

BE PROACTIVE

Setting Goals



Consider different areas of your life and which of these are important to you



Relationships



**Health and physical
well-being**



Work and career



Personal and spiritual growth



Recreation and leisure

Helpful ways to improve sleep quality



Maintain a regular bedtime and wake time routine.



Avoid nicotine, alcohol and caffeine 4-6 hours before bedtime.



Exercise regularly. Light exercise can be included in the evening.



Switch off or avoid using electronic device (e.g., mobile phone, computer or television) at least 30 minutes before bedtime.



Avoid large meals before bed.



Keep your bedroom dark, cool, quiet and comfortable.

Consider different areas of your life and which of these are important to you

Identify the areas of life that are important to you

- What are some lifestyle changes you are thinking of making or have made?
- How might/ did these changes contribute to important areas of your life?



Setting my goal

Example of healthy eating goal

Step 1:
Where do you want to be?



Where I am now:
"I love having fried chicken everyday!"



Where I want to be:
Manage my weight better
Eat more veggies and less fried food

This goal is important to me because:
I want to be healthier and look better

Setting my goal

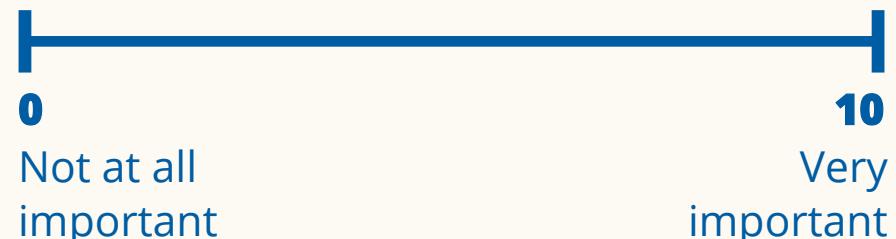
Step 2: Set your goal		Step 3: Identify and work around potential barriers		
I will ...		What might get in the way	What I can do	Person(s) who can help
Action Stick to My Healthy Plate		1. Colleagues suggest having fast food for lunch	Suggest to try out eateries with healthier options	My colleague James likes vegetables
Day/Time Lunchtime on Mondays and Thursdays		2. I have a particular craving for curry puffs when I'm stressed	Unwind in other enjoyable ways, like walking or listening to music	Walk and chat with my neighbour in the evening
Location At work		3. There is a stall that sells delicious fried food, on my way home	Take an alternative path home	NIL
Time period For the next 3 months				
Start date From 14 January				

Setting my goal

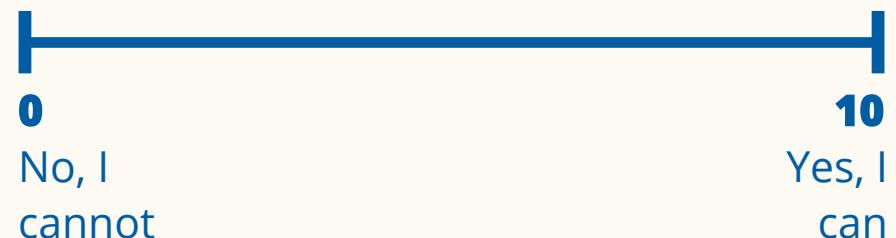
- Complete the “Setting my goal” handout to set a new goal
- Use the two rulers to check that the goal is doable

↳ If scores are less than 7, adjust the goal

Is reaching this goal important to you?

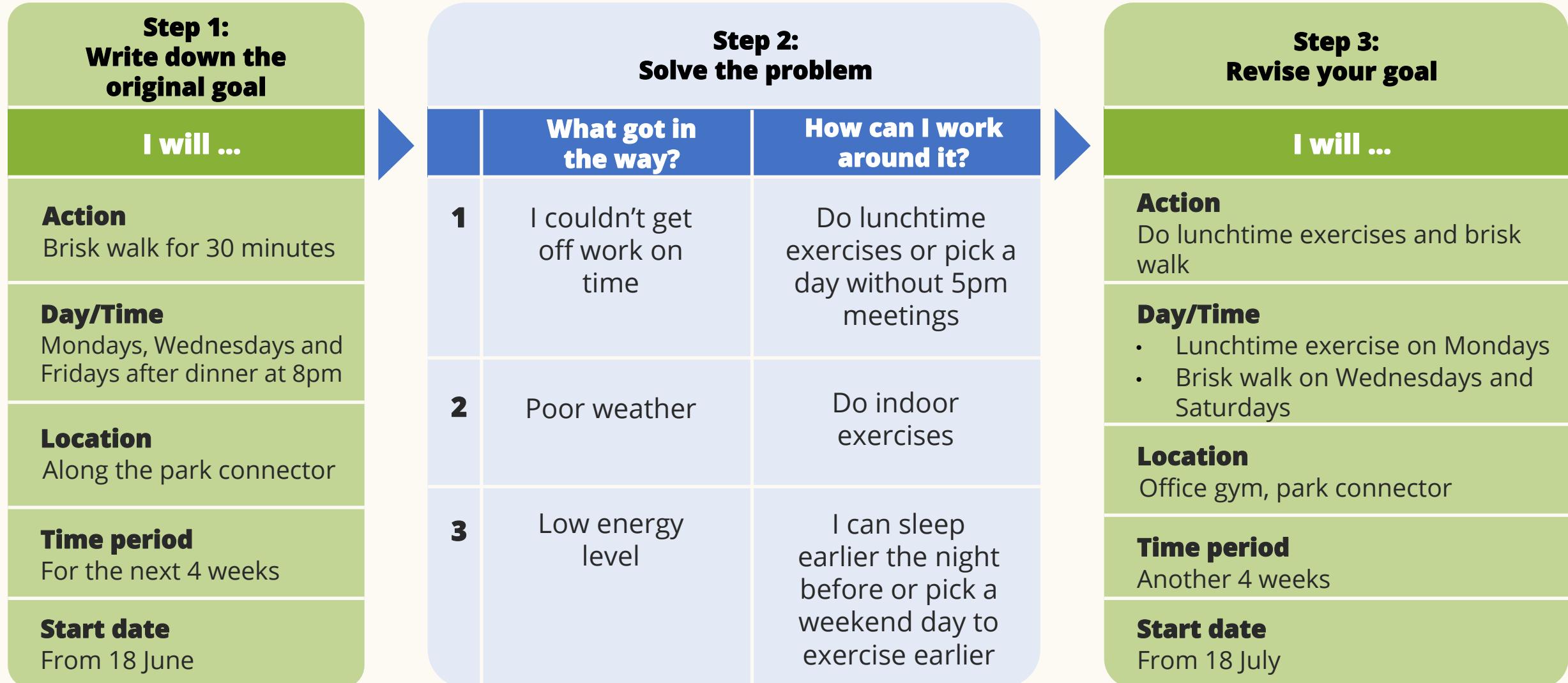


Do you think you can reach this goal?



Setting my goal

Example of physical activity goal

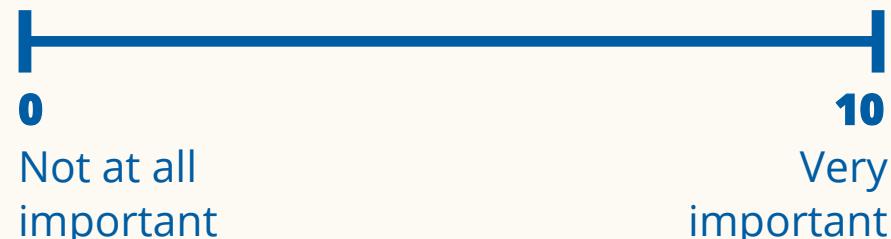


Keeping up with my goal

- Complete the “Keeping up with my goal” handout if there were barriers to accomplishing the goal
- Use the two rulers to check that the goal is doable

↳ If scores are less than 7, adjust the goal

Is reaching this goal important to you?



