Sugar is the general term for sweet tasting carbohydrates which are composed of carbon, hydrogen and oxygen. Ingredients to look for when reading labels include single molecules called monosaccharides such as glucose, galactose, ribose and fructose; dual molecules or disaccharides such as sucrose and lactose and longer chain polysaccharides which compose starch. Table sugar is sucrose, a molecule which consists of glucose and fructose. Lactose, the sugar in milk, is a molecule which consists of glucose and galactose.

**SOME SUGAR IS NECESSARY FOR PROPER BODY FUNCTION**

Certainly, sugar in one form or another is essential to life. We could not live without it. Aerobic metabolism of glucose in the mitochondria produces most of the energy for cellular metabolism in the form of adenosine triphosphate (ATP) molecules. Ribose forms the backbone of DNA, our genes, as well as composing ATP energy molecules.

In this Issue

- LETTER FROM THE CHAIR
- SUGAR TOXICITY
- HYDRATION Q&A
- THE HEALTH CONSEQUENCES OF ARTIFICIAL SWEETENERS
- RECIPES

SharpAgain Naturally relies on your donations to bring this vital information to you. Please support us at sharpagain.org/donate.
From the Chair

About 15 years ago, I remember hearing that sugar was the culprit of our obesity epidemic, not saturated fat. I wished deep down it wasn’t true. If I was being honest with myself, I was admitting that, like millions of others, I was addicted to sugar.

We now have evidence that sugar, especially from packaged and boxed foods, baked goods, and other components of the Standard American Diet, contributes to inflammation in the body, which in turn leads to diabetes, heart disease, arthritis and many other diseases. In this issue of The Sharper Edge, we explore sugar toxicity, and sugar substitutes that actually make us crave sugar even more.

Another topic rarely discussed is hydration. Not only is our body 70% water, but drinking enough water every day also allows our body’s circulatory, lymphatic, and elimination systems to function well. Indeed, water is important to each and every one of our cells.

Some of us don’t love drinking water and, with so many products on the market to satisfy our thirst and desire for flavor and energy, drinking water today seems almost antiquated. However, many drinks are so loaded with sugar, calories, caffeine and chemicals that our bodies simply start to break down with the more we consume.

For some people, this is the beginning of Alzheimer’s disease and the slow downhill journey into oblivion. When the body (and subsequently the brain) becomes insulin-resistant and can no longer use glucose to fuel itself, our memories start to become fuzzy. Without the proper intervention, the disease takes its course.

Sharp Again Naturally is here to let you know you can turn the tide on dementia. It starts with each of us being aware of what we put into our bodies and how we live our lives. From nutrition and exercise, to staying curious and getting enough sleep, we have the power to keep our brains sharp throughout our entire lives. (Go to sharpagain.org for more information).

It’s hard to break old habits and give up our comfort foods. But what I once didn’t want to face has become my reality; with diabetes on both sides of my family, I have to be careful with my intake of sugar and simple carbs. In doing so, I also hope to keep dementia and other diseases at bay well into old age.

Our mission during Alzheimer’s Awareness Month and every day is to educate patients, caregivers and the medical community through the research we share in these newsletters, our website and presentations in your area. Early next year, we plan to host our first webinar so keep an eye out for SAN’s up-to-date news. Thank you for your support.

Lisa Feiner
Sharp Again Board Chair
TOO MUCH SUGAR CAN BE TOXIC

Like other substances that are essential to life, such as oxygen and water, too much can be toxic and detrimental to health as can be too little. Dietary sugar has been increasingly linked to insulin resistance, diabetes, obesity, microvascular disease, heart disease, kidney disease and Alzheimer’s disease.

Diabetes, whether Type 1 due to a lack of insulin production, Type 2 due to systemic insulin resistance and elevated insulin levels, or the relatively recently coined Type 3 with elevated brain glucose and insulin resistance associated with Alzheimer’s disease, causes harm.

HOW DOES SUGAR TOXICITY OCCUR?

Sugar toxicity can occur through the attachment of sugars to proteins in a process called glycation, damaging the proteins so they no longer work properly and forming what are called: Advanced Glycation Endproducts (AGEs). The AGEs work through impairment of the actions of insulin, resistance to insulin, impairment of mitochondrial function, generation of oxidative stress and triggering of inflammation to cause harm.

These various immediate actions of the formation of AGEs can trigger damage to organs throughout the body by harming the endothelial lining of our capillary microcirculation. (The capillaries supply oxygen and nutrients to the tissues and remove carbon dioxide and waste products.)

