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**Issue 188**

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Dietary Fiber
Fiber became a household word back in 1970s when Dr. Denis Burkitt, the Fiber Man, whose fiber hypothesis” that states that fiber can prevent certain diseases. Through their work in Africa, they discovered that diseases that were common in the Western cultures were not common there. These included heart attacks and high blood pressure (cardiovascular diseases), obesity and diabetes (metabolic disorders), intestinal problems (constipation, diverticulosis, diverticulitis, gallstones, appendicitis, hemorrhoids, polyps, and colon cancer), varicose veins and blood clots (deep vein thrombosis). The primary dietary difference was the high intake of fiber and low intake of refined carbohydrates in the African population. Burkitt also noted the emergence of these diseases in the United States and England after 1890 following the introduction of a new milling technique that removed fiber from whole grain flour to produce white flour.

Dietary fiber is found mainly in fruits, vegetables, whole grains and legumes. Foods containing fiber can provide other health benefits as well, such as helping to maintain a healthy weight and lowering your risk of diabetes and heart disease.

Dietary fiber aka roughage includes all parts of plant foods that human body can't digest or absorb. Unlike other food components, such as fats, proteins or carbohydrates, which human body breaks down and absorbs, fiber isn't digested. Instead, it passes relatively intact through your stomach, small intestine, colon and out of your body. Fiber is commonly classified as soluble or insoluble.

Soluble fiber dissolves in water to form a gel-like material. It can help lower blood cholesterol and glucose levels. Soluble fiber is found in oats, peas, beans, apples, citrus fruits, carrots, barley and psyllium.

Insoluble fiber promotes the movement of material through your digestive system and increases stool bulk, so it can be of benefit to those who struggle with constipation or irregular stools. Whole-wheat flour, wheat bran, nuts, beans and vegetables, such as cauliflower, green beans and potatoes, are good sources of insoluble fiber.
Most plant-based foods, such as oatmeal and beans, contain both soluble and insoluble fiber. However, the amount of each type varies in different plant foods. To receive the greatest health benefit, eat a wide variety of high-fiber foods.

The soluble fiber found in psyllium husks can help lower cholesterol. Psyllium can help relieve both constipation and diarrhea, and is used to treat irritable bowel syndrome, hemorrhoids, and other intestinal problems. Psyllium has also been used to help regulate blood sugar levels in people with diabetes. When psyllium husk comes in contact with water, it swells and forms a gelatin like mass that helps transport waste through the intestinal tract. Clinical studies have shown that 7 grams of soluble fiber from psyllium husk, taken daily as part of a heart healthy diet low in saturated fat and cholesterol, may reduce the risk of heart disease by lowering cholesterol. Several large population based studies also suggest that increased fiber intake may reduce risk of colon cancer, but other studies have been conflicting. [Link](http://umm.edu/health/medical/altmed/supplement/psyllium)

The Institute of Medicine, which provides science-based advice on matters of medicine and health, gives the following daily recommendations for adults:

<table>
<thead>
<tr>
<th>Age 50 or younger</th>
<th>Age 51 or older</th>
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<tbody>
<tr>
<td>Men</td>
<td>38 grams</td>
</tr>
<tr>
<td>Women</td>
<td>25 grams</td>
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<tr>
<td></td>
<td>30 grams</td>
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<tr>
<td></td>
<td>21 grams</td>
</tr>
</tbody>
</table>

Teenagers who eat a lot of fiber-rich foods, such as vegetables and whole grains, are less likely to have risk factors for diabetes and heart disease. It has been shown that Dietary psyllium supplementation is as effective in lowering cholesterol as 10 mg of simvastatin alone. Psyllium supplementation should be considered as a safe and well-tolerated dietary alternative to statin to enhance LDL-C lowering. In addition, Psyllium is also shown to be effective in increasing HDL levels. People of Indian Continental origin have low HDL levels, in general, and are prone to heart disease and diabetes. [Link](http://www.vepachedu.org/TSJ/TSJ-November-2011.pdf)