Do you think you can reach this goal?



BE PROACTIVE

Treatment targets and monitoring

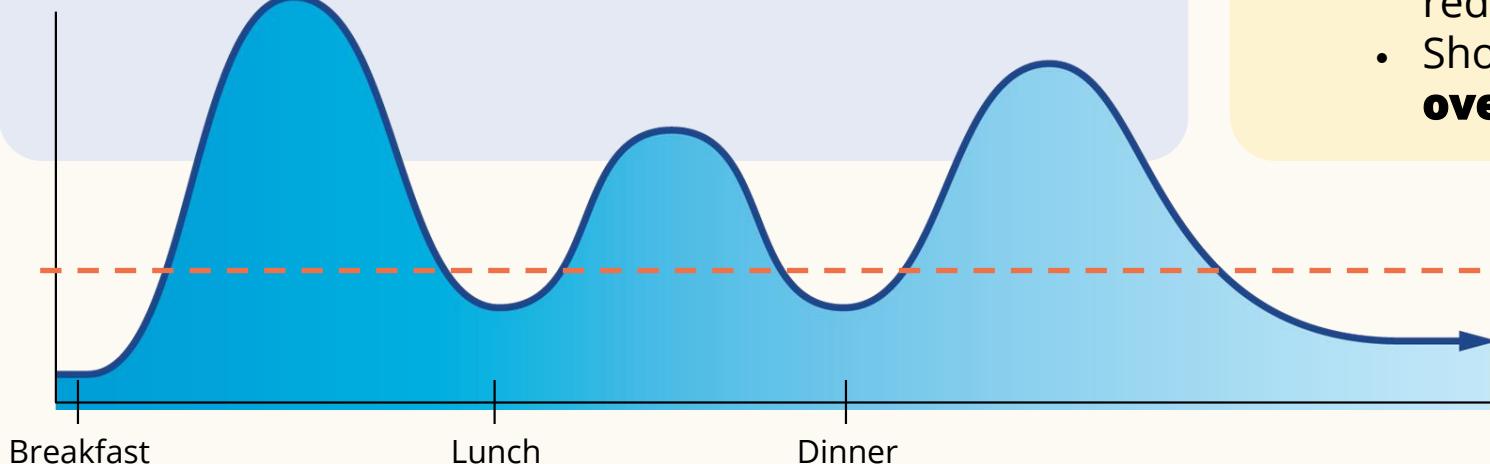


Different ways to test your blood sugar level

Done at home using a glucometer

What is blood sugar level?

- “At the moment” level of sugar (glucose) in your blood



Done at the clinic

Normal HbA1c



High HbA1c
Red blood cell Sugar

What is HbA1c?

(Glycosylated haemoglobin)

- Sugar (glucose) attached to protein in red blood cells
- Shows your **average** blood sugar level **over 3 months**

HbA1c level

Blood sugar level

Different ways to test your blood sugar level

**For individuals with Type 2 diabetes,
consider self-monitoring (using a glucometer), if you are**



At increased risk of developing hypoglycaemia (low blood sugar)



Pregnant with pre-existing diabetes or Gestational Diabetes



Experiencing acute illness



Having difficulty achieving glycaemic goals



Fasting for religious reasons (e.g., Ramadan)

Monitor your blood sugar level before and after meals

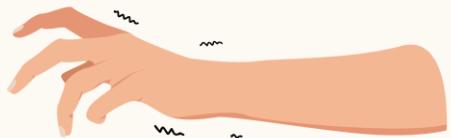
Blood sugar	Before food	2 hours after food
 Too high Risk of hyperglycaemia	>7.0 mmol/L	>10.0 mmol/L
 Optimal	4.0 to 7.0 mmol/L	4.0 to 10.0 mmol/L
 Too low Hypoglycaemia	<4.0 mmol/L	<4.0 mmol/L

Your targets may vary depending on your condition; discuss this with your doctor or care team

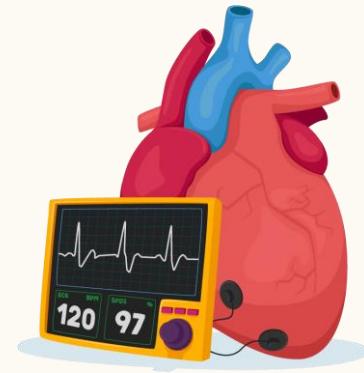
Common signs and symptoms of HYPOglycaemia (low blood sugar of < 4 mmol/L)



Hunger



Hand tremors



Abnormally fast heartbeat



Fatigue



Mood changes
(e.g., anxiety, irritability,
nervousness)



Dizziness or headaches

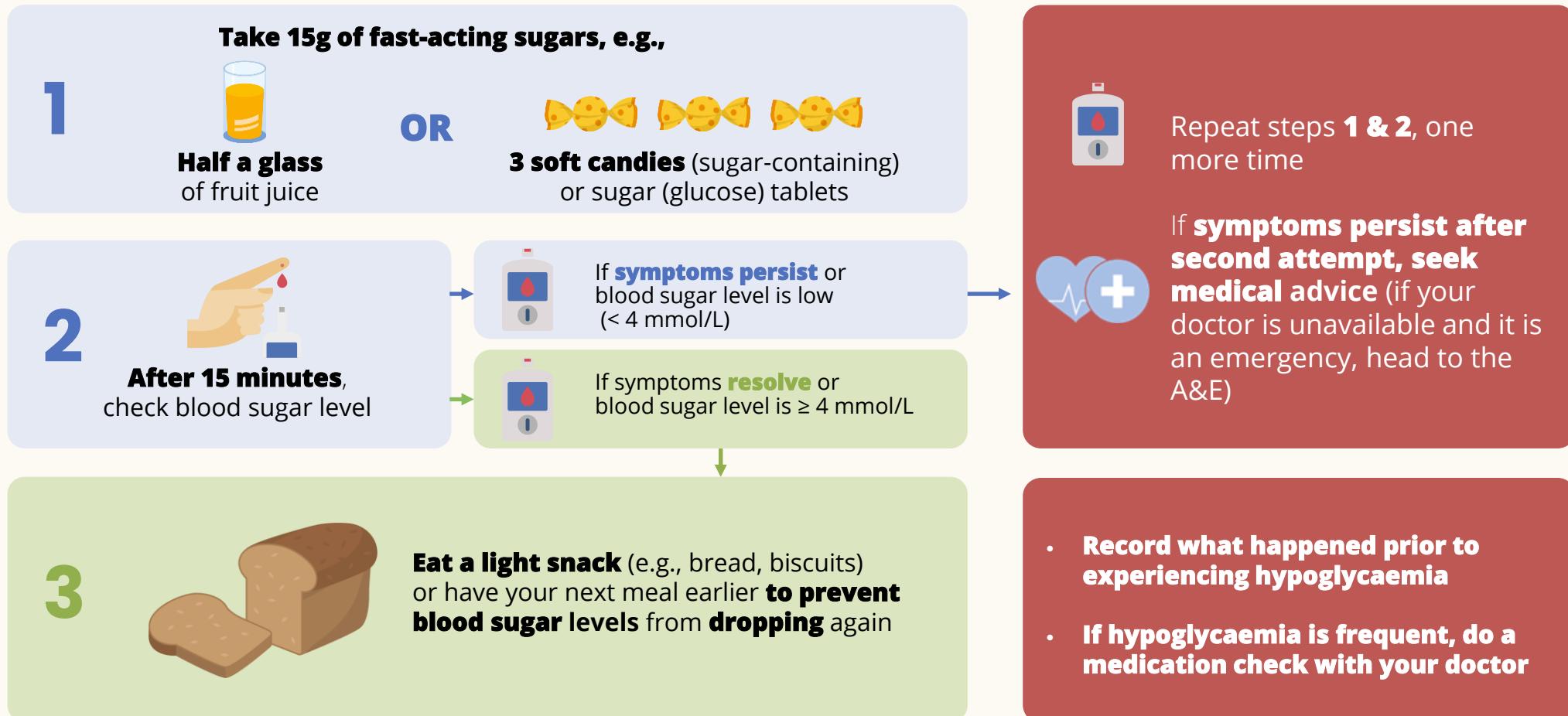


Changes in behaviour
(e.g., confusion, weakness,
unclear speech)



