

A background image showing two hands shaking, symbolizing agreement or support. The hands are positioned in the center of the frame, with one hand slightly above the other. The background is a soft, light blue gradient.

National diabetes reference materials

For people with pre-diabetes and type 2 diabetes

Using this publication

The content is designed to be delivered over several consultations or sessions. For selected topics, there are separate handouts which may be given to patients and/or their family members for their reference on practical tips to aid knowledge application.

Disclaimer

This publication is part of an initiative under the War on Diabetes. The diagrams are illustrative and used to demonstrate concepts.

This publication is not an exhaustive presentation on the subject matter. When using this publication, the responsibility for making decisions appropriate to the circumstances of the individual patient remains with the care team member. The publication will be reviewed if new evidence emerges that requires substantive changes to its content.

An elderly man with white hair and a young boy with dark hair are sitting at a round wooden table, playing chess. The man is on the left, looking towards the boy on the right. They are both focused on the game. The chessboard is in the center, with various pieces visible. The background is a plain, light-colored wall.

Introduction

This section is targeted at newly diagnosed patients

Introduction

The handouts for this section are:

- My Healthy Plate
- How can I cook healthy and yummy meals?
- Small steps towards getting active everyday

You can **lead a fulfilling life** even with diabetes!

Eat sensibly, get active and take your **medication regularly**



You can **lead a fulfilling life** even with diabetes!

- **Eat sensibly** – choose wisely, eat enough
- If required, **take your medication or insulin** appropriately; seek medical advice if you feel ill

Enjoy your life with activities like

- Brisk walking in the park or neighbourhood
- Physical sports with friends (e.g. badminton)
- Gardening
- Caring for grandchildren
- Hobbies requiring good vision and fine motor skills
- Fun and active hobbies with friends

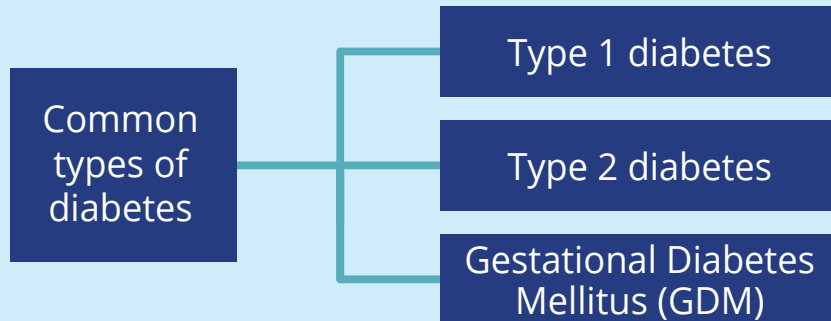
What is diabetes?

Diabetes is a **condition** where your **body cannot manage sugar properly**, resulting in **too much sugar in your blood**

What is pre-diabetes?

Pre-diabetes is when your **blood sugar levels are higher than normal** but **not high enough to be diagnosed with diabetes**

What is diabetes?



Type 1 diabetes

- Occurs when the pancreas cannot produce insulin, due to immunological causes. Insulin allows your cells to take in glucose and fuel your body as energy
- Occurs when beta cells in the pancreas are destroyed and can no longer produce insulin

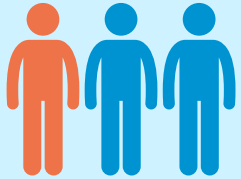
Type 2 diabetes

- More common form of diabetes
- Occurs when the pancreas produces insufficient insulin or when insulin is ineffective due to insulin resistance from cells in organs, like the liver, and in muscles and fat
- For more information, refer to the page on risk factors for diabetes

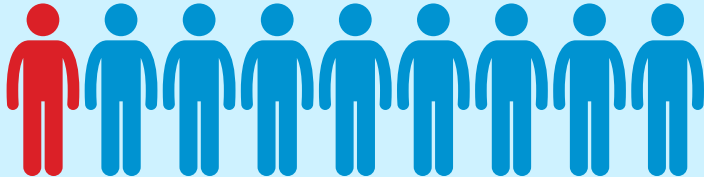
Gestational Diabetes Mellitus

- Some women develop higher blood sugar levels during pregnancy, which usually normalise after delivery
- Increased risk of developing diabetes later on in life

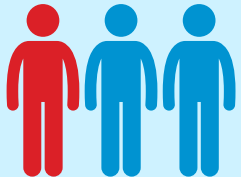
Diabetes is a **common** and **serious condition** in Singapore!



1 in 3 Singaporeans is at risk of developing diabetes



1 in 9 Singaporeans has diabetes



1 in 3 individuals with diabetes does not know he or she has it



1 in 3 individuals diagnosed with diabetes continues to have high blood sugar levels



2 in 3 individuals with newly diagnosed kidney failure have diabetes



1 in 3 individuals with diabetes has eye disease



Every day, about **4** individuals with diabetes **undergo amputations**

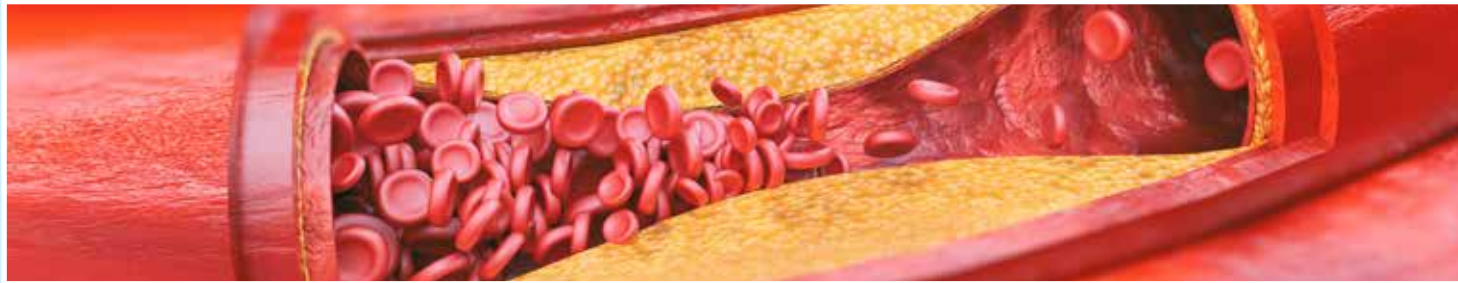
Diabetes can cause complications for your body

High blood sugar

High blood pressure

High blood cholesterol

Blood vessel damage



Brain

Eyes

Teeth

Heart

Kidneys

Feet



Stroke



Blindness



Tooth decay,
gum disease



Heart attack



Kidney failure



Amputation

Diabetes can cause **complications** for your **body**

- High blood sugar, high blood pressure and high blood cholesterol will **damage blood vessels**
- **You may not know of the damage** until you develop or screen for these complications

Small blood vessel (microvascular) damage

- Nerve damage (neuropathy)
 - Loss of feeling in the feet
 - Increased risk of foot ulcers and infections
- Eye disease (retinopathy)
- Reduced kidney function (nephropathy)

Large blood vessel (macrovascular) damage

- Stroke (cerebrovascular disease)
- Heart disease (cardiovascular disease)
- Circulatory problems (peripheral vascular disease)

What increases your risk of **developing pre-diabetes** and **type 2 diabetes**



Family member(s) known to have diabetes



History of diabetes during pregnancy



40 years of age and above



Body Mass Index (BMI) of **23.0 kg/m²** or higher



Inactive (sedentary) lifestyle



Unhealthy eating habits

Blood sugar levels spike when you eat food **rich in sugar and/or refined carbohydrates**



White rice



Noodles



Prata



White bread

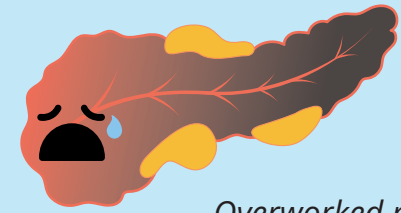


Kueh

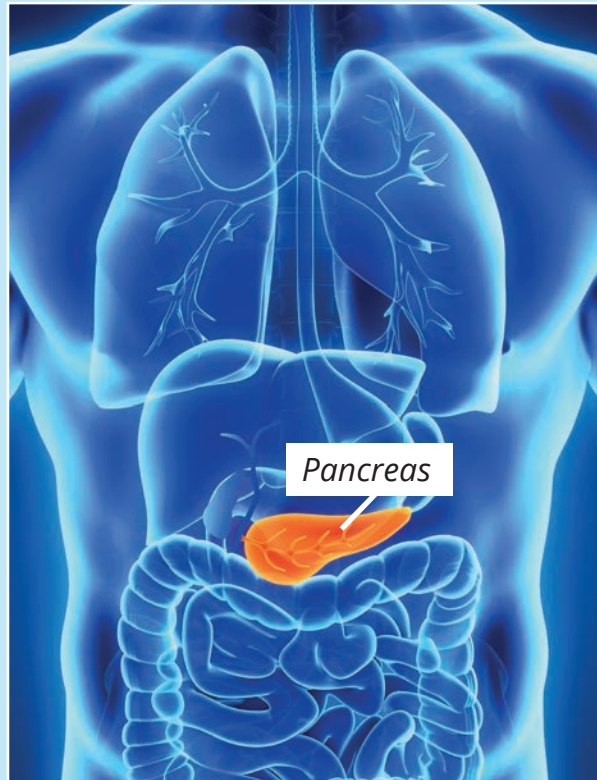


Fruit juices and sugar-sweetened beverages

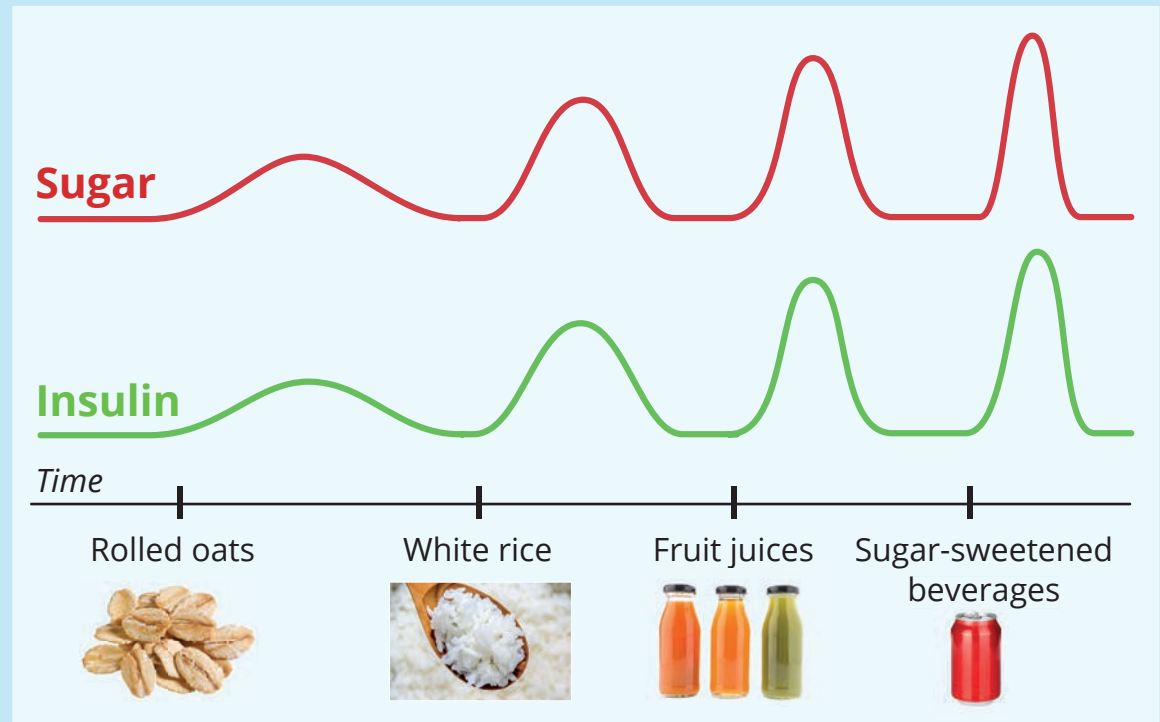
High blood sugar levels cause your **pancreas** (insulin* factory) to work harder



Overworked pancreas



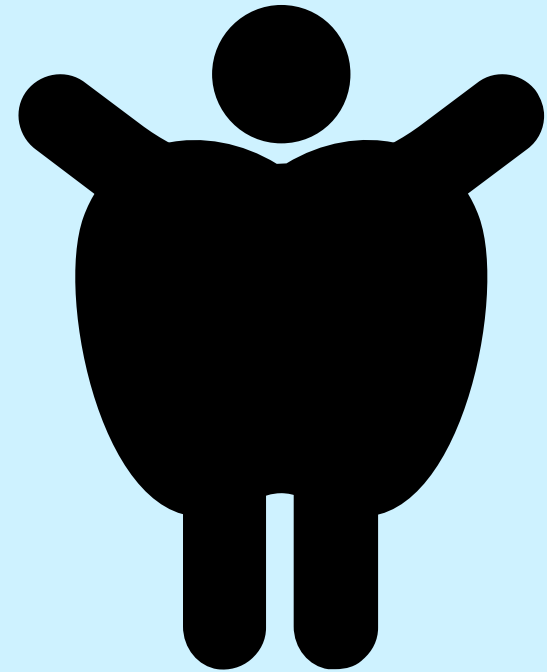
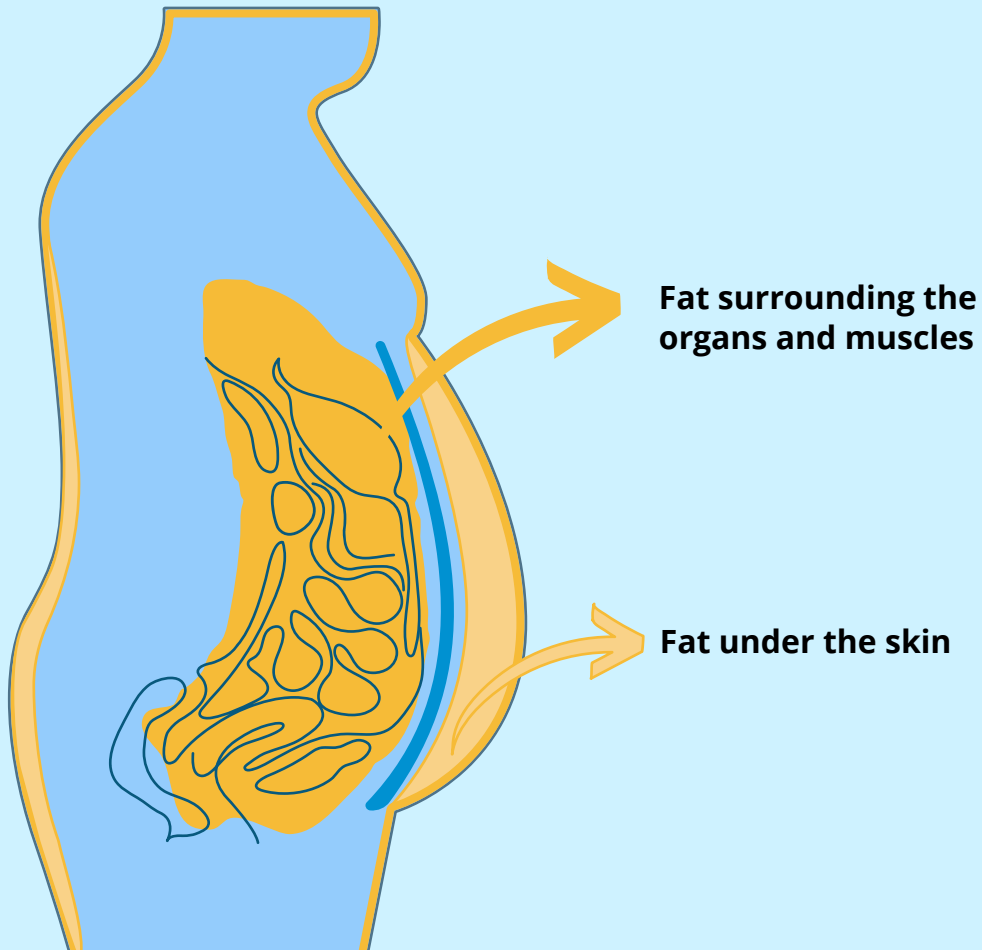
Frequent **intake of sugar** and refined carbohydrates causes stress, fatigue and eventual **damage to** your constantly overworked **pancreas**



**Insulin is a hormone that helps to control the blood sugar level in your body*

Excess (unused) sugar in your body is stored as fat

Where is the fat located?



Apple-shaped body

Consequences of excess fat in the body

- High blood sugar
- High blood pressure
- High blood cholesterol

Excess (unused) sugar (glucose) in your body is stored as fat

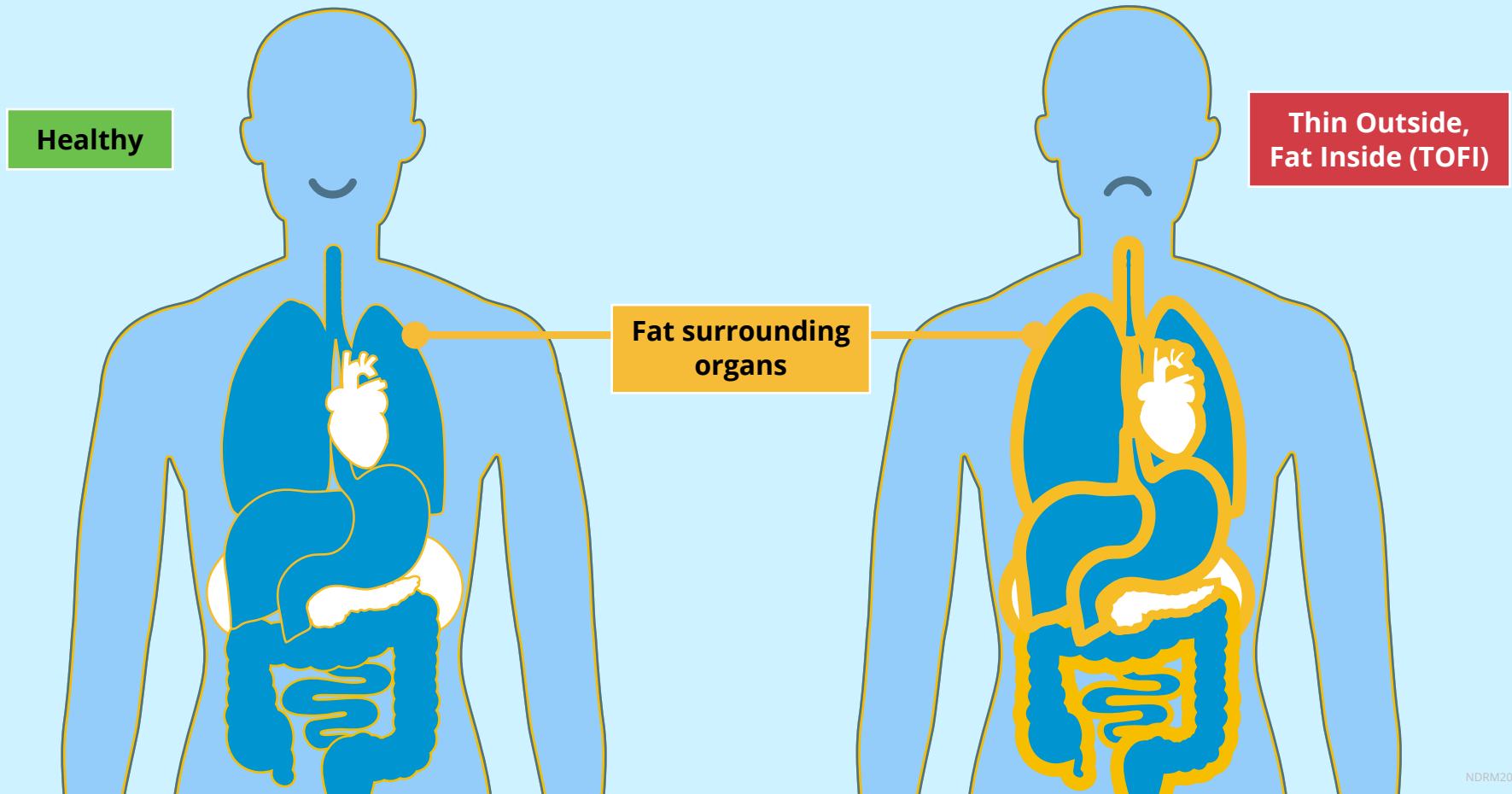
Internal fat

- Fat that surrounds the internal organs produces factors that cause inflammation
- Fat also enters the organs and muscles, causing inflammation and cell damage

