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Riordan Clinic is a world-renowned, academic medical center that has led the world in integrative oncology and complex chronic illness care since 1975. The Riordan Clinic was established as a 501 (c)(3) non-profit organization with missions in research, provider education, and patient education. The Health Hunter Newsletter has been published since 1986 as an educational resource to providers and patients.

'Sugar and Cancer' by Dr. Stacy Dunn



AUTHOR

Melody Spurney

Riordan Clinic staff recently participated in a staff development presentation by Dr. Stacy Dunn, ND, Lac, FABNO, titled "Sugar and Cancer." The following is a recap of her information where she discussed carbohydrate basics, sugar metabolism, the relationship between sugar and cancer, and glucose spikes, and glycemic index.

A carbohydrate is defined as a molecule that contains carbon, oxygen, and hydrogen and is synonymous with saccharides in biochemistry, which comes from the Greek word that means sugar.

Four examples of sugar:

- **Sucrose:** Often called table sugar. It is made from glucose and fructose and is extracted from cane sugar or sugar beet. It is naturally present in most fruits and vegetables.
- **Glucose and fructose:** are found in fruits, vegetables, and honey.
- **Lactose:** Commonly called milk sugar because it is found in milk and dairy products.
- **Maltose:** Commonly known as malt sugar because it is found in malted drinks and beer.

Glucose is important to every cell in the body because they all use glucose (a



Dr. Stacy Dunn

monosaccharide) to produce energy. The body prioritizes glucose as a source of energy.

Dr. Dunn continued her presentation by describing the link between cancer and sugar. In asking the question, "Does sugar feed cancer?" Her answer was

both yes and no.

While there is no direct causation – sugar does not inherently lead to cancer growth or metastasis – the downstream metabolic changes resulting from an over-consumption of sugar do. Studies show there is a clear connection between high blood sugar levels and cancer. There also appears to be a relationship between hyperglycemia, obesity, and metabolic syndrome as they relate to cancer risk.

Dr. Dunn then addressed the question of whether a person should simply cut out all carbs. She said no, and in fact, opened her presentation by telling everyone that she eats carbs.

Glucose Spikes

Avoiding glucose spikes is a key factor in managing carb intake. Blood sugar, or glucose, spikes as rapid increases and drops in glucose concentration after eating. Glucose spikes are harmful because mitochondria can't utilize excess sugar when they are overloaded with extra glucose. The resulting excess sugar

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attracts free radicals. A prolonged free radical state creates oxidative stress in the body. Oxidative stress damages cells, which accelerates aging and increases the risk of chronic and degenerative diseases.

A regular blood glucose test (or glucometer) measures the concentration of glucose free flowing in your blood. However, it does not measure fructose. Dr. Dunn stressed that fructose is not used by cells and advised avoiding products containing high fructose corn syrup.

The American Diabetes Association's (ADA) blood sugar guidelines: normal fasting blood sugar is 60-100 mg/dL, 100-126 mg/dL is prediabetic, and 126 mg/dL or higher is considered diabetic. However, optimal fasting glucose is 72-85 mg/dL.

Additionally, the ADA's guidelines for post-eating glucose levels are 140 mg/dL or less. Optimally, glucose levels should increase by no more than 30 mg/dL after eating.

Excess glucose can cause or speed up the process of glycation, when a glucose molecule binds to another type of molecule, such as protein or fat. While this is a normal process, an acceleration caused by excess glucose can also deteriorate organs, including the skin, and form wrinkles. While this process can't be stopped, an individual can make choices to slow it down or speed it up. Excess glucose, especially fructose, glycates 10 times faster than other glucose. She added that there is no current way to measure fructose spikes. The best way to test the glycation process is the hemoglobin A1c blood test. Glycation and oxidative stress contribute to a state of inflammation, which can contribute to cancer.

Tips to Control Glucose Spikes

- Practice intermittent fasting. 13 hours is ideal. Intermittent fasting can lower insulin levels and increase insulin sensitivity.
- Choose complex carbs.
- Control portion sizes.
- Get enough sleep.
- Move after eating. For example, take a 20-minute walk.
- Manage stress.

Glycemic Index

The glycemic index (GI) is a relative percentage ranking of carbohydrates in foods according to how they affect blood sugar levels. It is measured on a scale from 0 to 100. Food with a higher GI score will spike blood sugar more quickly. Choosing foods with lower GI scores is advised. GI ranges are defined as 0-55 is low; 56-69 is moderate, and 70 or above is high.

