nutrition Spotlight

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Dietetic Interns, Saint Louis University

HIGH FRUCTOSE CORN SYRUP: SHOULD YOU BE AFRAID?

By: Katie Niekamp and Tyler Young

High fructose corn syrup (HFCS) is a mixture of glucose and fructose and is found in almost all processed foods on the market. HFCS is commonly found in foods such as soda, baked goods, juices, and yogurt. HFCS is gaining attention due to speculation that it contributes to the progression of obesity, diabetes mellitus, and liver failure. Due to Americans' high consumption of sugary processed foods, these speculations could be devastating if proven.

Fructose does not cause the glycemic response that glucose does. Fructose is metabolized primarily in the liver but large amounts cannot be metabolized at one time. This liver based metabolism is thought to cause increases in triglycerides, LDL, and VLDL as well as appetite inducing hormones leptin and ghrelin. These factors have the potential to increase risk for cardiovascular disease, diabetes mellitus, obesity, and liver failure. Metabolism of glucose and fructose are understood separately, but their effect on the body when combined together is unknown.

A recent study by Lowndes, Melanson, and Zukley found that no harmful side effects occur as a result of ingesting HFCS. The study examined the ingestion of beverages sweetened with HFCS vs. sucrose among 30 lean women. Fasting plasma glucose, insulin, leptin, and ghrelin were all measured and no difference between HFCS and sucrose were noted (3).

In a study conducted by Monsivais, the effect on satiety by beverages sweetened with sucrose, HFCS, and aspartame was investigated. This study was done on 27 men and women ages 20-30yrs. Subjective hunger cues were noted following ingestion of the beverages at meal times. Results did not indicate any increase in hunger as a result of ingesting HFCS (4).

Although the results of these two studies do not support the current speculation concerning HFCS and increased risk of disease, further investigation is necessary. Both of these studies involved young participants, ages 20-30 and did not include any overweight individuals. Results on older individuals and those who are already overweight may be drastically different. In addition, none of the studies examined effects on triglycerides or LDL levels, which also need further investigation in order to make a conclusion on the speculations about HFCS.

HFCS is a controversial topic in the healthcare community. Long-term results are not certain at this point and further investigation seems warranted. If individuals are concerned about ingestion of HFCS, avoiding sweetened processed foods is the best method. As professionals, until the message is clear, the best solution is to encourage balance, moderation, fresh fruits and vegetables, exercise, and weight control as a means to prevent disease.

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A PIECE OF GINGER A DAY KEEPS THE DOCTOR AWAY?

By: Kim Sutherland and Maya E. Nahra

Out goes the apple and in comes ginger as a popular remedy for optimal health. Ginger is a tropical plant and its underground stem is used for culinary and medicinal purposes. It was first cultivated in China and then spread to India, Southeast Asia, West Africa, and the Caribbean. The major active ingredients in ginger are terpenes and oleoresin called ginger oil. In ancient China, ginger was regarded as a healing gift from God and was commonly used to cleanse and warm the body.

Ginger has historically been used in Southeastern countries to treat many ailments including cold and flu symptoms, headaches, high blood pressure, and hypercholesterolemia. It is also a potent antiemetic. Research studies document the effectiveness of ginger in treating nausea and vomiting postoperatively, in pregnancy and during chemotherapy (1). Many herbalists use ginger as a remedy for motion and morning sickness, menstrual cramps, and digestive disorders. Hence it is also recommended as an alternative to aspirin for people who can not take aspirin because of its irritating effect on the gastrointestinal tract.

Although ginger has many beneficial properties, it should only be taken in prescribed amounts. When consumed in larger doses, ginger is known to cause blood thinning and clients prescribed coumadin or warfarin need to be cautioned. However, there have been studies to confirm that ginger, in the recommended amounts, does not affect the coagulation status in subjects taking warfarin (3). Dosages vary from one client to another as they are usually based on the severity of the symptoms and the type of problem. Typically, 2-3 grams of the root or an equivalent preparation in capsule form is recommended 3 times a day.

Chefs in the St. Louis area agree that not only do they get joy in preparing delicious food, but they have great pride in cultivating many favorite ingredients in their own gardens. At Zoë Pan-Asian Café, located in the Central West End, chef Ny Vongasly prepares many dishes using tropical herbs and spices, and cultivates them outside and in pots that can be brought indoors during the winters. Ginger is at the top of his list alongside lemongrass, garlic, cilantro, and lime leaves (2). Dietitians are interested in incorporating ginger into foods as well; see recipe below to add a little ginger to a unique recipe. The most intense flavor of ginger is found directly under its skin, so when preparing ginger be cautious of peeling the skin off. A couple tips would include grating with the skin on, finely peeling of the very top layer, or scrubbing the ginger vigorously.

