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Hyper accuracy. Hypo price.

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Tick, Tock, Danger from the Body Clock

As we learn more and more about type 2 diabetes, it becomes easier to link it to other illnesses and conditions, either as their cause or as a result.

So, it’s with the internal clock that governs many of our unconscious bodily functions, including insulin production. It turns out that many of the features of modern life can knock a body clock out of whack—jet travel, shift work, artificial lighting—with the result that processes like blood sugar control start occurring at the wrong time.

In our Cover Story, “How an Out-of-Whack Body Clock Can Disturb Type 2s” (page 21), we take a look at just how our usually dependable body clock can go awry, and some ways to help fix it.

Another condition that can be linked to type 2—again, either as a cause or as a result—is “leaky gut,” a condition where particles that shouldn’t enter the bloodstream via the intestines are allowed to get through because of damage to the intestinal lining. “‘Leaky Gut: Can It Be Linked to Diabetes?’” (page 10) covers current thinking about a condition that medical experts can’t quite decide is a standalone event or part of a cluster of ailments… a syndrome.

Another condition often associated with type 2 diabetes is depression. That comes partly from a side-effect of diabetes that doesn’t often get talked about: the inability to perform the sexual act because of type 2’s effect on the sexual organs. That inability can, understandably, lead to depression: “Sex, Depression, and Type 2 Diabetes,” (page 18).

Our outstanding type 1 correspondent Meagan Esler offers a great insight into how type 1s can deal with extreme fluctuations in their blood sugar levels in “You’re Not Bad Because You Get a ‘Bad’ Blood Sugar Number,” (page 8). Meagan is a “been there done that” reporter who knows what type 1s experience and how they can deal with those experiences.

A related article by Patrick Totty is, “What Type 2s Can Do When Blood Sugar Soars” (page 16), which offers proven advice about how to deal with blood sugar spikes.

I answer an Oregon woman’s question about whether soy is bad for her in “Ask Nadia” (page 14). Sneak preview: No, it’s not bad.

And speaking of food, in “From The Sugar Happy Kitchen,” we offer two Keto-friendly animal free recipes, one for homemade granola (page 26) and the other for chocolate chip cookies (page 28).

Here’s to an enjoyable summer!

Nadia Al-Samarrie, Founder, Publisher, Editor-in-Chief
Managing your blood sugar is not always easy. Sometimes we need a little more information that helps us make simple changes to achieve big results. If you are looking for inspiration and want to stay on track with your diabetes self-management, Diabetes Health has created important guides with you in mind. Go to Shop.DiabetesHealth.Com and view the tools that will help you achieve better blood sugar levels.

**In the Flu Guide You Will Learn:**
The Importance of Vaccines for the Person with Diabetes
Pneumonia Vaccinations
Preparing for the Flu Season
A Vaccination Reference Chart

**Our 18th Annual Product Reference Guides**
Provides you with most current innovations in medication and devices that will help you manage your diabetes.

**Diabetes Diet Nutrition & Recipe Guide**
We have dedicated this publication of Diabetes Health to diets and recipes that help people with diabetes enjoy what they’re eating while safeguarding or even building up their immune systems.

**Families & Diabetes Guide With Pet Medical Device**
Wherever you go and whomever you talk to, it becomes apparent that family is probably the most important treasure in anybody’s life. Ask the college kid away from home for the first time, or the soldier stationed thousands of miles from home. Even the most glamorous or well-heeled people breathe a sigh of relief and relaxation when they can leave the world behind and return to their families.

**Diabetes Burnout**
We are not just intelligent creatures; we are also emotional. One hallmark of being human is being able to feel a vast range of emotions—including frustration.

**Everyday Sheros & Heros That Inspire Us**
There are no public standing ovations for our featured people living with diabetes. Their simple desire to live life to its fullest with no fanfare is what makes them Diabetes Health’s Everyday Sheros & Heros.
I was working in the shop I manage the other day when I overheard someone say “blood sugar.” When I hear that term, my ears perk up like my Pomeranians hearing a car door slam. After 20+ years with type 1 diabetes, I’m pretty sure I can hear a diabetes phrase across a crowded football stadium. A volunteer was talking about her blood sugar to another volunteer. She mentioned the fact that she hadn’t eaten lunch that day. I quickly walked to the register, where I told her that I also have diabetes. I said I’d overheard her talking about blood sugar and that she was welcome to have one of the containers of soup that I keep in our kitchen. She said, “No, I can’t eat. My blood sugar was horrible this morning; you’d be mad at me if I told you the number”. She lowered her eyes and said, “It was bad. It was over 400”.