The process that damages capillaries over time, triggered by high blood sugar levels, may harm various organs. The heart may develop a gradual loss of function leading to congestive heart failure due to diastolic dysfunction. In the brain, areas of leukoaraiosis, (damage to white matter from small vessel disease) occurs, especially in the aging population. When neurofibrillar tangles and beta amyloid (components in Alzheimer’s) are present, brain cell viability is compromised. In a high glucose diabetic state, the viability of the cells is further compromised, likely due to enhanced oxidative stress on their mitochondria.

Dr. Klingsberg can be found at centerfornutrition.com

RECOMMENDATIONS TO REDUCE YOUR RISK OF SUGAR TOXICITY:

1) Reduce the amount of sugar in your diet and;
2) If you have diabetes get it under the best control possible through a combination of a low sugar diet, regular exercise and appropriate medications when necessary.

In the next edition of The Sharper Edge:

We’ll explore the role healthy fats play in keeping your memory sharp, and give you tips for eating out.
Hydration Q&A

Focusing on good nutrition means paying attention to both the food and beverages we consume every day. Integrative Nutrition Health Coach and Sharp Again volunteer Nancy Weiser describes how water has health benefits for the body and mind.

HOW DOES STAYING HYDRATED IMPROVE HEALTH?

Think of water as ferry system carrying oxygen and nutrients through the blood vessels to nourish all of our organs including our brains. It also promotes the smooth functioning of our body’s natural detoxification system by carrying waste away from our organs and tissues to the liver and kidneys whose job it is to flush out waste.

WHY IS WATER IMPORTANT FOR THE BRAIN?

Water and brain function go hand in hand. Being dehydrated can cause issues with brain fog and fatigue, focus, memory, sleep, headache and mood. While the rest of the body is about 70% water, the brain is about 85% water so it follows that in order to function optimally, water is vitally important. Water literally provides electrical energy for the brain to turn on and function. And there’s more: water allows the brain to produce necessary hormones and neurotransmitters for the rest of the body to work properly. You will think faster, clearer and more creatively when you are consistently getting enough water. It’s important to drink enough water every day because the brain does not have a way to store water. If you’re losing more than you’re taking in, you’re sacrificing your brain’s ability to assist you in being your best, most focused version of yourself.

HOW MUCH WATER DO WE NEED EACH DAY?

There are varying opinions on how much we need to drink. How much to drink varies by how much we exercise and sweat, our overall health and the weather. When we drink six to eight cups of water a day, we can experiment and see how we feel: our energy level, focus, digestion and skin quality may be immediately affected. When we don’t drink enough, we may experience other symptoms. Eight cups a day, known as the Eight by Eight Rule, is a good rule of thumb.

It also is important to remember how much water is in the food consume. Approximately 20% of our water is actually absorbed through what we eat. Foods that are water-based like vegetables, fruits, grains and beans that absorb water from cooking, and of course soups and stews, all contain water.
Processed foods, baked goods, and animal protein, contain very little or no water.

**HOW DO I KNOW IF I’M DRINKING ENOUGH WATER?**

Urine should be on the clear to light yellow side. If it’s darker, you need to be drinking more. Keep in mind that many supplements can affect the color of urine, usually turning it darker.

**IN ADDITION TO “HOW MUCH SHOULD I DRINK?” YOU SHOULD BE THINKING ABOUT HOW YOU DRINK WATER. WHAT DOES THIS MEAN?**

I recommend drinking water throughout the day, about 3 to 4 ounces at a time—what I refer to as Persistent-Consistent hydration. This allows the body to gradually absorb what it needs while avoiding bathroom emergencies. First thing in the morning, when you’ve gone for 7 or 8 hours without any water, can be a good time to drink a bit more—up to a cup or two. Add a squeeze of lemon for flavor.

Drinking too much at once can lessen the benefits that come from retaining the water over a longer period. The water must be retained by the body for it to optimize functioning. A glass of water that is chugged will be excreted quickly--and therefore isn't absorbed as effectively.

**WHAT ARE SOME BENEFITS TO STAYING ADEQUATELY HYDRATED?**

Water clears sodium from the body, which is important for helping to keep blood pressure in check, as excess sodium adversely affects blood pressure in some people. Restaurant food, processed food, fast food—these are all high in sodium. When we consume these, it is all the more important to be persistently-consistently hydrating.

