

UPDATED as of March 16, 2020:

Managing Diabetes During Coronavirus/ COVID-19

- **The Centers for Disease Control (CDC) has determined that COVID-19 is a serious public health threat for older adults and people with serious chronic medical conditions including diabetes.**
- **People with diabetes are more likely to experience complications when infected with the virus and *are not necessarily at greater risk of contracting the virus.***
- **As per the American Diabetes Association (ADA), people with diabetes, especially if uncontrolled, tend to have worse outcomes if infected with a virus such as COVID-19 As per the International Diabetes Federation (IDF): “When people with diabetes develop a viral infection, it can be harder to treat due to fluctuations in blood glucose levels and, possibly, the presence of diabetes complications. There appear to be two reasons for this. Firstly, the immune system is compromised, making it harder to fight the virus and likely leading to a longer recovery period. Secondly, the virus may thrive in an environment of elevated blood glucose.”**
- **Mount Sinai is encouraging all patients to be sure they have all of their medications refilled as soon as possible. This includes testing supplies for blood glucose self-monitoring. Consider an at home blood pressure monitor as well since many people who have diabetes also tend to suffer from hypertension (high blood pressure). As more potential cases arise, health care providers will be focused on caring for the sickest patients and office**

staffing may decrease due to possible quarantine/social distancing. Therefore, there may be a delay in refills. You can request your pharmacy to give you a 90-day supply of all of your medications.

- Be sure to have your doctor's office contact information in case you have questions about your medication, blood sugar, or are not feeling well. You may be advised to go to your nearest Emergency Department or Urgent Care center (remember coronavirus related hospital costs will be covered by insurance/government).
- Create an emergency contact list of family members, neighbors, and/or friends who are aware of your medical history and medication list and can drive you to a hospital if necessary.
- Avoid large public gatherings and designate someone to do your essential food shopping.
- Plan to have enough food and water in case you need to quarantine for several weeks. Hydration is particularly necessary when glucose levels are elevated.
- Have soda, juice, candy available in case your glucose levels drop rapidly. Patients with type 1 diabetes, should ensure that they have glucagon kits that are not expired.

For additional information and latest updates on CORONAVIRUS/ COVID-19 visit:

<https://www.cdc.gov/coronavirus/2019-ncov/index.html>

<https://diabetesvoice.org/en/news/covid-19-and-diabetes/>

General Guidelines For Managing Diabetes When Sick

In times of illness, there is increased secretion of stress hormones which can contribute to the increases in glucose and ketoacid production. This can increase risk of Diabetic Ketoacidosis (DKA) in patients with type 1 diabetes, and Hyperosmolar Hyperglycemic Nonketotic State (HHNS) in patients with type 2 diabetes.

To prevent these serious and sometimes life threatening conditions, it is important to follow the precautions below.

***Seek medical advice or care if:**

- you've been sick or have had a fever for a couple of days and aren't getting better
- you've been vomiting or having diarrhea for more than 6 hours
- you have moderate to large amounts of ketones in your urine
- your glucose levels are higher than 240 even though you've taken the extra insulin your sick-day plan calls for
- you take pills for your diabetes and your blood glucose level climbs to more than 240 before meals and stays there for more than 24 hours
- you have symptoms that might signal ketoacidosis or dehydration or some other serious condition (for example, your chest hurts, you are having trouble breathing, your breath smells fruity, or your lips or tongue are dry and cracked)
- you aren't certain what to do to take care of yourself

* If you must go to the emergency room or see a different doctor than usual, be sure to say you have diabetes, or have your identification bracelet in plain view. List all the medications that you are taking.

Diabetes medications:

When sick, you will still need to continue medications for your diabetes. Even if you are throwing up, don't stop your medications. You need them because your body makes extra glucose (sugar) when you are sick.

Unless you are taking a GLP-1 agonist like Victoza, Trulicity, Ozempic, or Bydureon and have symptoms of nausea/vomiting or abdominal pain we suggest that you hold taking this medication until your symptoms resolve.

If you have type 1 diabetes, you may have to take extra insulin to bring down the higher blood glucose levels. If you have type 2 diabetes, you may be able to take your pills, or you may need to use insulin for a short time. In either case, work with your diabetes team to develop your sick-day plan.