And there it is. It’s an unfair shame that follows us throughout the daily ups and downs of life with diabetes. Our life is measured by these numbers, which sometimes can beat us down. It’s as though we feel it is a considerable flaw in us that warrants judgment by others. I explained gently that I would never pass judgment or be mad at her because of blood sugar. I told her that if anyone understood how hard it could be to manage blood sugars, it’s someone who also lives with diabetes. We chatted about how difficult it can be to manage an illness where you can do the same things on a different day and receive very different outcomes.

I found out that she has type 2 diabetes and takes insulin in the morning each day, a set amount, but that is it. I asked if she had a sliding scale from her doctor to help her if she needed to get particularly rough blood sugar down. She said she didn’t, that she’d been on insulin for a couple of years, but that her doctor hadn’t given her one. I urged her to talk to her doctor about getting some guidance on correcting an undesirable blood sugar safely. A 400 blood sug-
Managing diabetes is hard. It is like rocket science. It is incredibly complicated, but we have the power to make things better and less uncomfortable simply by fixing things when they go wrong. Sure, there will be some “bad” blood sugars throughout life with diabetes, but we can fix them! We need the tools from our health care team to help ourselves.

I hope people know it’s not all their fault. Managing diabetes is hard. It is like rocket science. It is incredibly complicated, but we have the power to make things better and less uncomfortable simply by fixing things when they go wrong. Sure, there will be some “bad” blood sugars throughout life with diabetes, but we can fix them! We need the tools from our health care team to help ourselves.

The volunteer and I felt comfort in talking about diabetes together. We even continued the chat in the backroom of the shop. She acknowledged that she needed to speak to her doctor and test more frequently to feel better. I hope she does. None of us deserve to live so uncomfortably and with feeling such shame. If you don’t know what to do to help regulate your blood sugars, please don’t feel bad about yourself. Just talk to your doctor and tell them you need some help. There are excellent doctors out there that can get you on the path to feeling better.  

**Managing diabetes is hard. It is like rocket science. It is incredibly complicated, but we have the power to make things better and less uncomfortable simply by fixing things when they go wrong. Sure, there will be some “bad” blood sugars throughout life with diabetes, but we can fix them! We need the tools from our health care team to help ourselves.**
"Leaky Gut:
Can It Be Linked to Diabetes?

Diabetes Health Staff

“Leaky gut” is shorthand for what happens when the intestinal tract starts letting harmful substances and toxins reach the bloodstream. Our intestines are lined with a barrier that has extremely small openings through which nutrients can pass into the bloodstream. But sometimes those openings expand enough to allow entrance to those harmful substances, including large food particles. That creates the leak in leaky gut.

WHAT’S LG’S LINK TO TYPE 1 DIABETES?
Leaky gut can cause inflammation that alters insulin levels, which eventually affects how well insulin works in the body. It can cause an autoimmune reaction where T cells attack and destroy the pancreatic cells that produce insulin. Unlike type 2, where the body still produces insulin but is resistant to it, leaky gut is suspected to lead in some cases to full-blown type 1.

But this can work in reverse: Diabetes is an inflammatory disease that can alter the digestive function. Inflammation can expand the diameters of the intestinal tract’s tiny holes and possibly lead to leaky gut. It’s a classic example of which came first, the chicken or the egg?

Other suspected causes—or at least contributors to developing leaky gut—include imbibing too much alcohol over time, eating food that has low nutritional value, chronic infections, diabetes (from inflammation, a main feature of diabetes), lupus (an autoimmune disease), and stress.
BETTER SAFE THAN SORRY

Even though there’s no consensus on how to label leaky gut (see “Leaky Gut: What’s in a Name?” below), there are actions that people in danger of developing LG are advised to take in order to avoid it:

- Carefully monitor alcohol consumption. Right now the rule of thumb for safe drinking is two drinks a day for men (two beers or two 12-ounce glasses of wine) and one drink per day for women (one beer or one glass of wine).