Dr. Dunn further explained the glycemic load. The glycemic index tells just part of the story. To understand a food's complete effect on blood sugar, you need to know both how quickly it makes glucose enter the bloodstream and how much glucose per serving it can deliver.

The separate measure, called glycemic load, does both. It gives a more accurate picture of a food's real-life impact on your blood sugar. One example is a watermelon, which has a high glycemic

index of 80. However, because a serving of watermelon has so few carbohydrates, its glycemic load is only 5. Glycemic load ranges are defined as low, less than 10; moderate, 11-19; and high, 20 or more. Fiber is also an important factor because it delays gastric emptying and lessens the glucose spike.

And since it is the season for particularly indulgent meals, Dr. Dunn offered advice for those who know they are planning to have a sweet treat or a high-carb meal.

- Mix 1 tablespoon apple cider vinegar in water and drink before the meal.
- Recommended supplements include fish oil and berberine.
- Take a walk following the meal.

General Year-Round Recommendations

- Eat as organically as possible. Follow a low-carb Mediterranean diet consisting of whole food, lots of vegetables, low grain, healthy fats such as olive oil, coconut oil, raw nuts, and nut butters, and protein that is organic, grass-fed, and hormone-free.
- Drink half your body weight in ounces of filtered water during the day.
- Avoid dairy (although she says ghee and grass-fed butter are okay).
- Avoid processed foods and refined and/or added sugar.
- Follow the practice of intermittent fasting for a minimum of 13 hours per day.

Dr. Dunn concluded her presentation with a final piece of advice: Eat well most of the time. Enjoying an occasional treat is mandatory and a part of a happy and balanced life, she said.



Are You Feeling Holiday Stress? Here are Some Tips



AUTHOR

Melody Spurney

Those who have been following Health Hunters this year, and through the years, know that stress is a common theme. Stress can impact both physical and mental health, and studies show – and many people can personally understand – that the holiday season can add to stress.

US News & World Report shared results of a poll by the American Psychiatric Association (APA) that showed 31% of Americans anticipate being more stressed this holiday season than last year. [1]

Several studies, including the APA, said that finances are a primary source of stress during the holidays. Women disproportionately feel stressed around the holidays, with 44 percent of women reporting an increase of holiday stress, compared to 31 percent of men. Greater responsibilities, such as shopping, cooking, cleaning, and planning celebrations during the holidays may

contribute to women's increased stress levels.

Additionally, lower middle income people (\$30,000-\$50,000 annual household income) are more likely to report an increase of holiday stress. People who report their stress increases around the holidays are more likely than others to worry about money and buying gifts. They also report worrying about finding time to get everything done. [2]

The holidays also offer people an increased opportunity to engage in unhealthy behaviors and report an increase in participating in sedentary activities such as watching more TV and sleeping to manage stress. Increased drinking and comfort eating is common around the holidays. While comfort eating increases for both men and women, women were nearly twice as likely as men to report doing so. [2]

In a separate study by Sleepopolis, eight in 10 Americans reported an increase in stress during the holiday season. Survey results showed that 32.3 percent of women typically get less sleep, while a lesser number of men (21.8 percent) said the same. More than 15 percent of men said they get more sleep during the holidays. [3]



Tips for De-Stressing During the Holidays

- Be realistic about expectations.
- Prioritize activities you enjoy.
- Prioritize sleep.
- Plan as early as possible for travel and celebrations.
- Itemize a shopping list for each person and set a realistic budget.
- Eat a healthy snack before attending a party.
- Put food on a plate and prioritize fresh vegetables. Avoid eating handfuls of anything.
- If you overeat, go back to your normal routine the next day.
- If you are hosting a party, consider a buffet of simple food rather than a sit-down dinner.
- Buy non-perishable items in advance.
- Cook ahead if possible.
- Hire a helper.

RESOURCES

1. How to relieve Holiday Stress | U.S. news - US news health. (n.d.). <https://health.usnews.com/wellness/articles/how-to-relieve-holiday-stress>
2. Holiday Stress Report Final - American Psychological Association (APA). (n.d.-a). <https://www.apa.org/news/press/releases/2006/12/holiday-stress.pdf>
3. Holiday Stress and sleep in 2023: A Data Study. Sleepopolis. (2023, November 17). <https://sleepopolis.com/education/holiday-sleep-survey/>



A Lab Sweep! Wichita Clinic Enjoys Chili Cook-off



The Riordan Clinic's Wichita location enjoyed a late-fall chili cook-off for staff members. More than a dozen chili entries were submitted and staff sampled them and voted for their favorites. The Bio-Center Laboratory swept all three top spots, and winners received gift cards for their efforts. Winners were Jerry Tiemeyer, MT, ASCP, first place (pictured at left); Julie Abel, MLS, ASCP, CM, second place; and Karen Moore, MLT, CSMLS, third place (pictured at right).