Drowsiness

Follow the 15-15 rule if you experience HYPOglycaemia symptoms or your blood sugar level is low (< 4 mmol/L)



These steps are only applicable if the person is conscious. If the person is unconscious, call an ambulance immediately.

How can I prevent HYPOglycaemia (low blood sugar)

What to do



Do not skip meals
even when busy



Bring a few sugar-containing sweets along whenever you go out



If needed, eat extra carbohydrates before moderate or vigorous intensity activities



Do not take diabetes or insulin injection in the morning when fasting for a blood test



Closely **follow instructions** on when to take your medication, especially in relation to meals



If you experience **hypoglycaemia frequently, check with your doctor** as your medication may need adjusting

Common signs and symptoms of HYPERglycaemia (high blood sugar)



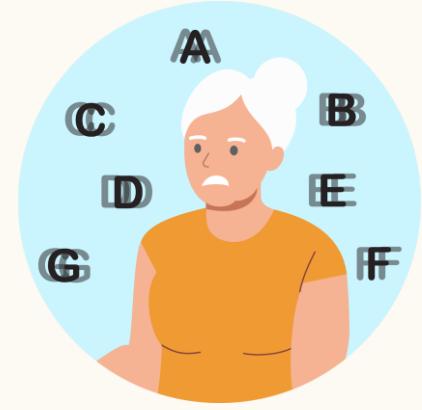
Increased thirst



Frequent urination



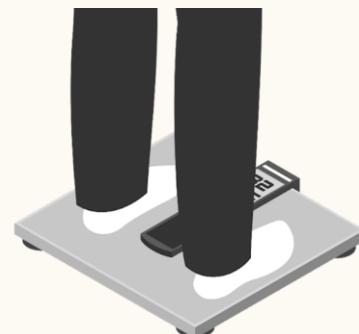
Increased hunger



Blurred vision



Headaches



Weight loss



Slow-healing cuts



**Blood sugar level
 $> 16 \text{ mmol/L}$**

If you experience **HYPERglycaemia** symptoms or your blood sugar level is high ($> 16 \text{ mmol/L}$)

1



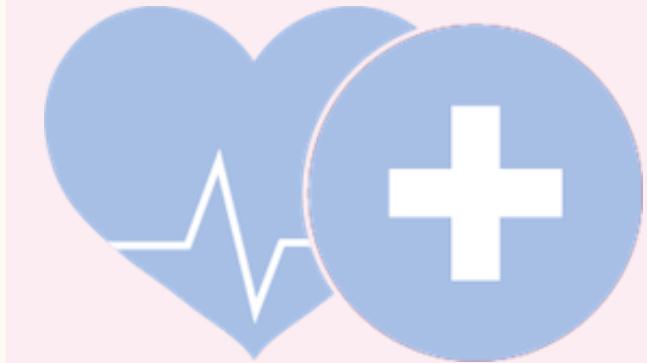
Check your blood sugar level
more often

2



Drink plenty of **plain water**

3



Seek medical advice if
symptomatic, or if blood sugar
level remains persistently high
 $> 16 \text{ mmol/L}$

How can I fast safely (for religious reasons)?

Before fasting



Consult your doctor
if it is safe for you to fast

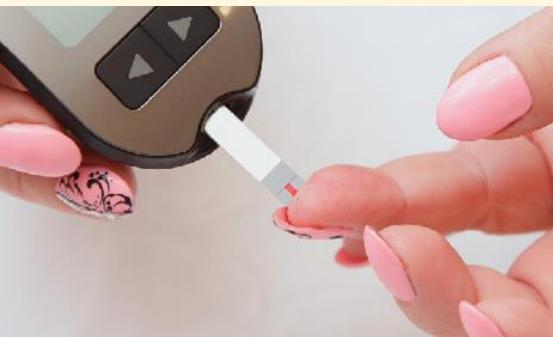


Adjust your diet with your
healthcare professional



Adjust your medication or insulin dose with your doctor

During fasting



Self-monitor blood sugar levels
regularly and **check for**
symptoms of hypoglycaemia
(low blood sugar)



If your blood sugar level is low
(< 4 mmol/L), **stop your fast**
and take a sweetened drink



If symptoms of low or high blood
sugar persist, **stop your fast**
and seek medical attention

When should I not fast?

When you are or have any of the following



Frequent hypoglycaemia (low blood sugar) or **poorly controlled diabetes**



Serious conditions such as nerve disorders, heart problems or uncontrolled hypertension



Pregnant or breastfeeding



Sick



Not been following your prescribed medication, diet and physical activities

What to do when I am sick*?

*Feeling unwell, e.g., fever, cough, runny nose, vomiting and diarrhoea



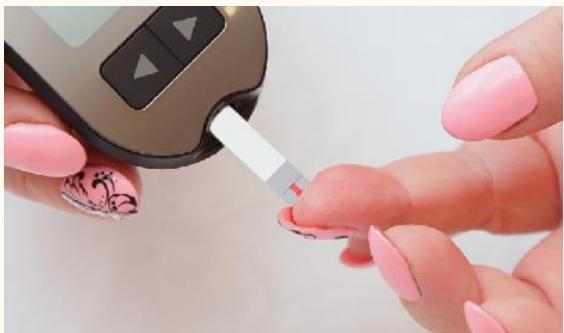
See your **doctor**



Discuss with your healthcare team if
dose adjustments need to be made



Get plenty of **rest**



Check your blood sugar level more often



Drink plenty of **water**



Have small, frequent meals or fluids
(e.g., soups, diluted juices or sweetened drinks)

When do I have to see my doctor?