- Eat food that delivers roughage, protein, fat, and low carbohydrate levels. This means eating a cheeseburger occasionally, just not as a matter of course.

- If you have diabetes, carefully monitor injection times and doses. Diabetes that is well managed is a much less likely to act as a prelude to LG.

- Stress is often mentioned as one factor that can lead to LG. Each individual’s approach to managing stress will depend on age, physical condition, or temperament. Still, there are basic techniques that almost everybody can learn: A walk around the block (with or without a dog); a ride on a bicycle; working a crossword puzzle; gardening; a conversation with an old friend; cutting back on the caffeinated coffee; eating less sugar; politely telling bosses and coworkers that you...
need a daily stretch of time when you would like to not be summoned, interrupted, or interrogated, which will help everybody because it makes you more productive.

Admittedly these are precautions that may or may not stave off LG, but in any case they are good advice for most persons of any age or condition to take and follow.

(Nadia Al-Samarrie’s Diabetes Health recipes at www.diabeteshealth.com/topic/recipe/, are tested meals that deliver tasty nutrition while honoring the dietary needs of people with diabetes.)

“LEAKY GUT:” IS IT A SYNDROME OR JUST A SYMPTOM?

The big question in the room is whether leaky gut is a symptom or a cause. How it’s labeled depends on the point of view of the people naming and describing it.

Physicians and alternative medicine practitioners disagree on just how to describe LG. Mainstream doctors refer to it simply as “leaky gut.” Alternative medical practitioners call it “leaky gut syndrome.”

What’s the difference? Mainstream healthcare practitioners use “leaky gut” to describe a particular outcome of whatever is ailing a patient. For example, a patient is manifesting food allergies, so her practitioner focuses on that as the probable...
cause of her leaky gut. Her doctor does not view her food allergies as a result of leaky gut.

Non-traditional healthcare providers believe leaky gut is a syndrome, a cluster of causes and effects that explain how a range of ailments come to be. They suspect that leaky gut is more than a symptom. They suspect that leaky gut might be the cause of several diseases, including celiac, Crohn’s disease, irritable bowel syndrome, type 1 diabetes, and even autism. Other possible side effects of leaky gut may be bouts of depression and anxiety.

But wait, there’s more: The symptoms of leaky gut are even more extensive than the conditions listed above. They include diarrhea, headaches, skin problems, joint pain, and inflammation. It’s this large range of ailments that makes some healthcare workers consider leaky gut to be a syndrome.

Others are not so sure. Syndromes include a lot of ailments, which means that proponents of calling LG a syndrome often seem to be including every illness or condition they can think of. But that’s not the case. The medical definition of “syndrome” describes it as a group of signs and symptoms that occur together and characterize a particular abnormality or condition.

Characterizing leaky gut as a syndrome is not there yet. But there is increasing scientific scrutiny that is intended to establish definite—or not definite—links to LG. This is a topic that we will revisit from time to time.
Dear Nadia, 
I have decided to start replacing some of my protein meals with soy. Is soy bad for me?

Janet
Portland Oregon

Dear Janet:
Soy is a high-protein alternative that vegetarians and vegans use to substitute for meat and dairy products—the origins of soy date back thousands of years from East Asia.

Plant-based foods are considered suitable for lowering your cholesterol and are believed to have some benefits to a healthy heart in addition to strengthening bones. This is good news for people with osteoporosis.

Soy is also believed to lower blood sugars.

The two most common concerns with consuming soy products are the possible link to breast cancer and thyroid.

THE BREAST CANCER LINK
The research is mixed about breast cancer. Some say if you have a genetic disposition for breast cancer, you should err on the conservative side and not use soy in your diet.

Others argue that soy’s benefit for strengthening bones and a healthy heart outweighs the concern because the increased probability of getting a tumor is insignificant.

THE THYROID LINK:
Many soy studies are based on consumption amounts that are unrealistic for the average person. There is no real evidence that soy benefits your thyroid or adversely impacts your thyroid. However, for people with iodine deficiency, soy can add to your deficit. If you have hypothyroidism, soy may interfere with the medication that treats it.

Another well-designed study from the American Journal of Clinical Nutrition studied the effect of realistic amounts of soy protein on hormones, including thyroid hormone. It found that soy had no significant impact on these hormones.

