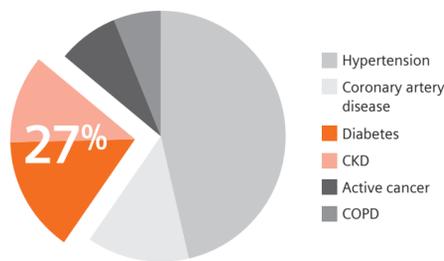


# Diabetes and COVID-19: What you need to know

Studies have shown that diabetic and prediabetic patients are at greater risk for serious complications and worse outcomes if they contract COVID-19.<sup>1,2,3,4</sup>

27% of patients hospitalized with COVID-19 had either diabetes or chronic kidney disease.<sup>2</sup>



463 million people around the world have diabetes.<sup>5</sup>



**References:**  
 1. Knights H, Mayor N, Millar K, et al. Characteristics and outcomes of patients with COVID-19 at a district general hospital in Surrey, UK. *Clinical Medicine*. 2020 Sep;20(5).  
 2. Rovere-Querini P, De Lorenzo R, Conte C, et al. Post-COVID-19 follow-up clinic: depicting chronicity of a new disease. *Acta Biomed*. 2020;91(Suppl 9):22-8.  
 3. Wang Z, Du Z, Zhu F. Glycosylated hemoglobin is associated with systemic inflammation, hypercoagulability, and prognosis of COVID-19 patients. *Diabetes Res Clin Pract*. 2020;164:108214. <https://doi.org/10.1016/j.diabres.2020.108214>.  
 4. Zhou F, Yu T, Du R, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet*. 2020;395:1054-62.  
 5. IDF diabetes atlas. 9th edition. Available from: <http://www.diabetesatlas.org/>

## It's important to stay healthy during times of COVID-19

- Maintain a healthy diet.** (Icon: Fork and plate)
- Consume less sugar.** (Icon: Ice cream cone)
- Take medications as prescribed.** (Icon: Pills)
- Exercise and engage in physical activity.** (Icon: Bicycle)
- Practice social distancing.** (Icon: Person with arrows pointing away)
- Wash your hands frequently with soap.** (Icon: Hand being washed)
- Ask your doctor about in-office HbA1c testing.** (Icon: Doctor and patient)

## Are you at risk for diabetes?

**Risk Factors<sup>1,2</sup>**

- Family history
- 45+ years old
- Not physically active
- Overweight
- High blood pressure

**Talk to your doctor about your personal risk factors.**

**Symptoms<sup>3</sup>**

- Excessive urination
- Excessive thirst
- Fatigue
- Slow-healing sores
- Leg/foot pain
- Extreme hunger
- Dry skin
- Unexplained weight loss

**References:**  
 1. <https://www.diabetes.org/diabetes-risk/tools-know-your-risk>  
 2. <https://www.cdc.gov/diabetes/basics/risk-factors.html>  
 3. <https://www.cdc.gov/diabetes/basics/symptoms.html>

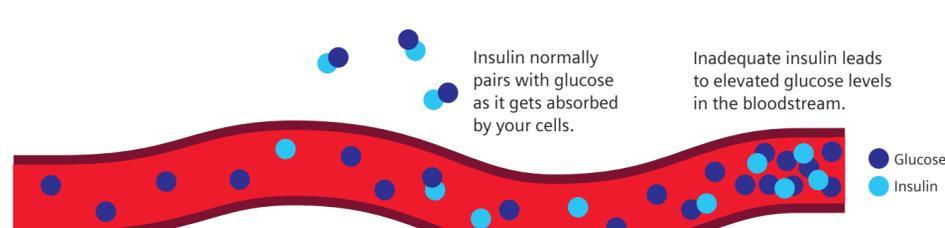
## Long-term risks of diabetes<sup>1</sup>