Chest pain, shortness of breath, fruity breath, dry lips or tongue or abdominal pain



Severe vomiting or diarrhoea for more than 6 hours



Recurrently low blood sugar levels ($< 4 \text{ mmol/L}$) or persistently high ($> 16 \text{ mmol/L}$) for more than 24 hours



Loss of appetite

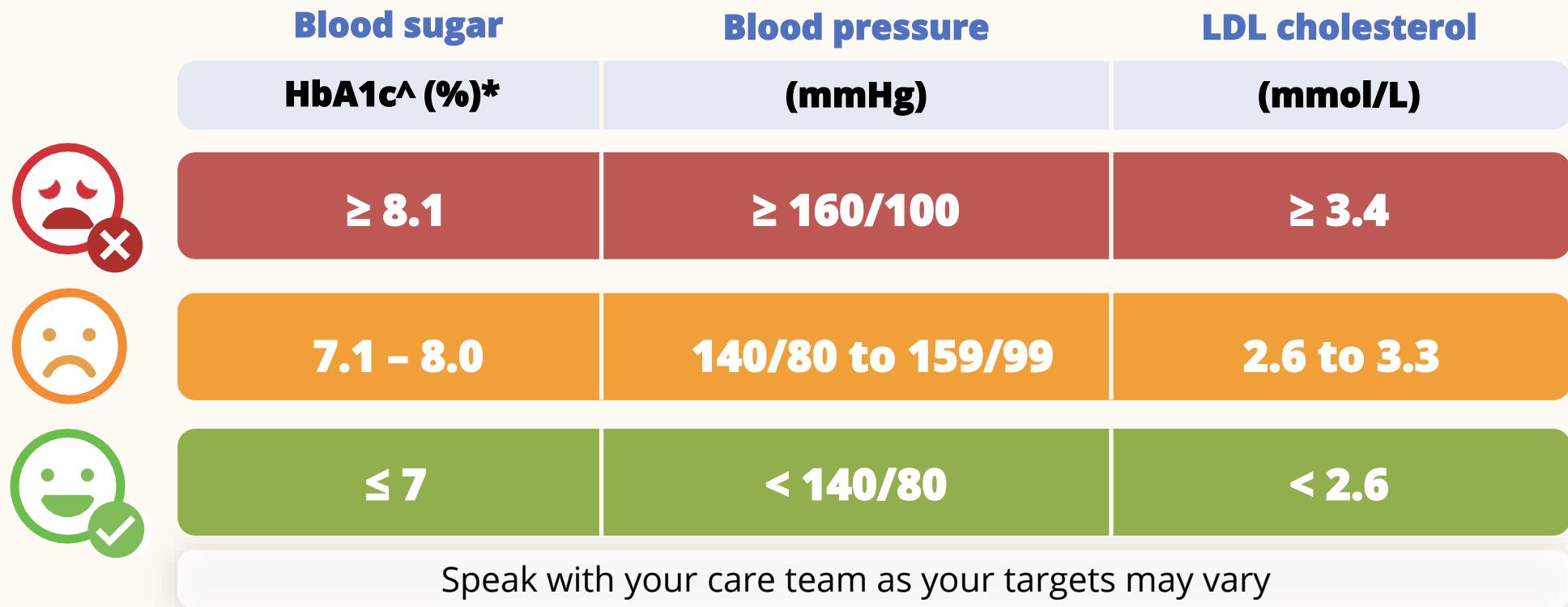


Skin sores

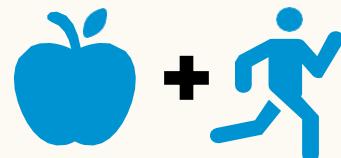
Go for your regular check up to detect and prevent complications

Assessment/Test	Frequency	Possible Complications
 <ul data-bbox="460 504 998 828" style="list-style-type: none">• Weight and height (BMI)• Blood pressure• HbA1c (blood sugar)• Stress, emotional well-being	At least every 3 to 6 months depending on your condition	Kidney Failure Blindness Amputation Heart attack Stroke
 <ul data-bbox="460 1008 998 1274" style="list-style-type: none">• Lipid profile (cholesterol)• Kidneys• Eyes• Feet	At least once a year depending on your condition	

Manage diabetes well



[^]HbA1c tells you how your blood sugar control has been like the past 3 months.



Healthy eating habits and regular physical activity and exercise can help you achieve target levels of blood sugar control, blood pressure and cholesterol

Weight management in diabetes

Weight management is an important part of diabetes care. It helps you achieve better blood sugar levels, so keeping within your optimal weight range is important.

How do I know if my weight is within the optimal range?

Body Mass Index (BMI) screens for weight categories that may lead to increased risk of cardiovascular health problems, but it does not diagnose the body fatness or health of an individual. BMI is one of the many useful tools individuals can use to track their health.

For Asians, a BMI 23 and greater is considered of increased risk. You can use the formula to calculate your BMI, then check against the table.

If you are overweight (BMI 23 and more), even losing 5 - 10% of your weight can help lower your blood sugar levels, blood pressure and cholesterol levels.

Speak to your healthcare team for personalised advice on how best to achieve or maintain an optimal weight.

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m)} \times \text{Height (m)}}$$

WHO Asian classification of BMI risk category

BMI (kg/m ²)	Health Risk
27.5 and above	High risk for cardiovascular diseases [^]
23.0-27.4	Moderate risk for cardiovascular diseases [^]
18.5-22.9 [optimal]	Low risk for cardiovascular diseases [^]
Below 18.5	Risk of nutritional deficiency diseases and osteoporosis

[^]Cardiovascular diseases affect the heart or blood vessels, and include heart disease and stroke.

A close-up photograph of a person's hands, wearing a brown jacket, holding a white and blue glucose monitoring device. The person is wearing a watch on their left wrist. The background is blurred.

BE PROACTIVE

Self-Monitoring of Glucose

Self-monitoring of Blood Sugar

- **Keeping your blood sugar levels within the target range**

can help reduce your risk of diabetes-related complications.

Self-monitoring your glucose levels can help you better understand how food, physical activity and insulin dose affect your blood sugar levels, and make the necessary changes to optimise your diabetes control.

- **Blood sugar targets can be individualised** in order to prevent risk of hypoglycaemia (too low levels of blood sugar) or other adverse effects associated with blood sugar control that is too tight.
- **Discuss with your healthcare team** if you need to self-monitor your blood sugar, which tools you should use and how often to use it.
- **Your target blood sugar range can depend on:** age, lifestyle and overall health.



When to check blood sugar levels:

Before meals

Two hours after a meal

Before bedtime

Before and after exercise

When feeling unwell

Other times as necessary, as discussed with your healthcare professional

Why is Blood Sugar Monitoring Important?



1. Gives you a clear idea of your blood sugar level at a given time
2. Informs if you have hypoglycaemia (blood sugar too low) or hyperglycaemia (blood sugar too high) at a given time
3. Tells you how your lifestyle and medication regimen is affecting your blood sugar levels
4. Helps you and your diabetes healthcare team evaluate and determine the best management strategy for you

How to Monitor Blood Sugar

Blood Glucose Meter

- Blood sugar level can be easily monitored using a Blood Glucose Meter.
 - ↳ Wash your hands with soap and water and dry with tissue
 - ↳ Prick your finger and put a small drop of blood on the meter's test strip
 - ↳ Your blood sugar level will appear on the meter within seconds
 - ↳ A blood glucose meter is usually the least expensive home testing option, but it only reveals your blood sugar level at the time of check
- Blood sugar and interstitial fluid (fluid found in spaces around body cells) glucose levels are usually similar to each other, and glucose levels can also be measured from the interstitial fluid. There are two types of monitors that measure interstitial fluid glucose: flash glucose monitors and continuous glucose monitors.



How to Monitor Blood Sugar



Flash Glucose Monitor (FGM)

- It consists of a sensor and a reader, and depending on the type of sensor, it is placed either at the back of the upper arm, on the abdomen or the upper buttocks.
- FGMs can be used up to 14 days. It allows you to view interstitial fluid glucose levels at the time of check and can tell you if your glucose levels are rising, falling or stable. FGMs can also give you a report on the daily pattern of your glucose levels.