Zingiber Officinate, is the scientific name for tropical ginger that is used in most dishes, and common in the tropical places. *Asarum Canadense*, commonly known as wild ginger, is found in Missouri. It can be used as a substitute for ginger; however, most believe the taste to be inferior to that of the *zingiber officinate*. Ginger rhizomes-the underground stem of the plant-is the part of the plant utilized when cooking. You can usually find the rhizomes in the produce section of a local grocer, or you can find sugared, crystallized ginger in most of the ethnic food sections. So add a little "zing" to your diet, by incorporating ginger into biscuits, cake, gingerbread, puddings, casseroles, soups, stir fries, pickles, ginger ale, ginger beer, or ginger wine.

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Gingered Papaya-Orange Breakfast Salsa

Ingredients:

1 medium-size fresh papaya, peeled, seeded, and chopped
1 medium-size fresh mango, peeled and chopped
1 medium-size fresh Florida orange, peeled, segments cut into fourths
1 medium-size fresh pink grapefruit, peeled, removed membranes, chopped
4 oz sugared crystallized ginger, finely chopped
¼ cup sugar
½ teaspoon salt
1 cup chopped fresh cilantro

Directions:

Combine ingredients in glass or plastic bowl; cover tightly and allow to stand for at least 8 hours before serving

Recipe by Kristine Napier, M.P.H., R.D. "Cooking Healthy Across America." American Dietetic Association. "Gingered Papaya-Orange Breakfast Salsa." John Wiley & Sons, Inc. Hoboken, NJ: 2005. Pg. 181.

DIETITIANS GOING CORPORATE

By: Shannon Fahey and Sam Garrels

Last year alone, employers in the U.S. lost $12 billion dollars on healthcare, productivity and absenteeism due to their employees (1). This situation is the result of unhealthy lifestyle choices: poor diet and lack of exercise. In response, corporate wellness programs have developed for the purpose of initiating and maintaining healthy lifestyle practices. These wellness programs have been shown not only to benefit the health of the employees but to reduce the insurance costs of the corporations. Dietitians nation wide are turning to corporate wellness programs as an alternative career opportunity to combat the preventable health problems facing the U.S.

Corporate wellness programs provide countless benefits to participating companies. Many companies report improved productivity and performance in the work place, as well as enhanced employee recruitment and retention (2). Furthermore, studies show that corporate wellness programs reduce absenteeism due to overall better health of employees (3). Financial benefits are typically the initiator for companies beginning corporate wellness programs. Health care costs are lowered and hospital visits are decreased when a successful corporate wellness program is in action (2). The following chart compares the money saved versus money spent on health related costs as a result of corporate wellness programs (3).

	Dollars Saved/Dollars Spent
Bank of America (Fries)	$5.96 / $1
PacBell	$3.10 / $1
Wisconsin School District Insurance Group	$4.47 / $1
Prudential Insurance	$2.90 / $1
Bank of America (Leigh)	$4.73 / $1
General Mills	$3.50 / $1

Not only do the corporations benefit from having healthier employees, studies show that employees are happier as well (3). Corporate wellness programs have been shown to increase employee morale and decrease risky behaviors, such as alcohol and tobacco use. These programs create employee to employee contact within a business; groups of co-workers can encourage each other to work out and eat healthy together. Employees can then incorporate these healthy lifestyles into their home and influence family members to live healthier (4). Increasing physical activity and making diet changes can be a difficult task on one's own. This is why a Registered Dietitian is a critical piece in a successful and valuable wellness program.

Registered Dietitian's play a leading role in the development and implementation of corporate wellness programs. Many successful corporate wellness companies have founding dietitians as CEOs, such as NutraConsults. This company provides wellness programs for General Motors, Daimler Chrysler, Rosche Pharmaceuticals, and Johnson and Johnson Health Care (5). Another leading company in promoting wellness in the workplace is Integrated Wellness Solutions (IWS), which has dietitians employed as vice president, nutrition director, and director of nutrition services. IWS Health Management Consultants implement corporate wellness programs based on the assessment of the individual company's needs. The dietitians in IWS provide a variety of nutrition services ranging from individual/group consulting to producing education materials for presentations and employee counseling (1).