### Alcohol and Women
The more alcohol they drink before motherhood, the greater their risk of future breast cancer. New research in the *Journal of the National Cancer Institute* links increased breast cancer risk to drinking between early adolescence and first full-term pregnancy. If a female averages a drink per day between her first period and her first full-term pregnancy, she increases her risk of breast cancer by 13 percent. The researchers also found that for every bottle of beer, glass of wine or shot of liquor consumed daily, a young woman increases her risk of proliferative benign breast disease by 15 percent. Breast tissue cells are particularly susceptible to cancer-causing substances as they undergo rapid proliferation during adolescence and later. Adding to the risk is the lengthening time frame between the average age of a girl's first menstrual cycle and the average age of a woman's first full-term pregnancy. [http://jnci.oxfordjournals.org/content/early/2013/08/24/jnci.djt213](http://jnci.oxfordjournals.org/content/early/2013/08/24/jnci.djt213)

### Depression
For men as well as women, the checklists now in wide use to diagnose depression may fail to capture the experience and language of the emotional distress they feel. Depression can look very different in men and women. And many of its hallmarks — rage, risk-taking, substance abuse and even workaholism — can hide in plain sight. When these symptoms are factored into a diagnosis, the long-standing disparity between depression rates in men and women disappears. While women may not feel shame in acknowledging their sadness and sagging self-esteem, mental health experts find that depressed men often respond to such feelings with actions that look like their opposite: They bluster and bully. They throw themselves into harm's way. They numb themselves with sex, drugs and endless workdays. In fact, when its symptoms are properly recognized in men, major depression may be even more common in men than in women, according to a study published in the journal *JAMA Psychiatry*. [http://www.latimes.com/science/la-sci-depression-men-20130829,0,2605342.story](http://www.latimes.com/science/la-sci-depression-men-20130829,0,2605342.story)
Aging Brain

The hippocampus, a brain region that consists of several interconnected subregions, each with a distinct neuron population, plays a vital role in memory. Studies have shown that Alzheimer's disease hampers memory by first acting on the entorhinal cortex (EC), a brain region that provides the major input pathways to the hippocampus. It was initially thought that age-related memory loss is an early manifestation of Alzheimer's, but mounting evidence suggests that it is a distinct process that affects the dentate gyrus (DG), a subregion of the hippocampus that receives direct input from the EC. Deficiency of a protein called RbAp48 in the hippocampus is a significant contributor to age-related memory loss and that this form of memory loss is reversible. 

http://www.sciencedaily.com/releases/2013/08/130828144834.htm

The brain is made up of two types of cells — inhibitory and excitatory neurons. Networks of these two kinds of neurons are responsible for processing sensory information like images, sounds and smells, and for cognitive functioning. About 80 percent of neurons are excitatory. inhibitory neurons played a critical role in setting up heightened plasticity in the young. Newly developed genetic and imaging technologies are now allowing researchers to visualize inhibitory neurons in the brain and record their activity in response to a variety of stimuli. During heightened periods of learning, the inhibitory neurons don't fire more as had been expected. They fired much less frequently, up to half as often. The microcircuitry of the brain makes learning easier for the young, and more difficult for the old, per new findings published in the journal Nature. http://www.futurity.org/old-brains-cant-learn-new-tricks/

Intestinal Flora

A live-in colony of microbes, about hundred trillion bacteria that line the large intestine, which together can weigh several pounds and consists of hundreds of individual species, is a digestion powerhouse, breaking food down into useful and nutritious components for us and for the microbes. The scientists did see that the group with lower species richness in the intestinal flora was more susceptible to developing obesity-related conditions and chronic inflammation. The obese people in this group are
more at risk of cardiovascular conditions than the obese people in the other group. Weight gain and dietary habits that play a role in the development of medical complications in obese people. 
http://www.sciencedaily.com/releases/2013/08/130828131932.htm

Personal Space
The space surrounding the body is known by scientists as 'peripersonal space'. Those who scored highly on the anxiety test tended to react more strongly to stimuli 20cm from their face than subjects who got low scores on the anxiety test. Researchers classified those who reacted more strongly to further away stimuli as having a large 'defensive peripersonal space' (DPPS). A larger DPPS means that those with high anxiety scores perceive threats as closer than non-anxious individuals when the stimulus is the same distance away. The research has led scientists to think that the brain controls the strength of defensive reflexes even though it cannot initiate them. New findings have allowed scientists to define the limit of the 'peripersonal space' surrounding the face as 20-40cm away, in The Journal of Neuroscience. 
http://www.sciencedaily.com/releases/2013/08/130827204337.htm