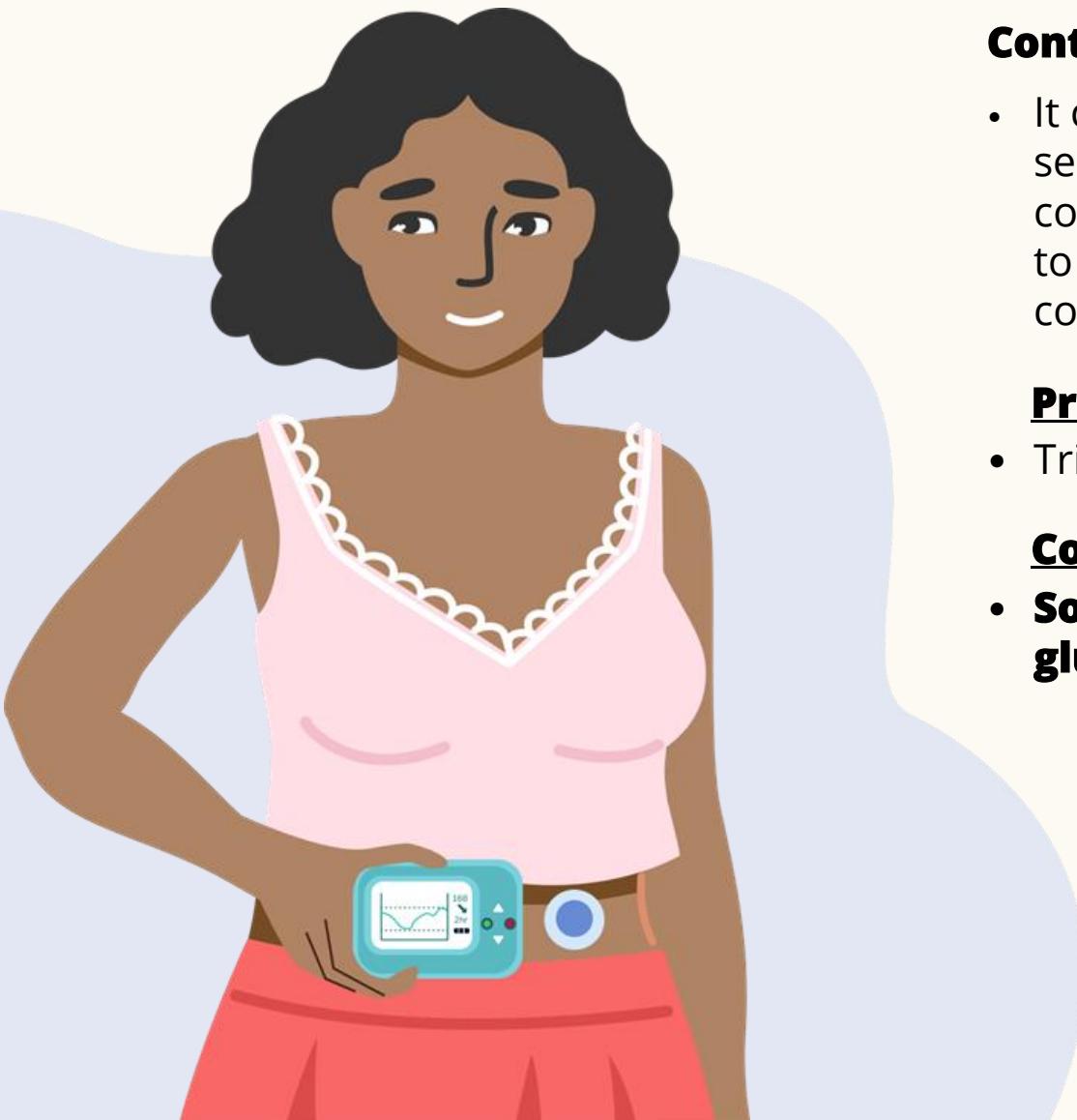
Pros

- **Does not require** blood sugar (finger prick) calibration

Cons

- Some do not have alarms
- Sensor readings are not automatically synced with the reader. You will need to flash the reader over the sensor to record your glucose readings.

How to Monitor Blood Sugar



Continuous Glucose Monitoring (CGM)

- It consists of a sensor, a transmitter and a receiver. The sensor typically needs to be replaced every 3 to 7 days. As it collects glucose readings every few minutes, the CGM is able to give you a more complete picture of your glucose profile compared to a blood glucometer.

Pros

- Triggers **alarms if glucose levels are too high or low**

Cons

- **Some types of CGMS need calibration with blood glucose meter** (i.e., will require **finger prick**)

Glucose level targets

These should be tailored to your condition.
Please discuss with your healthcare team.

Test	Targets
Pre-meal glucose[^] (mmol/L)	4.0 – 7.0
2-hour post-meal glucose[^] (mmol/L)	< 10.0

[^]Values pertaining to capillary blood sample

Low Blood Sugar: Hypoglycaemia



What is Hypoglycaemia?

- Also known as low blood sugar, Hypoglycaemia occurs when your blood sugar level falls below 4.0 mmol/L

Causes

- Imbalance between insulin intake and body's physiological needs
- Insulin overdose – injecting too much insulin but not eating enough carbohydrates
- Ill-timed insulin intake or using the wrong type of insulin
- Increased sensitivity to insulin
- Increased glucose utilisation (during or shortly after exercise)
- Mismatch between food intake timing and sulphonylureas (e.g., Glipizide) consumption

Hypoglycaemia: Symptoms and Severity

Mild	Moderate	Severe	
Fast heartbeat Dizziness Headache Sweating	Unceasing hunger despite having a full and balanced meal Irritable	Weakness Blurred vision Slurred speech Confusion and abnormal behaviour Seizures CANNOT self-treat	 If the individual has lost consciousness, please call an ambulance immediately!

Hypoglycaemia is when the blood sugar levels are lower than the normal. This usually occurs at blood sugar levels less than 4 mmol/L.

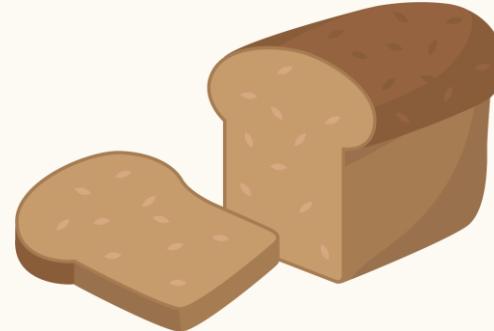
Mild: 3.1-3.9 mmol/L

Moderate: less than 3.1 mmol/L

Severe: Less than 2.2 mmol/L or needs help to treat (CANNOT self treat)

Hypoglycaemia: Treatment

What type of food to take if the person is conscious:



Fast-acting sugars

- 3 teaspoons of dextrose powder/ table sugar in 120ml of water
- $\frac{1}{2}$ can of regular soft drink
- 1 can of low-sugar soft drink
- $\frac{1}{2}$ glass (150ml) of fruit juice
- 3 soft/jelly sweets