SOY AND YOUR BLOOD SUGARS:
The Mayo Clinic reports that soy can decrease blood sugars. Caution is necessary for people who take oral medication or injectable medication to lower their blood sugars.

Reach out to your healthcare professional to discuss your soy consumption and how it may impact your medications. Other con-
Considerations for soy include adverse reactions to certain medicines, including over-the-counter products like ibuprofen.

Source:
Mayo Clinic
Effects of soy protein

Write to Nadia
Go to AskNadia@diabeteshealth.com to receive her unique perspective on your question.

Disclaimer:
Nadia’s feedback on your question is in no way intended to initiate or replace your healthcare professional’s therapy or advice. Please check in with your medical team to discuss your diabetes management concerns.

About Nadia:
AskNadia (ranked #1 by Google), named “Best Diabetes Blog for 2019 & 2017” by Healthline. With 24 nominations, Nadia Al-Samarrie’s efforts have made her stand out as a pioneer and leading patient advocate in the diabetes community.

Nadia was not only born into a family with diabetes but also married into one. She was propelled at a young age into “caretaker mode,” and with her knowledge of the scarcity of resources, support, and understanding for people with diabetes, co-founded Diabetes Interview, now Diabetes Health magazine.

Under her management Diabetes Health magazine was named one of the top 10 magazines to follow in the world for 2018 by Feedspot Blog Reader.

Nadia has been featured on ABC, NBC, CBS, and other major cable networks. Her publications, medical supply business, and website have been cited, recognized, and published in the San Francisco Chronicle, The Wall Street Journal, Ann Landers advice column, former Chrysler chairman Lee Iacocca, Entrepreneur magazine, Houston News, Phili.com, Brand Week, Drug Topics, and many other media outlets.
The emergency condition most type 2s dread is hypoglycemia, where plummeting blood sugar levels can bring on a dangerous semi-conscious state, and even coma or death.

However, hyperglycemia, high-blood sugar levels consistently above 240 mg/dL, can be just as dangerous. Left untreated, at its most extreme, high-blood sugar can induce ketoacidosis, the build-up of toxic-acid ketones in the blood and urine. It can also bring on nausea, weakness, fruity-smelling breath, shortness of breath, and, as with hypoglycemia, coma.

However, once they’ve been diagnosed with diabetes, most type 2s have taken steps to prevent or lessen the most dangerous effects of high-blood sugar levels. Their concern shifts to dealing with unexpected, sometimes alarming spikes in blood sugar levels. The symptoms of those spikes are the classic ones we associate with the onset of diabetes—unquenchable thirst, excessive urination, fatigue, weight loss, and headaches.

When you do spike, what can you do right away to bring blood sugar levels down?

IMMEDIATE STEPS YOU CAN TAKE:

1. Insulin—if you are on an insulin regimen; a bolus injection should drive numbers down fairly rapidly.
2. If you are not on insulin or don’t use fast-acting insulin, taking a brisk walk or bike ride works for most people to start bringing their numbers down.
3. Stay hydrated. Hyperglycemic bodies want to shed excess sugar, leading to frequent urination and dehydration. You need to drink water steadily until your numbers drop.
4. Curb your carb intake. It does not matter how complex the carbs in your diet are, your body still converts them to glucose at some point. Slacking off on carb consumption is a trackable maneuver that lets you better understand how to control your numbers.

PREVENTATIVE STEPS:

These are extensions of the immediate steps listed above. By adapting them as long-term practices, you lessen your chances of undergoing distressing hyperglycemic episodes.
• Regular exercise—Although some of us do not experience a drop in blood sugar from exercise, the habit itself is a good one. Exercise helps control weight and appetite, maintain muscle strength, and generate a general feeling of well-being. These are important quality-of-life factors for type 2s.

• Shun high-carb foods.

• Reduce weight—The cliché may be old, but it is true: A reduction in body weight of only 5 to 7 percent can have a dramatic effect on A1c’s and insulin sensitivity. It is also good for the heart, which, thanks to the inflammatory nature of diabetes, is already under stress.

• Reduce stress—Stress is also an inflammatory. Even if your life is too complex to allow for extended breaks to de-stress, grabbing a few minutes whenever you can to relax and take your mind off current problems is a little thing that can become a big help.