Consequences of excess fat in the body

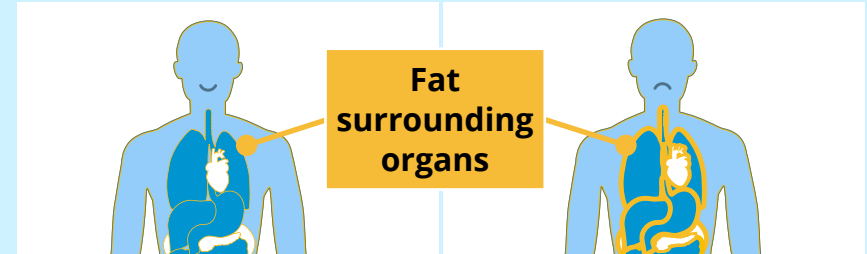
- Insulin resistance, high blood pressure, high LDL-cholesterol, low HDL-cholesterol and high triglycerides

There may be **excess fat** in your body **even if you look thin**



There may be **excess fat** in your body **even if you look thin**

- Excess internal fat (fat in or around the organs) **causes inflammation and damage to organs**, including the pancreas
- You are likely to have excess internal fat if you have an **apple-shaped body**
- If you are **TOFI** (thin outside, fat inside), you are also **at risk of diabetes**



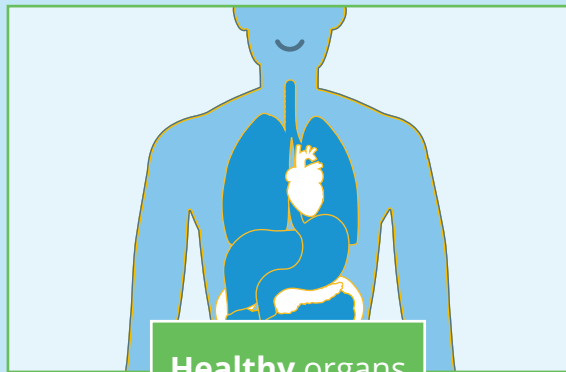
Healthy

Less internal fat

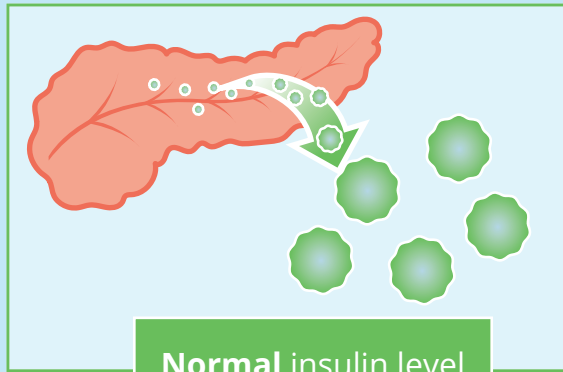
TOFI

More internal fat even though the person appears to have less fat under the skin

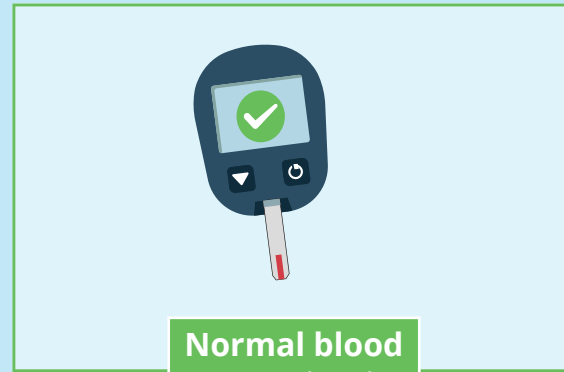
Excess internal fat can cause damage



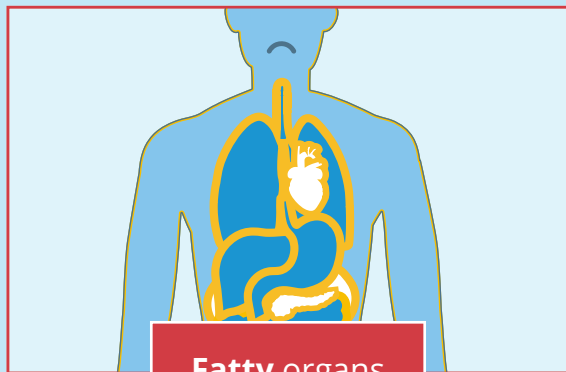
Healthy organs



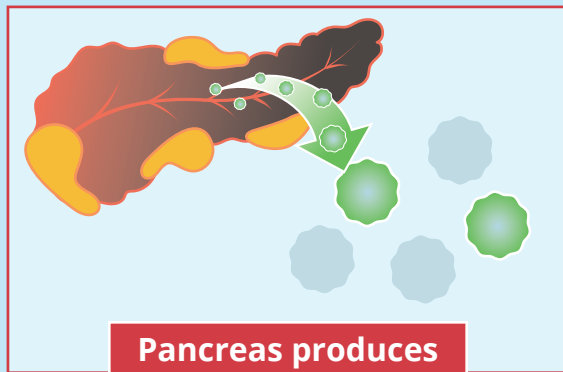
Normal insulin level



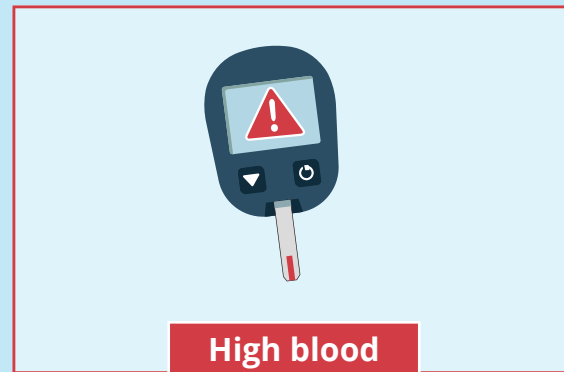
Normal blood sugar level



Fatty organs



Pancreas produces less insulin



High blood sugar level

Excess internal fat can cause damage

Impact on pancreas

- Lipotoxicity (accumulation of harmful lipids in cells and tissues)
- Beta cell death (destruction of cells that produce insulin)
- Less insulin production

Impact on liver, fat and muscle cells

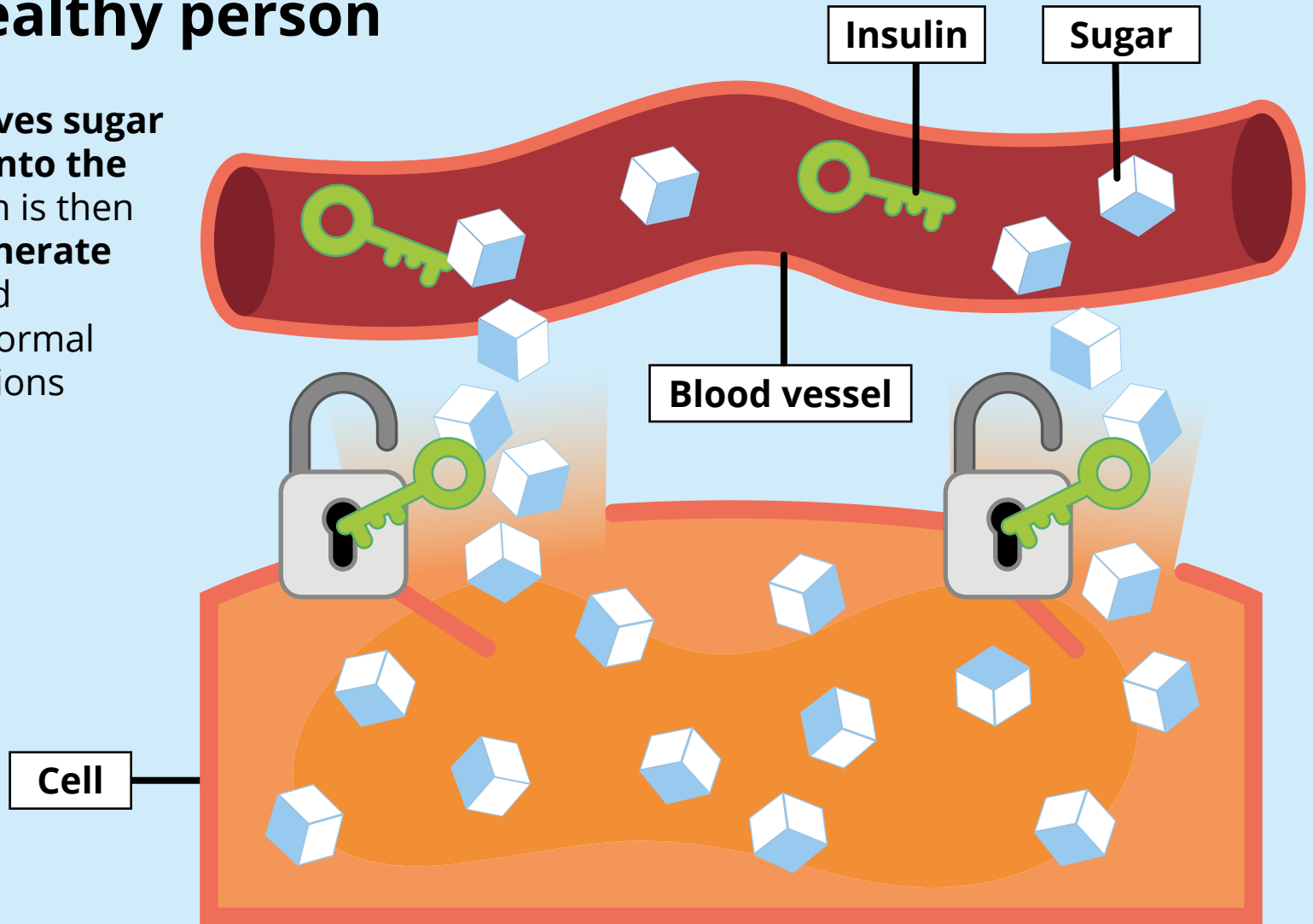
- Insulin resistance – more insulin is needed to move sugar (glucose) into cells

Impact on bloodstream

- High blood sugar levels

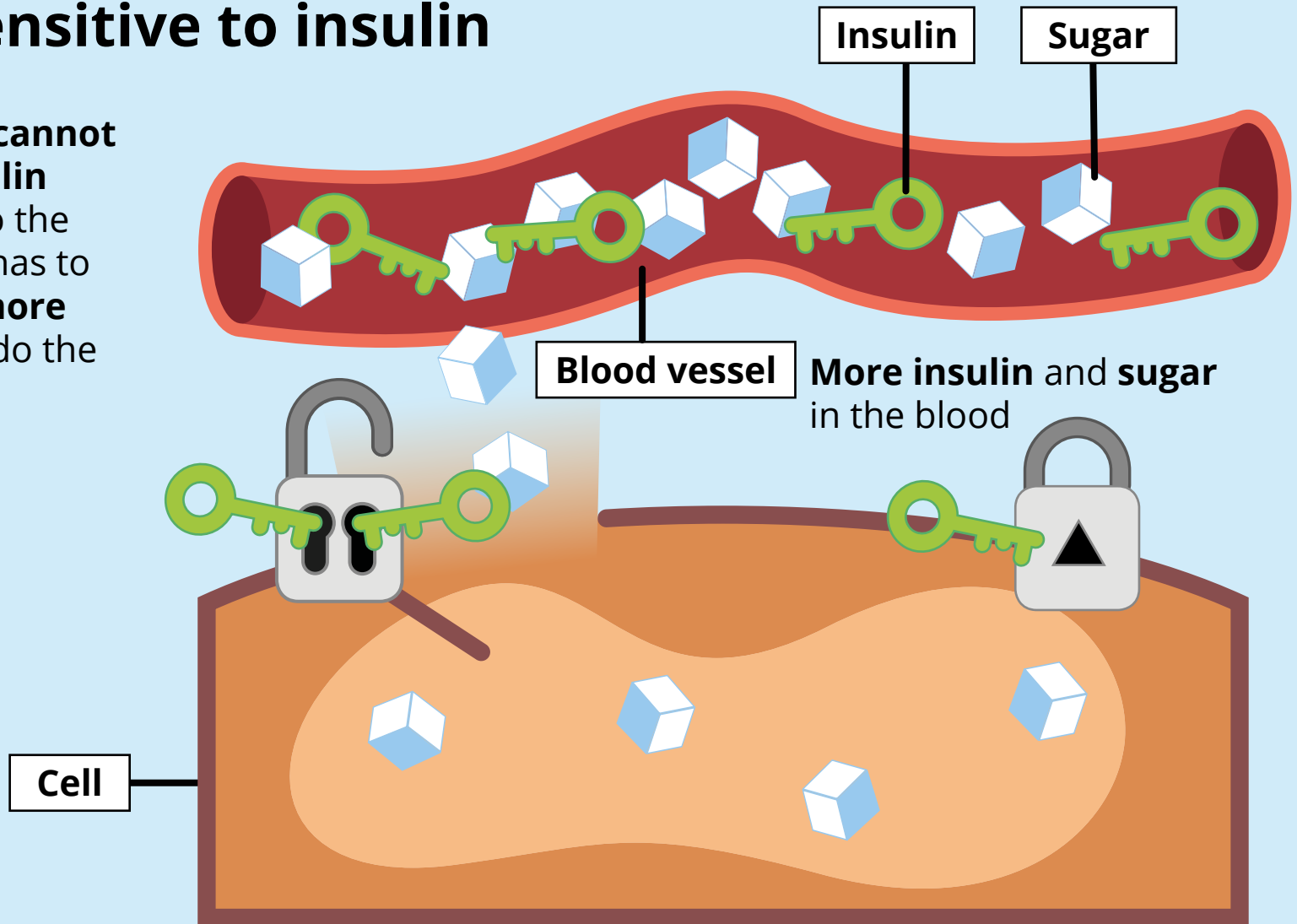
How insulin works in a healthy person

Insulin **moves sugar (glucose) into the cells**, which is then used to **generate energy** and maintain normal body functions



Excess **internal fat** makes cells **less sensitive to insulin**

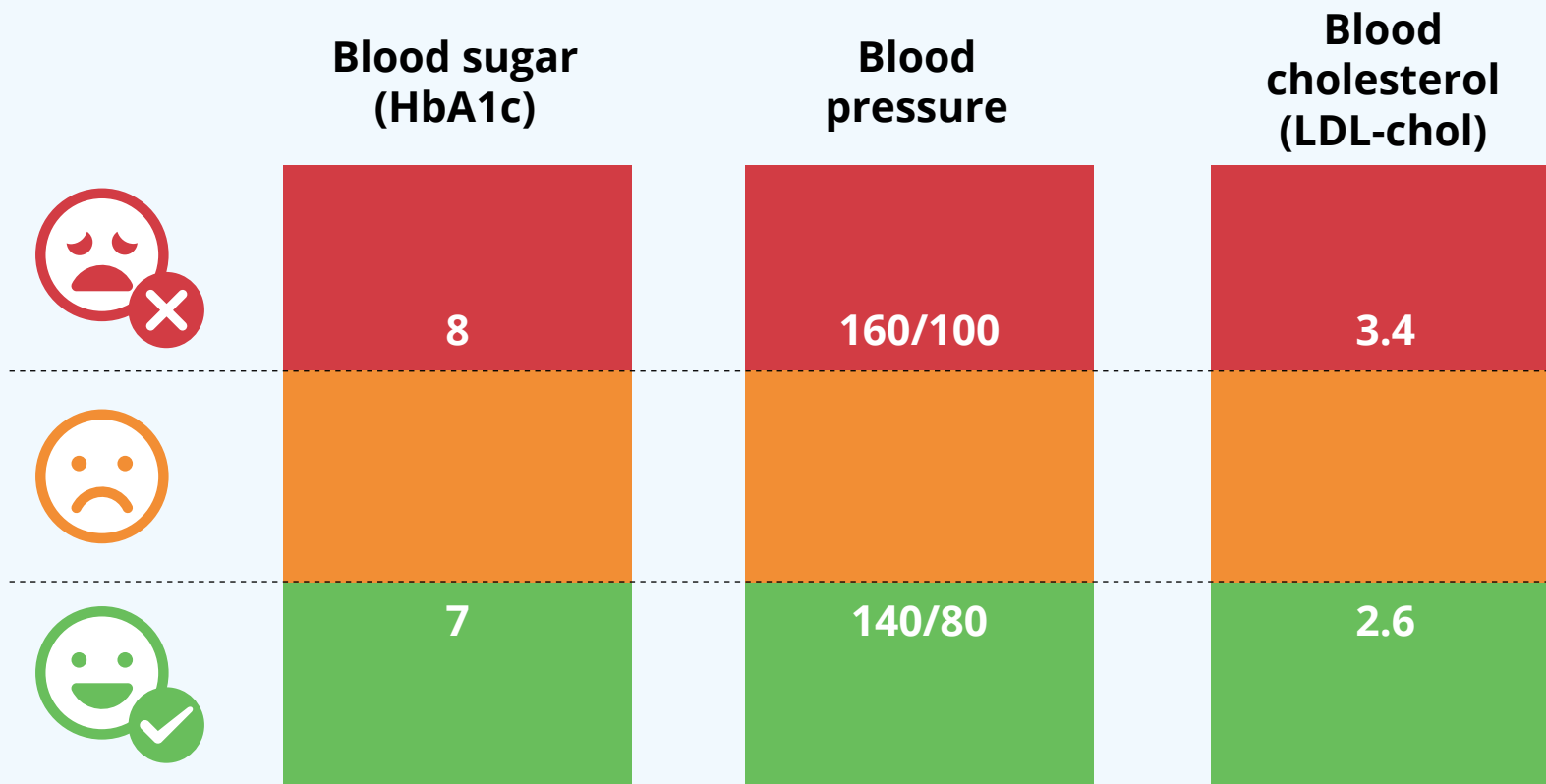
Body cells **cannot sense insulin** properly so the **pancreas** has to **produce more insulin** to do the same work



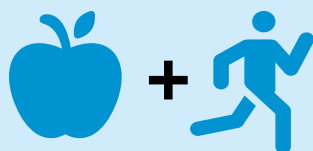
Excess **internal fat** makes cells **less sensitive to insulin**

1. **Organs and muscles** that store excess fat are **less sensitive to insulin** (insulin resistance)
2. Body **cells cannot sense insulin** properly
3. **Pancreas must produce more** insulin to do the same work

