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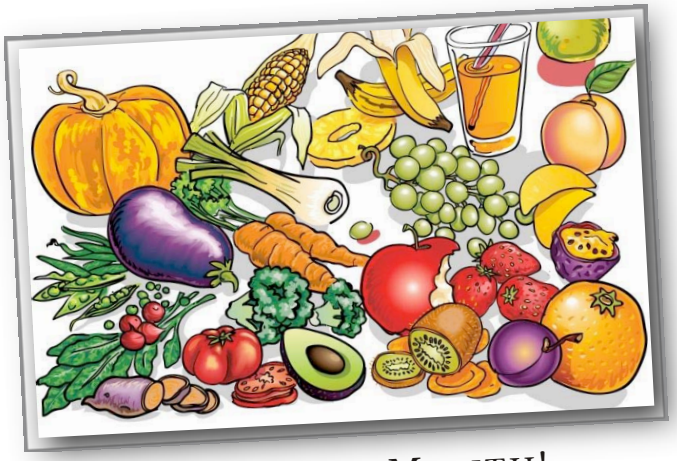

It's Heart Month!

Do you have the tools you need?

February '13

Does High Fructose Corn Syrup Promote Type 2 Diabetes?

A new study published in the journal *Global Public Health* has refueled the heated debate about whether or not the consumption of high fructose corn syrup (HFCS) is responsible for the increasing global prevalence of Type 2 diabetes. According to lead researcher Dr. Michael I. Goran, "The study adds to a growing body of scientific literature that indicates HFCS consumption may result in negative health consequences distinct from and more deleterious than natural sugar," Dr. Goran's study was immediately criticized by Audrae Erickson, President of the Corn Refiners Association (CRA), who stated, "This latest article by Dr. Goran is severely flawed, misleading and risks setting off unfounded alarm about a safe and proven food and beverage ingredient. There is broad scientific consensus that table sugar and high fructose corn syrup are nutritionally and metabolically equivalent. It is, therefore, highly dubious of Dr. Goran – without any human studies demonstrating a meaningful nutritional difference between high fructose corn syrup and sugar – to point an accusatory finger at one and not the other. If this study shows anything, it is that there is an association between body mass index

(continued on next page)

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Refined sugar is a calorie-dense nutrient-poor food and high fructose corn syrup is in no way better nutritionally than table sugar.

(BMI) and diabetes prevalence. Take for example, Japan, where the average BMI is 22.59, and Mexico, where the average BMI is 27.59. Even though Japan consumes more HFCS every year than Mexico, the prevalence rates of diabetes in Japan are about half of Mexico. This example alone shows that Dr. Goran's hypothesis is totally flawed." And James M. Rippe, M.D., Professor, BioMedical Sciences, University of Central Florida (and consultant to CRA) notes that "Diabetes is a complex disease with many underlying factors. It is highly unlikely that one component of the diet is uniquely related to diabetes. There are well-established links between obesity and diabetes. That is where we should be focusing our attention rather than vilifying one component of the diet."

Certainly the CRA's criticism of research purporting that HFCS has some unique quality that promotes type 2 diabetes mellitus (DM) relative to refined sugar has some merit. And they are certainly correct that researchers like Dr. Goran seem more like advocates than objective scientists. When researchers try to spin their data in ways that their more objective colleagues can easily see goes beyond what their data can justify, they undermine the credibility of science. However, it is also clear that, while HFCS is certainly not the only dietary factor promoting weight gain, insulin resistance, and type 2 diabetes, it is certainly a contributing factor. We know that insulin resistance and its associated metabolic disturbances are caused in large part by excessive energy intake, weight gain, and inactivity. Reducing calorie intake and increasing physical activity improve insulin sensitivity even before any significant weight is lost. Over time, increased activity and a negative calorie intake lead to weight loss. This even more dramatically improves insulin sensitivity and reverses the metabolic syndrome (and often even type 2 DM as evidenced by data of type 2 DM patients who have had bariatric surgery and lost a lot of body fat). While weight loss can reverse insulin resistance, it cannot restore most of the beta-cell function that is invariably greatly diminished by the time type 2 DM is diagnosed. Indeed, eventually beta-cell function becomes so diminished that even losing a lot of weight cannot "cure" type 2 DM.