Long-acting sugars

- 3 pieces of biscuits
- 1 slice of bread

Avoid using the following items to rescue hypoglycaemia



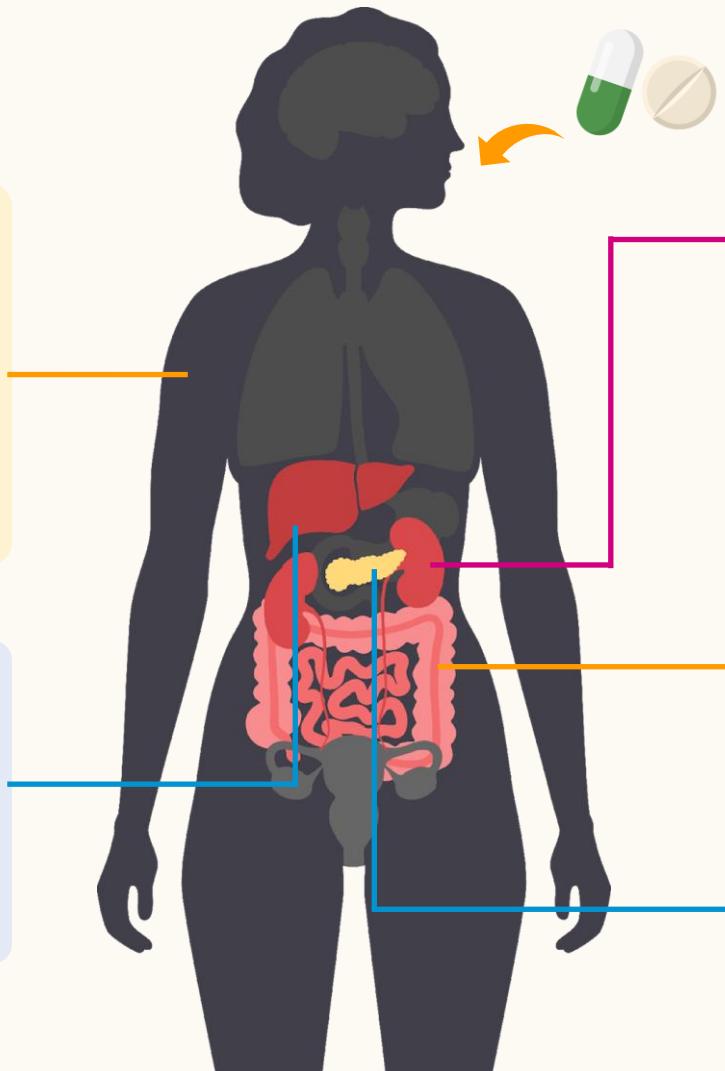
- Diet/no sugar soft drinks
- Sugar-free sweets
- High fat snacks such as chocolate – fat slows down the movement of sugar into blood!

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Medication



Medications work in different ways, on different body parts



Liver, fat tissues and muscles

E.g., Pioglitazone, metformin

- Reduces amount of sugar made by the liver, and increases the sensitivity of fat, liver and muscle cells to insulin

Liver and pancreas

E.g., Linagliptin, sitagliptin

- Helps the pancreas produce more insulin and reduce amount of sugar made by the liver

Kidneys

E.g., Dapagliflozin, empagliflozin

- Prevents the kidneys from re-absorbing sugar

Intestines

E.g., Acarbose

- Slows down breakdown of starch and absorption of sugar from the intestines

Pancreas

E.g., Glipizide, tolbutamide, gliclazide

- Helps the pancreas produce more insulin

Take your medication as prescribed



Take your medication(s) regularly at the correct time(s)



If you miss a dose, take it as soon as you remember; if it is time for the next dose, skip the missed dose



Eat meals regularly to prevent hypoglycaemia (low blood sugar)



Avoid taking alcohol with medication



Taking metformin before going for any scans (e.g., CT scans) or procedures



Pregnant or planning to get pregnant before taking medication



Experiencing **persistent symptoms of hypoglycaemia** (low blood sugar)

Take your medication as prescribed



Inform your healthcare professional if you are pregnant

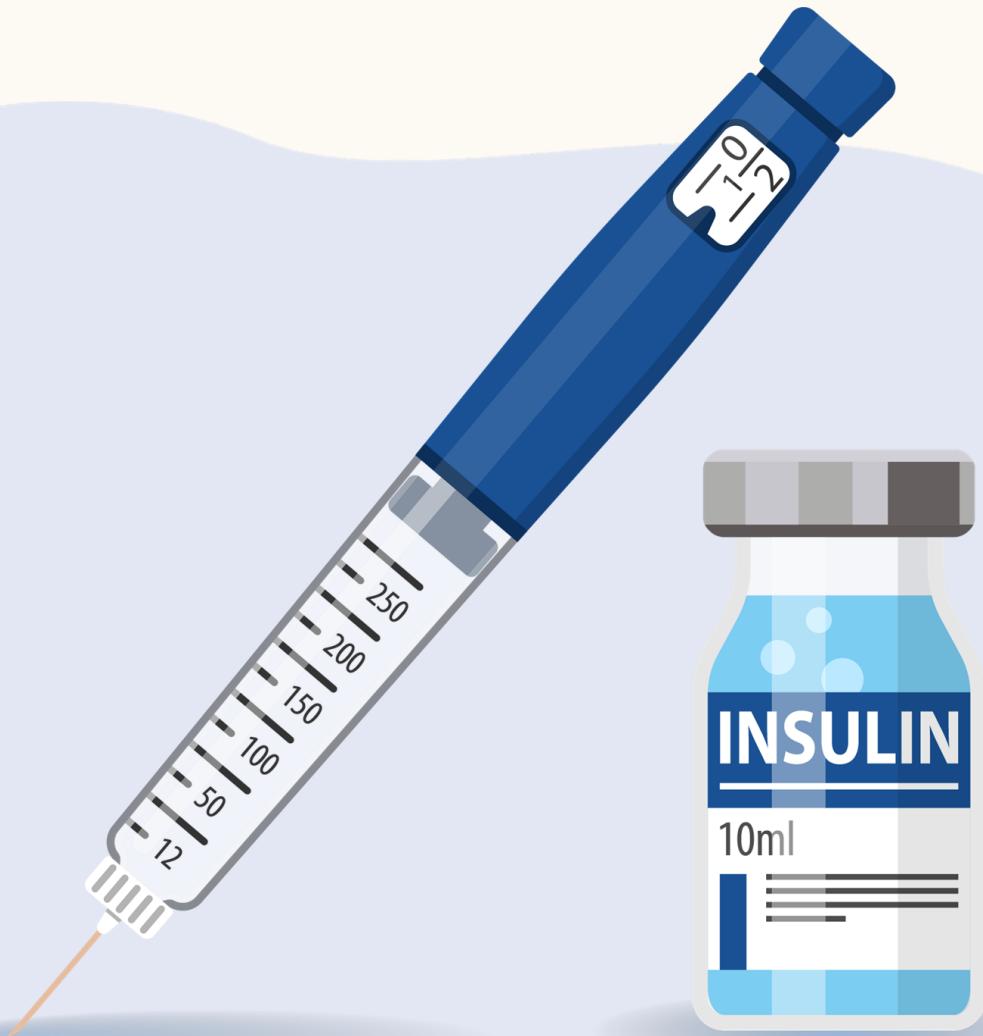
- Your oral medications may not be recommended for use during pregnancy and your doctor may prescribe a different medicine or insulin

A close-up photograph showing a person's hands holding a insulin pen and a syringe. The person is wearing a white long-sleeved shirt. The background is dark and out of focus.