Diet, Exercise and Healthy Weight
Exercise, a healthy weight, and balanced diet can improve people's symptoms and reduce the chances of the disease progressing. Tests on cells and mice showed that a broccoli compound- lucoraphanin - which humans can also get from Brussels sprouts and cabbage - blocked a key destructive enzyme that damages cartilage; and may prevent arthritis. Animal trials are published in the journal Arthritis & Rheumatism. http://www.bbc.co.uk/news/health-23847632

Exercise may improve the mood of pregnant women and help to reduce levels of fatigue reports new research published in Psychology & Health. The study examined whether a four week exercise intervention program would result in improvements in the psychological well-being of previously inactive pregnant women. The results were clear, with participants reporting significant improvements in their mood during the program. They also saw reduced levels of fatigue, suggesting that pregnant women are more at risk of cardiovascular conditions than the obese people in the other group. Weight gain and dietary habits that play a role in the development of medical complications in obese people. 
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http://www.sciencedaily.com/releases/2013/08/130828131932.htm
women should be encouraged to engage in regular exercise to improve both psychological and physical well-being. [http://www.sciencedaily.com/releases/2013/08/130802080246.htm]

Diet plays an important role in oral health. Studies of food intake and cavities have focused mainly on the sugar, or carbohydrate, content. Fewer studies have looked at how combinations of food, and the order in which they are eaten, may help fight cavities. Eating sugar-added cereal with milk, followed by drinking fruit juice is thus a highly cavity-causing combination. Apple juice keeps the oral pH 5.84 (acidic) at 30 minutes, while water raised the pH to 6.02. Milk, with a pH ranging from 6.4 to 6.7, is considered to be a functional food that fights cavities. [http://www.sciencedaily.com/releases/2013/07/130731164718.htm]

Chewing Gum and Cancer

Chewing gum can cure bad breath, curb your appetite, and may help alleviate stress. However, ingredients commonly found in popular brands of gum in the U.S. contain cancer-causing agents that can provide detrimental effects on your health. [http://www.medicaldaily.com/5-common-chewing-gum-ingredients-can-cause-cancer-248220]

Hygiene

Access to clean water and soap not only improves hygiene but may boost growth in young children, research suggests. A review of global data found evidence of a small increase in height - about 0.5 cm - in under-fives living in households with good sanitation. The studies took place in Bangladesh, Ethiopia, Nigeria, Chile, Guatemala, Pakistan, Nepal, South Africa, Kenya and Cambodia. [http://www.bbc.co.uk/news/health-23519775]
Smell

There are some smells that are revolting for all. But, different people display different sensitivities toward a handful of odors. Some can smell them, while some can't, or some find them appealing, while others don't. Studies online in the journal Current Biology, identify the genetic differences that underpin the differences in smell sensitivity and perception in different individuals.
http://www.sciencedaily.com/releases/2013/08/130801125253.htm

Navigation

Our brains contain a type of GPS cell which allows us to keep track of our relative location. Scientists have identified that cell and have learned a little bit more about how we keep track of where we are. The new type of cell is called the "grid cell," so called since during navigation it activates in a triangle grid pattern. It's distinct among brain cells since its activation represents multiple spatial locations.
http://www.newscientist.com/article/dn23986-cells-that-help-you-find-your-way-identified-in-humans.html#.UgDtOm2fhpg

Light and Color Effect

People have long recognized that different colors have a powerful effect over our emotions. Sometimes the effect a color has is truly physiological, while other times it is psychological, based on an association with objects in nature or with ancient and widely understood symbols. Sometimes color associations can vary from one country to another, but on the whole they are surprisingly universal.