Sugar and HFCS Both Promote Type 2 Diabetes

Sugar (sucrose) is a 50-50 mix of fructose and glucose. HFCS is typically a 55-45 mix and so has a tad more fructose than glucose. Research has shown that -- all things being equal -- more fructose relative to glucose adversely impacts metabolism in ways that likely contribute to the development of type 2 DM independently of total calorie intake. And we also know that some HFCS is up to 90% fructose, so it is clear that while Dr. Goran's thesis was a huge exaggeration of the facts, it is likely true that HFCS can be a tad worse metabolically than refined sugar. Of course, refined sugar is a calorie-dense nutrient-poor food and HFCS is in no way better nutritionally than table sugar. One of the main reasons America has become much fatter on average since the 1950s is that the total amount of sugars has been increasing -- particularly the proportion of those refined sugar calories coming from beverages. Back in the 1950s, a bottle of Coke was 6 ounces and today a typical small soda at the movie theater is 16 ounces. Back in the 1950s and 1960s, the average American consumed about 8-10% of their total calories from beverages, but today most Americans are consuming at least 2-3 times more calories from beverages. Beverages, particularly those that are mostly flavored sugar water, are known to provide a lot less satiety per calorie that the same amount of sugar consumed as a solid food instead of a drink (eg, jelly beans versus a Coke, Gatorade, energy drinks, fruit drinks, sweet teas, or even fruit juice). Beverage calories, particularly in those that are loaded with sugars, are playing a major role in promoting obesity and type 2 DM in the USA and around the world.

Bottom Line: A narrow focus on the impact of either HFCS or sucrose becomes a fairly meaningless "debate" (fueled by the economic battle for market share) between anti-HFCS, the CRA, and the Sugar Association. Obviously, the increasing consumption of both these sweeteners *combined* is the problem. This is especially so when they are added to a growing number of sweetened drinks being consumed around the world. Both HFCS and sucrose are likely promoting obesity and type 2 DM.

By James J Kenney, PhD, FACN

Type 2 Diabetes in the Elderly

According to the CDC, nearly 11 million Americans age 65 and older have diabetes. Thus, approximately 27 percent of our older patients are afflicted with this disease. Many are not diagnosed. I recently attended a diabetes symposium where Shantha Das, MD, Geriatrics and Gerontology Fellow at the Glenan Center for Geriatrics and Gerontology in Norfolk, VA spoke about diabetes in the elderly. Here are some of the takeaways from that session.

Presentation: The physiological changes associated with aging may cause an atypical presentation of symptoms. Because the renal threshold for glucose increases with advanced age, glycosuria may not be present. Polyuria, polydipsia and polyphagia may also be absent. Instead, the presenting symptoms may be dry eyes, dry mouth, confusion, incontinence, dehydration with altered thirst perception, functional disability, cognitive decline, or complications relating to diabetes.

Treatment: According to the American Geriatrics Society, a reasonable goal for relatively healthy and well-functioning adults is an A1C of <7%. However, an A1C goal of <8% is appropriate for frail adults with a life expectancy of less than 5 years and for those in whom the risks of intensive glycemic control may outweigh the benefits.

All patients treated with hypoglycemic agents must know the signs of hypoglycemia. However, the onset and recognition of hypoglycemia in the elderly is variable. The typical symptoms of sweating and tremors may be absent. Instead, elderly patients may experience dizziness, weakness, delirium, confusion, and falls. Because of the morbidity and mortality associated with falls, extra care must be given to prevent hypoglycemia in elderly adults.

Further confounding care are cognitive function, comorbidities, polypharmacy, physical and functional disability, psychological issues such as depression, and the burden on the caregiver. Individualizing care is important for all of our patients with diabetes, regardless of age. Advanced age, however, may change the presentation, treatment, and goals of care.

By Jill Weisenberger, MS, RD, CDE, author of Diabetes Weight Loss – Week by Week.

National Diabetes Fact Sheet, 2011. Centers for Disease Control and Prevention. http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf

Kirkman MS, Briscoe VJ, et al. Diabetes in Older Adults: A consensus Report. Journal of the American Geriatric Society. 60: 1564-1570, 2012.

It's Heart Month!

Check out our list of the latest and greatest heart resources in the member library.

Can't find the perfect handout or poster? Contact us today and we'll create new materials just for you!

Suggestive Selling

"Would you like an apple pie with that?" My teeth grit each time I hear it. And, I hear it often because 1) I prefer fountain diet cokes at fast food restaurants instead of bottles or cans, and 2) the cashiers at McDonald's are required to say that with every order – or else…

McDonald's isn't alone. Suggestive selling is BIG at many restaurants. Servers suggest appetizers, specialty drinks, and, of course, decadent desserts. Many servers don't just mention foods, they use tempting descriptive words that can make your mouth start to water.