- Increased blood pressure**  
Could lead to heart attack or stroke.
- Sores and infections on feet and skin**  
Left untreated, could lead to amputation.
- Eye problems**  
Could lead to blindness.
- Diabetes-related complications of pregnancy**  
An estimated 15.8% (20.4 million) of live births were affected by hyperglycemia in pregnancy in 2019.
- Nerve damage**  
Nerve problems can develop at any time, but risk rises with age and longer duration of diabetes.
- Kidney Disease**  
Diabetes is a leading cause of kidney disease. Approximately 1 out of 4 adults with diabetes have kidney disease.<sup>2</sup>

**References:**  
 1. <https://www.idf.org/aboutdiabetes/complications.html>  
 2. Afkarian M, Zelnick LR, Hall YN, et al. Clinical manifestations of kidney disease among U.S. adults with diabetes. *Journal of the American Medical Association*. 2016;316(6):602-10.

## Diabetes types

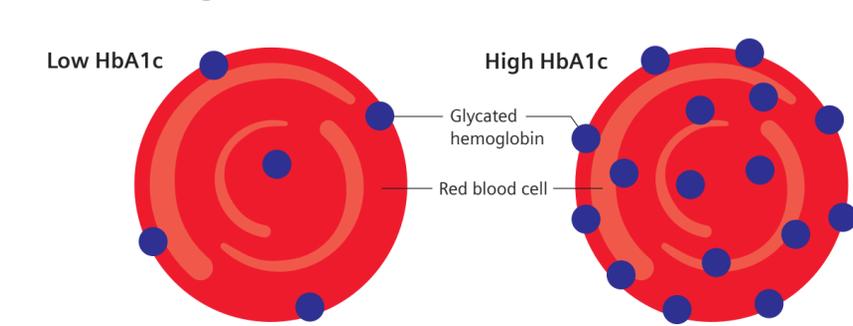
Diabetes is a chronic disease caused by elevated levels of blood sugar.<sup>1</sup>



Prediabetes	Type 1	Type 2	Gestational
Prediabetes is a serious health condition where blood sugar levels are higher than normal, but not high enough to be diagnosed as type 2 diabetes. You can have prediabetes for years with no clear symptoms, so it often goes undetected until serious health problems such as type 2 diabetes arise. <sup>3</sup>	<b>Accounts for 10% of all diabetics<sup>2</sup></b> Type 1 diabetes is caused by an autoimmune reaction where the body's defense system attacks the cells that produce insulin. As a result, the body produces very little or no insulin. Type 1 diabetes can affect people at any age, but usually develops in children or young adults.	<b>Accounts for 90% of all diabetics<sup>2</sup></b> Caused by insulin resistance or inadequate insulin secretion. Until recently, this type of diabetes was seen only in adults, but it is now also occurring increasingly frequently in children.	Caused by issues that arise during pregnancy: hormonal changes and weight gain. 16% of pregnancies globally <sup>2</sup> and 10% of pregnancies in the U.S. <sup>4</sup> are related to gestational diabetes.

**References:**  
 1. World Health Organization, <http://www.who.int/mediacentre/factsheets/fs138/en/>  
 2. <https://www.idf.org/aboutdiabetes/what-is-diabetes/facts-figures.html>  
 3. <https://www.cdc.gov/diabetes/basics/prediabetes.html>  
 4. <https://www.diabetes.org/diabetes/gestational-diabetes>

## Know your HbA1c



**What is HbA1c?**  
 Hemoglobin (Hb) is a protein found inside red blood cells that carries oxygen from the lungs to the rest of the body and carries carbon dioxide from all organs to the lungs. Glucose in the blood can bond with hemoglobin to form glycated hemoglobin, or HbA1c. If there is excess glucose in the blood, the level of HbA1c will be higher than normal.  
 By measuring HbA1c, doctors can gauge your average blood sugar levels from the last 2–3 months, and thereby provide a more tailored treatment plan. HbA1c measurement can also show whether treatment plans and lifestyle choices have been effective.<sup>1</sup>

**Where can I get tested?**  
 Ask your doctor about getting an HbA1c test in the office during your next visit.

**References:**  
 1. <http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/a1c/>