Green is known as a calming color. So easy on the eyes that it can actually improve vision, green is associated with nature, youth and safety. Hospitals often paint their walls green to help calm their patients. Its sister, blue, will slow your metabolism if you look at it long enough. It is linked in nature
with water and sky and with the ideas of coolness, tranquility and intellect. Another calming color is pink, the color of romance, which can denote friendship, gentleness, sensitivity and passivity.

No color is more stimulating than the bold color red. Red makes your heart rate and blood pressure increase. A highly symbolic color, it's associated with blood, fire, danger, passion, courage and anger all at once. It also increases appetite. Yellow, on the other hand, inspires cheerfulness and alertness. It is known to stimulate mental activity but when overused can become irritating. Combining qualities of both colors, orange increases the oxygen supply to the brain and can encourage creativity. It is associated with sunshine, health and energy.  


In a study involving hamsters, researchers found that blue light had the worst effects on mood-related measures, followed closely by white light. But hamsters exposed to red light at night had significantly less evidence of depressive-like symptoms and changes in the brain linked to depression, compared to those that experienced blue or white light.  


Workspace

Working at a clean and prim desk may promote healthy eating, generosity, and conventionality, according to new research published in Psychological Science. The research also shows that a messy desk may promote creative thinking and stimulate new ideas.  


Sleep Deprivation

### Obesity

What you eat is a crucial factor to lose weight and stay healthy. The right nutrients can not only trim your waistline, but also provide energy, improve your mood, and stave off disease. A new study found that it’s not just what you eat, but when. Ancient Indian sages suggested light and healthy dinner and healthy full breakfast for good health and longevity. It was also prescribes that two meals per day, without snacking, for good health. Proper meal times lower risk of cardiovascular disease, diabetes, hypertension, and high cholesterol, according to a study published recently in the journal Obesity. Proper meal timing can make an important contribution towards managing obesity and promoting an overall healthy lifestyle. [http://medicalxpress.com/news/2013-08-big-breakfast-obesity-disease.html](http://medicalxpress.com/news/2013-08-big-breakfast-obesity-disease.html)

However, there is a myth that skipping breakfast is unhealthy and causes obesity, which is not true. Religious Indians skip meals weakly to keep health and weight balance. This is true according to a report in the journal Physiology and Behavior, which found that there was no caloric compensation if breakfast was skipped in a normal group of eaters. If you skip breakfast, you may be hungrier, but you won’t eat enough calories to make up for the lost breakfast. As a result, your total daily caloric intake will decrease. Of course, if you keep eating candy and cookies till lunch, because you are hungry, you will definitely gain weight and become sick and obese. [http://medicalxpress.com/news/2013-07-breakfast-healthy-weight.html#inlR1v](http://medicalxpress.com/news/2013-07-breakfast-healthy-weight.html#inlR1v)

Babies born to obese mothers may face an increased risk of dying early from heart problems in their adult life, according to research published. The comprehensive study looked at nearly 30,000 women who gave birth in Aberdeen between 1950 and 1976 and who were weighed and measured in early

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**Deadly Research**

A group of flu researchers in the Netherlands announced in a letter to the journal Nature that they were planning to engineer a new H7N9 avian flu strain to give it much more deadly capabilities. The same group two years ago adapted the highly pathogenic H5N1 flu strain so that it could be passed from human to human, which it cannot do in its natural form.


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**Intense Focus**

Overthinking certain tasks invariably makes your performance worse. Just try riding a bike, playing an instrument, or typing on a keyboard while consciously visualizing and explaining the action. New research may help explain why a heightened focus sometimes exacerbates the very performance it’s intended to enhance. In a recent experiment, scientists examined how different types of memory processes interact and interfere with one another. [http://www.medicaldaily.com/dont-overthink-it-new-research-shows-how-intense-focus-can-negatively-impact-performance-249905]

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**Caffeine**
Recently, we noted that coffee was good per scientists. A new study finds that heavy coffee consumption is associated with a higher death risk in men and women younger than 55, published online in the journal Mayo Clinic Proceedings.
http://www.sciencedaily.com/releases/2013/08/130815133455.htm

A team of European researchers found that mice which consumed caffeine while pregnant gave birth to pups with negative changes to their brains, in the journal Science Translational Medicine, after examining the brains of mice pups whose mothers were given caffeine during pregnancy.