Does it work? Of course! Books and articles galore promote "suggestive selling" to improve sales. But, if you're fighting your weight (and let's face it, two-thirds of all Americans are currently overweight), there's no need for you to fall victim to the trap. If you enjoy dining out, but want to stay in control...

- Check the menu online and read the nutritional information.
- Decide what your ONE priority will be for that meal. Be honest with yourself - if you're going to get the margarita or creamy chocolate dessert, select something light for the meal.
- Make a plan for what you want to order and stick with it.
- Stay in charge at the table. You're paying for the meal, so don't feel guilty about being assertive. Place that picture appetizer menu on an empty chair and ask them not to bring the dessert cart.

By Dr. Jo (Joanne Lichten, PhD, RD)

Arugula Citrus Salad

Ingredients:

- 2 cups arugula, rinsed & dried
- 1/4 cup romaine lettuce, chopped, rinsed, & dried
- 1 tsp extra virgin olive oil
- Zest and juice of one lemon
- Satsuma or clementine, peeled and segmented

Directions:

1. Toss the arugula and romaine with the olive oil and pile into a tall stack on a dinner plate.
2. Top the stack with the lemon zest and juice.
3. Arrange the orange segments in and around the pile of greens.
4. Serve immediately.

Chef's Tips:

For an extra splash of color and flavor, top the salad with a few drizzles of balsamic vinegar glaze.

For milder flavor, use the zest and juice from an orange instead of a lemon.

Nutrition Facts:

Serving size: 1 salad. Contains 82 calories, 5 grams of fat, 1 gram of saturated fat, 0 grams of trans fat, 0 milligrams of cholesterol, 7 milligrams of sodium, 10 grams of carbohydrate, 2 grams of fiber, 1 gram of sugar, and 9 grams of protein.

Nutrition Facts: Arugula

- A single 2 cup serving contains 12 calories, 0 g fat, 0 mg cholesterol, 12 mg sodium, 2 g carbohydrate, 1 g fiber, 1 g sugar, and 1 g protein.
- That serving also contains 20% DV of vitamin A, 12% DV of vitamin C, 8% DV of calcium, and 6% DV of iron.

Stats from caloriecount.about.com.

Featured Ingredient: Arugula

Meet Arugula!

Arugula is a curly, peppery green that is perfect served either hot or cold. This makes it an especially versatile leafy green that can play a starring role on your weekly menu.

Arugula dresses up any salad, giving it an extra touch of class. Try the clementine salad above for a great example of what arugula brings to the table!

Arugula also enhances pastas and soups. Why not make some pasta fresca or whirr up a batch of winter green super soup?

Brought to you by:

DASH Out of the Cave!

We've been hearing a lot of buzz about the paleo diet lately, and we decided to see how it would stack up against the DASH diet. The results were hardly surprising. The paleo diet included many more high-calorie, high-fat foods than the DASH diet. In fact, **the paleo diet had tons of saturated fat with incredibly low levels of calcium.** The DASH diet, on the other hand, was very balanced and included plenty of nutrients.

Principles of the DASH Diet

DASH stands for Dietary Approaches to Stop Hypertension. It is a heart-healthy diet low in saturated fat, trans fat, and sodium, with a focus on fresh, whole foods like fruits, vegetables, grains, etc. It includes small levels of lean meats, fatty fish, and low-fat/nonfat dairy.

Principles of the Paleo Diet

The paleo diet calls for a return to early man's eating habits, focusing on meat, certain vegetables, fish, nuts, and some fruit. People eating a paleo diet typically skip grains, vegetable oils, legumes, dairy products, refined sugars, and processed food. For example, instead of butter, many adherents to the paleo diet use coconut oil, etc.

Typical DASH Day

- *Breakfast:* Oatmeal with skim milk, berries, and a banana
- *Lunch:* Vegetarian chili with brown rice, a garden salad, and a small whole wheat pita
- *Dinner:* Baked fish, spaghetti squash, brown rice, and steamed broccoli
- *Dessert:* Fresh fruit and plain nonfat yogurt parfait

Typical Paleo Day

- *Breakfast:* Berries in coconut milk
- *Lunch:* Salad with chicken, tomatoes, and dressing
- *Dinner:* Spaghetti squash with meat sauce
- *Dessert*: Macadamia nuts

Nutrition Facts: Paleo vs DASH Comparison

Let's take a closer look at the nutrient profile for the two diet days.