Here’s what I like the best: Water can help regulate blood sugar. When we are starved for water, the kidneys don’t excrete it as readily, the liver makes more blood sugar prompting the release of insulin, which the body may become resistant to when dehydration is consistent. When blood sugar levels are prevented from extreme fluctuations throughout the day, our energy level is more consistent—keeping us off the blood sugar roller coaster; we feel consistently energized instead of crashing within an hour or two after eating—how great is that?

In addition, water helps our bodies:
- Keep our temperature in the normal range
- Lubricate and cushion joints
- Protect our spinal cord and other sensitive tissues
- Get rid of wastes through urination, perspiration, and bowel movements

Being dehydrated means we have lost 10% of our body weight in water. However, losing just 2% is associated with feeling tired, and decreased critical thinking skills and athletic performance.

**WILL DRINKING WATER HELP WITH WEIGHT LOSS?**

Drinking water before a meal will take up

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*continued on pg. 7*
Your mouth is the center of vital functions: including Eating, Breathing, Swallowing and Speaking.

Periodontal disease, sleep disordered breathing, chronic disease and exposure to toxic metals are among the SAN 10 Reversible Causes that have been linked to loss of cognitive function and dementia.

Have you been screened for the presence of these factors?

We collaborate with medical doctors who recognize the mouth’s relationship to overall health and frequently co-treat patients who have a wide variety of medical conditions.

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space and create a sense of fullness which will likely result in ingesting fewer calories from food. Over time, this can help with weight loss in addition to the benefits of a steadier blood sugar level, preventing those blood sugar “crashes” that inevitably lead to cravings for simple carbohydrate foods.

SHOULD I WORRY ABOUT THE QUALITY OF MY TAP WATER?

Yes! Pharmaceuticals, household cleaners, industrial chemicals and more all find their way into our water. Many municipalities also add fluoride, a known neurotoxin, to their water treatment. What to do? Use a filtration system that can remove chlorine, fluoride and other contaminants. These can include a filtration pitcher, a filter under the sink that attaches to a small faucet, or systems that filter all the water coming into your home. Make sure to change the filters as recommended.

DO WE LOSE OUR SENSE OF THIRST AS WE AGE?

Opinions are mixed on this one or the answer is mixed. It seems that most older adults do get enough fluids. However, in some circumstances, the thirst mechanism does not do its job as it once did. Thirst, along with sleep, hunger and body temperature, is regulated by the hypothalamus in our brains. It also receives signals from sensors in our blood vessels that keep blood volume and blood pressure in check. When these fall too low, from sweating, bleeding, diarrhea or from too much salt in our food, the hypothalamus’s job is to send out the clear signal to get something to drink, pronto! It is not clearly understood why, but as we age this signal weakens. The result can be that older adults will be slower to rehydrate when they most need to. Consider adding frequent water breaks into your daily routine so you aren’t waiting for your body to alert you.

Nancy can be found at weiserchoices.com

Sources consulted:
http://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/water/art-20044256
http://www.clevelandclinic.org/health/health-info/docs/2700/2731.asp
https://www.cdc.gov/healthywater/drinking/nutrition/index.html
http://www.water-research.net/index.php/ph

WHY DO YOU GET THIRSTY AFTER EATING SUGAR?

After sweet foods are eaten, they quickly enter the bloodstream. The body requires additional water from the cells to metabolize the sugar, and the cells become depleted. The brain is sensitive to sugar overloads and will signal the body to drink more fluid.
The Health Consequences of Artificial Sweeteners

The popularity of artificial sweeteners has had many unintended health consequences, including weight gain. Integrative Nutrition Health Coach Myra Oney talks about this phenomena, and suggests healthier alternatives.

Sugar can pose health dangers and this recognition may have led you to look for different ways to sweeten your food. Artificial sweeteners have been touted as a healthier alternative to sugar and a boon for people with diabetes and other blood sugar issues. Early clinical studies (most before 1978 and all done on rats) found that there was no evidence that artificial sweeteners are harmful to human health. These are the studies that led the FDA to certify artificial sweeteners as being GRAS – Generally Recognized as Safe. However, recent long-term studies on the effects of using artificial sweeteners in humans have begun to reveal a different story.

Current studies have found conclusively that consumption of artificial sweeteners and artificially sweetened food is positively linked to weight gain and increased waist circumference. Why? A sweet taste induces an insulin response, which normally causes dietary sugar to be metabolized as glucose, the body’s main source of energy. Because blood sugar does not increase with artificial sweeteners, the insulin release causes a hypoglycemic reaction (low blood sugar) leading to increased hunger.