Manage pre-diabetes and type 2 diabetes **well**



Speak with your care team as your targets may vary



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

Manage pre-diabetes and type 2 diabetes well

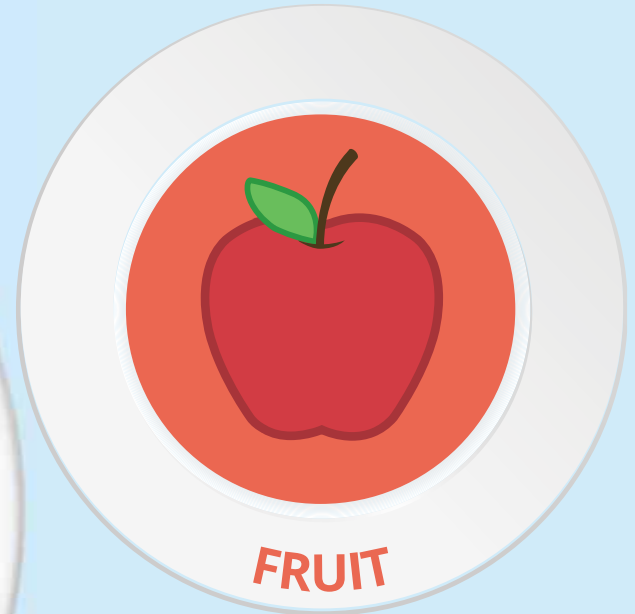
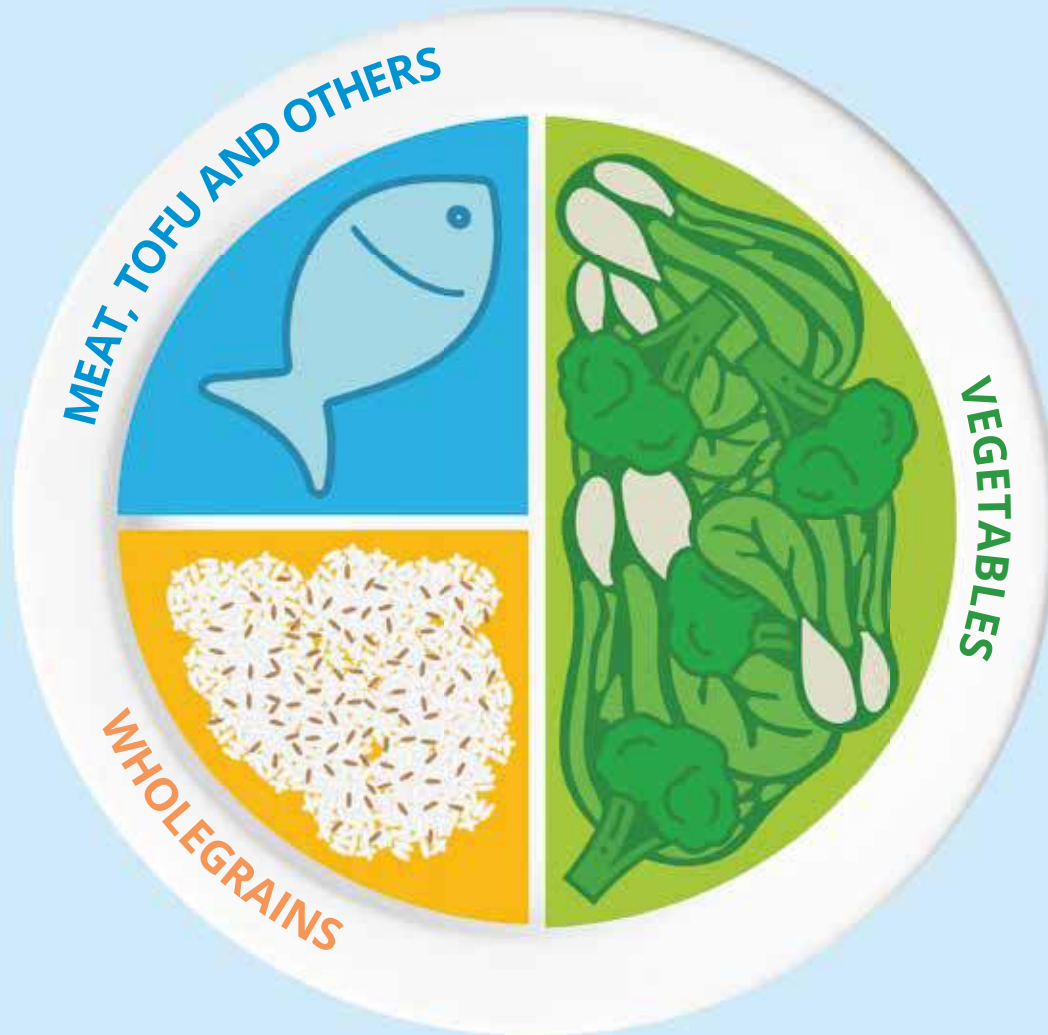
If you manage your diabetes well,
you can live a normal life and
prevent complications

HbA1c targets

- | | |
|---|-------------------|
| 1. Young and/or healthy | 6.0 - 6.5% |
| 2. Elderly | |
| 3. With co-morbidities
(other existing ailments) | 7.0 - 8.5% |
| 4. Prone to hypoglycaemia
(low blood sugar) | |

Individualisation is key!

My Healthy Plate



**Eat 2 servings
of fruit daily,** by
having fruit with or in
between meals



Choose water

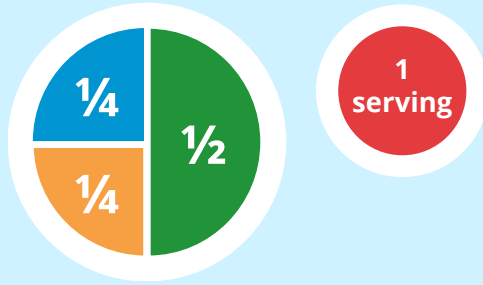


Use healthier oils



Be active

My Healthy Plate



1/4 plate | Wholegrains

e.g. brown rice, multigrain bread, rolled oats

1/4 plate | Meat, tofu and others

e.g. chicken breast, fish, tofu, legumes, lean meat

1/2 plate | Vegetables

e.g. leafy greens, eggplant, mushrooms



1 serving | Fruit

e.g. 1 medium apple, 1 handful of blueberries,
1 wedge of papaya

Complete your meal with 1 serving of fruit




My Healthy Plate: Chinese



 Choose water  Use healthier oils  Be active

My Healthy Plate: Malay



 Choose water  Use healthier oils  Be active

My Healthy Plate: Indian



Choose water






Use healthier oils



Be active

My Healthy Plate: Western



 Choose water  Use healthier oils  Be active

Regular physical activity benefits you in many ways



Improves productivity

Boosts attention, memory and creativity



Improves overall mood

Reduces stress and improves mental health



Increases health benefits

Reduces risk of colon cancer, heart diseases, diabetes and high blood pressure



Increases fitness levels

Improves strength and stamina

My first small step towards My Healthy Plate



Bak chor mee



Have **more vegetables**



Nasi briyani



Have **less rice or noodles**



Mee rebus



Have less **gravy**;
leave the gravy behind

My first small step towards healthier drink choices



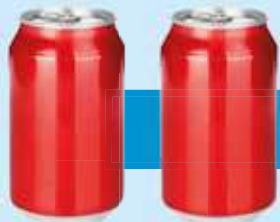
Kopi



Kopi C siew dai



Kopi O kosong



Sugary drinks



1 can, 1 water



Water

My first small step towards getting active everyday

Make it a habit to do a few of these activities throughout your day



Take the stairs instead of the lift



Brisk walk for 10 minutes



Walk around every hour



Take **10,000 steps** daily



Get off one bus stop earlier and walk



Exercise with **family** and **friends**

In summary

1/2 the usual
portion of
carbohydrates
(e.g. rice)

2x Vegetables

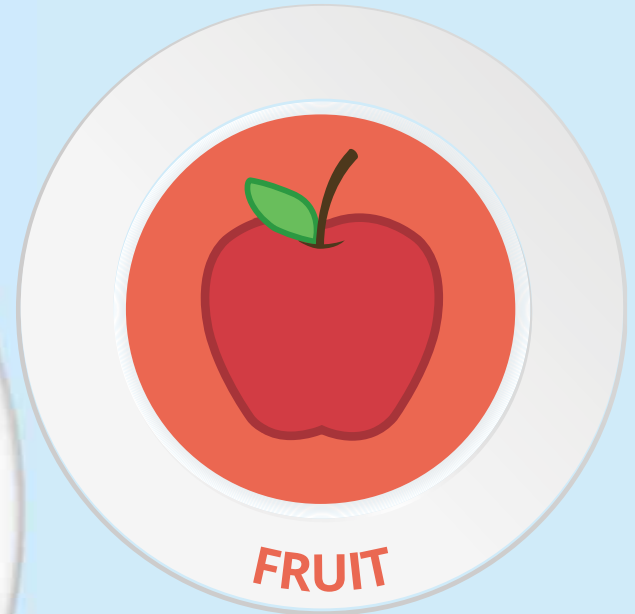
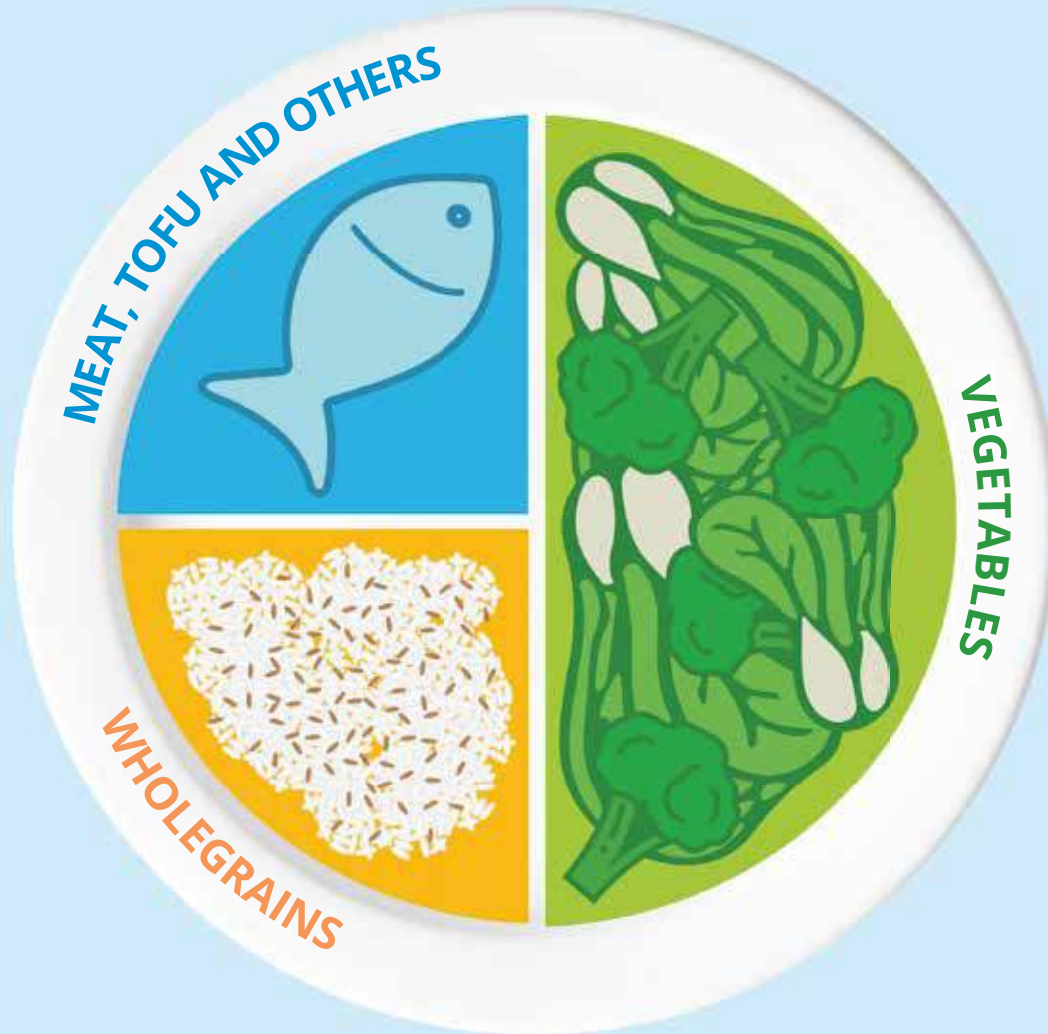
3x Exercise per
week (at least
150 minutes)





Healthy Eating

My Healthy Plate



**Eat 2 servings
of fruit daily,** by
having fruit with or in
between meals



Choose water

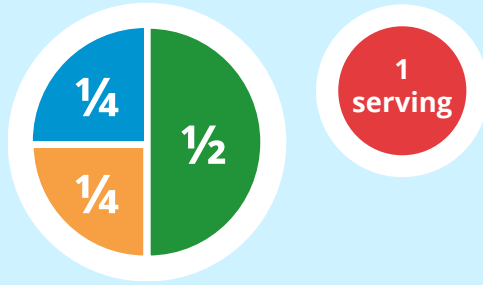


Use healthier oils



Be active

My Healthy Plate



1/4 plate | Wholegrains

e.g. brown rice, multigrain bread, rolled oats

1/4 plate | Meat, tofu and others

e.g. chicken breast, fish, tofu, legumes, lean meat

1/2 plate | Vegetables

e.g. leafy greens, eggplant, mushrooms




1 serving | Fruit

e.g. 1 medium apple, 1 handful of blueberries,
1 wedge of papaya

Complete your meal with 1 serving of fruit




My Healthy Plate: Chinese



 Choose water  Use healthier oils  Be active

My Healthy Plate: Malay



 Choose water  Use healthier oils  Be active

My Healthy Plate: Indian



Choose water






Use healthier oils



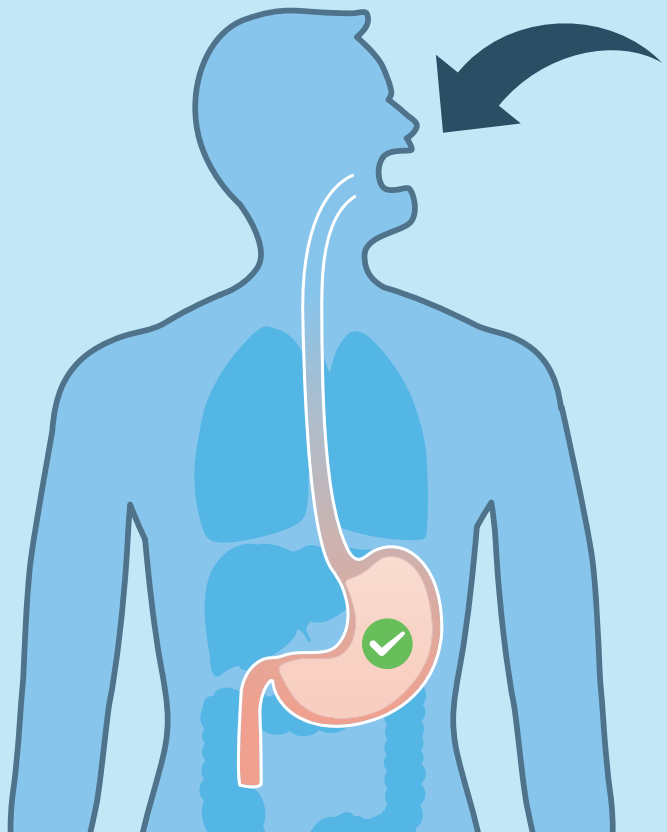
Be active

My Healthy Plate: Western



 Choose water  Use healthier oils  Be active

Eat **food that fills**
you and **turns to**
sugar (glucose)
slowly



Fibre-rich food



Wholegrain
starchy food



Whole fruit



Fruit juices



Dried fruit



Eat **food that fills** you and **turns to sugar** (glucose) **slowly**

- **Eat food that makes you feel full to prevent overeating**
- **Fibre slows carbohydrate digestion and sugar absorption**, leading to better blood sugar control
E.g. brown rice, chapati, wholegrains, beans, seeds, fruit, vegetables
- **Choose whole fruit** instead of fruit juice (sugary drinks with minimal fibre) and dried fruit (concentrated source of sugar)

Changes in meals to consider

- Reduce sugar-sweetened drinks and drink water whenever possible
- Reduce snacks with sugar and refined carbohydrates
- Reduce portion sizes of carbohydrates
- Reduce fat intake

Other food choices

Meat and alternatives



Skinless chicken breast



Beans



Lentils



Egg



Prawn, white fish,
salmon



Tofu

Fruit



Dragon fruit



Guava



Papaya



Pear



Orange



Apple



Other food choices

Vegetables



Broccoli



Eggplant



Capsicum



Cabbage



Kailan



Mushrooms

Starchy vegetables (counted as carbohydrates)



Potato



Sweet potato



Yam



Corn



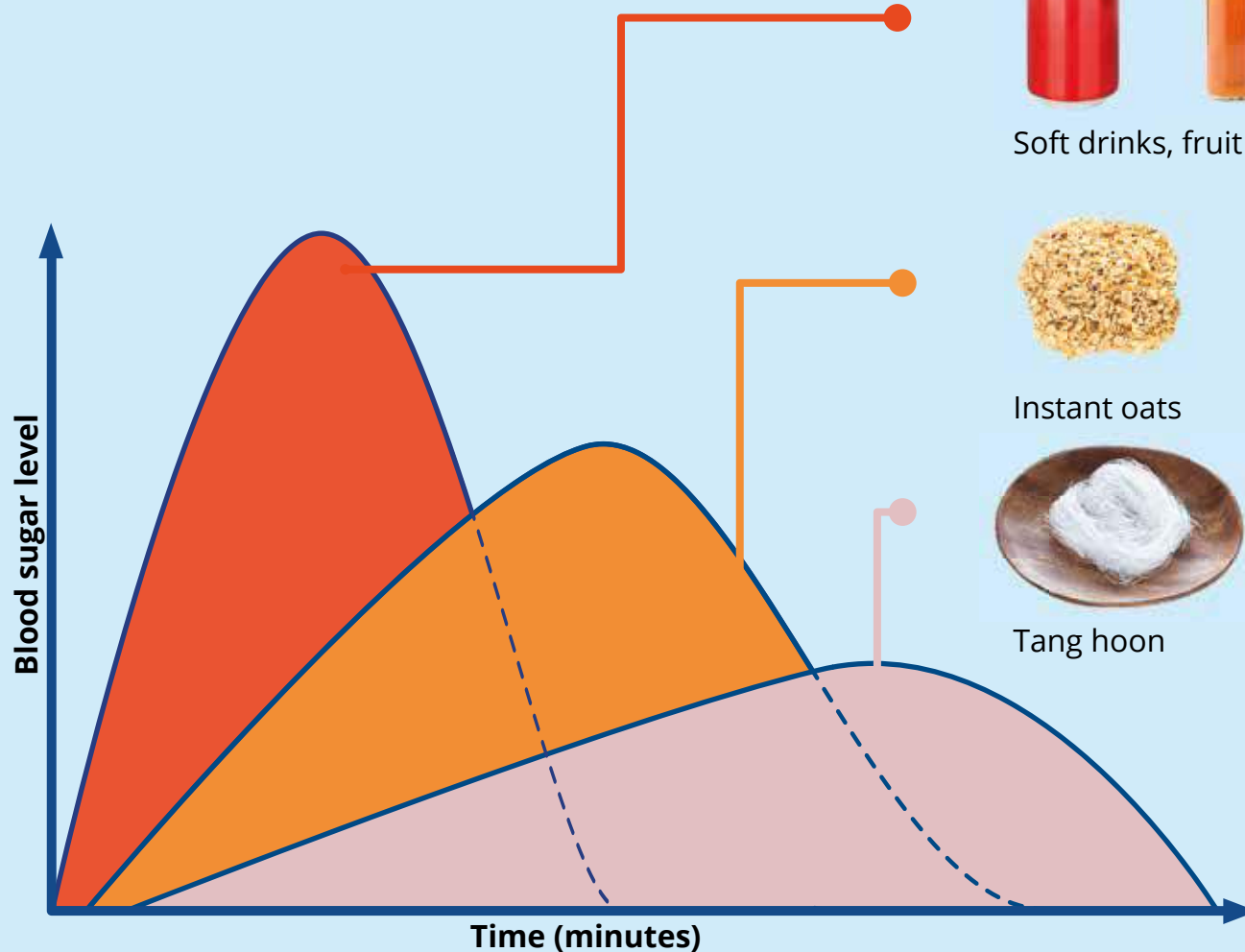
Pumpkin



Peas



Consider your meal choices, whenever possible



Soft drinks, fruit juices



Instant oats



Tang hoon

Diagram compares
1 serving of each category

Consider your meal choices, whenever possible

- **Different food types have varied effects** on how blood sugar is released
- **The Glycaemic Index (GI)** ranks the carbohydrates in food according to how they affect blood sugar levels
- **Carbohydrates with a low GI value** are digested slowly and cause a lower and slower rise in blood sugar levels
- **Carbohydrates with a high GI value** are digested at a faster rate and cause a very sudden increase in blood sugar levels

Did you know?

Excess sugar in your body is converted to fat and stored in your body

How can I cook **healthy** **and yummy meals?**

Healthier cooking methods



Stir fry



Boil or steam



Grill or bake



Reduce salt, instead use natural seasonings (e.g. herbs and spices)



Choose healthier cooking oil (e.g. sunflower, olive or canola)



Remove all visible fat before cooking

How can I cook **healthy** **and yummy meals?**



Choose healthier cooking oil

- Canola oil
- Olive oil (extra virgin or extra light)
- Peanut oil
- Rice bran oil
- Soybean oil
- Sesame oil
- Sunflower oil

How can I continue with **healthy eating** during **festivals** and **celebrations**?



Plan meals ahead



Opt for **healthier products**



Use **healthier cooking methods**



Eat in **moderation**



Avoid alcohol as much as possible



Maintain **medication schedule** and insulin dosage

How can I continue with **healthy eating** during **festivals** and **celebrations**?