DON'T FORGET: Never change your diabetes medications when you're sick without checking with your care provider. You may need to reduce sulfonylureas (such as glimepiride, glipizide, or glyburide), meglitinides (such as repaglinide, nateglinide), and rapid-acting insulin if you can't eat. But

you still need basal insulin (for example, Lantus, Levemir, Basaglar, Tresiba, or Toujeo). Even though your body is fighting and you may not be eating, you still need the maintenance medications. To correct high blood glucose that results from the bodily stress of illness, you may need to use rapid-acting insulin up to several times per day.

Managing Insulin While Sick If You Have Type 1 Diabetes

- Please continue your Long Acting Insulin (ex: Lantus, Levemir, Basaglar, Toujeo, Tresiba)
- If you have nausea or are vomiting, please be sure to increase your fluid intake (drink sugar free liquid every hour if your blood sugar is > 200)
- If your blood sugar is higher than 300 mg/dL, check urine for ketones. Check blood sugars and urine for ketones every 3 hrs until ketones resolve for 6 hrs.
- You can administer correctional insulin every 3 hours as directed by your doctor
- Also check for ketones if you have any of the following signs: nausea & vomiting, rapid breathing "fruity" smelling breath or urine, extreme thirst, stomach pain, excessive sleeping/lethargy/confusion
- If you can't eat your regular meal due to nausea and vomiting, try to eat or drink 15 grams of carbohydrate (1 choice from below) every hour while you are awake instead.
 - 6 saltine crackers 1/2 cup regular soda 1/4 cup sherbet 1 slice of bread
 - 1/2 cup apple juice 1/3 cup regular jell-o 3/4 cup tomato soup
- Be sure to take the insulin you need for the carbohydrate eaten
- If you are managing your Diabetes with an Insulin Pump – please contact your Endocrinologist or Diabetes Specialist to review how to manage your blood sugars using your pump if you were to become ill

Food:

It's important to stick to your normal meal plan if you can. In addition to your normal meals, drink lots of non-caloric liquids to keep from getting dehydrated. These are liquids like water and diet soft drinks. It's easy to run low on fluids when you are vomiting or have a fever or diarrhea. Extra fluids will also help get rid of the extra glucose (and possibly ketones) in your blood.

Non-Diabetes Medications to Watch Out For:

- Pseudoephedrine—This decongestant found in some cold and flu medications can raise both blood glucose and blood pressure.
- Cough Syrup—If you are experiencing hyperglycemia while ill, it's probably best to use sugar free syrup.
- Aspirin in large doses can lower blood glucose levels.
- Antibiotics in the class of fluoroquinolones (e.g. levofloxacin , moxifloxacin, and ciprofloxacin) can lower glucose levels
- In patients taking sulfonylureas (glimepiride, glyburide, and glipizide), these additional antibiotics can lower blood glucose: Sulfamethoxazole-trimethoprim, clarithromycin, and fluconazole.

References:

<http://www.diabetes.org/living-with-diabetes/treatment-and-care/whos-on-your-health-care-team/when-youre-sick.html>

<http://www.diabetesforecast.org/2015/nov-dec/over-the-counter-meds-that.html>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4878670/>

Tirkkonen T, Heikkilä P, Huupponen R, Laine K. Potential CYP2C9-mediated drug-drug interactions in hospitalized type 2 diabetes mellitus patients treated with the sulphonylureas glibenclamide, glimepiride, or glipizide. *J Intern Med.* 2010;268(4):359–366

Parekh TM, Raji M, [Lin YL](#), [Tan A](#), [Kuo YE](#), [Goodwin JS](#). Hypoglycemia after antimicrobial drug prescription for older patients using sulfonylureas. *JAMA Intern Med.* 2014 Oct;174(10):1605-12

<https://www.fda.gov/Drugs/DrugSafety/ucm611032.htm>

Mays H. Vue, PharmD and Stephen M. Setter, PharmD, CDE, CGPDrug-Induced Glucose Alterations Part 1: Drug-Induced Hypoglycemia *Diabetes Spectrum* 2011 Aug; 24(3): 171-

177. <https://doi.org/10.2337/diaspect.24.3.171>

<https://consumer.healthday.com/diabetes-information-10/misc-diabetes-news-181/certain-antibiotics-tied-to-blood-sugar-swings-in-diabetics-679220.html>