



# HIGH BLOOD GLUCOSE

ALL ABOUT DIABETES

## WHAT IS HIGH BLOOD GLUCOSE?



Our body produces a hormone called insulin that enables glucose to enter your cells. If your cells do not respond well enough to insulin, glucose cannot enter your cells and instead accumulates in the bloodstream. Your blood glucose level is usually measured by a HbA1c blood test, which shows your average blood glucose over the past 2 to 3 months.

Symptoms of high blood glucose are usually not obvious in the early stage. Some possible symptoms of high blood glucose include excessive thirst and urination, weight loss, fatigue and blurred vision. Over time, untreated high blood glucose may result in complications such as blindness, kidney failure, amputations, heart attacks and stroke.

The aim of controlling high blood glucose is to lower your risk of developing the complications described above. High blood glucose is only one of several things that can lead to heart attack, stroke or kidney failure. Your healthcare professional may use a risk assessment tool to assess and help you understand your risk.

## WHAT LIFESTYLE CHANGES CAN I TRY TO LOWER MY BLOOD GLUCOSE?

- ✓ Eat a healthy diet – Eat more fruits and vegetables, and reduce intake of sugary foods
- ✓ Exercise regularly – At least 150 minutes of physical activity each week
- ✓ Maintain a healthy body weight – Check with your healthcare professional on your healthy weight range
- ✓ Quit smoking

## WHAT ARE THE COMMON MEDICATIONS USED TO LOWER MY BLOOD GLUCOSE?

	Metformin	SGLT-2 inhibitors	DPP-IV inhibitors
Common examples	NA	Dapagliflozin, Empagliflozin	Linagliptin, Sitagliptin
How does it work?	Decrease glucose absorption from intestines, glucose production by liver and improve body response to insulin.	Decrease glucose reabsorption from urine, thereby increasing glucose excretion in urine.	Prevent an enzyme in the body from breaking down incretin, a hormone that regulates insulin production.
What are the <b>common side effects</b> ? Side effects can be preempted and managed. This list is non-exhaustive.	Metallic taste in mouth, gastric discomfort, nausea, and diarrhea, especially when newly started or when increasing dose.	Increased need to pass urine, lower blood pressure, dehydration, changes in your kidney function, infection of urinary tract and genitals.	Skin reactions, joint pain, and inflammation of the pancreas.
Will I need blood tests?	Yes, kidney function testing may be performed.	Yes, kidney function testing may be performed when	Yes, kidney function testing may be performed while you

Your healthcare professional will advise you how often you will need blood tests.		starting treatment, 2 - 4 weeks after starting on these medications.	are taking these medications.
<b>What else do I need to know?</b> Speak to your healthcare professional if you would like more information.	If you have severe kidney failure, these medications are usually not prescribed.	Regardless of your glucose levels, these medications help to protect the heart and kidneys.	If you have kidney impairment, these medications remain suitable (Sitagliptin requires dose adjustment).

## WHICH IS THE BEST OPTION FOR ME?

The following table lists some benefits and risks for you to think about when choosing the best option for you. It is important to remember that:

- No one can say for certain what will happen to an individual person, or when.
- Your risk of developing the complications described will change over time.
- Making lifestyle changes or taking medications will prevent some of the people from developing the complications described, but these things will still happen to some of these people.
- The target Hba1c is suitable for most people and vary on a case-by-case scenario. Speak to your healthcare provider for something suitable for you.



You may find that you have more things to add to this list as you think about each option. Your healthcare provider will be able to offer more personalised information, advice and support.

	Do nothing	Lifestyle changes	Lifestyle changes + medications
What does this involve?	Carry on as I am	Not all the lifestyle changes may apply to you, but any will help	You will take one or more medications every day, long-term, as well as make lifestyle changes at the same time
What are the benefits?	<ul style="list-style-type: none"> <li>• No lifestyle changes to make</li> <li>• No extra medications to take</li> </ul>	<ul style="list-style-type: none"> <li>• You are less likely to develop the complications described</li> <li>• You might not need to take medications</li> </ul>	<ul style="list-style-type: none"> <li>• You are even less likely to develop the complications described</li> <li>• Medications can help to lower your blood glucose more than lifestyle changes on its own</li> </ul>
What are the risks?	You are more likely to develop the complications described, although these are not certain to happen	<ul style="list-style-type: none"> <li>• Making lifestyle changes may be difficult</li> <li>• Your risk of the complications described may not be lowered if your blood glucose remains high despite the lifestyle changes</li> </ul>	<ul style="list-style-type: none"> <li>• There might be times when your blood glucose may be too low</li> <li>• You might experience side effects from your medications</li> <li>• You might need blood tests</li> </ul>

### References:

1. Arnett DK, Blumenthal RS, Albert MA, et al. 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines Circulation. 2019;140(11):e563-e595.
2. American Diabetes Association Professional Practice Committee. 3. Prevention or Delay of Type 2 Diabetes and Associated Comorbidities: Standards of Medical Care in Diabetes-2022. Diabetes Care. 2022;45(Suppl 1):S39-S45.
3. American Diabetes Association Professional Practice Committee, Draznin B, Aroda VR, et al. 9. Pharmacologic Approaches to Glycemic Treatment: Standards of Medical Care in Diabetes-2022. Diabetes Care. 2022;45(Suppl 1):S125-S143.
4. American Diabetes Association Professional Practice Committee. 10. Cardiovascular Disease and Risk Management: Standards of Medical Care in Diabetes-2022. Diabetes Care. 2022;45(Suppl 1):S144-S174.