Opt for healthier products

- Choose a variety of vegetables and wholegrain food

Use healthier cooking methods

- Stir fry
- Boil or steam
- Bake or grill

Avoid alcohol as much as possible

- Do not drink alcohol on an empty stomach
- If drinking alcohol is unavoidable – limit to 1 standard drink per day (10 g of alcohol)

A young girl and an elderly woman are riding bicycles together in a park. The girl is on the left, wearing a white sleeveless top and pink patterned pants, smiling broadly. The woman is on the right, wearing a white long-sleeved shirt and dark pants, also smiling. The background is a blurred green park setting. The text "Physical Activity" is overlaid in the center in a large, bold, black font.

Physical Activity

What **exercises** are appropriate for me?

If the patient is a wheelchair user, skip Step 1 and proceed to Step 2

Step 1: Determine mobility level

1. On your own, do you have any difficulty standing up from a seated position without using your arms?	Yes	No
2. On your own, do you have any difficulty walking for about 1 bus stop (~400m) without resting and using walking aids?	Yes	No
3. On your own, do you have any difficulty climbing up 10 steps without resting, using handrails or walking aids?	Yes	No
4. On your own, do you have any difficulty getting up from the floor without using furniture or other aids?	Yes	No



Step 2: Determine activity level

1. Sedentary	Seldom exercise
2. Semi-active — some exercise	30 minutes, 3 times per week, at less than moderate intensity (can talk but can't sing), for past 3 months
3. Active — regular exercise	30 minutes, 3 times per week, at moderate intensity (can talk but can't sing) to high intensity (can only say a few words) for past 3 months

Step 3: Get relevant handouts

Count how often you answer 'Yes'

Full mobility
'Yes' 0 or 1 time

Limited mobility
'Yes' 2 or more times

What **exercises are appropriate** for me?

If the patient is a wheelchair user, skip Step 1 and proceed to Step 2

Step 3: Get relevant handouts

	Full mobility	Limited mobility	Wheelchair users
Sedentary	1A	1B	1C
Semi - active	2A	2B	2C
Active	3A	3B	3C

- This assessment tool is designed for use by individuals as a guide to calibrate their physical activity based on their mobility and activity levels
- Complete steps 1 to 3 to identify the relevant category of handouts for the individual

Exercise recommendations

F

Frequency

3 to 7 days per week

I

Intensity (moderate)

Can talk but can't sing while exercising

T

Time

Aim for **30 minutes per day**,
5 days per week or
150 minutes per week



One way to keep FIT is enjoying 30 minutes of brisk walking, 5 days per week

Exercise recommendations

F Frequency

- Aim to exercise **3 to 7 days per week**
- Aerobic and stretching exercises can be done every day, with strength training on alternate days

I Intensity

- Aim for **moderate intensity**, i.e. can **talk but can't sing** while exercising

T Time

- Aim for **150 minutes of exercise per week** or 30 minutes of exercise for 5 days per week
- Do more to lose weight

How can I **exercise safely**?



Start slow if you have not been physically active



Wear **comfortable clothing** and **appropriate footwear** (well-fitted shoes with adequate support)



Check your feet for wounds before and after exercising



Exercise at a **cooler time** (mornings or evenings, or in a cooler environment)



Bring along **healthy snacks** or sugar-containing sweets, in case of hypoglycaemia (low blood sugar)



Keep hydrated



Exercise **with family and friends**

How can I **exercise safely**?

When exercising, please rest or stop if you experience

Symptoms of hypoglycaemia (low blood sugar of < 4 mmol/L)



Hunger



Hand tremors



Abnormally fast heartbeat



Difficulty breathing



Fatigue



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



Dizziness or headaches



Pain (especially in the chest or abdomen)

To note: Delay or postpone exercise if you are feeling unwell. Always listen to your body.

A man with glasses is sitting on a light-colored sofa in a bright, modern living room. He is holding a clear glass of water in his left hand and a small brown pill bottle in his right hand. He has a thoughtful or concerned expression on his face, looking down at the glass. The background shows a large window with a view of a brick building and a white bookshelf with some books and a small plant.

Self-monitoring

Different ways to test your blood sugar level

Done at home using a glucometer

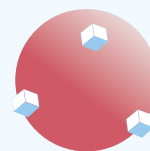


What is blood sugar level?

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

Done at the clinic

Normal HbA1c



High HbA1c



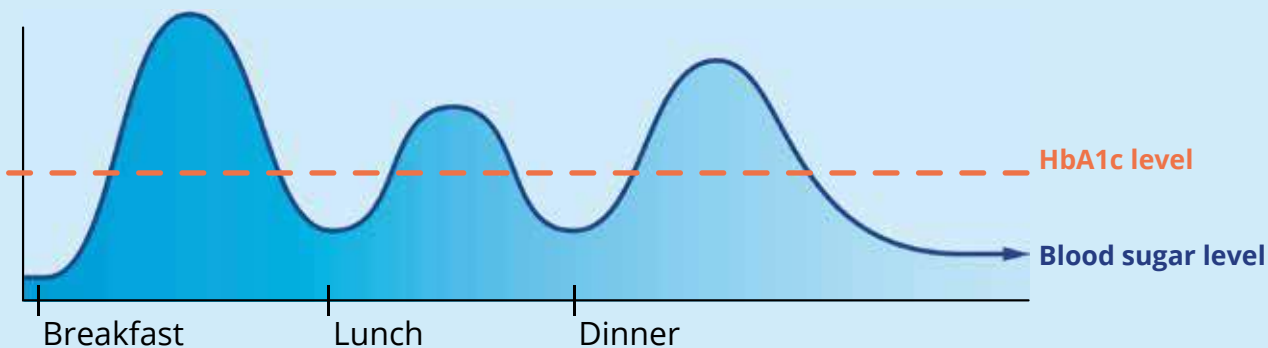
Red blood cell

Sugar

What is HbA1c?

(Glycosylated haemoglobin)

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






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 Mellitus (GDM)
- 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 Risk of 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

If you experience **HYPOglycaemia** symptoms or your blood sugar level is low (< 4 mmol/L)

1



Drink **half a glass** of sweetened drink

OR



Eat **3 soft candies** (sugar-containing) or sugar (glucose) tablets



Repeat steps **1 & 2**, one time



If **symptoms persist after second attempt**, seek **medical advice** (if your doctor is unavailable and it is an emergency, head to the A&E)

2



After **15 minutes**, check blood sugar level



If **symptoms persist** or blood sugar level is low (< 4 mmol/L)



If symptoms **resolve** or blood sugar level is ≥ 4 mmol/L

3

Eat a **light snack** (e.g. bread, biscuits) or have your next meal earlier **to prevent blood sugar levels from dropping** again



- Record what happened prior to experiencing hypoglycaemia
- If hypoglycaemia is frequent, do a medication check with your doctor

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



Eat **extra carbohydrates** before any **exercise or strenuous activity**



Do not **take diabetes medication 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** if your medication needs adjustment

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
> 15 mmol/L**

If you experience **HYPERglycaemia** symptoms or your blood sugar level is high (> 15 mmol/L)

1



Check your **blood sugar level** more often

2



Drink plenty of **plain water**

3



Seek medical advice if your blood sugar level is persistently > 15 mmol/L (i.e. remaining very high for more than 24 hours)

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**



Get plenty of **rest**



Continue to take **medication or insulin** as prescribed



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 pains, shortness of breath, fruity breath, dry lips or tongue



Severe **vomiting** or **diarrhoea** for more than 6 hours



Blood sugar levels that are **low** (< 4 mmol/L) or **high** (> 15 mmol/L) for more than 24 hours



Loss of appetite



Skin sores

A patient in a hospital bed, wearing a light blue gown, is lying on their side. They have several IV lines and tubes connected to their arms and chest. A medical monitor is visible on the right side of the frame, displaying a green digital readout of '32.0'. The patient's hands are resting on a white surface. The background is slightly blurred, showing another patient in a similar setting.

Ongoing Monitoring (Tests)

Go for your **regular check up** to detect and **prevent complications**

Assessment / Test	Frequency
<ul 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
<ul style="list-style-type: none">• Lipid profile (cholesterol)• Kidneys• Eyes• Feet	At least once a year

Possible complications



Kidney failure



Blindness



Amputation



Heart attack



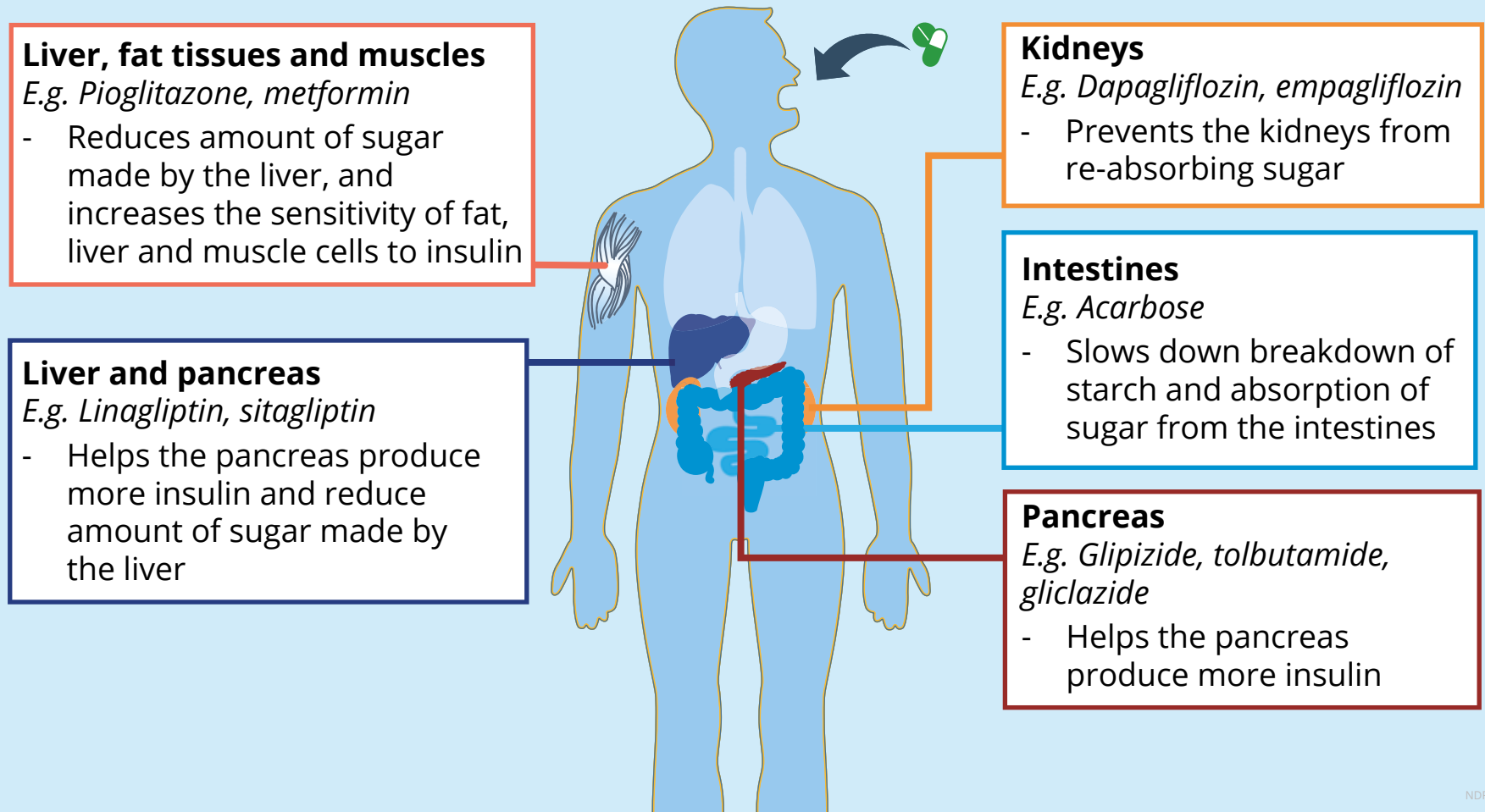
Stroke

The frequency of tests may vary depending on your condition

A photograph of a male doctor with glasses, wearing a white lab coat over a white shirt and a grey tie, sitting at a desk. He is looking towards a patient whose back is to the camera. The doctor has a name tag on his lab coat. The word "Medication" is written in large, bold, black font across the center of the image. The background shows a window with a brick wall and some office equipment.

Medication

Medications work in different ways, on different body parts



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



Inform your healthcare professional if you are:



- **Taking metformin** before going for any scans (e.g. X-ray) or procedures
- **Pregnant or planning to get pregnant** before taking medication



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



Take your **medication** as **prescribed**

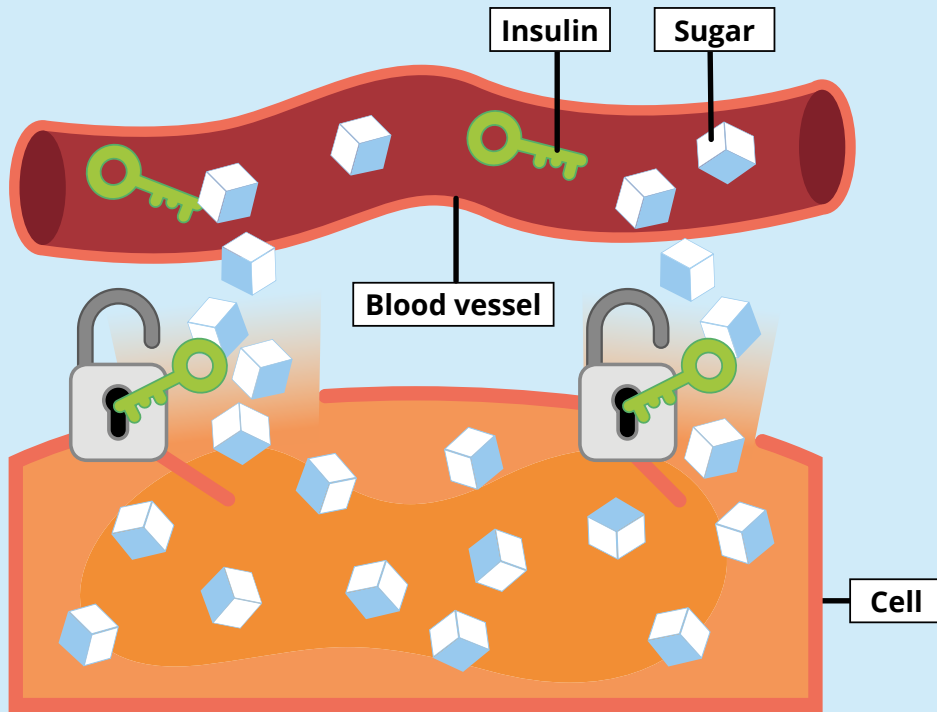
Inform your healthcare professional if you are pregnant

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

Insulin Therapy



Insulin therapy



Insulin allows sugar (glucose) into the body cell



Insulin injections can help

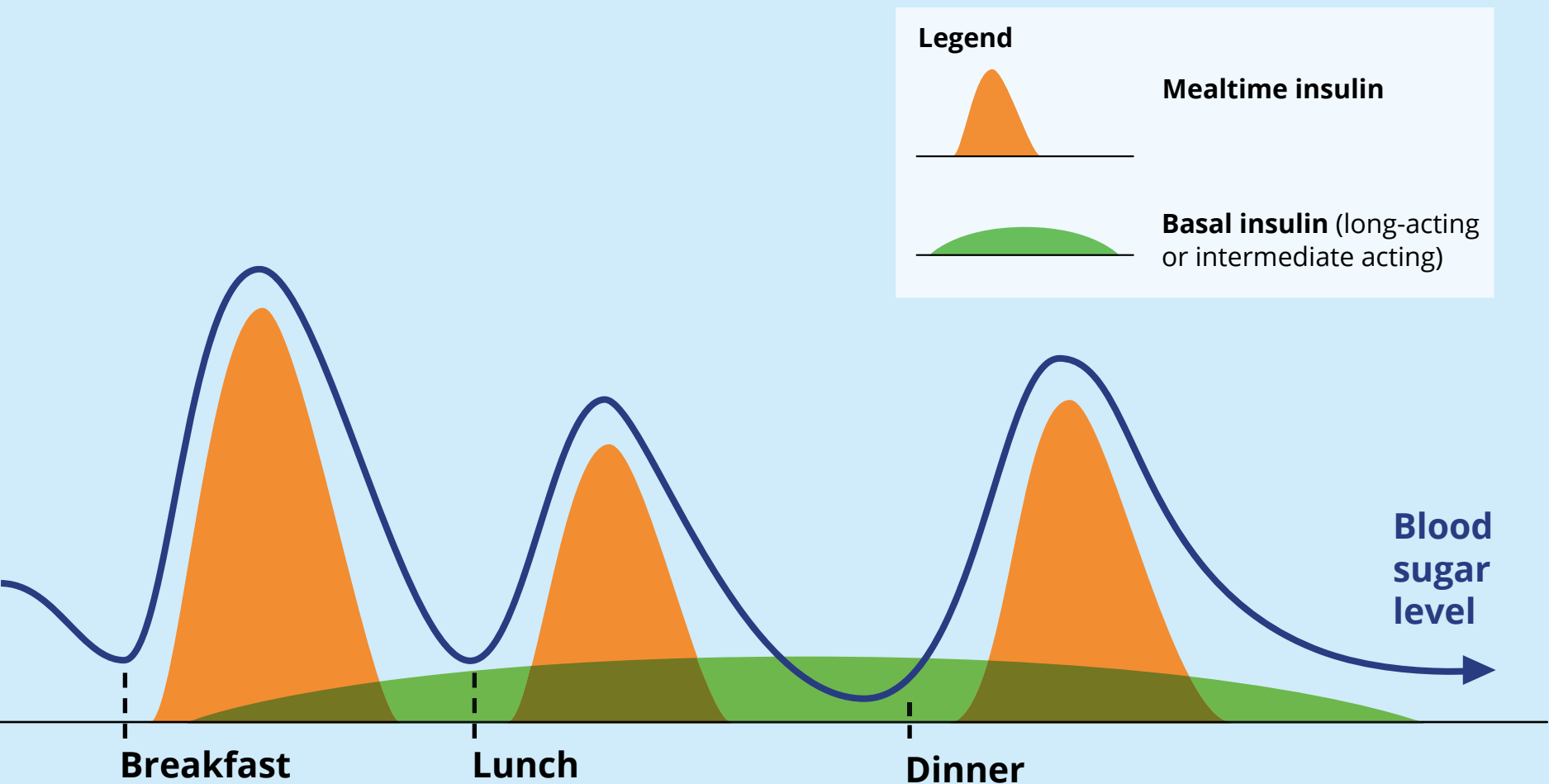
- Improve blood sugar control
- Prevent or delay complications



Insulin injections may cause

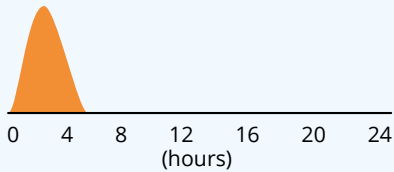
- Hypoglycaemia (low blood sugar)
- Potential weight gain

How different types of insulin affect your blood sugar level throughout the day



Types of insulin

Mealtime insulin



Onset: 10 to 30 minutes
Peak: 1 to 3 hours
Duration*: 3 to 5 hours

Brand & type examples

- Actrapid® HM (Novo Nordisk)
- Apidra® SoloStar®
- Humalog® KwikPen
- NovoRapid® FlexPen®

Long-acting insulin

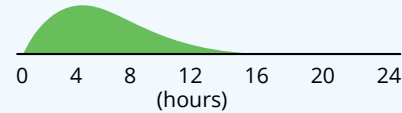


Onset: 1 to 4 hours
Peak: Minimal
Duration*: 24 hours

Brand & type examples

- Lantus® SoloStar®
- Levemir® FlexPen®
- Toujeo® SoloStar® 300 units/ml

Intermediate-acting insulin

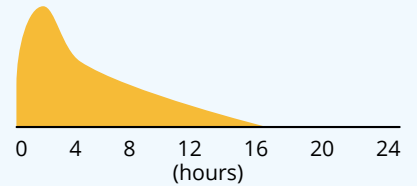


Onset: 1 to 2 hours
Peak: 4 to 12 hours
Duration*: 14 to 24 hours

Brand & type examples

- Insulatard®
- Humulin I®

Pre-mixed insulin



Onset: Variable
Peak: Variable
Duration*: 14 to 24 hours

Brand & type examples

- Humalog® Mix 75/25™ KwikPen™
- Humalog® Mix 50/50™ KwikPen™
- NovoMix® 30 FlexPen®
- Mixtard® 30

Note: Increased risk of hypoglycaemia 3 to 4 hours after injection

*Please consult your doctor or healthcare professional as the duration of action may vary among individuals



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)

- Nerve damage leads to decreased foot sensation and “deformity”, which increases risk of wounds, calluses and ulcers
- Other contributing factors are improper footwear and inadequate foot care

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; surgery in the form of debridement (removal of damaged tissue) or amputation may be required

Good foot care practices



Monitor feet every day



Maintain **good foot care and hygiene**



Moisturise 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, callus, or toenail abnormality
 - Redness, swelling, bruise, or increased warmth

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 regularly

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

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

A close-up photograph of a young woman with dark, curly hair, smiling broadly while brushing her teeth. She is holding a white and blue toothbrush in her right hand. The background is a bright, slightly blurred indoor setting, possibly a bathroom. The text "Dental Care" is overlaid in the center of the image.

