

High Blood Glucose (Hyperglycaemia)



The Diabetes, Endocrine & Metabolism Centre offers one-stop accessible care to patients and is staffed by experienced endocrinologists, diabetes nurse educators, podiatrists and dietitians to manage patients' diabetes, thyroid problems, obesity and other related disorders. Patients with lipid, calcium and bone disorders, pituitary disorders, adrenal disorders and endocrine hypertension can approach us to find out more.

High blood glucose (sugar) affects people with diabetes. When you have hyperglycaemia for a long time, you may have damage to your eyes, kidneys, nerves and heart. It may also lead to serious complications such as diabetic ketoacidosis (DKA) or hyperosmolar hyperglycaemic state (HHS).

Symptoms



Tiredness or fatigue



Blurred Vision



Dry skin or mouth



Increased hunger



Increased Thirst



Frequent Urination



Weight loss

Causes

- Taking too much food, especially sugar
- Too little exercise or physical activity
- Missing diabetes pills or insulin, or taking them wrongly
- Spoiled insulin due to improper storage, eg. exposure to heat
- Stress, illness, infection, injury or surgery

Treatment

- Take your oral diabetes medication or insulin if you have omitted it
- Drink plenty of water.
- Check and record your blood glucose every four hours.
- Observe for a pattern of high blood glucose.
- Try to determine the cause of hyperglycaemia and take appropriate action to correct it. Check with a diabetes nurse educator if you are unsure.
- If you have type 1 diabetes mellitus and your blood glucose is more than 14 mmol/l, check your urine for ketones.
- Please go to the nearest Emergency Department if you have any of the following:
 - there is moderate or large amount of ketones in your urine
 - you are sick and cannot keep any food or fluids down
 - you have symptoms of DKA or HHS, such as nausea and vomiting, abdominal pain, shortness of breath, fruity-smelling breath, confusion or drowsiness
 - See your doctor early or contact your diabetes nurse educator if you have persistent hyperglycaemia.



What are ketones

Ketones are produced when there is not enough insulin to turn glucose into energy, and your body burns fat instead. Glucose and ketones can build up in your blood and make you very ill. This is known as DKA. DKA usually happens in people with type 1 diabetes mellitus, but may occasionally occur in type 2 diabetes mellitus as well.

Test for ketones

Check with your diabetes nurse educator on the best method to test for ketones (urine or blood).

You should do so when:

- Your blood glucose is more than 14 mmol/l.
- You are sick.
- You feel nauseous, are vomiting, or have abdominal pain.
- You feel short of breath and your breath smells fruity
- You feel weak, confused or drowsy

These symptoms may mean that you have high ketone levels. You need immediate medical attention if you have high ketone levels.

Interpret your results

Type of test	Reference range			
Urine Ketones	Negative	Small	Moderate	Large
Blood Ketones	0.0	Less than 0.6	0.6-1.5	More than 1.5
What should I do?	Continue to monitor your blood glucose levels closely	Continue to monitor your blood glucose and ketone levels closely Ensure that you drink adequate amount of water	Seek medical attention immediately	Visit the Accident and Emergency Department immediately

References:

- Joslin Diabetes Centre. (2017). High Blood Glucose: What It Means and How To Treat It. Retrieved from http://www.joslin.org/info/high_blood_glucose_what_it_means_and_how_to_treat_it.html
- Mayo Clinic. (2015). Hyperglycaemia in Diabetes. Retrieved from <http://www.mayoclinic.org/diseases-conditions/hyperglycemia/basics/symptoms/con-20034795>
- American Diabetes Association. (2013). Checking for Ketones. Retrieved from <http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/checking-for-ketones.html>
- Diabetes Self-management. (2016). Getting to know ketones. Retrieved from <https://www.diabetesselfmanagement.com/managing-diabetes/blood-glucose-management/getting-to-know-ketones/>

For more information

Ng Teng Fong General Hospital and Jurong Community Hospital

1 Jurong East St 21, Singapore 609606

www.ntfgh.com.sg | www.jch.com.sg

Clinic opening hours

Monday – Friday: 8.30am – 5.30pm

Saturday: 8.30am – 12.30pm (Selected clinics only*)

Dental Clinic: Monday – Thursday: 8.00am – 5.30pm, Friday: 8.00am – 5.00pm

*Please refer to our websites for more details.

General enquiries & appointments

General enquiries line: 6908 2222 (24-hr)

Fax: 6716 5500 | Email: contactus@nuhs.edu.sg

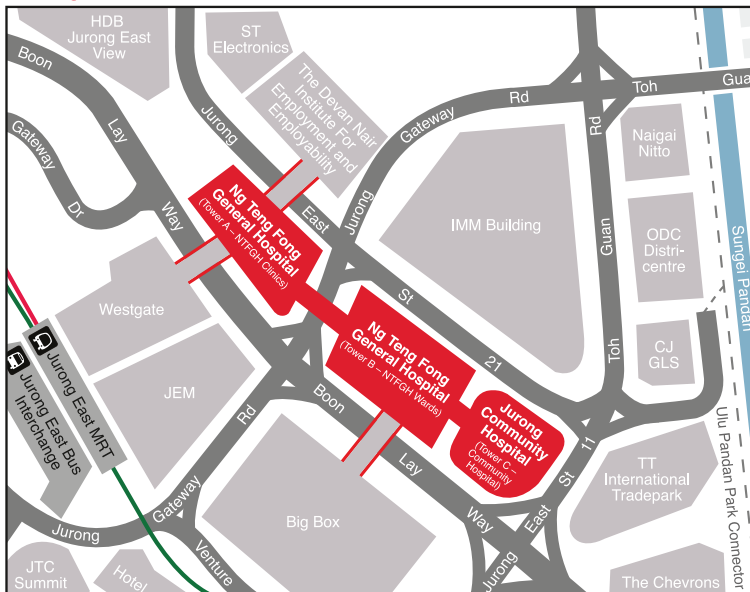
Appointment line: 6908 2222 (Monday – Friday: 8.00am – 5.30pm, Saturday: 8.00am – 12.30pm)

Fax: 6716 2200 | Email: appointment@nuhs.edu.sg

Dental appointment line: 6716 2233 (Monday – Friday: 8.00am – 5.30pm)

Fax: 6716 2200 | Email: JHCampus_Dental@nuhs.edu.sg

Getting there



By train

Alight at Jurong East MRT Station

By bus

Jurong East Bus Interchange

41, 49, 51, 52, 66, 66B, 78, 78A, 79, 79A, 97, 97E, 98, 98M, 105, 143, 143M, 160, 160A, 160M, 183, 183B, 197, 333, 334, 335, 506

Along Boon Lay Way

49, 99, 333, Private bus service 625, 990

Disclaimer:

The information in this brochure is meant for educational purposes and should not be used as a substitute for medical diagnosis or treatment. Please seek your doctor's advice before starting any treatment or if you have any questions related to your health, physical fitness or medical condition. Information is accurate at the time of printing.