• Revisit your prescriptions—Remember, most type 2 medications lose their effectiveness over time. That is why you can start on metformin or a sulfonylurea but later have to add or switch to, for example, Januvia®, or Byetta®, or Invokana®. If your control is slipping even though you’ve been good about taking your medications, it is time to talk to your doctor and take a look at alternative drugs. It may also be time to look at insulin.

• Insulin—If you start on insulin, you’ll be taking as close to a wonder drug as type 2s can get. However, keep in mind what Dr. Richard Bernstein has cautioned for years: Small doses are better than large, which means managing your disease so that you do not fall into the habit of “covering” high-carb indulgences with big doses of insulin.

• Track your patterns—The more you know about your body’s unique diabetic patterns, the better. Knowing your patterns helps you to know not to over-react in some instances or to take drastic action in others. Give yourself time to detect your patterns—that means many finger pricks and tracking of different combinations of time, exercise, and food to find them. However, find them you will.

Reduce weight—The cliché may be old, but it is true: A reduction in body weight of only 5 to 7 percent can have a dramatic effect on A1c’s and insulin sensitivity. It is also good for the heart, which, thanks to the inflammatory nature of diabetes, is already under stress.
Dear Diabetes Health,

I am a 55-year-old man diagnosed with type 2 diabetes two years ago, which made me depressed. The depression eventually got so bad that I didn’t want to get out of bed in the morning. My doctor referred me to the psych clinic, where they put me on Paxil (paroxetine). The medication is helping my depression but ruining my sex life. I can’t get an erection, but I don’t care because I’m not interested anyway. I have no desire. However, my wife is still interested, and she is upset about my lack of desire for sex. I wouldn’t say I like hurting her, and I don’t want us to break up over this, but the depression was awful. I don’t want to go back to that. What can I do?

-Victim of Side Effects

Your drug, Paxil, is an SSRI, which stands for selective serotonin reuptake inhibitor. It works by keeping serotonin circulating in your brain. This tends to improve mood, but it can cause a variety of sexual side effects. Why this happens is unknown, but many causes have been suggested.

Paxil is one of the SSRIs that are hardest on sexuality. One study showed that 14 percent of Paxil users spontaneously reported sexual problems. If specifically asked, however, 60 percent said they had problems. In a Spanish study, over 70 percent of women on paroxetine reported sexual dysfunctions.

Still, you can do many things to help sexual dysfunctions and loss of libido caused by SSRIs. Here are some of them.

AN ANTIDEPRESSANT THAT BOOSTS SEX DRIVE

It would help if you considered switching your antidepressant to bupropion (Well-
butrin) or taking bupropion along with your Paxil. A study of 30 non-depressed men and women taking bupropion at the University of Alabama Birmingham found significant improvements in sexual function and satisfaction compared to placebo. A small Brazilian study (20 subjects) showed highly significant improvements in sexual function in women taking bupropion.

Bupropion is not an SSRI. Instead, it increases levels of dopamine and norepinephrine. These chemicals also raise mood, but without the sexual side effects. Bupropion is now the fourth most widely prescribed antidepressant in the U.S. It is often prescribed along with an SSRI.

Many readers on depression websites and bulletin boards are excited about bupropion. One man on Health Forum wrote, “I’ve been taking Wellbutrin xl for depression for about four weeks now, and my sex drive has gone through the roof! Is this something I should be concerned about?”

A man on Revolution Health wrote, “[Wellbutrin] raised my libido some. It seems to help with erections.” And a woman there commented, “Within a week, I noticed a huge increase in sexual thoughts as well as the physical sensation of desire. It has stayed and enhances the entire experience. Orgasms are much more intense. Also, there is a total lack of bad food cravings.”

Of course, bupropion also has side effects. Some are emotional: Some male users reported increased anger and jealousy. Other possible effects include nausea, restlessness, and changes in eating and sleeping patterns (too much or too little sleep or appetite.) So, as with any drug, be careful with it.

**OTHER THINGS YOU CAN DO**

Researchers at Wayne State University Department of Psychiatry interviewed 50 psychiatrist experts on the sexual side effects of antidepressants. The experts suggested...
Switching to another antidepressant (ask your doctor)

Decreasing the dose of an antidepressant (again, ask)

Adding oral agents such as Wellbutrin, Viagra, or Cialis, or other stimulants

Wearing a testosterone patch

You can often reduce the sexual side effects of SSRIs with self-management. Consider taking a “drug holiday,” which Harvard psychiatrist Anthony Rothschild defines as skipping your Friday and Saturday doses. A drug holiday improved sexual function without increasing depression in most study subjects. (Again, it’s a good idea to let your doctor know.)