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 a woman and a man sitting outdoors, looking up and smiling. The woman is in the foreground, wearing a pink shirt. The man is behind her, wearing a blue shirt and glasses. The background is a bright, sunny outdoor setting with greenery. The text "Stress Management" is overlaid in the center in a large, bold, black font.

Stress Management

How can I **manage stress**?

Physical and mental stress can affect blood sugar levels



Eat **healthy**



Stay **active**



Get enough **rest**



Plan well and **prioritise your activities**



Make **time for yourself** daily



Talk with someone who is **supportive and understanding**

How can I **manage stress**?

Diabetes can increase stress

- Accepting your diagnosis
- Adjusting to treatment and changes in your life
- Managing relationships

Physical and mental **stress can change blood sugar levels**

Examples of poor social support

- The significance of your condition is downplayed
- You are blamed for your condition
- Your life is micromanaged

What to do if you experience poor social support

- Share how you feel, including what was unhelpful
- If negative support persists, seek professional help

Relaxation techniques that can help to **relieve stress**



Deep **breathing**



Progressive **muscle relaxation**



Listening to **music**



Creative **hobbies**



Walking and other physical activities



Yoga, taichi, qigong and meditation

Relaxation techniques

that can help to **relieve stress**

Benefits

- Slow down heart rate
- Lower or stabilise blood pressure
- Relieve muscle tension and numbness or tingling in hands or feet

A group of people are sitting around a dark, reflective table outdoors. In the center, a man with grey hair and glasses, wearing a striped polo shirt, is looking down at a smartphone on the table. To his left, a woman in a pink sleeveless top is looking towards him. To his right, an older man with white hair, wearing a blue and white checkered shirt, is looking at him. Another man in a white shirt is partially visible on the far right. The background shows a railing and some greenery, suggesting a terrace or outdoor dining area.

Smoking and Drinking

Alcohol affects medications and liver functions, and causes **HYPOglycaemia** (low blood sugar)



Don't drink!

If drinking is unavoidable:



Do not skip meals



Limit to 1 standard drink per day, choose light beer or wine spritzer



Choose **low-calorie light beer** or **dilute mixers with water**



Your **blood sugar** level is **under control**



You **do not have low blood sugar** (< 4 mmol/L) or experience low blood sugar symptoms

Alcohol affects **medications** and **liver functions**, and causes **HYPOglycaemia** (low blood sugar)

If you drink alcohol (**ONLY IF UNAVOIDABLE**)

- Do not count alcohol as a carbohydrate choice
- Avoid craft beer and sweet wine; choose light beer or wine spritzer instead
- Drink plain water for hydration
- Sip your drink slowly
- Check your blood sugar level after drinking

What is 1 standard drink (10 g of alcohol)?

- 330 ml beer
- 100 ml wine
- 60 ml sweet wine or fortified wine
- 30 ml spirit or liqueur (e.g. brandy, vodka, whisky)

All alcoholic drinks are high in calories and may interfere with meal plans and blood sugar control, especially if you are taking medications or insulin

Pictures of standard drink sizes in handouts

Smoking increases risk of diabetes and its complications, and insulin resistance



Quit smoking!

Managing common withdrawal symptoms



Warn family and friends of potential irritability



Distract yourself by doing something else



Do light exercises like brisk walking to lift your mood



Take **small, regular meals**



Do **stretching exercises**



Join the **I Quit 28-Day Countdown**

Smoking increases **risk of diabetes** and its **complications**, and **insulin resistance**

Managing common withdrawal symptoms

- **Feeling irritable**
(Your brain is adjusting to a nicotine-free life)
 - Do light exercises (e.g. brisk walking) to release endorphins to lift your mood
 - Engage in relaxing hobbies
- **Having headaches**
(Your brain is most likely adapting to the increased level of oxygen)
 - Get enough sleep
 - Read or watch TV with adequate lighting
- **Coughing**
(Your lungs are starting to function properly again and are working to clear tar, dead cells and extra mucus accumulated from smoking)
 - Sip warm water
- **Feeling tired**
(Nicotine is a stimulant that forces your body to feel awake; as your blood circulation improves, you will feel alert without the need to smoke)
 - Take small, regular meals to regulate your blood sugar level and boost your energy
- **Tingling hands and feet**
(Your blood circulation is slowly improving; as more oxygen gets to your fingers and toes, the tingling will stop)
 - Do stretching exercises
- **Constant cravings**
 - Distract yourself by doing something else



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**



Caregivers Stress and Tips

Am I experiencing caregiver stress?

Common signs and symptoms



Finding **no meaning**
in caregiving



Loss of **appetite**



Insomnia



Chronic **fatigue**



Feeling **hopeless**
and helpless



Withdrawal from
family and friends

Am I **experiencing caregiver stress?**

Common signs and symptoms

- **Insomnia**

Having difficulty falling or staying asleep, even when you have the chance to do so

- **Chronic fatigue**

Extreme tiredness that doesn't go away with rest and can't be explained by an underlying medical condition

- **Withdrawal from family and friends**

Losing interest in and avoiding people and activities you would usually enjoy

How can I manage caregiver stress?

Practise self-care



Get enough rest



Positive self-talk



Physical activities and other hobbies



Meditation, yoga, taichi, or qigong

Seek support



Talk to supportive friends and family



Join support groups



Make use of respite care



Seek professional help

How can I **manage caregiver stress**?

Practise self-care

- Positive self-talk
 - Tell yourself daily that you are helping the person in your care even if you do not do everything well; you are doing everything with love and you are improving

Make use of respite care

- Take a rest first so you are more able to care for others

Join support groups

- Hospital support groups
- Community support groups
- Online communities

Seek professional help

- From a therapist, counsellor or spiritual advisor

How can I **help my loved one live a healthier life?**



Cook and have **healthy meals together**



Walk or **exercise together**



Accompany your loved one to medical appointments



Praise your loved one for self-management efforts



Plan social events around **diverse activities**



Pair **healthy food** with **positive events**

How can I **help my loved one live a healthier life?**

Pair healthy food with positive events

- When unhealthy food (e.g. cakes, cookies, potato chips) is eaten during happy events (e.g. celebrations), it is easy to associate that type of food with positive feelings. It becomes more likely for people to turn to unhealthy comfort food. Choose healthier food during celebrations or when feeling happy to associate healthy choices with positive feelings.

A photograph of a young man and an older man smiling together. The young man is on the left, wearing a light blue shirt, and has his hand on the older man's shoulder. The older man is on the right, wearing a striped shirt, and has a mustache. The word "Goals" is written in large, bold, black letters across the center of the image.

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



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

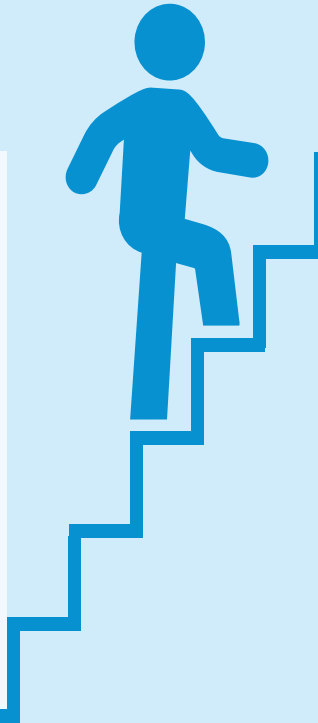
Example of healthy eating goal

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

I will ...
Action Stick to My Healthy Plate
Day/Time Lunchtime on Mondays and Thursdays
Location At work
Time period For the next 3 months
Start date From 14 January



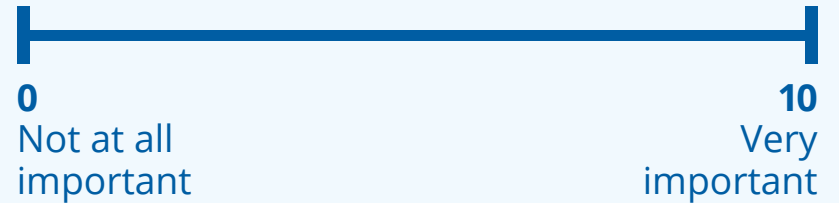
Step 3: Identify and work around potential barriers

What might get in the way	What I can do	Person(s) who can help
1. Colleagues suggest having fast food for lunch	Suggest to try out eateries with healthier options	My colleague James likes vegetables
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
3. There is a stall that sells delicious fried food, on my way home	Take an alternative path home	NIL

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?



Keeping up with my goal

Example of physical activity goal

Step 1: Write down the original goal

I will ...
Action Brisk walk for 30 minutes
Day/Time Mondays, Wednesdays and Fridays after dinner at 8pm
Location Along the park connector
Time period For the next 4 weeks
Start date From 18 June

Step 2: Solve the problem

	What got in the way?	How can I work around it?
1	I couldn't get off work on time	Do lunchtime exercises or pick a day without 5pm meetings
2	Poor weather	Do indoor exercises
3	Low energy level	I can sleep earlier the night before or pick a weekend day to exercise earlier

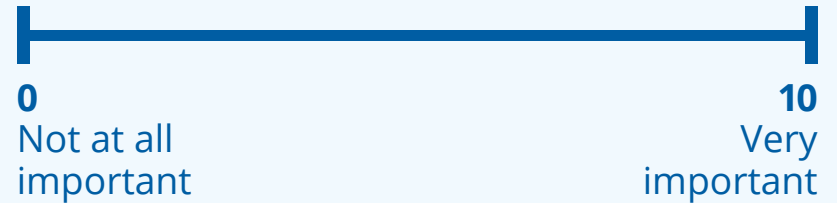
Step 3: Revise your goal

I will ...
Action Do lunchtime exercises and brisk walk
Day/Time <ul style="list-style-type: none">Lunchtime exercise on MondaysBrisk walk on Wednesdays and Saturdays
Location Office gym, park connector
Time period Another 4 weeks
Start date From 18 July

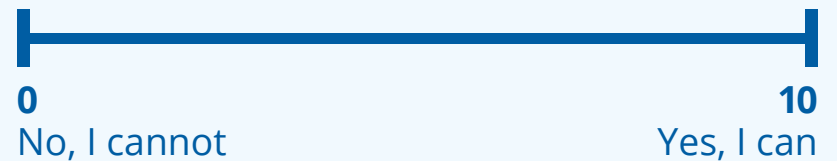
Keeping up with my goal

- 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?





Traditional and Complementary Medicine

Traditional and Complementary Medicine (T&CM)

Examples of T&CM treatments



Traditional Chinese Medicine and acupuncture



Traditional medicines like Ayurveda



Herbal medicines and supplements

What I need to do if I am on T&CM



Continue with Western medicine unless otherwise advised by your doctor



Seek **advice from a T&CM practitioner** before taking herbal medicines or supplements



Continue to **monitor your blood sugar** as advised

Traditional and Complementary Medicine (T&CM)

What I need to know

Traditional and Complementary Medicine (T&CM)

In Singapore, Traditional Medicine (TM) typically refers to Traditional Chinese Medicine (TCM), Traditional Malay Medicine (TMM) and Traditional Indian Medicine (TIM), while Complementary Medicine (CM) refers to all other forms of medicine that are non-mainstream, e.g. chiropractic, osteopathy, aromatherapy, etc

Scientific studies on effectiveness of T&CM for diabetes and its complications are inconclusive or insufficient

Only Traditional Chinese Medicine practitioners are licensed in Singapore

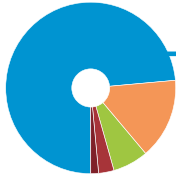
List of TCM practitioners

www.tcm.gov.sg

A man with grey hair and a slight beard, wearing a white button-down shirt and dark trousers, stands in a modern office hallway. He is holding a white tablet computer in both hands and looking directly at the camera with a slight smile. A black bag strap is visible over his right shoulder. The background is a brightly lit, blurred office environment with glass railings and structural elements.

Finance

How your outpatient bill may be covered



Government subsidies

Offset your bill with government subsidies first

E.g. Government subsidies at public specialist outpatient clinics and polyclinics, Community Health Assist Scheme (CHAS), Pioneer Generation (PG) and Merdeka Generation (MG) outpatient subsidies



Then, if available, **further reduce your bill by tapping on employee benefits or private medical insurance**



You can then **use your Medisave** through the **Chronic Disease Management Programme (CDMP)** to reduce out-of-pocket payment



After deduction from the sources above, you may still need to **cover the remaining bill with out-of-pocket payment**

How your outpatient bill may be covered

1. Government Subsidies

Available at public specialist outpatient clinics (SOCs), polyclinics and CHAS GPs

- Refer to government subsidy pages for more information

2. Employee benefits/Private Medical Insurances (PMIs)


3. MediSave/Chronic Disease Management Programme (CDMP)


Refer to MediSave pages for more information

4. Out-of-pocket payment (OOP)

This is determined after deducting government subsidies, available employee benefits and private medical insurances, and the amount that the patient wishes to deduct from MediSave

Government subsidies at subsidised specialist outpatient clinics (SOCs) and polyclinics

Households with income				
Household Monthly Income Per Person	Subsidy at subsidised SOCs [^]		Subsidy at polyclinics	 Additional PG / MG subsidy
	Subsidised services	Subsidised medications	Subsidised medications for adults*	
\$1,200 and below	70%	75%	75%	PG: Additional 50% off the remaining bill MG: Additional 25% off the remaining bill
\$1,201 to \$2,000	60%			
Above \$2,000/ Unassessed	50%	50%	50%	

Households with no income				
Annual Value [#] (AV) of Home	Subsidy at subsidised SOCs [^]		Subsidy at polyclinics	 Additional PG / MG subsidy
	Subsidised services	Subsidised medications	Subsidised medications for adults*	
\$13,000 and below	70%	75%	75%	PG: Additional 50% off the remaining bill MG: Additional 25% off the remaining bill
\$13,001 to \$21,000	60%			
Above \$21,000/ Unassessed	50%	50%	50%	

Government subsidies at subsidised specialist outpatient clinics (SOCs) and polyclinics







^To receive subsidies for Public SOC visits, you will first need to be assessed and referred by a CHAS clinic or polyclinic. The doctor will refer you to a Public SOC as a subsidised patient where eligible.

*Children (18 years or younger) and elderly (65 or older) already receive 75% subsidy for subsidised medications at the polyclinics

#The AV of your home is the estimated annual rent if it is rented

Government subsidies at CHAS GPs

From 1 November 2019

					
PCHI (Per Capita Household Income)	Above \$2,000	\$1,201 to \$2,000	\$1,200 and below	All Merdeka Generation seniors receive CHAS benefits, regardless of income or AV of home	All Pioneers receive CHAS benefits, regardless of income or AV of home
AV (Annual Value) of Home (For households with no income)	Above \$21,000	\$13,001 to \$21,000	\$13,000 and below		
Acute (common illnesses)	-	Up to \$10 per visit	Up to \$18.50 per visit	Up to \$23.50 per visit	Up to \$28.50 per visit
Simple Chronic	Up to \$28 per visit, capped at \$112 per year	Up to \$50 per visit, capped at \$200 per year	Up to \$80 per visit, capped at \$320 per year	Up to \$85 per visit, capped at \$340 per year	Up to \$90 per visit, capped at \$360 per year
Complex Chronic	Up to \$40 per visit, capped at \$160 per year	Up to \$80 per visit, capped at \$320 per year	Up to \$125 per visit, capped at \$500 per year	Up to \$130 per visit, capped at \$520 per year	Up to \$135 per visit, capped at \$540 per year
Dental	-	\$50 to \$170.50 subsidy per procedure (denture, crown, root canal treatment only)	\$11 to \$256.50 subsidy per procedure (dependent on procedure)	\$16 to \$261.50 subsidy per procedure (dependent on procedure)	\$21 to \$266.50 subsidy per procedure (dependent on procedure)
Recommended Health Screening under Screen for Life (SFL) 	A fixed fee of \$5 with SFL Invitation letter, for recommended screening test(s) and first post-screening consultation, if required	A fixed fee of \$2 with SFL Invitation letter, for recommended screening test(s) and first post-screening consultation, if required		A fixed fee of \$2 with SFL Invitation letter, for recommended screening test(s) and first post-screening consultation, if required	Free with SFL Invitation letter, for recommended screening test(s) and first post-screening consultation, if required

Government subsidies at CHAS GPs

Pioneer Generation eligibility

- Born on or before 31 December 1949
- Received citizenship by 31 December 1986

Merdeka Generation eligibility

- Born from 1 Jan 1950 to 31 Dec 1959; and
- Received citizenship on or before 31 Dec 1996

OR

- Born on or before 31 Dec 1949; and
- Received citizenship on or before 31 Dec 1996; and
- Did not receive Pioneer Generation Package

Type of visit

Acute (common illnesses)

- Capped at 24 visits for common illnesses per patient per calendar year, across all CHAS clinics, from 2020 onwards

Simple

- “Simple” refers to visits for a single chronic condition

Complex

- “Complex” refers to visits for multiple chronic conditions, or a single chronic condition with complication(s)

Refer to MediSave pages for the list of chronic conditions under the Chronic Disease Management Programme (CDMP) for CHAS Chronic conditions

Screen for Life

- Recommended health screening refers to screening for diabetes, high blood pressure, high blood cholesterol, colorectal cancer and cervical cancer

MediSave for outpatient bills



Chronic Disease Management Programme (CDMP)

- Specific chronic diseases
- Requires 15% co-payment
- Part of MediSave500, i.e. up to \$500 per year
 - Patients can tap on accounts of immediate family members (i.e. spouse, parents and children)
 - Patients who are SC/PR can tap on grandchildren's and sibling's MediSave



Flexi-MediSave

- For patients ≥ 60 years old
- Can be used for the 15% co-payment under CDMP
- Up to \$200 per patient per year
 - Patient's own and spouse's account may be used, provided spouse is also ≥ 60 years old

MediSave for outpatient bills

MediSave

- National medical savings scheme
- Can help to pay for personal or immediate family members' hospitalisation, day surgery, and certain outpatient expenses

MediSave500

- Scheme for outpatient care

Flexi-MediSave

- Can be used at Specialist Outpatient Clinics (SOC) in public hospitals and national specialty centres, polyclinics, and participating Community Health Assist Scheme (CHAS) Medical GP clinics

Chronic Disease Management Programme (CDMP)

20 conditions for outpatient treatment

- Diabetes (including pre-diabetes)
- Hypertension
- Lipid disorders
- Stroke
- Asthma
- Chronic Obstructive Pulmonary Disease (COPD)
- Schizophrenia
- Major depression
- Bipolar disorder
- Dementia
- Osteoporosis
- Benign Prostatic Hyperplasia (BPH)
- Anxiety
- Parkinson's disease
- Chronic kidney disease (nephrosis/nephritis)
- Epilepsy
- Osteoarthritis
- Psoriasis
- Rheumatoid arthritis
- Ischaemic heart disease

Patients can tap on CDMP after

- Certification by a doctor that they have one of the listed chronic conditions
- Signing the MediSave authorisation form

A close-up photograph of two hands shaking in a firm grip, symbolizing agreement or partnership. The hands are positioned in the center of the frame, with the fingers interlaced. The background is a soft, out-of-focus light blue. The word "Acknowledgements" is overlaid in a bold, black, sans-serif font across the middle of the image.