The success of corporate wellness programs is attributed to the education and counseling skills of dietitians. As NutraConsults' philosophy states, "Registered Dietitians are uniquely qualified as nutrition and wellness experts to communicate medically sound and science based nutrition information to communities, corporations, individuals, and families" (5).

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WHAT'S IN YOUR WATER BOTTLE?

By: Stephanie Jansing and Jessica Janik

Athletes today have become increasingly aware that what they drink during athletic events may directly impact performance outcomes. The reality is that confusing product marketing ploys and an abundance of beverage options make proper hydration a complex process. In an effort to determine which drink is optimal for peak performance, we compared several of the more popular sports drinks including Gatorade, Accelerade, and water in considerations for usage in exercise and endurance athletic events.

Endurance athletes typically participate in activities that are physically intense for an extended amount of time such as marathon runners, triathletes, and cyclists. As an endurance athlete progresses along in their training, they begin to realize that consuming beverages other than water will positively impact their performance. Although

water has many health benefits to the average individual, it does lack certain elements needed by the high performance athlete. Plain water after exercise has been proven to result in a fall in plasma osmality and sodium concentration, which stimulates urine production and reduces the drive to ingest fluids (2). For periods of exercise lasting longer than one hour, it is recommended to consume a carbohydrate and electrolyte containing sports drink (4).

One of the most popular sports drinks on the market today is Gatorade, which provides the athlete with additional performance enhancing components. The ingestion of carbohydrate-electrolyte solution helps to maintain blood volume, assists thermoregulation, reduces the risk of heat injury, provides exogenous energy, and enhances performance during long periods of exercise (1). Gatorade provides the carbohydrates needed to prevent depletion of glycogen storage during intense physical activity. Also, Gatorade regulates blood glucose levels and prevents feelings of fatigue. Similar to Gatorade, additional products on the market emphasize protein enhancement for ultimate performance.

A specific sports drink fortified with protein, Accelerade, provides the protein needed to start the rebuilding process of muscles during exercise. Additional benefits include increased endurance performance, enhanced rehydration and improvements in muscle function (3). The difference in Accelerade lies in the fact that muscle rebuilding occurs during physical exertion rather than post work-out.

Accelerade and Gatorade are both effective products when utilized during long bouts of intense physical activity. An average individual should strive to maintain their daily hydration status through water alone. Those individuals participating in low or moderate amounts of exercise should use caution in consuming these beverages. Both Gatorade and Accelerade provide significant amounts of calories, which may offset the calorie burning effects of exercise and prevent individuals from achieving weight loss goals. For additional information about the advantages of sports drinks discussed in this article visit www.accelerade.com and www.gatorade.com.

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NEW GLUTEN-FREE LABELING

By: Elizabeth Stump and Erin Pesta

Did you know even a very small amount of gluten can be harmful to some individuals? Most people know that gluten is in grain products; however, few are aware that it is also in medicines, vitamins, and in the glue on stamps. This creates a problem for many Americans who suffer from celiac disease, a genetically-linked autoimmune disease characterized by a life-long intolerance to specific gluten proteins, wheat, rye, barley, and some oats. In order for those who suffer from celiac disease to lead a normal and comfortable lifestyle, it is essential to avoid these proteins (1). New labeling will help reduce confusion and exposure to even small amounts of these products.

Celiac disease is far more common than previously thought. A recent epidemiological study indicated a prevalence rate of 1 in every 133 persons suffers from celiac disease. This fails to include a magnitude of undiagnosed cases in children. Celiac disease symptoms can develop in infancy after the introduction of gluten-containing cereals, but generally the disease manifests during adulthood (1). Severe stress, physical injury, infection, childbirth, or surgery can trigger celiac disease onset.

Two recent developments in food labeling will result in easier identification of major food allergen and intolerance ingredients in food products. Wheat allergies differ from wheat intolerances, as wheat allergy causes anaphylaxis, and gluten intolerance causes intestinal mucosa damage. The Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA) requires a food containing a "major food allergen" to state this on its label. This would include foods made with milk, eggs, peanuts, tree nuts, fish, shellfish, soy, or wheat. This also includes any ingredient, flavoring, coloring, or additive that contains protein derived from any of these foods. Furthermore, the presence of major food allergens will be identified either in or next to the list of ingredients. This pertains to any domestic or imported packaged food regulated by the FDA. Only foods labeled on or after January 1, 2006 are required to comply (3).