Exercise, especially strength training, can boost sex drive and function and fight depression as well. Short, intense sessions of weight training seem most effective. They can also reduce insulin resistance.

Make sure to have your testosterone level checked and treated if low. Low T could account for the depression and the sexual problems too. It’s very common in men with type 2.

Finally, if you can get your desire back, don’t let erection problems stop you from being sexual. There are drugs and pumps and self-management approaches to erections, and a lot of good sex can be had without erections. See our previous columns for specific ideas.

Good luck and let us know how it goes.  

David Spero, an RN columnist for Diabetes Health, answers questions on sex and depression.
By the time you read this, the massive shutdown of everyday life due to COVID should be closer to over. A year’s worth of pent-up energy and demand is going to appear at airports all over the U.S. in the form of hundreds of thousands of people eager to travel.

Suppose you’re a type 2 ready to take to the air. If you’re traveling to a different time zone, although you consciously know that you’re traveling hours ahead or behind your home time zone, your body clock (formal scientific name: “circadian rhythm”) doesn’t. Travel creates jet lag, a condition in which your body clock continues operating as though you are at home.

That means your organs, including the pancreas, will be functioning on a skewed schedule. For example, your body clock slows insulin production when you go to bed at night because when you’re sleeping, you’re not eating, so there is little demand for insulin. When you are out and about during the day, your body ramps up insulin production to handle meals and snacks, and daily activities.

If you’re jet-lagged, maybe it’s 10 a.m. local time outside your hotel window. But your body, still on home time, is winding down insulin production because your body clock is preparing you for sleep. Just when you need increased insulin for the day, your pancreas takes a snooze. Then, when you’re ready for bed, your body clock starts sending the pancreas a command to ramp up insulin production. Since you don’t need much insulin during sleep, having unneeded insulin in your system creates the threat of hypoglycemia, a condition that anybody with diabetes fears.

One common cause of body clocks getting out of whack is shift work. People who work swing and night shifts have to adjust their body clocks several times a week. It can take a long time to get used to these changes and even longer to get rid of them.

Suppose you’re a type 2 ready to take to the air. If you’re traveling to a different time zone, although you consciously know that you’re traveling hours ahead or behind your home time zone, your body clock (formal scientific name: “circadian rhythm”) doesn’t. Travel creates jet lag, a condition in which your body clock continues operating as though you are at home.
shifts have difficulty adapting to a lack of sunlight, which skews their body clock. One treatment for the lack of natural light is timed exposure to a lightbox, a lamp that bathes the body in light that mimics sunlight. The goal is to treat SAD, Seasonal Affective Disorder, which occurs when there is not enough natural sunlight to keep body clocks from drifting away from a healthy sleep/wake cycle. The result is listlessness, drowsiness, and sometimes simple sadness.

Another contributor to body clock problems is Obstructive Sleep Apnea, which afflicts one in four type 2 diabetes patients. The constant cessation of breathing followed by gasping for air, followed by the same sequence throughout the night, disrupts the body’s natural sleep cycle and becomes another contributor to disrupted body clocks. (Two treatments for sleep apnea include the use of CPAP (continuous positive airway pressure) machines and reducing body weight since excess pounds can block air intake.)

**SOME COMMON INDICATORS OF BODY CLOCK DISRUPTION**

These problems with sleep can be—not necessarily—indicators of circadian disruption:

- You wake up too early and are unable to fall back asleep
- You have a difficult time falling asleep
- You have a hard time staying asleep, and you often wake up several times

An online article in *Physical Health and Sleep* ("Healthy Sleeping Advice") offers steps persons with diabetes can take to maintain healthy functioning body clocks:

- Adhere to a diet that keeps blood sugar levels controlled
- Get regular exercise
- Maintain a regular sleeping schedule
- Avoid stimulants like caffeine and nicotine close to the time before you go to bed
- Sleep in a quiet, dark, cool bedroom

**BODY CLOCK DISTRESS AFFECTS MORE THAN TYPE 2S**

It’s not only people with type 2 diabetes who disrupted body clocks can harm. Re-
searchers now say that body clock distress has been accepted as a leading factor in developing type 2 diabetes among people who have prediabetes or metabolic syndrome.