Co-Learners Help Wichita Staff Decorate for Holidays





Riordan Clinic Staff Shares What They Are Grateful For

I am thankful for the people in my life who care about me. I am thankful that I will get to live today and hopefully tomorrow too.

– Joanna Matthews, NRCMA

My two handsome babies, my job, and coworkers!

– Kaycee Rugan

I am thankful for my children and the future we are building as a strong independent family. With the loved ones we have that encourage us to be better, brave, and fearless, the girls and I see great things after all of the struggles we have been through.

– Amanda Lee, NCMA, AAS

My Lord and savior Jesus Christ

– Gina Crossman, RN

Health and family.

– Sabrina Proffitt

My children and my amazing co-workers.

– Carri O’Neill, NRCMA, NRCPT

I am so thankful to spend the holidays with family this year, for good friends, good health, and the blessing it is to connect with and learn from people living with cancer here at Riordan.

– Audra Welty, RN, BSN

I am so incredibly thankful for my five sons who push me to be the best I can be each and every day. So blessed we are all healthy! Along with being able to have my college son back home for the holidays and spending time with family.

– Ashley Kirk

I am thankful for the continued blessings in my life. The supportive family and friends that are always in my corner, and I am most thankful for the man up above for he is my refuge and strength.

– Danae Baker, NCMA, AAS



Sheet Pan Chicken Cordon Bleu



INGREDIENTS

4 chicken breasts
4 ounces deli-sliced ham
4 slices Swiss cheese
1/2 cup egg whites
2 slices multi-grain bread
1/4 cup Parmesan cheese
2 Tbsp. nutritional yeast

1 1/2 Tbsp. Everything But the Bagel Seasoning
12 ounces broccoli florets
12 ounces cauliflower florets
1/2 Tbsp. olive oil
1/2 tsp. salt
1/2 tsp. pepper

DIRECTIONS

1. Preheat oven to 400 degrees and spray baking sheet with cooking spray
 2. Lightly toast the bread then pulse in a food processor or blender with Parmesan cheese, yeast, and salt. Mix in 1 tablespoon of the Everything seasoning.
 3. Use a sharp knife to butterfly the chicken (slice a pocket). Stuff the pocket with 1 ounce portion of ham and 1 ounce Swiss cheese for each chicken breast. Seal the pocket with toothpicks.
 4. Pour egg whites into a shallow bowl and breadcrumbs into a separate bowl.
 5. Dip chicken breasts into bowl of egg whites then coat in breadcrumbs. Sprinkle remaining Everything seasoning on top. Place the chicken breasts on the sheet pan.
 6. Toss the broccoli and cauliflower in olive oil, salt, and pepper and spread around the chicken.
 7. Bake for 20 minutes or until chicken is cooked.
- Servings: 4

Contact the Editor

Please send any comments or suggestions to newseditor@riordanclinic.org
Thank you for reading.



Melody Spurney
Editor

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Happy Holidays!

The Riordan Clinic will be closed on Monday, December 25, and Monday, January 1.



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EPISODE 68

Dr. Doug Thompson, D.D.S., FAAM, ABAAHP

In this episode of the Real Health Podcast, Chief Medical Officer Dr. Ron Hunninghake, MD, and Dr. Doug Thompson, D.D.S., FAAM, ABAAHP, discuss how dental microbiome can impact your health, including inflammation, cardiovascular, and cognitive health. How can you help yourself? You can make sure your mouth is as clean as it can be.



EPISODE 67

TIPS FOR REDUCING THE RISK OF BREAST CANCER

Dr. Stacy Dunn, ND, LAc, FABNO, FABORM
In this episode of the Real Health Podcast, Chief Medical Officer Dr. Ron Hunninghake, MD, talks with fellow integrative oncologist and co-worker Dr. Stacy Dunn, ND, LAc, FABNO, FABORM, who shares thoughts and practical tips for breast cancer prevention.

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