Acknowledgements

Acknowledgements

Patient Empowerment for Self-care Working Group

Chairperson

Dr Eric Khoo (NUH)

Advisors

Assoc Prof Sum Chee Fang (AdMC/KTPH)

Prof Tai E Shyong (NUHS)

Members

Dr Anthony Chao (Boon Lay Clinic & Surgery)

Mr Arumugam Ardhanari (Patient)

Ms Chee Ching Yee (SHP)

Ms Christine Chern (NHGP)

Ms Fidlya Binte Kamsani (Caregiver)

Dr Kalpana Bhaskaran (DS)

Dr Agnes Koong Ying Leng (SHP)

Ms Julia Lee (TOUCH Diabetes)

Ms Lim Poh Choo Patsy (SHP)

Dr Low Kang Yih (NHGP)

Ms Ng Soh Mui (NUP)

Dr Jonathan Pang (Frontier PCN)

Ms Christina Tan (Patient)

Dr David Tan Hsien Yung (NUP)

Ms Brenda Tan Yue Lin (HPB)

Mr SB Viknesan (NAMS/IMH)

Dr Wong Mei Yin (NHGP)

Mr Yong Ming Fung (AIC)

Community Support Advisor

Ms Julie Seow (formerly Life Coach at TOUCH Diabetes)

Acknowledgements

Professional Groups

Association of Diabetes Educators Singapore (ADES)	Ms Lim Pei Kwee (KKH)
College of Family Physicians (CFPS)	Dr Ng Lee Beng (SGH)
Pharmaceutical Society of Singapore (PSS)	Ms Irene Quay Siew Ching (KKH) Ms Debra Chan (TTSH) Ms Lim Kae Shin (KKH) Ms Lim Shu Fang (TTSH)
Podiatry Association Singapore (PAS)	Ms Heng Li Wen Marabelle (SGH)
Singapore Nutrition and Dietetics Association (SNDA)	Ms Ong Li Jiuen (CGH) Mr Chad Han (NUH) Ms Izabela Kerne (Advanced Laparoscopic Surgery) Ms Koh Pei Ling (AdMC/ KTPH) Ms Loh Win Nie (CGH)
Singapore Physiotherapy Association (SPA)	Mr Muhammad Jazimin Bin Haron (KTPH) Ms Junisha Binte Jumala (CGH) Dr Cindy Ng Li Whye (SGH) Ms Soh Seok Chin Cindy (NHGP) Ms Virginia Tai (SHF)
Sport Singapore, Ministry of Culture, Community and Youth (MCCY)	Mr Kenneth McGeough (Sport Singapore) Mr Aw Boon Wei (Sport Singapore)

An initiative under the War on Diabetes



Partners



Cluster Partners



Brought to you by



Handouts

Healthy Eating

My Healthy Plate

Options



Skinless chicken breast



Fish



Tofu



Chickpeas

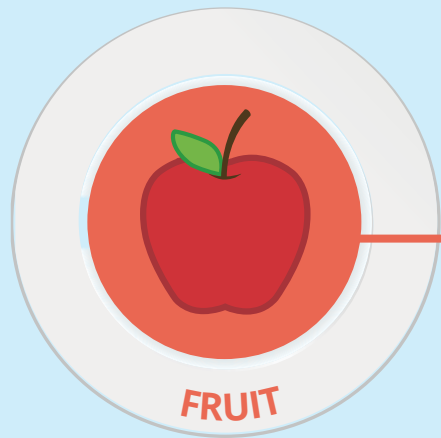
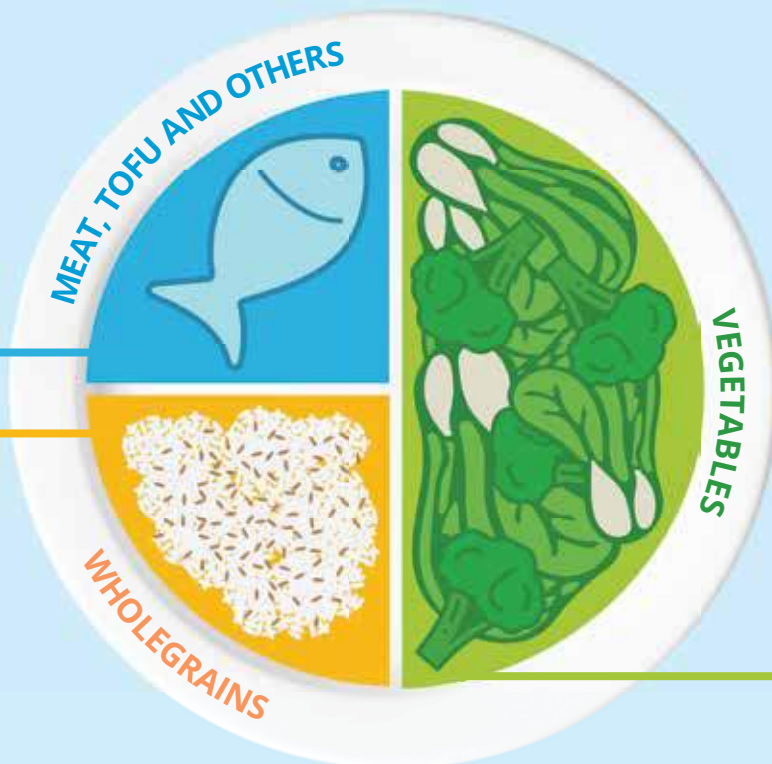
Options



Medium apple



Small pear



Eat 2 servings of fruit daily, by having fruit with or in between meals

Plate size: **23 to 25 centimeters in diameter**

Options: Wholegrains



Brown rice



Tang hoon



Potato



Corn

Options: Starchy vegetables

Options



Broccoli



Chap chye



Choose water



Use healthier oils



Be active

How can I cook healthy and yummy meals?

Healthier cooking methods



Stir fry



Boil or steam



Grill or bake



Reduce salt, instead use natural seasonings e.g. herbs and spices



Choose healthier cooking oil (e.g. sunflower, olive or canola)



Remove all visible fat before cooking

How can I continue with healthy eating during festivals and celebrations?



Plan meals ahead



Opt for **healthier products**



Use **healthier cooking methods**



Eat in **moderation**



Avoid alcohol as much as possible



Maintain **medication schedule** and insulin dosage

Physical Activity

Physical Activity

A. Mobile

What exercises are appropriate for me?

This assessment tool is designed for use by individuals as a guide to calibrate their physical activity based on their mobility and activity levels. Complete steps 1 to 3 to identify the relevant category of handouts for the individual.

If you are a wheelchair user, skip Step 1 and proceed to Step 2

Step 1: Determine mobility level		
1. On your own, do you have any difficulty standing up from a seated position without using your arms?	Yes	No
2. On your own, do you have any difficulty walking for about 1 bus stop (~400m) without resting and using walking aids?	Yes	No
3. On your own, do you have any difficulty climbing up 10 steps without resting, using handrails or walking aids?	Yes	No
4. On your own, do you have any difficulty getting up from the floor without using furniture or other aids?	Yes	No

Step 2: Determine activity level	
1. Sedentary	Seldom exercise
2. Semi-active — some exercise	30 minutes, 3 times per week, at less than moderate intensity (can talk but can't sing), for past 3 months
3. Active — regular exercise	30 minutes, 3 times per week, at moderate intensity (can talk but can't sing) to high intensity (can only say a few words) for past 3 months

Count how often you answer 'Yes'

Full mobility 'Yes' 0 or 1 time	Limited mobility 'Yes' 2 or more times
---	--

Step 3: Get relevant handouts			
	Full mobility	Limited mobility	Wheelchair user
Sedentary	1A	1B	1C
Semi-active	2A	2B	2C
Active	3A	3B	3C

Small steps towards getting active everyday

Once you get into regular physical activities – even by starting small at first – your health will benefit in many ways.

Select a goal. Once you have achieved this goal, progress to the next one ... and keep going!



Take at least 10,000 steps every day

Gradually increase your daily step count. You can use a pedometer (step-counter) or download an app to calculate the number of steps you take per day.

I want to

- Achieve **3,000 steps** on most days
- Achieve **5,000 steps** on most days
- Achieve **10,000 steps** on most days



Use the stairs

Find it hard to increase your activity level? Choose the stairs instead of the escalator or elevator to enjoy a fitness boost.

I want to

- Climb **the stairs or escalator**, whenever possible
- Climb **1 or 2 floors** every day
- Climb at least **3 to 4 floors** every day, if tolerable
- Achieve **10,000 steps** on most days



Limit sitting time

Break up long sitting hours by not sitting continuously for more than 1 hour.

I want to

- Stretch my arms and legs after **1 hour** of sitting
- Stand up and walk around for **1 minute**, for every **1 hour** of sitting

Check with your doctor if

- Your general health is good enough to undertake more strenuous exercise.
- You develop giddiness, unusual breathlessness, chest tightness or pain during these exercises.

How to get the most out of your exercises

Follow closely the exercises recommended here. To enjoy maximum health benefits, your routine must include aerobic, strength and flexibility exercises.

Select a goal. Once you have achieved this goal, progress to the next one ... and keep going!

1. Aerobic exercises

These exercises improve your stamina so that you won't get too breathless when walking, catching a bus or playing with your kids. **Start with 15 to 20 minutes for 2 to 3 days a week.** Gradually increase the speed and duration of your exercise as follows.



Brisk walking

You should be able to talk but not sing, while exercising.

- Progress by adding **5 minutes** every week.
Do this until you can brisk walk for **30 minutes**.
Walk as fast as you can.



Brisk walk with intermittent jogging

- Brisk walk for **30 minutes**.
During the walk, jog for **20 seconds** before going back to brisk walking.



Jog and brisk walk

- Brisk walk for **5 minutes** to warm up.
Jog for **as long as tolerable**. During the jog, alternate with brisk walking.



Jogging

- By now you should be able to jog for **30 minutes**.
Go for it! Jog as fast as you can.

No matter which level you are at, aim to challenge yourself and do your best. Aim for 150 minutes of exercise per week!

2. Strength exercises

These exercises improve your muscle strength so you can lift things easily and feel less tired on your legs. **Aim to do these 2 to 3 days a week!**



Half squats

- Stand in front of a chair.
- Bend your knees like you are trying to sit down.
- Keep your knees behind the toes, as you lower your buttocks.
- Keep your back straight and lean forward slightly.
- Repeat **10 times**.



Modified push ups

- Place hands apart on the floor with knees on the ground.
- Keeping your back straight, bend the elbows to lower yourself down, then push up again. Do not arch your back.
- Add 5 repetitions each week!**



Push ups

- Place hands apart on the floor with knees level with the floor.
- Keeping your back straight, bend the elbows to lower yourself down, then push up again. Do not arch your back.
- Add 5 repetitions each week!**

3. Flexibility exercises (stretches)

Flexibility is important for all activities. Stretches can be done daily, anytime, even at work!
For each exercise, **hold the stretch for 20 seconds and repeat 3 to 5 times.**



Chest stretch

- Start by placing your palm on the wall. Slowly rotate yourself away from the wall, without moving your palm.
- Repeat on the other side.**



Back shoulder stretch

- Cross one of your arms over the other shoulder.
- Make sure your body doesn't rotate as you pull your elbow across. **Repeat with the other arm.**

Flexibility is important for all activities. Stretches can be done daily, anytime, even at work!

For each exercise, hold the stretch for 20 seconds and repeat 3 to 5 times.



Back thigh stretch

- Start with toes pointing forward. Place one foot on a chair. Lean forward slowly while keeping your back straight. Repeat **on the other side.**



Front thigh stretch

- Start by bending your leg up backwards. Pull your foot with your hand. Feel the stretch along your front thigh. Repeat **on the other leg.**



Calf stretch

- Do this against a wall or back of a chair. Start with one leg straightened and the other leg bent. Make sure both heels are on the ground. Lean forward and feel the stretch on the calf muscles. Repeat **on the other leg.**

Check with your doctor if

- Your heart condition is stable enough for exercise.
- You develop giddiness, unusual breathlessness, chest tightness or pain during these exercises.

Want to learn more exercises?

You can also log on to [healthhub.sg](http://www.healthhub.sg) and watch the “7 easy exercises to an active lifestyle” video (<http://www.healthhub.sg/programmes/71/healthy-ageing-exercise>).

Exercise safely

Congratulations on exercising regularly for the past 3 months! Continue to achieve **150 minutes of moderately intense exercises each week**. Vary your exercises and progress gradually.

Remember to

- Wear comfortable clothing and appropriate footwear
- Check your feet for wounds before and after exercising
- Keep hydrated
- Bring along some healthy snacks or sugar-containing sweets in case your blood sugar goes too low
- Exercise at a cooler time
- Exercise with family and friends

Your exercise routine should consist of aerobic, strength and flexibility exercises.

Select a goal. Once you have achieved this goal, progress to the next one ... and keep going!

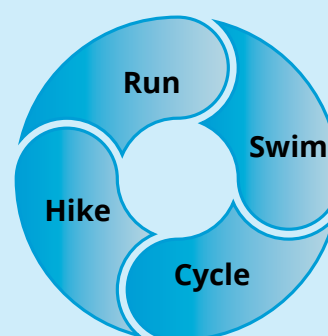
Balance exercises are recommended for older adults, especially those at risk of falls. However, as these materials are for all age groups with diabetes, the focus is on aerobic, strength and flexibility exercises.

1. Aerobic exercises

If the activity is new for you, always start at a low intensity and pace. Progress slowly because you are working on different groups of muscles and your body needs some time to be conditioned.

It is good to have different activities and variations so you work different muscles and keep them in good shape! This also helps to regulate your blood sugar level when you get more muscles involved.

Try different types of aerobic exercises such as swimming, cycling or simply go for a hike.



2. Strength exercises

These exercises improve your muscle strength so you can lift things easily or feel less tired on your legs.

Aim for 10 to 30 repetitions for these exercises, 2 to 3 times a week.

Upper body exercises



Forward and backward crawl

- Start with hands and knees on the floor. Crawl forward, then backwards. Move **20 steps forwards**, then go **backwards the same number of times**.



Alternating arm in push up position

- Place hands apart on the floor with knees on the ground. Do not arch your back. Tap the opposite shoulder with your palm.



Modified push ups

- Place hands apart on the floor with knees on the ground. Keeping your back straight, bend the elbows to lower yourself down, then push up again. Do not arch your back.



Push ups

- Place hands apart on the floor with knees level with the floor. Keeping your back straight, bend the elbows to lower yourself down, then push up again. Do not arch your back.



Lower body exercises



Squats

- Stand with feet shoulder-width apart. Lower your upper body as if you are taking a seat. Then come back up again. **Start with 10 repetitions, 2 to 3 times a week. Add 5 repetitions each week!**

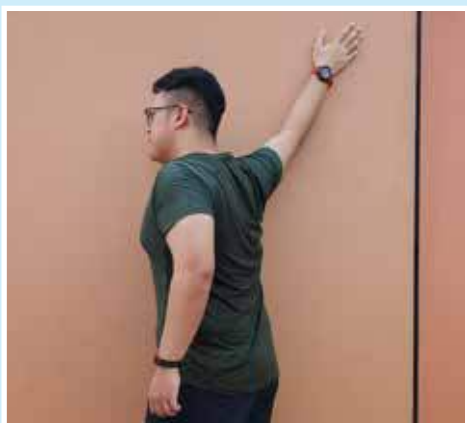


Forward lunge

- Stand with feet shoulder-width apart. Take a step forward, and allow both knees to bend. Alternate the legs. **Start with 10 repetitions, 2 to 3 times a week. Add 5 repetitions each week!**

3. Flexibility exercises (stretches)

Flexibility is important for daily activities. Stretches can be done daily, anytime, even at work! For each exercise, **aim to hold the stretch for 20 to 30 seconds and repeat 3 to 5 times.**



Chest stretch

- Start by placing your palm on the wall. Slowly rotate yourself away from the wall, without moving your palm. **Repeat on the other side.**



Back shoulder stretch

- Cross one of your arms over the other shoulder. Make sure your body doesn't rotate as you pull your elbow across. **Repeat with the other arm.**

Flexibility is important for all activities. Stretches can be done daily, anytime, even at work!
For each exercise, **aim to hold the stretch for 20 to 30 seconds and repeat 3 to 5 times.**



Back thigh stretch

- Start with toes pointing forward. Place one foot on a chair. Lean forward slowly while keeping your back straight.
- Repeat on the other side.**



Front thigh stretch

- Start by bending your leg up backwards. Pull your foot with your hand. Feel the stretch along your front thigh.
- Repeat on the other leg.**



Calf stretch

- Do this against a wall or back of a chair. Start with one leg straightened and the other leg bent. Make sure both heels are on the ground. Lean forward and feel the stretch on the calf muscles.
- Repeat on the other leg.**

Check with your doctor if

- Your heart condition is stable enough for exercise.
- You develop giddiness, unusual breathlessness, chest tightness or pain during these exercises.

Physical Activity

B. Limited Mobility

Small steps to a better life

Be as active as possible. Once you get into regular physical activities – even by starting small at first – your health will benefit in many ways.

Select a goal. Once you have achieved this goal, progress to the next one ... and keep going!



Walking

I want to

- Walk along my corridor or backyard for **5 to 10 minutes** in the morning and evening. (You may use your walking aid.)
- Take the lift and walk around my void deck, or walk a few blocks down **at least once a day**. (You may use your walking aid.)
- Walk for **10 minutes continuously**. Rest for **5 minutes** and then walk for another **10 minutes**.



Sitting time

I want to

- Stretch my arms and legs after **every 1 hour** of sitting.
- Stand up and walk around for **1 minute, for every 1 hour** of sitting.



Stretches

I want to

Chest stretch

- Sit in the middle of the chair. Open both arms sideways. Hold for **10 seconds**, repeat **10 times**.



Back thigh stretch

- Sit at the edge of the chair. Straighten one leg and lean forward (like in the picture). Hold for **10 seconds**, repeat **10 times**.



Other simple exercises

I want to

Stand-sit

- Stand and sit **10 times continuously** every morning and night.



Stationary march

- Stand up and march on the spot.
Count **20 to 30 times**. Repeat **twice a day**.
If necessary, do this near a wall or support to help keep your balance.

Pain management

- You should not feel any pain – just very minimal ache – when doing these exercises.
- Pain may be due to various reasons, like weak muscles due to a sedentary lifestyle, or tight muscles due to repetitive work.
- Exercise can help to relieve pain. However, if you have difficulty or pain with these exercises, seek help from an exercise professional or physiotherapist.

Check with your doctor if

- Your general health is good enough to undertake more strenuous exercise.
- You develop giddiness, unusual breathlessness, chest tightness or pain during these exercises.

How to get the most out of your exercises

Follow closely the exercises recommended here. Your routine must include aerobic, strength and flexibility exercises. Balance exercises are recommended for older adults, especially those at risk of falls. However as these materials are for all age groups with diabetes, the focus is on aerobic, strength and flexibility exercises.

1. Sitting exercises



Simple stretches

- Stretch your arms and legs after **every 1 hour of sitting**.



Move more

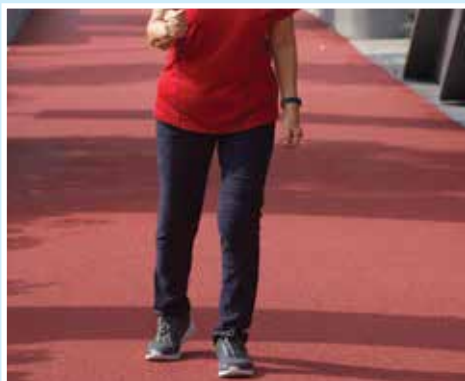
- Stand up and walk around for **1 minute**, for **every 1 hour of sitting**.



Back of upper arm dips

- If possible, try this on a chair with arm rests. Place your hands on the arm rest and push yourself up using your arms. Try not to use your leg muscles to push yourself up. Repeat **12 to 15 times**.

2. Aerobic exercises



Brisk walk

- Walk for **10 to 15 minutes continuously** at least **3 times a week**. You may use your walking aid. Challenge yourself with another **10 minutes of walking after 5 minutes of rest**, if possible.



Cycling

- Using an exercise or pedal bike, **cycle for 10 to 15 minutes daily**.

3. Strength exercises



Stand-sit

- Perform sit-to-stand **10 times continuously** every morning and night.



Stationary march

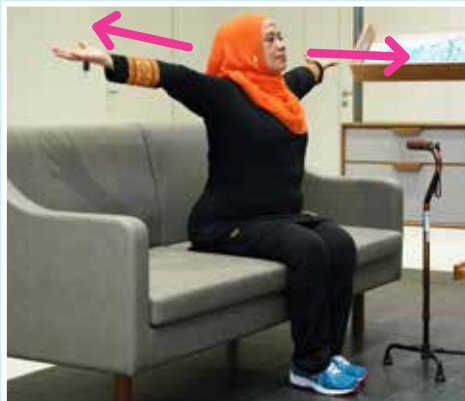
- Stand up and march on the spot. Count **20 to 30 times**. Repeat **twice a day**. *If necessary, do this near a wall or support to help keep your balance.*



Heel raise

- Stand and hold on to a chair. Rise up to the tips of your toes. Repeat **10 times, twice a day**.