Aleksey Matveyenko, Ph.D., at the Mayo Clinic in Rochester, MN, who has done extensive research into the causes of type 2, says that although such factors as high caloric intake and physical inactivity have long been associated with increased susceptibility to type 2 diabetes, “more recently circadian rhythm [body clock] disruption has been gaining greater appreciation as an emerging environmental risk factor of type 2.”

So in looking at diabetes and disrupted body clocks, the question often becomes which condition comes first: diabetes or body clock distress? Research has shown that it can work both ways. A confused body clock is one factor in developing type 2 diabetes while having diabetes is one factor in generating a confused body clock.

TRAVEL SUGGESTIONS
It’s easy to see how type 2s can disrupt their body clocks and the need for them to be very careful about how and when they take their medications.

Here is what one diabetes expert, Rahul Suresh, recently suggested that travelers with diabetes can avoid do to avoid ill effects from air travel. (Suresh, affiliated with the University of Texas, offered his suggestions during an American Association of Clinical Endocrinologists meeting in Florida: "Diabetes Management During Air Travel").

- Pack extra supplies (insulin, syringes, glucose tabs, glucose meter test strips) in a carry-on bag for use during flights and stopovers, and especially in the event of a delay.
- Be aware of a flight’s direction—east or west—how many time zones you’ll be passing through, and the time the flight will take.
- No need to adjust the dosage of So in looking at diabetes and disrupted body clocks, the question often becomes which condition comes first: diabetes or body clock distress? Research has shown that it can work both ways. A confused body clock is one factor in developing type 2 diabetes while having diabetes is one factor in generating a confused body clock.
short- or rapid-acting insulin.
- Avoid the use of premixed insulins because they are difficult to titrate.
- For persons who use an insulin pump, he recommends turning off a pump when the plane is ascending or descending. Depressurization can cause a pump to overdose and possibly cause hypoglycemia. Once the aircraft is in its multi-hour level flight, the insulin pump can be turned back on.

A significant aspect of the diet is its recommendation that eating times should correlate to the body clock’s rhythms. This includes making breakfast and lunch, the two major meals of the day, to give your body energy during waking hours and making dinner a much smaller meal as you get closer to going to bed. The article also advises eating breakfast within two hours of rising.

A recent Forbes magazine article, "Everything You Need to Know About the Circadian Rhythm Diet," gives a general overview of the foods and timing that experts advise work to decrease the occurrence of disrupted body clocks.

**DIET**

**WHAT ABOUT TYPE 1S?**

Generally speaking, people with type 1 diabetes run a lower risk of body clock disruption than people with type 2 diabetes. There is no definitive reason why this is so. Still, it may be that the extraordinary attention type 1s must pay to their insulin dosing and diet has a beneficial, controlling effect on their body clocks.
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You may have thought granola derived from a German European country like Muesli from Switzerland. Surprisingly, the origin is from Dansville, New York, dating back to 1863. Dr. Caleb James Jackson, a nutritionist, struggled with good health most of his life. Until he went to a spa that reversed his physical condition with hydrotherapy. The revival in his good health changed his professional interest from being a farmer and journalist-abolitionist to becoming a physician. He became a vegetarian, giving up meat, coffee, tea, and alcohol. As a whole foods advocate, he developed granola at the age of 52, named initially “Granula” at his Jackson Health Resort.

If you are tired of having eggs, bacon, or ham for breakfast, granola cereal is a refreshing alternative to dairy, soy, or meat products. It is high in protein and fiber. My recipe has less sugar and fewer calories than any other option I have seen on the market. If you want a filling and nutritious breakfast without the high carbohydrate sugar found in most granolas, try my new recipe. It is for the health-conscious person.