	Paleo Day	DASH Day
Calories	1817	1705
Fat	144	57
Sat Fat	49	10
Trans Fat	1	0
Cholesterol	198	155
Sodium	2310	638
Carbohydrate	74	188
Fiber	23	38
Protein	72	118
Calcium	30%	108%

Both days included approximately the same number of calories, though the DASH day contained more food. Where the two patterns differed widely was in the nutrient profile. While the DASH diet offered a balanced, nutrient-rich meal plan, the paleo diet included a whopping 49 grams of saturated fat with only 30% of the daily value of calcium. Plus, the paleo day had 2,310 milligrams of salt, which is 1,672 more milligrams than the DASH diet! When you're choosing an eating pattern, make the DASH -- don't go paleo.

BROUGHT TO YOU BY:

Fabulous Fiber

We know that we need to eat more fiber. But why? Fiber-rich foods like the skins of fruits and vegetables, the pectin in the flesh of apples, pears and bananas, and the gritty outer layers of whole grains provide our intestines with a workout. Research reveals that fiber helps our bodies control blood sugar, blood pressure, and cholesterol levels, as well as stave off certain cancers (like colorectal cancer). It can also help fend off excess weight gain by helping you feel full with fewer calories. This is precisely why fiber is on the public health radar screen.

Aim to get about 14 grams of fiber per 1,000 calories you eat (for a 2,000 calorie diet, that's 28 grams a day). Fibrous foods like whole grains, beans, legumes, nuts, fruits, and vegetables contain more than just fiber -- they also have plant-based chemicals called phytonutrients, as well as vitamins and minerals like vitamin E, vitamin B6, magnesium, zinc, iron, copper, manganese, and potassium, as well as plant protein. These are all great for your health!

Try upping the fiber in your favorite recipes, side dishes, and desserts. Next time you go grocery shopping, plan to fill your cart with a variety of fiber-rich foods.

By Victoria Shanta Retelny, RD, LDN, author of The Essential Guide to Healthy Healing Foods.

Fiber-friendly shopping list:

The next time you go to the grocery store, stock up on these fiber-rich favorites!

Grains

- Rolled oats
- Whole grain cereals
- Whole wheat flour
- Brown rice
- Long grain wild rice
- Whole wheat pasta
- Whole grain crackers
- Whole grain bread
- Tabbouleh salad (made with bulgur wheat)

Fruits and Vegetables

- Canned beans (be sure to rinse and drain before use)
- Fresh fruit
- Fresh vegetables
- Frozen fruit (skip options that add sugar)
- Frozen vegetables (avoid versions with lots of added salt)

Protein

- Raw nuts and seeds

BROUGHT TO YOU BY:

Top 10 Apps for Health: Part 1

There are over 730,000 apps in the iTunes App Store, so choosing favorites is no easy task. I have over 300 apps on my Apple devices that fall into the categories of productivity, health, education, news, travel, business, and games. With my professional registered dietitian hat on, I've made a list of ten (of my many) favorites, which could very easily change tomorrow with each day's new additions to the App Store. This list does not rank my favorites in any particular order. Most of these apps have registered dietitians and/or Academy of Nutrition and Dietetics members working behind the scenes.

Anyway, here are the first five of my favorites. Stay tuned for the rest!

App reSolutions: If you need some inspiration for setting health goals, this is the app for you. A team of registered dietitians offer hundreds of health and nutrition goals to consider. Search for a particular type, or simply read the list of resolution suggestions and mark your favorites. You can even write your own. *App reSolutions* also highlights a daily resolution tip.

Fooducate: This is one of the most comprehensive food education apps in the App Store. I have long believed that every grocery store should offer personal registered dietitian services on the premises, as this is where final food decisions are made. Once the food is in the house, avoiding poor choices makes life unnecessarily difficult. The next best solution to personal, expert food and nutrition counseling on-site is to arm shoppers with the *Fooducate* tool. It is free and has a massive database of food label information. Users can browse food categories, make a list of favorite foods, outline shopping lists, and track use history. The *Healthy Me* feature tracks the items you view, and a link to the Fooducate blog offers even more tips for foodies.

JoyBauer.com Food Cures: Looking for a nutrition primer? This app offers sound advice on food groups, recipes, healthful foods, and ways to live healthfully. Read about Joy's professional work as a dietitian and her online weight loss program, *Food Cures*.

