uninsured Georgians.

"We're not going to move forward on this at this time," Clyde Reese, commissioner of the Department of Community Health, said at an agency board meeting last week.

He cited "significant costs to the state."

Reese added that federal officials indicated they would consider the waiver proposal only if Georgia was willing also to expand its Medicaid program. That is something Georgia political leaders emphatically have

declined to do.

Georgia Health News reported earlier this month that cost was the major snag in the state's pursuing the Grady plan, which would use federal matching Medicaid dollars to help set up pilot sites that would give coverage to the uninsured.

Participating medical providers then would manage these patients' care.

Such a move would fall far short of Medicaid expansion under the Affordable Care Act, which would increase the number of low-income people eligible for the Medicaid program. More than half the states have approved expansion, but Georgia leaders say it would be too costly.

Reese told reporters Thurs-

day that the waiver plan as outlined would not be workable in rural areas.

Overall administrative costs to the state were estimated at \$3.5 million, he said.

Community Health still would be willing to look at a counterproposal from Grady, Reese said.

"You never say never," he said.

Cindy Zeldin of the consumer group Georgians for a Healthy Future said Thursday that the Grady pilot program "held the potential to identify promising and innovative approaches to health-care delivery for the population that Grady serves. We are disappointed that uninsured Georgians currently served by Grady won't be able to gain coverage."

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