BE PROACTIVE

Insulin Treatment

Types of insulin



Rapid-acting

- Starts to work within 15 minutes and lasts 1-2 hours

Regular- or short-acting

- Starts to work within 30 min and lasts 3 to 4 hours

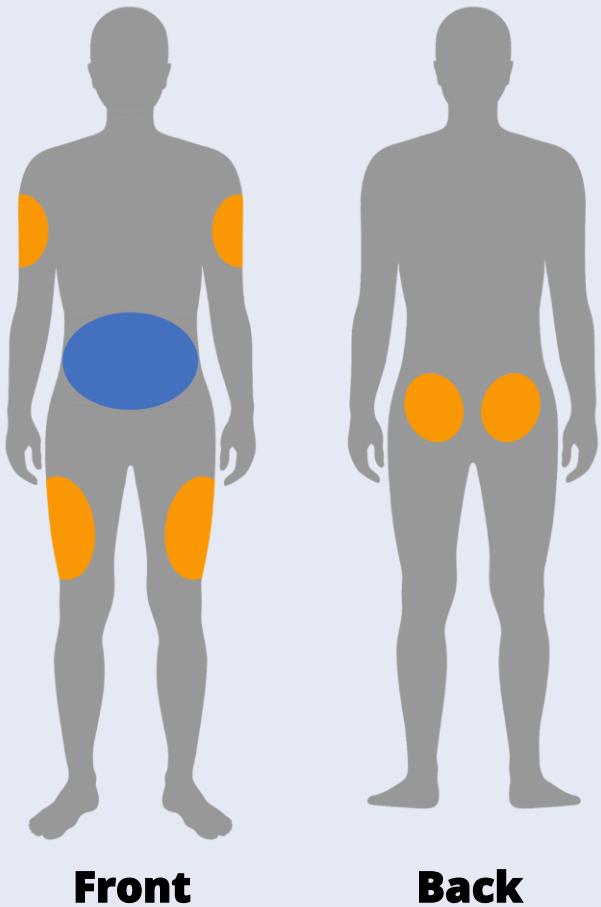
Intermediate-acting

- Starts to work within 1-2 hours, maximally at 4-6 hours and lasts up to 12 hours

Long-acting

- Can work for an entire day (depending on the type of long-acting insulin)

Types of insulin

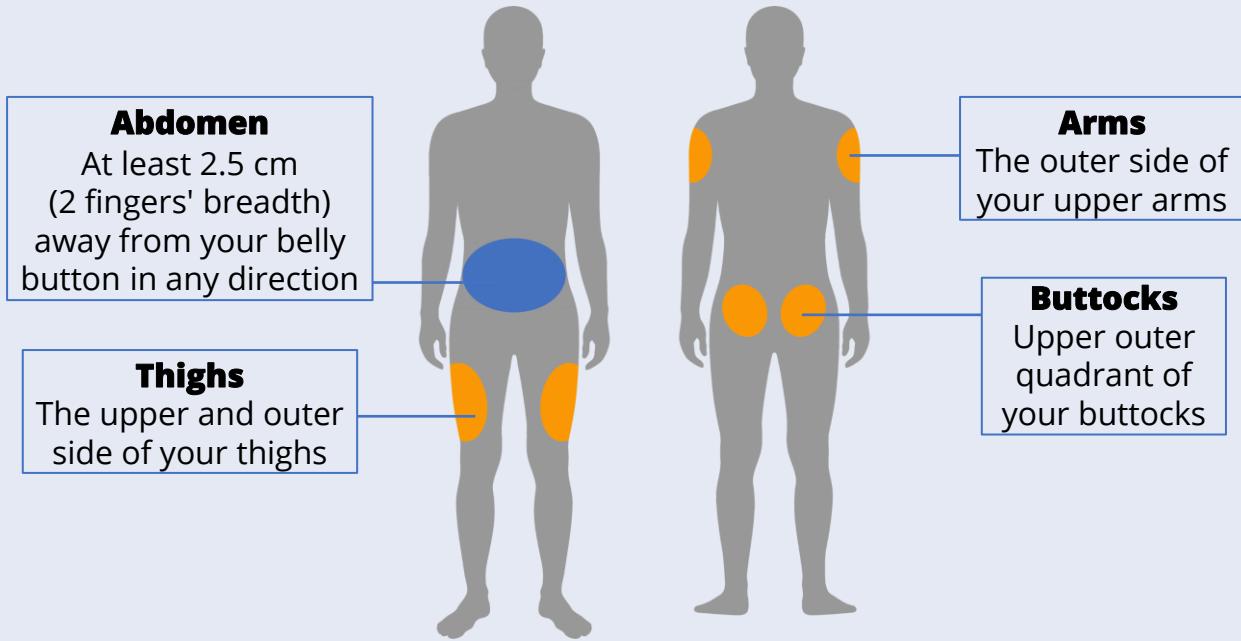


- Inject insulin into the fatty layer beneath the skin (subcutaneous).
- The belly absorbs insulin the fastest and most consistently, followed by the arms, thighs and buttock.
- Pick the proper needle length and gauge to reduce pain.
- Use a new needle for every injection.

Insulin sites

Suitable sites for insulin injection

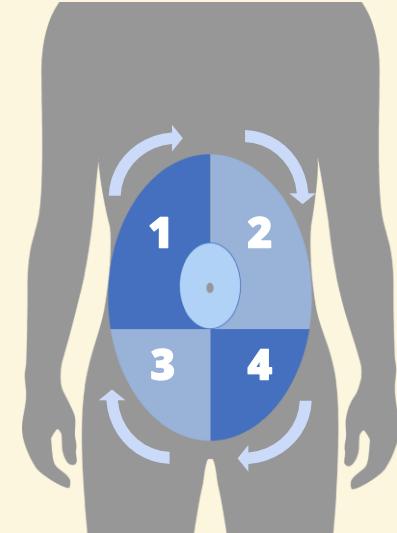
Visual guide to show where you can inject insulin



To note

- Different sites absorb insulin at different rates. Insulin is absorbed the fastest in the abdomen and slowest in the thighs
- Rotate sites (e.g., right and left thigh) to avoid swelling as this may affect insulin absorption

Site rotation



Move 2 fingers along from your last insulin injection site

- Rotate injection sites by moving 2 fingers' breadth along from your last injection site until you have used an entire area
- Move to a new injection area every 1 to 2 weeks

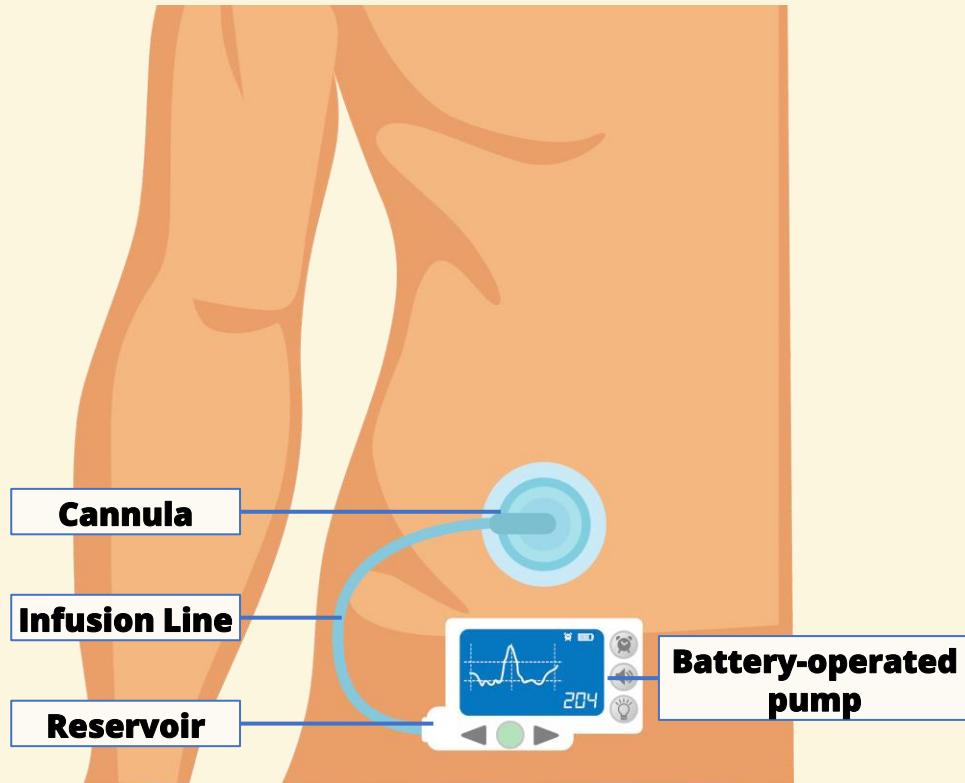
Rotate your injection spots



Rotate injection sites by moving 2 fingers' breadth apart from the last injection site. Use an entire area before moving to a new area.