**Ingredients**
- ¼ Cup of raw unsalted pumpkin seed
- ¼ Cup of raw unsalted pecans
- ¼ Cup of raw unsalted Brazilian nuts
- ¼ Cup of raw unsalted hazelnuts
- ¼ Cup of raw unsalted almonds nuts
- ¼ Cup of raw unsalted macadamia nuts
- ⅛ Teaspoon of salt
- ⅛ Teaspoon of cinnamon spice
- ⅛ Teaspoon of nutmeg spice
- ⅛ Teaspoon of cardamom spice
- ½ Cup of dry coconut chips
- 1 Teaspoon vanilla
- 1 Tablespoon of Madhava Agave Five Low-Calorie Sweetener

**Instructions:**
- Preheat oven to 350°F Fahrenheit
- Chop all nuts and place in a bowl
- Add spices to the dry mix and stir
• In a bowl, separate and measure out one tablespoon of agave low glycemic syrup.
• Add the vanilla to the agave syrup and stir
• Mix dry ingredients with wet

• In a oven safe pan- grease ½ teaspoon of coconut oil
• Pour mixture evenly on the tray
• Bake for 10 minutes, then take out to add the last ingredients
• Mix ½ cup of dry unsweetened coconut flakes with the cooked granola
• Place pan back into the oven and bake for another 5 minutes
• Let cool before serving

To Serve
Measure ½ cup of cooked granola

Add 1 Tablespoon of dry unsweetened cranberries
Add ¼ of unsweetened coconut milk

Source:
Dr. Caleb James Jackson

Nutrition Facts:
Serving Size 4
372 Calories, Total Fat 35.7g, Saturated Fat 0g, Sodium 105.44mg, Total Carbohydrates 9.3g, Fiber 3.98g, Total Sugar 2.71g, Protein 5.21g
From the Sugar Happy Kitchen:

Keto Animal-Free Chocolate Chip Cookies

Nadia Al-Samarrie

This is one of my newest and favorite recipes. I wanted something inclusive of many diets; keto, animal-free, low-carb, and paleo. After experimenting with different ingredients, my third try was a charm. I asked people on the diets mentioned above to taste my chocolate chip cookies and to tell me the truth.” Don’t worry about my feelings. Your honesty means a lot more to me than my ego.” I said. You can imagine how ecstatic I was when everyone gave it a thumbs up.

The sweeteners used in the recipe are an alternative zero-carb sweetener. The flour used is low-carb flour for better glycemic control.

I don’t know about you. I sometimes change out certain ingredients if I don’t like what is in a recipe. In this case, how much sugar
you use will be subjective. I recommend following my recipe the first time around and make adjustments later. The reason being, you want to make sure you like what I have created for you.

All feedback is appreciated. If you like this recipe- do share it with your friends and family.

Enjoy!!

Nadia

**Ingredients**

- 1 ½ Cups of almond flour
- ½ Cup of coconut flour
- ½ Cup of coconut oil
- ½ Cup of Swerve brown sugar
- ¼ Cup of Swerve granular sugar
- 2 Tablespoon of Bob’s Egg Replacer
- ¼ Teaspoon of Anthony’s Psyllium Husk Powder
- 1 Teaspoon of vanilla
- ½ Teaspoon of salt
- ½ Teaspoon baking soda
- ½ Cup of Lily’s Dark Baking Keto Chocolate Chips

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From The Sugar Happy Kitchen:

Keto Animal-Free Chocolate Chip Cookies

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Instructions

- Heat Oven to 350° Fahrenheit
- Mix sugar and coconut oil until its creamy
- Mix Bobs Egg Replacer with water. Two tablespoons of egg replacer to four tablespoons of water
- Mix one-half teaspoon of psyllium with three tablespoons of water
- Mix the egg replacer, psyllium with the wet ingredients sugar and. Then add Vanilla
- Mix almond flour, coconut flour, baking soda, and salt
- Blend the wet and dry mixture
- Add ½ cup of Lily’s Dark Baking Chocolate Chips
- On an oven-safe pan, spray olive oil
- With a cookie scooper, scoop cookie dough and pat down with your palm, then place on an oven-safe pan.
- Bake for 15 minutes
- Take out of the oven and let cool for 30 minutes to harden the cookie

Makes 16 cookies

PS- If you cannot find the ingredients in your local store, you can buy them from my pantry kitchen essentials at https://www.diabeteshealth.com/product-category/pantry-essentials/

Nutrition Facts:

Serving Size 16
8.76 net carbs per cookies
117 Calories, Total Fat 8.64g, Saturated Fat 0g, Cholesterol 0mg, Sodium 50.05mg, Total Carbohydrates 9.8g, Fiber 1.04g, Total Sugar 8.31g, Protein 1.46g
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