The FDA has further tightened manufacturer regulations with the creation of the Gluten-Free certification mark (GF). The new standardized labeling has become more important as celiac disease prevalence has increased. The only cure available is total abstinence from gluten-containing products. Sometimes wheat is hidden in products. Wheat may fall under several different names (couscous, farro, farina, filler, kamut, semolina, spelt, and triticale) on a food label. These names can be misleading. Other categories that may hide wheat proteins include starch, seasonings, or hydrolyzed vegetable protein (2).

Consumers susceptible to food allergies and/or tolerances, such as those with celiac disease, should be aware and have accurate, complete, and informative labels. This new standardized labeling of 'gluten-free' and displaying the ingredient on food labels will help.

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FLAB JAB

By: Sarah Schwarz and Rabia Rahman

"Change the shape of your body with minimal effort". Admit it, claims like this have caught your attention and piqued your interest. You may have even stood in the check out lane contemplating buying yet another magazine that promised just what you wanted: quick and painless weight loss. You are not alone. We live in a society where the appeal for rapid, effortless weight loss often trumps common sense. As the preoccupation with physical appearance grows, the promise of instant success is a very attractive proposition.

People often believe that weight loss will somehow translate into happiness, and are therefore willing to pay large sums of money to ensure some level of success. For many people, the word "diet" conjures up such negativity that they often view it as a temporary deviation from their normal eating patterns rather than a lifestyle change.

The media constantly bombards us with the latest "quick fix" solution to achieving a better body. The newest technology in body sculpting is a progressive procedure known as Lipodissolve. Saint Louis was among the first to offer this non-FDA approved procedure. Billed as a non-surgical alternative to liposuction, this technique is not for the needle phobic. It involves multiple micro-injections under the skin into small fatty pockets. The injections consist of vitamins, enzymes and phosphatidylcholine, a soy derivative. The composition of this cocktail, often referred to as PCDC, is not standardized.

Clinics often modify their formula to achieve optimal results for each client. The proposed mechanism of action involves lysing the bonds between the fat molecules, causing the fat to liquefy. The procedure triggers an inflammatory response resulting in redness, burning or pain and significant swelling. The liquefied fat is believed to be excreted via the body's natural waste filtration organs such as the liver and kidney and is eventually excreted through the urine. Don't jump off the treadmill just yet. Clinics emphasize that this is not a weight loss procedure.

They measure results by inches lost, not pounds. Not everyone is a good candidate for Lipodissolve. Responsible clinics will not perform the procedure on anyone who has a Body Mass Index (BMI) greater than 30. They insist it is most effective for those who have small, stubborn problem areas that remain despite a client's dedication to diet and exercise. Precautionary measures are taken for people with diabetes or thyroid conditions. In these cases, physician consent is required. Still interested? Don't forget to take into account the several weeks or months that will be needed to see results. In addition, numerous treatments may be required, each costing anywhere between $300 and $1500.

Traditionally, dietitians shy away from endorsing these types of procedures. However, a local dietitian views this as an opportunity to expand the market for dietitians. Kathy Thames, President of Bonsante' and previous Director of Nutrition at Fig-Lippodissolve, had aligned herself with lipodissolve until closure of the St. Louis Fig-Lippodissolve office in fall, 2007. She acknowledges that this type of position deviates from the path typically chosen by registered dietitians, but recognizes the impact that an RD can have in this arena. The typical fig-lippodissolve clientele are lured in by the prospect of achieving effortless weight loss. However, clients with a BMI over 30, are directed to fig-lippodissolve's personalized body management program, which focuses on traditional diet and exercise. Once a client has lost weight, then lipodissolve becomes a viable option for additional body sculpting.

Rather than dismissing lipodissolve as another quick fix, dietitians should consider joining

forces with non-traditional practices to produce positive outcomes. What gets someone in your front door just might be the latest fad.

From Ravioli to Wontons, Stirring the Melting Pot of Cuisines

By: Stefanie Herrington and Michelle Wong

Persia and India. China and Japan, Malaysia, and Vietnam. Spain and the Philippines. Indochina and France. The Netherlands and Indonesia. International influence on cuisine is not a new concept. Because the United States is a nation of immigrants, "crossover cuisine" has long been a staple in American society. The trend of crossover cuisine in the United States has evolved over the years. It is the dietitian's job to maintain familiarity with current trends that may influence their clientele.