Simply put, artificial sweeteners are not satisfying. They create an addiction to sweets by training the taste buds to “need” sweeter foods, and by sending a signal to the body that it is still hungry. Since the zero calories and lack of nutritional value in artificial sweeteners do not satisfy hunger, someone consuming one serving of an artificially sweetened food such as a no-sugar cookie, would be likely to eat three or four, and then follow it up with a calorie dense food to satiate their hunger. Additionally, artificial sweeteners are found exclusively in processed foods, which tend to be high in refined carbohydrates, chemical additives and other non-nutritive substances, thereby putting an extra burden on the body’s detoxification pathways. The extra fat around the belly (where the body stores fat it can’t process) is a good indication of the body having a hard time detoxifying.

**SO, WHAT ARE YOUR BEST NATURAL OPTIONS TO SATISFY YOUR SWEET TOOTH?**

**Natural Sweeteners**

Any added sweetener should be used in moderation. Those listed below have the advantage of being all-natural, minimally processed real foods with a nutritional value.

1. Raw Honey (1 tablespoon – 64 calories)
Local, organic, raw has the highest nutritional value.
2. Stevia (0 calories) A sweet herb that does not cause a spike in insulin or blood sugar. Experiment with brands. Some can have a bitter aftertaste.

3. Dates (1 Medjool Date – 66 calories) Great to puree for making no-bake treats such as nut and dried fruit bars, or for a standalone sweet treat.

4. Coconut Sugar (1 tablespoon – 45 calories) An alternative to real sugar, but should be used sparingly. It contains inuline, a fiber which keeps it low on the glycemic index. It contains a fair amount of fructose.

5. Maple Syrup (1 tablespoon – 52 calories) Real maple syrup – not the artificially flavored corn syrup. Minimally processed, contains high amounts of immune supporting minerals such as zinc and manganese.

6. Blackstrap Molasses (1 tablespoon – 47 calories) High in minerals and anti-oxidants with a low glycemic index. Good for sweetening meats and vegetables, as well as beverages.


8. Banana puree and apple sauce (1 cup – 200 calories) Can be used as a sweetener for baked goods, puddings and smoothies.

9. Sweet spices: Allspice, cinnamon, cardamom, coriander, and garam masala can all be used to sweeten stews, sauces and baked goods. Cinnamon has the added benefit of stabilizing blood sugar.

As you can see, there are many alternatives to consider, but they may require you to be willing to try something new and different (molasses in your coffee – not bad!) The best natural sweeteners are nutritive, meaning that they have caloric and nutritional content. They are not highly processed, and contain mostly the whole food instead of a derivative.

The ultimate goal of living a healthy, sugar free life is to re-train your taste buds to be happy with less of the overpowering sweetness found in processed foods and added sweeteners (real or artificial), and be satisfied with the natural sweetness found in fruits, vegetables and spices. By starting a little at a time to replace sugar or artificial sweeteners in your diet, you can achieve a sweet, healthy life.

Source material:
“Artificial Sweeteners and the Neurobiology of Sugar Cravings” by Quing Yang, Yale Journal of Biology and Medicine; “Artificial sweeteners produce the counterintuitive effect of inducing metabolic derangements” Susan E. Swithers National Institutes of Health publication; Natural Health Sherpa http://www.naturalhealthsherpa.com/saccharin-danger-side-effects/52849

ARTIFICIAL SWEETENERS AND THEIR DANGERS

Aspartame (Equal, NutraSweet NatraTaste Blue).
- Reports of dizziness, headaches, narrowing of vision, and numbness in the extremities, has led to misdiagnoses of fibromyalgia and MS.
- Impaired memory and learning processes.

Researchers are finding that drinking two diet sodas a day sweetened with aspartame can lead to a 500 percent increase in waist size.

Saccharine, (Sweet & Low)
- A derivative of coal tar, commonly manufactured by combining anthranilic acid (used among other things as a corrosive agent for metal) with nitrous acid, sulfur dioxide, chlorine, and ammonia.
- Possible link to bladder and uterine cancers (rat studies).

Although the link to saccharine and cancer...
in humans has been inconclusive, Saccharine nevertheless has the same negative effects on the metabolism as other zero-calorie sweeteners.

**Sucralose (Splenda)**
- Causes a 50% reduction in “good bacteria” in the gut microbiome, which after 12 weeks has still not been restored.
- When heated during cooking, it degrades and releases harmful chloropropanols, a toxin which may lead to various cancers as well as infertility in men.