Cocoa

Researchers suggest drinking two cups of hot chocolate a day may keep the brain healthy and prevent memory decline in older people by preserving blood flow in working areas of the brain, in the journal Neurology. The team was investigating the effect of cocoa consumption on thinking and memory performance, as well as something called neurovascular coupling, where blood flow in the brain changes in response to local brain activity.
http://www.sciencedaily.com/releases/2013/08/130807204447.htm

Autism

Boys whose mothers had labors that were induced, which stimulates the uterus to bring on contractions, or augmented, which increases the strength, duration and frequency of contractions, had a 35 percent greater risk of autism then children whose mothers didn’t need those procedures to help the births, according to research in JAMA Pediatrics.
ADHD

The number of children being diagnosed with attention-deficit disorder (ADHD), allergy and asthma is increasing in the United States. There might be a link between the growth of these three conditions. A study, published in the August issue of Annals of Allergy, Asthma & Immunology, found there is an increased risk of ADHD in boys that have a history of allergy or asthma.

http://www.sciencedaily.com/releases/2013/08/130813130334.htm

Insomnia

Exercise is a common prescription for insomnia. But spending 45 minutes on the treadmill one day won't translate into better sleep that night, according to new research. If you have insomnia you won't exercise yourself into sleep right away. It's a long-term relationship. You have to keep at it and not get discouraged.


Soda

Five-year-olds who drink soda every day may have more behavior problems than kids with soda-free diets, a new study of U.S. children suggests. After looking at nearly 3,000 urban families, the researchers found that 5-year-olds' scores on a standard measure of aggression tended to climb along with their soft drink intake.

http://www.sciencedaily.com/releases/2013/08/130816094628.htm
Empathy

Humans are hardwired to empathize with people who are close. Our self-identity is largely based on whom we know and empathize with. A new study supports a finding that the human brain is wired to connect with others so strongly that it experiences what they experience as if it’s happening to us. www.sciencedaily.com/releases/2013/08/130822085804.htm

Dental Hygiene

Gum disease and other dental ailments boost the risk of becoming infected with oral human papillomavirus, a sexually transmitted virus that causes 40 to 80 percent of all throat cancers, according to a study in the journal Cancer Prevention Research. http://www.bloomberg.com/news/2013-08-21/gum-disease-linked-to-risk-of-oral-cancer-causing-virus.html

Sodium

Concern about the amount of salt you consume may be misplaced. A study in the American Journal of Hypertension documents in humans what neuroscientists have reported for some time: animals' sodium intake is controlled by networks in the brain and not by the salt in one's food. For decades, U.S. health policies have emphasized the importance of limiting salt consumption in order to lower the risks of cardiovascular disease related to high blood pressure. This new scientific review, however, found that people have a very predictable and narrow range of daily sodium intake that has remained quite constant during more than 50 years and across at least 45 countries. Data demonstrate that human sodium (salt) intake is regulated within a relatively narrow 'normal' range that is defined by the body's
physiology and biological need rather than by the food supply. The study reported an average intake of sodium of approximately 3,650 mg per day and a normal range of 2,600 to 4,800 mg per day.

This analysis defines the normal range and mean value for sodium intake in humans and documents that the range has not changed during five decades, nor has it been influenced by ethnicity or the unique dietary practices of various cultures around the world. Sodium intake will not be changed by altering the salt content of food products to limit sodium consumption.


Languages

The age at which children learn a second language can have a significant bearing on the structure of their adult brain, according to a new joint study. The majority of people in the world learn to speak more than one language during their lifetime. Many do so with great proficiency particularly if the languages are learned simultaneously or from early in development.

http://www.sciencedaily.com/releases/2013/08/130829124351.htm

Fruit

Obviously, if you want to reduce your chances of becoming a diabetic, you’re better off munching apples or blueberries instead of sipping fruit juice. Eating more blueberries, apples and grapes was shown to lower the risk of developing Type 2 diabetes, while increased consumption of fruit juice was linked to a higher risk, according to a study published in The BMJ.

http://www.sciencedaily.com/releases/2013/08/130829214603.htm