Explanation of Crossover Cuisine

Crossover cuisine is the introduction of "new" cuisines, flavors, foods, and ingredients into the mainstream. This could be the inclusion of traditional ethnic cuisines or the introduction of fusion cuisines. One need only look at McDonald's to see the influence of crossover cuisine. Probably the most frequented restaurant in the United States, if not the world, McDonald's features an Asian-inspired salad. Other restaurants like The Cheesecake Factory and TGIFriday's also feature ethnic food items, not to mention the plethora of ethnic restaurants that have opened around the country. Another source of crossover cuisine is the increasing number of entrepreneurial immigrants who open restaurants serving cuisine unlike their native cuisine, solely due to current consumer trends. Some of these individuals incorporate flavors and cooking styles from their native cuisine into their restaurant's offerings (1). California Wraps, run by an Afghan man named Hamid Ahmadzai, serves traditional burritos as well as "world wraps", which are burritos containing foods from other cultures. Examples include Indian curry chicken, Thai chicken, and even lamb (1).

Furthermore, entire cities host international festivals featuring food and cultural activities, much like the Festival of Nations held annually in Saint Louis, Missouri. Websites by The Food Network and Martha Stewart boast several exotic items on their recipe lists. Even grocery stores and supermarkets consider some ethnic ingredients staple items on their shelves, dedicating separate aisles to ingredients from Italian, Mexican, Chinese, and other cuisines.

The Role of the Dietitian

The breadth of influence of crossover cuisine affects the dietitian's role in a variety of ways. The most obvious way is in assessing a client's motivation. Why do people choose the foods they do? They choose foods based on country of origin, religion, culture, and a plethora of other reasons. More generally, people choose food based on aesthetics, which makes crossover cuisine such a popular choice. People want attractive food. At a fusion restaurant in New York, a reporter notes the "striking plate presentations of crossover cuisine with no sharp edges to jar the palate." He further notes that "nearly every dish was visually enticing" (4). People like new twists on foods as well. Those familiar with pasta may be more likely to try soba and udon noodles. Those familiar with ravioli may try wontons and papusas. People also want that "flavor pop". They want to go to a place where they can eat "flavorful food that's different" (5).

Crossover cuisine also affects the dietitian's role in developing their practice. Academically, dietitians must continually research different cultures, not only to determine how the foods and ingredients are of healthful benefit and can be incorporated into a well-balanced diet but also to obtain a better understanding of cultural values and practices that may come into play during a counseling or education session. Dietitians must also look around their neighborhoods, noting how crossover cuisine fits into the built environment. Dietitians working in foodservice must consider crossover cuisine as a consumer trend as well. What new items should be included in the menu? How can these new items be marketed? How can the foodservice establishment be retooled for more multicultural offerings?

The Evolution of Trends

In the United States, different cuisines have become part of mainstream society at different times and, with the increase in numbers of American tourists in other countries and the increase in

diversity of immigration into the United States, "new" exotic cuisines are still on the horizon. The question is not whether crossover cuisine will be here tomorrow but

From Ravioli to Wontons, Stirring the Melting Pot of Cuisines (cont.)

rather what type of crossover cuisine is yet to come. The old trends of yesteryear are Chinese, Italian, and Mexican cuisines. These are now very much part of the mainstream and have become the gateways to the hot trends of today, Pan-Asian, Mediterranean, and Latin-American cuisines (2,3). While an old concept, crossover cuisine is still very much relevant in today's consumer culture and thus significant for the consideration of dietitians.

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EDUCATIONAL OPPORTUNITIES - Fall 2008-2009

Saint Louis University is offering several courses during the fall semester in the 2008-2009 academic year that may be of interest to area dietitians. If you are interested in attending any of these courses, please contact the Department of Nutrition and Dietetics at #977-8523 for further details. You may also visit our website at www.slu.edu/x2275.xml. Each course is 3 credit hours. Each 3 hour course is equal to **45 CPEs**. Classes start the week of August 25th.

Course #	Course Title	Day	Time
DIET 510	Human Nutrition in Physiology & Metabolism I	T/R	5:15 – 6:30 p.m.
DIET 511	Nutrition Assessment	M/W/F	6:10 – 7:00 p.m.
DIET 522	Gerontological Nutrition	T/R	6:45 – 8:00 p.m.
DIET 540	Nutrition Education	M/W/F	4:10 – 5:00 p.m.
DIET 560	Current Research in Vitamins	TBA	TBA

DIET 535	Clinical Systems Management	M/W/F	5:10 – 6:00 p.m.