Myra can be found at myraoneyhealthcoaching.com

**Source material:**
- The University of Texas Health Science Center San Antonio https://news.uthscsa.edu/related-studies-point-to-the-illusion-of-the-artificial/
- Natural Health Sherpa http://www.naturalhealthsherpa.com/saccharin-danger-side-effects/52849; “Artificial sweeteners produce the counterintuitive effect of inducing metabolic derangements” Susan E. Swithers National Institutes of Health publication
- “Splenda alters gut microflora and increases intestinal p-glycoprotein and cytochrome p-450 in male rats”. National Center for Biotechnology Information,
- “Sucralose, a synthetic organochlorine sweetener: overview of biological issues” Journal of Toxicology and environmental Health

As a Westchester resident, Paul can meet throughout the county for a COMPLIMENTARY financial consultation.

Give PAUL a call at (212) 944-8501 or email PAUL@KBKWEALTH.COM
**Banana Nut Coconut Flour Muffins Gluten and dairy free**

Serves 12 muffins  
Preparation Time: 10 minutes

**INGREDIENTS**
- 1 cup organic coconut flour
- 1/2 teaspoon baking soda
- 1 teaspoon aluminum free baking powder
- 1/8 teaspoon Himalayan salt
- 6 eggs
- 2 tablespoons melted Earth Balance or other margarine
- 2 tablespoons virgin coconut oil
- 3/4 cup almond milk
- 3 tablespoons honey
- 1/2 teaspoon vanilla extract
- 2 ripe bananas (mashed)
- 1/2-1 c. chopped walnuts

**INSTRUCTIONS**
1. Preheat oven at 350 F degrees.
2. Sift the coconut flour, baking soda, baking powder and salt together into a small bowl. Set aside. In a medium sized bowl beat eggs together. And add butter, coconut oil, milk, honey, sugar and vanilla. Whisk together to blend. Whisk in coconut flour mixture and bananas until well blended. Batter will be thick.
3. Divide batter among the muffin tins lined with paper liners. Bake in preheated oven for 20-22 minutes, until toothpick inserted in center comes out clean.

**Almond and Chocolate Memory Balls**

**INGREDIENTS**
- 1 cup raw, unsalted almond butter (smooth or chunky)
- 1 1/4 cup rolled oats
- 1-2 tsp raw honey (or agave)
- 1/2 bar 70% cacao or higher dark chocolate
- 1/2 cup unsweetened coconut flakes

**INSTRUCTIONS**
1. Finely chop the chocolate.
2. In a bowl, combine almond butter, oats, honey, and dark chocolate. Mix well until fully combined.
3. Put bowl with mixture in the freezer for 10-15 minutes so it can harden up a bit. It’ll be much easier to roll into balls afterwards. Don’t skip this step unless you want to end up with ingredients all over your hands.
4. Use a teaspoon to scoop, roll into a ball, roll in coconut flakes, pat together for good measure. Store in the fridge and enjoy!

**Almond Date Memory Balls**

**INGREDIENTS**
- 1/4 cup raw almonds
- 2 cups Medjool dates, pitted
- 1/4 teaspoon sea salt
- 1 teaspoon vanilla extract
- 1 teaspoon cinnamon
- 1/2 cup (heaping) raw almond butter

**INSTRUCTIONS**
1. Use a food processor or high-speed blender to grind raw almonds. Process until almonds become crumbs, but not flour-like.
2. Add in all other ingredients and process until fully combined.
3. Press and shape mixture into balls.
4. Store in a sealed container in the fridge for several weeks (if they last that long!).
Holistic Alzheimer’s Treatment

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- Nutritional Supplements shown to help slow the progression of dementia
- Sleep instruction and aids to slow dementia
- Stress reduction
- Exercise
- Hormone replacement when needed

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1. Nutritional imbalances and deficiencies
2. Toxins in food, water, air, work/home environment
3. Effects of prescription medications
4. Mercury and other heavy metal toxicity
5. Hormonal imbalances (T3 thyroid, estrogen, testosterone, and others)
6. Inflammation from low-level infections (Lyme Disease, oral infections, food sensitivities, mold, etc.)
7. Inadequate physical activity, mental stimulation, and social interaction
8. Stress, especially from life changes and how we process information
9. Sleep and breathing problems
10. Traumatic Brain Injury

Before concluding a person’s dementia is incurable, it is necessary to test and treat all of these reversible causes.