By rotating the spots where you inject Insulin, you can prevent fat lumps (lipohypertrophy) from forming just under the skin

Insulin pump therapy



Insulin is delivered via an infusion set and cannula into the subcutaneous layer of the abdomen*

* For illustration purposes only. Actual device may differ.

Insulin pump therapy is another way of providing insulin to your body that mimics the function of the pancreas.

A small device with an insulin reservoir that delivers both basal (continuous release over 24 hours) and rapid-acting insulin doses to match higher glucose levels during mealtimes.

It usually improves diabetes control by helping to avoid glucose levels that are “too high” or “too low”.

You can adjust the insulin dose to suit your needs (e.g., change dose at mealtimes depending on what you choose to eat).

BE PROACTIVE

Foot Care



Poorly controlled diabetes can lead to foot complications



Nerve damage can make your foot feel numb and change its shape, increasing your risk of getting **calluses** and **ulcers**

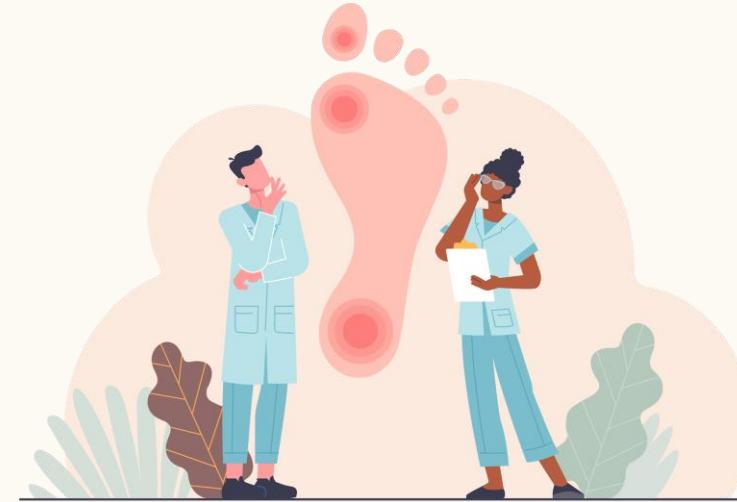
Extremely **poor blood circulation** (vasculopathy) can cause wounds to heal poorly; an **amputation** may be required to save your life

Poorly controlled diabetes can lead to foot complications



Nerve damage (neuropathy)

- Uncontrolled blood sugar levels damage nerves over time leading to decreased foot sensation and deformity, e.g., mid-foot collapse, toe deformities, extremely arched foot
- Decreased foot sensation, deformity, and improper or inadequate footwear increase risk of calluses and ulcers (wounds)



Poor blood circulation (vasculopathy)

- Extremely poor blood circulation (vasculopathy) can cause problems in your extremities (hands or feet) such as cell death, tissue damage or infections
- Surgeries such as angioplasty (unblocking blood vessels), removal of damaged tissue or amputation may be required

Good foot care practices



Monitor feet every day



Maintain **good foot care and hygiene**



Moisturise hard skin areas regularly



Wear well-fitting and covered footwear



Apply simple first aid for small wound



Seek medical help if wound is **not healing well**, or **worsens**

Good foot care practices



Monitor feet every day

- **Watch out for:**
 - ↳ Blister, wound, corn, and callus
 - ↳ Redness, swelling, bruise, or increased warmth
 - ↳ Toenail anomaly or change in foot shape

Maintain good foot care and hygiene

- Clean feet daily with mild soap and water
- Dry thoroughly between each toe
- Use a pumice stone or foot file to gently remove hard skin
- Avoid cutting nails too short; cut them straight across and file corners

Moisturise hard skin areas regularly

- Avoid using harsh soap
- Apply moisturiser daily but not between each toe
- Avoid scratching skin as it may lead to wound or bleeding

Good foot care practices



Wear well-fitting and covered footwear

- Wear well-fitted covered shoes with socks
- Home sandals are recommended
- Check and remove any stones or sharp objects inside shoes before wearing them

Apply simple first aid for small wound

- Clean small wound with saline before applying antiseptic and covering with a plaster
- Seek medical help if there is no improvement after two days or if there are signs of infection

Seek medical help if wound is not healing well, or worsens

- If signs of infection are present, such as redness, swelling, increased pain, pus, fever, or the wound starts to smell, seek medical help as soon as possible

BE PROACTIVE

Dental Care



Keep your mouth healthy



Brush your teeth and **tongue** at least twice a day (in the morning and before sleeping) for 2 minutes with fluoride toothpaste



Use a soft-bristled toothbrush; change every 3 months or when bristles spread out



If you wear **dentures**, clean them after **every meal**; remove, clean and soak dentures in water before sleeping



Clean **in between your teeth** with a floss or interdental brush at least once a day



Tilt the **brush at an angle** to your gum line, moving it in small circular motions across all front, back and chewing surfaces of your teeth, not forgetting the back molars



Visit a dentist every 6 months to 1 year to check your teeth; let the dentist know about your blood sugar control and the medication you are taking

See your dentist if you have ...



Persistent bleeding gums



White patches in your mouth



Receding gum lines



Loose or shaky adult teeth
and/or **widening gaps**
between your adult teeth



Pain in your mouth



Bad breath or **dry burning sensation** in your mouth

A photograph of two men on a beach at sunset. An elderly man with grey hair and glasses, wearing a striped shirt, is smiling and looking towards the camera. A younger man with dark hair and a beard, wearing an orange shirt, has his arm around the elderly man's shoulder and is also smiling. They are standing on a sandy beach with greenery and water in the background.

BE PROACTIVE

Travelling

How can I prepare for travel?



See your doctor for a
vaccination, if possible



Check with your care team on
medication and insulin dosage



Bring a **medical letter or diabetes** card regarding your diagnosis and medication



Get **insurance** coverage



Put necessary **medication or insulin** items in your carry-on bag

How can I prepare for travel?

Pack these in your carry-on bag



Medication or insulin items
(e.g., insulin pens, vials, pen needles, syringes, swabs)



Glucometer with test strips, finger-pricking device and lancets



Medication for common illnesses



Sweets to prevent hypoglycaemia (low blood sugar)

For short-haul flight or time zone difference of 1 to 2 hours

- Maintain your medication schedule and insulin dosage

For long-haul flight or time zone difference of more than 2 hours

- Discuss with your doctor regarding possible adjustments to your medication schedule and insulin dosage

How can I manage my diabetes while abroad?



Drink plenty of **water**



Watch your **food** and **calorie intake**



Hand carry **sugar-containing sweets**



Always wear **protective shoes**



Hand carry **medication** or **insulin items**



Take **medication** as prescribed



Self-monitor your **blood sugar level** regularly



Know where to **seek help**