4. Flexibility exercises (stretches)



Chest stretch

- Sit in the middle of the chair.
Open both arms sideways.
Hold for **10 seconds**, repeat **10 times**.



Back thigh stretch

- Sit at the edge of the chair.
Straighten one leg and lean forward (like in the picture).
Hold for **10 seconds**, repeat **10 times**.

Pain management

- You should not feel any pain – just very minimal ache – when doing these exercises.
- Pain may be due to various reasons, like weak muscles due to a sedentary lifestyle, or tight muscles due to repetitive work.
- Exercise can help to relieve pain. However, if you have difficulty or pain with these exercises, seek help from an exercise professional or physiotherapist.

Check with your doctor if

- You are allowed to bear weight on your feet.
- You have well-fitted prosthesis.
- You have ulcers or wounds that limit weight bearing or movement.
- Your heart condition is stable enough for exercise.

Exercise safely

Congratulations! Despite having limited mobility, you have been exercising regularly for the past 3 months. Continue to achieve close to **150 minutes** of **moderately intense exercises each week**.

Remember to

- Wear comfortable clothing and appropriate footwear
- Check your feet for wounds before and after exercising
- Keep hydrated
- Bring along some healthy snacks or sugar-containing sweets in case your blood sugar goes too low
- Exercise at a cooler time

1. Sitting exercises



Simple stretches

- Stretch your arms and legs after **every 1 hour of sitting**.



Move more

- Stand up and walk around for **1 minute**, for **every 1 hour of sitting**.



Back of upper arm dips

- If possible, try this on a chair with arm rests. Place your hands on the arm rest and push yourself up using your arms. Try not to use your leg muscles to push yourself up. Repeat **12 to 15 times**. Do **2 to 3 sets**.

2. Aerobic exercises



Brisk walk

- Walk for **15 minutes** continuously at **least 3 times a week**. You may use your walking aid. You should be able to talk but not sing, while exercising.



Cycling

- Using an exercise or pedal bike, cycle for at least **15 minutes daily**.

3. Strength exercises

Lower limbs



Stand-sit

- Perform sit-to-stand **10 to 20 times** continuously every morning and night. Repeat **for 2 to 3 sets**.



Stationary march

- Stand near a wall or support. March on the spot. Count **30 to 40 times**. Repeat **twice a day**. You may do this while seated, if too difficult.



Heel raise

- Stand and hold on to a chair. Rise up to the tips of your toes. Repeat **10 to 20 times, twice a day**.

Gym machines offer added resistance and can improve your mobility. Seek help if you are unsure which machines are suitable for you.

Upper limbs

Resistance bands, weighted cables and dumbbell exercises can help to improve your upper limb strength. These exercises should be done correctly for safety.



Shoulder dumbbell press

- Raise the dumbbells or filled water bottles up along the sides of your body with elbows bent. Straighten your elbows and push the dumbbells upwards over your head. Repeat **10 to 12 times**.

The weights you use should be heavy enough to perform this exercise 10 to 12 times. If you can do more than 15 repetitions, the weights are too light.

4. Flexibility exercises (stretches)



Chest stretch

- Sit in the middle of the chair. Open both arms sideways. Hold for **10 seconds**, repeat **10 times**.



Back thigh stretch

- Sit at the edge of the chair. Straighten one leg and lean forward (like in the picture). Hold for **10 seconds**, repeat **10 times**.

Pain management

- You should not feel any pain – just very minimal ache – when doing these exercises.
- Pain may be due to various reasons, like weak muscles due to a sedentary lifestyle, or tight muscles due to repetitive work.
- Exercise can help to relieve pain. However, if you have difficulty or pain with these exercises, seek help from an exercise professional or physiotherapist.

Check with your doctor if

- You are allowed to bear weight on your feet.
- You have well-fitted prosthesis.
- You have ulcers or wounds that limit weight bearing or movement.
- Your heart condition is stable enough for exercise.

Physical Activity

C - Sedentary Wheelchair users

Small steps to a better life

Be as active as possible, even if you are mostly seated and in a wheelchair. Once you get into regular physical activities – even by starting small at first – your health will benefit in many ways.

1. Sitting exercises



Pressure relief

- Shift your weight left to right continuously for **10 times every 1 hour**. Progress to every **30 minutes**, if possible.



Shoulder mobility

- Sit in the middle of the chair. Roll your shoulders backwards. Hold for **10 seconds**. Repeat **10 times**.



Seated march

- Sit in the middle of the chair. Lift your thighs and march, alternating both feet. Repeat **20 times**.

If possible, it is better to perform this exercise on a more stable chair instead of a wheelchair.



Knee extension

- Sit in the middle of the chair without leaning against the back rest. Straighten your knee and raise your leg up. Repeat on the other leg. Repeat **20 times**.

If possible, it is better to perform this exercise on a more stable chair instead of a wheelchair.

2. Stretches

Do these exercises as often as possible throughout the day, everyday.



Chest stretch

- Sit in the middle of the chair. Open both arms sideways. Hold for **10 seconds**, repeat **10 times**. Rotate your torso to each side, hold for **10 seconds** each.



Back thigh stretch

- Sit at the edge of the chair. Straighten one leg and lean forward (like in the picture). Hold for **10 seconds**, repeat **10 times**.

3. Standing time



Standing tolerance

- If you're able, stand for **2 to 3 minutes**, after every **1 hour of sitting**. You may need to use a railing or ask someone to help.

If possible, it is better to perform this exercise on a more stable chair instead of a wheelchair.



Standing endurance

- Try standing for **2 to 3 minutes** without support – but only if you're steady.

If possible, it is better to perform this exercise on a more stable chair instead of a wheelchair.

4. Other simple exercises



Stand-sit

- Perform sit-to-stand **5 to 10 times** with support or supervision, **every morning and night.**

If possible, it is better to perform this exercise on a more stable chair instead of a wheelchair

Log on to [healthhub.sg](http://www.healthhub.sg) and watch the 7 sit-down exercises video, "You can get moving" (<http://www.healthhub.sg/programmes/71/healthy-ageing-exercise>).

Pain management

- You should not feel any pain – just very minimal ache – when doing these exercises.
- Pain may be due to various reasons, like weak muscles due to a sedentary lifestyle, or tight muscles due to repetitive work.
- Exercise can help to relieve pain. However, if you have difficulty or pain with these exercises, seek help from an exercise professional or physiotherapist.

Check with your doctor if

- Your general health is good enough to undertake more strenuous exercise.
- You develop giddiness, unusual breathlessness, chest tightness or pain during these exercises.

Remember

- You need to progress your exercises gradually.
- You may need professional help from a physiotherapist if you are unsure of your exercises and/or need progression.
- Supervised standing exercises may benefit you. Consult your doctor and physiotherapist.

How to get the most out of your exercises

You can enjoy the benefits of aerobic, strength and flexibility exercises even if you're mostly seated or wheelchair bound. Have fun while preventing further health complications.

1. Sitting exercises



Pressure relief

- Shift your weight left to right continuously for **10 times every 1 hour**. Progress to every **30 minutes** if possible.



Shoulder mobility

- Sit in the middle of the chair. Roll your shoulders backwards. Hold for **10 seconds**. Repeat **10 times**.



Seated march

- Sit in the middle of the chair. Roll your shoulders backwards. Lift your thighs and march, alternating both feet. Repeat **20 times**.

If possible, it is better to perform this exercise on a more stable chair instead of a wheelchair.



Knee extension

- Sit in the middle of the chair without leaning against the back rest. Straighten your knee and raise your leg up. Repeat on the other leg. Repeat **20 times**.

If possible, it is better to perform this exercise on a more stable chair instead of a wheelchair.

2. Flexibility exercises (stretches)

Do these exercises as often as possible throughout the day, everyday.



Chest stretch

- Sit in the middle of the chair. Open both arms sideways. Hold for **10 seconds**, repeat **10 times**. Rotate your torso to each side, hold for **10 seconds** each.



Back thigh stretch

- Sit at the edge of the chair. Straighten one leg and lean forward (like in the picture). Hold for **10 seconds**, repeat **10 times**.

3. Aerobic exercises



Cycling

- Using an exercise or pedal bike, cycle for **10 to 15 minutes daily**. You can also place a portable pedal bike on a table and use it as an arm cycling machine.

If possible, it is better to perform this exercise on a more stable chair instead of a wheelchair.



Log on to healthhub.sg and watch the 7 sit-down exercises video, "You can get moving" (<http://www.healthhub.sg/programmes/71/healthy-ageing-exercise>).

4. Strength exercises

Lower limbs



Knee extension

- Sit in the middle of the chair without leaning against the back rest. Straighten your knee and raise your leg up. Hold for **10 seconds**. Repeat **10 times** and do the same exercise with the other leg.

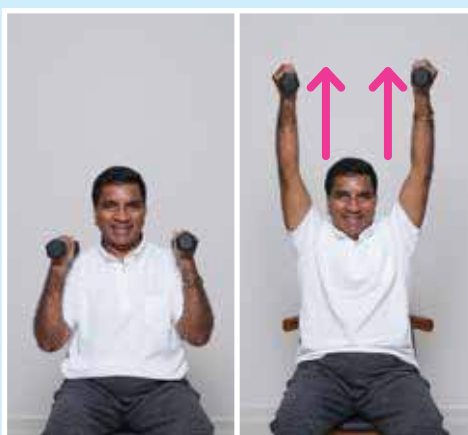


Stand-sit

- If you are able to, sit-to-stand **10 times** with the help of someone.

Upper limbs

Resistance bands, weighted cables and dumbbell exercises can help to improve your upper limb strength. These exercises should be done correctly for safety.



Seated dumbbell press

- Raise the dumbbells or filled water bottles up along the sides of your body with elbows bent. Straighten your elbows and push the dumbbells upwards over your head. Repeat **10 to 12 times**.

The weights you use should be heavy enough to perform this exercise 10 to 12 times. If you can do more than 15 repetitions, the weights are too light.

Pain management

- You should not feel any pain – just very minimal ache – when doing these exercises.
- Pain may be due to various reasons, like weak muscles due to a sedentary lifestyle, or tight muscles due to repetitive work.
- Exercise can help to relieve pain. However, if you have difficulty or pain with these exercises, seek help from an exercise professional or physiotherapist.

Check with your doctor if

- You have ulcers or wounds that limit weight bearing or movement.
- Your heart condition is stable enough for exercise.
- You develop giddiness, unusual breathlessness, chest tightness or pain during these exercises.

Remember

- You need to progress your exercises gradually.
- You may need professional help from a physiotherapist if you are unsure of your exercises and/or need progression.
- Supervised standing exercises may benefit you. Consult your doctor and physiotherapist.

Exercise safely

Congratulations! Despite having limited mobility, you have been exercising regularly for the past 3 months. Continue to achieve close to **150 minutes of moderately intense exercises each week**.

Remember to

- Wear comfortable clothing
- Keep hydrated
- Bring along some healthy snacks or sugar-containing sweets in case your blood sugar goes too low
- Exercise at a cooler time

1. Sitting exercises



Pressure relief

- Shift your weight left to right continuously for **10 times every 1 hour**. Progress to every **30 minutes**, if possible.



Shoulder mobility

- Sit in the middle of the chair. Roll your shoulders backwards. Hold for **10 seconds**. Repeat **10 times**.



Seated march

- Sit in the middle of the chair. Roll your shoulders backwards. Lift your thighs and march, alternating both feet. Repeat **20 times**.

If possible, it is better to perform this exercise on a more stable chair instead of a wheelchair.



Knee extension

- Sit in the middle of the chair without leaning against the back rest. Straighten your knee and raise your leg up. Repeat on the other leg. Repeat **20 times**.

If possible, it is better to perform this exercise on a more stable chair instead of a wheelchair

2. Flexibility exercises (stretches)



Chest stretch

- Sit in the middle of the chair. Open both arms sideways. Hold for **10 seconds**, repeat **10 times**.



Trunk rotation

- Sit in the middle of the chair. Rotate your trunk to each side, holding for **10 seconds** each. Repeat **10 times**.



Back thigh stretch

- Sit at the edge of the chair. Straighten one leg and lean forward (like in the picture). Hold for **10 seconds**, repeat **10 times**.

3. Aerobic exercises



Cycling

- Using an exercise or pedal bike, cycle for **30 minutes daily**. You can also place a portable pedal bike on a table and use it as an arm cycling machine. *If possible, it is better to perform this exercise on a more stable chair instead of a wheelchair*

Join sporting events

Consider joining sports activities or events specially for people with disabilities, like wheelchair basketball etc.

4. Strength exercises

Perform these exercises 2 to 3 times a week.

Lower limbs



Knee extension

- Sit in the middle of the wheelchair without leaning against the back rest. **Strap on an ankle weight to one leg.** Straighten your knee and raise your leg up. Hold for **10 seconds**. Repeat **10 to 20 times** and do the same with other leg. Do this for **2 to 3 sets**.

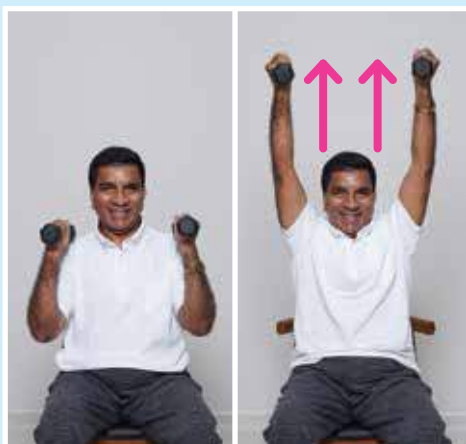


Stand-sit

- If you are able to, sit-to-stand **10 times** with the help of someone.

Upper limbs

Resistance bands, weighted cables and dumbbell exercises can help to improve your upper limb strength. These exercises should be done correctly for safety.



Seated shoulder dumbbell press

- Raise the dumbbells or filled water bottles up along the sides of your body with elbows bent. Straighten your elbows and push the dumbbells upwards over your head. Repeat **10 times**, for **2 to 3 sets**.

Pain management

- You should not feel any pain – just very minimal ache – when doing these exercises.
- Pain may be due to various reasons, like weak muscles due to a sedentary lifestyle, or tight muscles due to repetitive work.
- Exercise can help to relieve pain. However, if you have difficulty or pain with these exercises, seek help from an exercise professional or physiotherapist.

Check with your doctor if

- You have ulcers or wounds that limit weight bearing or movement.
- Your heart condition is stable enough for exercise.
- You develop giddiness, unusual breathlessness, chest tightness or pain during these exercises.

Remember

- You need to progress your exercises gradually.
- You may need professional help from a physiotherapist if you are unsure of your exercises and/or need progression.
- Supervised standing exercises may benefit you. Consult your doctor and physiotherapist.

Self-monitoring

When to test your blood sugar level



Before a meal or 2 hours after



When you experience **hypoglycaemia** (low blood sugar) symptoms (e.g. dizziness, hunger)






Before or after **exercise**



When you are **sick and not eating well**

Monitor your blood sugar level before and after meals

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

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

Monitor your blood sugar level



Date	Day	Breakfast				Lunch				Dinner				Others				Remarks	
		Before		2 hours after		Before		2 hours after		Before		2 hours after		Before		2 hours after			
		Time	(mmol/L)	Time	(mmol/L)	Time	(mmol/L)	Time	(mmol/L)	Time	(mmol/L)	Time	(mmol/L)	Time	(mmol/L)	Time	(mmol/L)		

HYPOglycaemia (low blood sugar < 4mmol/L)

Common signs and symptoms



Hunger



Hand tremors



Abnormally fast heart beat



Fatigue



Mood changes
(eg. anxiety, irritability, nervousness)



Dizziness or headaches



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



Drowsiness

What to do if your blood sugar is low (< 4 mmol/L)

1 Drink **half a glass** of sweetened drink

OR

Eat **3 soft candies** (sugar-containing) or sugar (glucose) tablets

2 After **15 minutes**, check blood sugar level

If **symptoms persist** or blood sugar level is low (< 4 mmol/L)

If symptoms **resolve** or blood sugar level is ≥ 4 mmol/L

3 Eat a **light snack** (e.g. bread, biscuits) or have your next meal earlier **to prevent blood sugar levels from dropping** again

Repeat steps **1 & 2**, one time

+ If **symptoms persist after second attempt**, seek **medical advice** (if your doctor is unavailable and it is an emergency, head to the A&E)



- Record what happened prior to experiencing hypoglycaemia
- If hypoglycaemia is frequent, do a medication check with your doctor

HYPERglycaemia (high blood sugar >15mmol/L)

Signs and symptoms



Increased thirst



Frequent urination



Increased hunger



Blurred vision



Headaches



Weight loss



Slow-healing cuts



Blood sugar level
> 15 mmol/L

What to do if your blood sugar level is high (> 15 mmol/L)

1



Check your **blood sugar level** more often

2



Drink plenty of **plain water**

3



Seek medical advice if your blood sugar level is persistently > **15 mmol/L** (i.e. remaining very high for more than 24 hours)

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**

What to do when I am sick?



See your **doctor**



Get plenty of **rest**



Continue to take **medication or insulin** as prescribed



Check 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 pains, shortness of breath, fruity breath, dry lips or tongue



Severe **vomiting or diarrhoea**



Blood sugar levels that are **persistently low** (< 4 mmol/L) or **high** (> 15 mmol/L)



Loss of appetite



Skin sores

Medication

Medication

Take your medication as prescribed



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



If you miss your dose, follow your healthcare professional's instructions on what to do



Eat meals regularly to prevent hypoglycaemia (low blood sugar)



Avoid taking alcohol with medication



Inform your healthcare professional if you are:



- **Taking metformin** before going for any scans (e.g. X-ray) or procedures
- **Pregnant or planning to get pregnant** before taking medication



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

Types of tablets	Action	Comment
<p>Sulphonylureas e.g.</p> <ul style="list-style-type: none"> - Chlorpropamide (Anti-D Tablet®) - Glibenclamide (Glyboral®) - Gliclazide (Diamicron®) - Tolbutamide (Tolmide®) - Glimepiride (Amaryl®) - Glipizide (Minidiab®) 	<p>Help the pancreas to release more insulin.</p>	<ul style="list-style-type: none"> • Take the tablet(s) immediately before meals. Do not miss or delay meals. Otherwise, your blood sugar level may fall too low. • Inform your doctor if you have G6PD deficiency. • May also cause weight gain.
<p>Biguanides e.g.</p> <ul style="list-style-type: none"> - Metformin (Glucophage®, Glucophage XR®) 	<p>Help the body to use insulin more effectively and also decrease the amount of sugar made by the liver.</p>	<ul style="list-style-type: none"> • Take the tablet(s) with meals or after meals. • May cause stomach discomfort, nausea, vomiting, diarrhoea, loss of appetite and metallic taste in your mouth but should get better over time once your body becomes familiar with the medication. • Take metformin with meals or after meals to reduce stomach side effects. • Make sure to ask your doctor for advice if you need to have an examination involving the injection of dye/contrast or if you need to have major surgery. You may need to stop taking this medicine for a certain time before and after the examination or the surgery.