MyDietSteps: So you have decided to keep a log of the food you eat and the calories you burn.This app has a nice, simple interface for a your personal profile. It also offers easy ways to search its food and exercise database.

MyDS: This app, created by the National Institute of Health's Office of Dietary Supplements, offers the latest fact sheets about dietary supplements. Keep a log of any vitamins, minerals, and herbs, both for your own records and to share with your medical team.

By Catherine Frederico, MS, RD, LDN. Catherine Frederico is a nutrition and food science professor in New England. She is an app developer and was on the teams that created *App reSolutions, Max's Plate*, and *Food Focus: Fruits*.

February '13

Calendar Online:

These are featured at foodandhealth.com and in our Member Library.

Health Observances:

American Heart Month
Cancer Prevention Month
Cherry Month
Children's Dental Health Month
Chocolate Month
Potato Lover's Month
Snack Food Month
Sweet Potato Month
Wise Health Consumer Month

Cardiac Rehab Week (February 3-9)
Pancake Week (February 10-16)
Eating Disorder Awareness Week (February 24- March 2)

Featured February Handouts:

- Cancer Protection in a Spice Rack
- Celebrate Sweet Potato Month
- Colon Cancer Prevention
- Eat Right for Your Heart
- Exercise & Cholesterol Connection
- Healthy Heart Quiz
- Heart Puzzle
- Lower Your Triglyceride Levels
- Pack Smart for Your Heart
- Reduce Your Breast Cancer Risk

Newsletter Archive
Clip Art Library

Practitioner News and Ideas:

- Bulletin Board 101
- February Presentation Ideas
- Interactive Presentation Ideas

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Potassium Citrate Increased Bone Density

By James J. Kenney, PhD, FACN

Back in 1968, Drs. Wachman and Bernstein theorized that the elevated renal acid load from meat, cheese, grains, and phosphate-rich foods may contribute to the development of osteoporosis. [Lancet 1968;1:958-9]. They suggested consuming more vegetables and fruits would reduce the acid load on the body and limit the loss of calcium being lost in the urine to buffer the increased renal acid load. A study by Dr. Dawson-Hughes examined the impact of adding either sodium or potassium bicarbonate supplements to neutralize the increased renal acid load produced by a typical modern diet in 171 subjects age 50 and older. They found both alkalizing supplements reduced urinary calcium and urinary N-telopeptide – a marker for more rapid bone breakdown. Dr. Dawson-Hughes concluded that alkalinizing the urine "… had a favorable effect on bone resorption and calcium excretion. This suggests increasing the alkali content of the diet may attenuate bone loss in healthy older adults." [J Clin Metab. 2009;94:96-102]. Another study that examined the impact of dietary protein and other factors on bone development in children from 6 to 18 years showed that while higher protein intake was generally associated with stronger bones, the beneficial impact of more protein in the diet was greatly diminished if the diet was lower in alkalinizing minerals (i.e., calcium, potassium, magnesium). [Am J Clin Nutr 2005;82: 1107-14].

A study published online by Dr. Jehle and colleagues examined the impact of giving 201 healthy older people (>65y) either 60mEq of potassium citrate or a look alike placebo for two years. All subjects also received supplements of vitamin D and calcium. After 2 years, only those receiving the potassium supplement saw a reduction in their renal acid load and experienced a significant increase in their bone mineral density (BMD). Those receiving the placebo saw no change or modest declines in BMD. [J Clin Endocrin & Metabdoi:10.12/j c.2012-3099]. It is likely then consuming more potassium-rich foods and cutting back on cheese, meats, and phosphate-rich foods and drinks would help alkalinize the blood and urine and likely slow or even partially reverse the loss of bone minerals associated with osteoporosis. While salt has little impact on acid-base balance, it also contributes to increased urinary calcium loss and so should also be limited in diet of those at risk for osteoporosis. Replacing some salt with MSG would also reduce renal acid load and calcium excretion.

Bottom Line: Americans should consume more potassium-rich foods like fruits and vegetables to help stop or reverse bone loss. It is important to cut back on foods like meats, eggs, cheeses, sodas, etc that acidify the blood and urine and contribute to the loss of BMD over time. Those who already have weakened bones may also benefit from replacing even some of the whole grain products in their diets with more potatoes and yams as the latter are much higher in potassium and would reduce their renal acid load and the loss of BMD.

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