Types of tablets	Action	Comment
<p>Alpha-glucosidase inhibitors e.g. - Acarbose (Glucobay®)</p>	<p>Help to stop the quick rise of blood sugar after a meal by delaying the breakdown of carbohydrates and absorption of sugar by the intestines.</p>	<ul style="list-style-type: none"> • Take the tablet(s) with the first mouthful or immediately before each of the three main daily meals. • May cause stomach discomfort, bloating or gas, or diarrhoea. These symptoms may happen but should get better over time once your body becomes familiar with the medication.
<p>Meglitinides e.g. - Repaglinide (Novonorm®) - Nateglinide (Starlix®)</p>	<p>Help the pancreas to release more insulin.</p>	<ul style="list-style-type: none"> • Take the tablet immediately before meals. Do not miss or delay meals. Otherwise, your blood sugar level may fall too low. May cause weight gain.
<p>Thiazolidinediones (TZD) e.g. - Pioglitazone (Actos®)</p>	<p>Help to lower blood sugar level by making body tissues more sensitive to insulin.</p>	<ul style="list-style-type: none"> • Take the tablet with or without food. • Talk to your healthcare professional if you have heart conditions or have fallen down more than once in the past year.
<p>Dipeptidyl peptidase-4 (DPP-4) inhibitors e.g. - Sitagliptin (Januvia®) - Linagliptin (Trajenta®) - Vildagliptin (Galvus®) - Saxagliptin (Onglyza®)</p>	<p>Help to lower blood sugar level by increasing levels of a group of gastrointestinal hormones, which in turn increase insulin secretion and decrease blood sugar levels.</p>	<ul style="list-style-type: none"> • Take the tablet with or without food. • Inform your doctor promptly if you have severe and persistent stomach pain, which might reach through to your back, with or without nausea and vomiting, as these could be signs of an inflamed pancreas (pancreatitis).
<p>Sodium Glucose Co-transportase (SGLT-2) inhibitors e.g. - Dapagliflozin (Forxiga®) - Empagliflozin (Jardiance®) - Canagliflozin (Invokana®)</p>	<p>Help to lower blood sugar level by removing excess sugar from the body via the urine.</p>	<ul style="list-style-type: none"> • Take the tablet with or without food. • May cause weight loss. • May cause genital and urinary tract infections, and low blood pressure. • Stop the medication and see your doctor if you experience fever, persistent vomiting, dehydration, sweet fruity breath and/or ketones in urine.
<p>Glucagon-like peptide-1 (GLP-1) receptor agonist e.g. - Liraglutide (Victoza®) - Exenatide Extended Release (Bydureon®) - Dulaglutide (Trulicity®)</p>	<p>Help to lower blood sugar level by slowing digestion of sugars.</p>	<ul style="list-style-type: none"> • This is a non-insulin injection that can be given with or without food. • Some patients may experience nausea, vomiting and diarrhoea. • Inform your doctor promptly if you have severe and persistent stomach pain, which might reach through to your back, with or without nausea and vomiting, as these could be signs of an inflamed pancreas (pancreatitis).

Insulin Therapy

Part 1: How to draw insulin from a vial

Gather your supplies



1. Vial



2. Syringe and plunger



3. Swab

Preparation

Follow these steps to prepare your single or mixed dose insulin



1. **Gather your supplies**
(syringe, insulin, alcohol swabs)



2. **Wash your hands** with soap and running water then dry your hands thoroughly



3. **Roll the vial of insulin (if the insulin is cloudy)** between the palms of your hands to mix it and/or warm it up to body temperature



4. **Clean the rubber stopper** on the vial with an alcohol swab

Part 2: How to draw a dose (single)

If you are drawing a **SINGLE** dose

After completing part 1 (preparation), follow these steps to draw a **SINGLE** dose of insulin into the syringe



1. **Draw air into the syringe** to the level prescribed for your insulin dose



2. **With the vial standing upright**, inject the air dose into the vial by pushing down the plunger



3. **Turn the vial and syringe upside down**, ensure the needle tip is covered by the liquid



4. **Pull back the plunger** to withdraw insulin to the level of the prescribed dose



5. **Gently flick the side of the syringe** to remove air bubbles, if needed

Part 2: How to draw a dose (mixed)

If you are drawing a MIXED (clear + cloudy insulin) dose

After completing part 1 (preparation), follow these steps to draw a **MIXED** dose of insulin into the syringe



1. **Draw air into the syringe** to the level prescribed for your **cloudy insulin** dose



2. **Insert the syringe into the cloudy vial** and inject the air dose into the vial by pushing down the plunger - remove the syringe without drawing insulin



3. **Draw air into the syringe** to the level prescribed for your **clear insulin** dose



4. **Inject the air dose** into the clear vial in an upright position



5. **Turn the vial and syringe upside down** - ensure the needle tip is covered by the liquid



6. **Slowly pull back the plunger** to withdraw clear insulin to the level prescribed



7. **Remove the partly filled syringe** from the clear vial and insert it in the vial of cloudy insulin



8. **Turn the vial and syringe upside down** and slowly withdraw to the level prescribed for total amount of insulin (**clear + cloudy**)

Part 3: How to inject insulin

Step-by-step guide to injecting insulin into your chosen site



1. Clean your chosen site with water and tissue



2. Lift the skin with your thumb and finger on the chosen site. With your other hand, hold the syringe (like a pencil, keeping fingers off the plunger) close to the chosen site at a 90 degree angle



3. Push the syringe all the way into the lifted skin fold, then push the plunger all the way down to deliver insulin into the fatty tissue



4. Withdraw the needle from the skin at the same angle that it was inserted and then release the skin fold

Insulin pen

How to prepare an insulin pen for injection



1. For cloudy insulin roll the pen in **between your palms** in a horizontal motion **10 times**



2. Then move the pen **up and down gently 10 times** as shown so the **glass ball moves from one end of the cartridge to the other.**

Repeat rolling and moving the pen until the **liquid appears uniformly white and cloudy**



3. **Clean the rubber membrane** with an alcohol swab and allow it to dry before attaching the insulin needle onto the insulin pen



4. **Dial 2 units** by turning the dose selector



5. **Hold the insulin pen with the needle upwards** and tap the cartridge gently with your finger a few times to let air bubbles collect at the top of the cartridge



6. With the insulin pen still pointing upwards, **press the push button all the way in** (the dose selector should return to '0', and a **drop of insulin should appear** at the needle tip)



7. **Select the dose** of insulin you need

How to inject insulin with an insulin pen

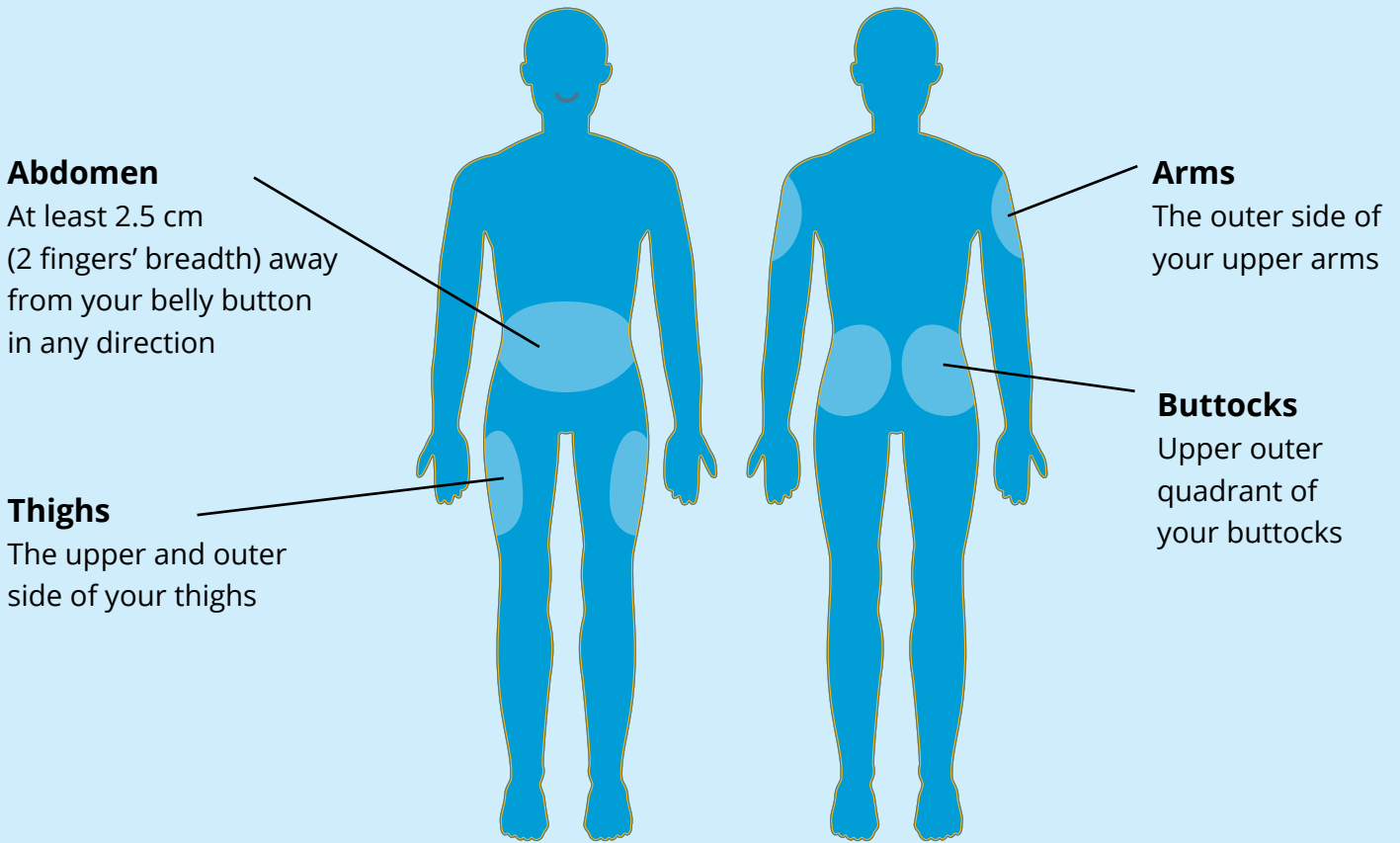
1. **Wash your hands** with soap and water
2. **Dry hands** with a tissue paper or hand towel
3. **Select the injection site** at your abdominal area
4. **Clean** the chosen site with water and tissue
5. **Wait** for the site to dry
6. **Lift up a skinfold** using your thumb and index finger
7. **Inject insulin at 90 degrees** perpendicular to the injection site
8. **Inject the dose** by pressing the push-button all the way in **until '0'**
9. **Keep the push-button down** fully for **at least 6 seconds** (to ensure the full dose has been injected) and as you withdraw the needle from your skin
10. **Place the outer needle cap on the table.** Direct the needle tip into the outer needle cap without holding onto it (to prevent finger stick injury). Unscrew and dispose the used needle after it is covered
11. **Store the insulin pen at room temperature** after injection, away from direct sunlight and heat



Insulin sites

Suitable sites for insulin injection

Visual guide to show where you can inject insulin



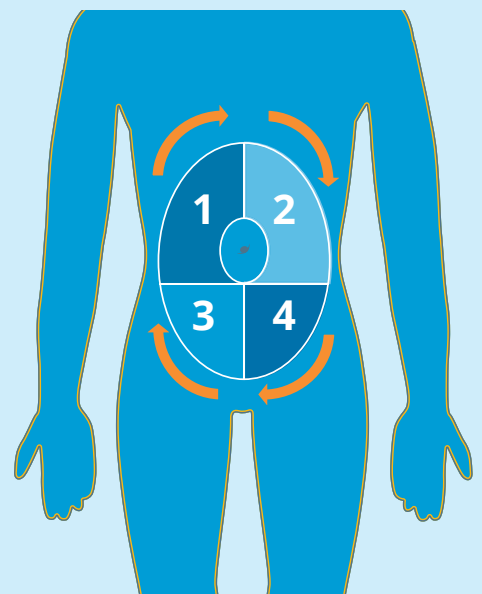
To note

- 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



Storage and disposal of insulin

Insulin storage

Quick tips on storing and handling your insulin



1. **Write the date on the vial** on the day you open it



2. **For open vials or pens**, store them **at room temperature** and away from direct sunlight



3. **For unused vials or pens**, store them in the **fridge**, not the freezer



4. **Avoid shaking the insulin** vial excessively to prevent air bubbles forming



5. **Discard the insulin if expired** (30 days after opening), contaminated, or if there are insoluble particles

How to safely dispose of used syringes and insulin pen needles

Proper disposal protects cleaners from accidental injuries, and prevents your used syringes and insulin pen needles from falling into the wrong hands



1. **Place used syringes** and insulin pen needles in a **hard puncture-resistant container** with a **securable lid**



2. **Label the container** "Used syringes and insulin pen needles"



3. **Seal the container** when it is full



4. **Discard the container** down the rubbish chute or in a rubbish bin

To note: Discard all used syringes and insulin pen needles – do not reuse them. Containers that are suitable for safe disposal must be hard plastic, metal or a sharps container, such as an empty detergent bottle or metal tin

Foot Care

Good foot care practices



Monitor feet every day

Watch out for:

- Blister, wound, corn, callus, or toenail abnormality
- Redness, swelling, bruise, or increased warmth



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 regularly

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



Wear well-fitting and covered footwear

- Wear well-fitting 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

! Seek immediate medical attention if your foot is cold, pale, discoloured, numb, painful or unable to move

Where to go for further help

- Go to your doctor for advice, and if needed you can get a referral to a podiatrist for further management
- Seek early review by a podiatrist if your foot feels numb (e.g. you are unable to feel your footwear properly)

Good footwear is important

Ideal features of supportive footwear

Adjustable ankle fastening (lace or velcro)

- To **hold feet in place** and **reduce rubbing** within shoes

Soft and breathable materials

- To prevent **too much moisture** within shoes



Soft cushioning inner sole

- For **better comfort**

Deep and wide toe box

- To let toes **wiggle freely**
- Make sure there is **one thumb's width** of space between toes and tip of the shoes
- Make sure shoes are broad enough for feet and any deformities

Firm back (heel counter)

Low heel

Flexible at front section of the sole

- To allow **natural movement** of toes when walking

Firm at back and middle sections of the sole

- To **support** middle part of the foot (arch)

Remember to

- Choose socks with **tops that are not too tight**
- Wear a pair of **cotton socks or stockings** with your shoes at all times
- Wear **well-fitted covered** shoes
- **Check and remove** any stones or sharp objects inside your shoes before wearing them
- Use **suitable footwear** for different activities (e.g. exercise with sports shoes, do daily shopping with sandals or sports shoes, and use bedroom slippers with cushioning at home)

Dental

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** along 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

Stress Management

How can I manage stress?

Physical and mental stress can affect blood sugar levels



Eat healthy and enjoy a variety of food in moderation



Staying active with regular physical activity improves insulin sensitivity



Get enough rest



Plan well and prioritise your activities using a planner; set time needed for each task



Make daily time for yourself doing something enjoyable, relaxing or meaningful



Seek **support from understanding friends and family**, or from diabetes **support groups**

What relaxation techniques can help me relieve stress?



Deep breathing



Progressive **muscle relaxation**



Listening to **music**



Participate in **creative hobbies**



Walking and other **physical activities**



Pick up mindful activities (e.g. yoga, taichi, qigong and meditation)

Relaxation Techniques - Progressive Muscle Relaxation

Find a comfortable position either sitting or lying down. Breathe in deeply through your nostrils and exhale through your mouth slowly. Feel your body relaxing. Repeat this.

Follow the sequence below.

- During each step in the sequence, hold for 5 seconds and slowly relax.
- Complete each step 2 times.
- If you have any pain in any of the targeted muscle groups, please move on to the next step.



1. Raise your **eyebrows** as high as you can



2. Squeeze your **eyelids** tightly



3. Open your **mouth** as wide as you can, as you might when you are yawning



4. Gently pull your **head** back to look at the ceiling



5. Bring your **shoulders** up towards your ears and tighten shoulder muscles



6. Clench your **fists**



7. Raise your **elbows** and flex your arm muscles



8. Tuck in your **stomach**



9. Tighten your **thighs**



10. Tighten your **buttocks by squeezing them together**



11. Pull your **toes** towards you and feel the tension in your calves



12. Curl your **toes downwards**

Continue to take deep breaths until you feel completely relaxed

Relaxation Techniques - Breathing

Mindful breathing can successfully overcome your feelings of stress and anxiousness. It slows heart rate, lowers or stabilises blood pressure, releases muscle tension and reduces numbness or tingling in hands or feet.



Method 1

1. Choose a comfortable and quiet place
2. Take a deep breath in and keep your chest still
3. Say "One" as you breathe in and sigh as you breathe out
4. You can do this with your eyes open or closed, whichever makes you feel comfortable and relaxed



Method 2

1. Choose a comfortable and quiet place
2. Take a deep breath in and keep your chest still
3. Close your eyes and imagine a peaceful and relaxed place you have been to or would like to visit (e.g. garden, beach)
4. Stay with that and continue with slow breathing
5. When you feel relaxed, you can open your eyes

Practise mindful breathing daily

- Do breathing exercises regularly, (e.g. 2 times a day, 5 to 10 mins at scheduled times)
- Take deep breaths at the first signs of stress, low mood, anxiety, physical tension, or when you are uncomfortable

Smoking and Drinking

Alcohol affects medications and liver function, causing HYPOglycaemia (low blood sugar)

Don't drink!

If drinking is unavoidable:



Do not skip meals



Limit to 1 standard drink per day, choose light beer or wine spritzer



Choose low-calorie light beer or dilute mixers with water



Your **blood sugar** level is **under control**



You **do not have low blood sugar** (< 4 mmol/L) or experience low blood sugar symptoms

What is 1 standard drink?



330 ml light beer



100 ml wine



30 ml spirit or liqueur
(e.g. brandy, vodka, whiskey)

Where to go for further help

National Addictions Management Service (NAMS)
6732 6837
<https://www.nams.sg/>

HPB QuitLine
1800 438 2000
<http://www.healthhub.sg/programmes/88/1Quit>

Smoking increases risk of diabetes and its complications, and insulin resistance

Quit smoking!

Managing common withdrawal symptoms



Warn family and friends of potential irritability



Distract yourself by doing something else



Do light exercises like brisk walking to lift your mood



Take **small, regular meals**



Do **stretching exercises**



Join the **I Quit 28-Day Countdown**

Where to go for further help

HPB QuitLine

1800 438 2000

<http://www.healthhub.sg/programmes/88/IQuit>

Travelling

How can I prepare for travel?

See your doctor for a **medical check-up** and **vaccination**

Get **insurance coverage**

Get a **doctor's letter** or **diabetes card** regarding your diagnosis and medication

Pack

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

Glucometer with test strips, finger-pricking device and lancets

Medication for common illnesses

Sweets to prevent hypoglycaemia (low blood sugar)

Tips

- Bring at least 50% more medication and twice the number of glucometer strips you need
- Order them in advance
- When travelling, keep your medication or insulin in an insulated bag and in your carry-on bag
- When travelling with insulin, keep it cool and away from direct sunlight and heat
- Plan ahead for storage of insulin when abroad

Do I need to adjust my medication schedule and insulin dosage?

For long-haul flights or when the time zone difference is more than 2 hours, discuss with your doctor or care team regarding possible adjustments to your medication schedule and insulin dosage

Note: Maintain your medication schedule and insulin dosage for short-haul flights or when the time zone difference is 1 to 2 hours

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**

Caregivers Stress and Tips

Am I experiencing caregiver stress?

Common signs and symptoms



Finding **no meaning** in caregiving



Loss of **appetite**



Insomnia



Chronic **fatigue**



Feeling **hopeless** and helpless



Withdrawal from family and friends

How can I manage caregiver stress?

Practise self-care



Get enough rest



Positive self-talk



Physical activities and other **hobbies**



Meditation, yoga, taichi, or qigong

Seek support



Talk to supportive **friends and family**



Join **support groups**



Make use of **respite care**



Seek **professional help**

How to help my loved one live a healthier life?



Cook and have **healthy meals together**



Walk or **exercise together**



Accompany your loved one to medical appointments



Praise your loved one for self-management efforts



Plan social events around **diverse activities**



Pair **healthy food** with positive events

Goals

Setting my goal

Step 1:
Where do you want to be?

Where I am now:



Where I want to be:

**This goal is important
to me because ...**

Setting my goal

Step 2: Set your goal

I will ...		
Action	Day/Time	Location
	Time period	Start date

Step 3: Identify and work around potential barriers

What might get in the way	What I can do	Person(s) who can help

Keeping up with my goal

Step 1: Write down the original goal

I will ...
Action
Day/Time
Location
Time period
Start date

Step 2: Solve the problem

What got in the way?	How can I work around it?


Step 3: Revise your goal


I will ...
Action
Day/Time
Location
Time period
Start date

Finance

Government subsidies

at subsidised specialist outpatient clinics (SOCs) and polyclinics

Households with income				
Household Monthly Income Per Person	Subsidy at subsidised SOCs [^]		Subsidy at polyclinics	 Additional PG / MG subsidy
	Subsidised services	Subsidised medications	Subsidised medications for adults*	
\$1,200 and below	70%	75%	75%	PG: Additional 50% off the remaining bill MG: Additional 25% off the remaining bill
\$1,201 to \$2,000	60%			
Above \$2,000/ Unassessed	50%	50%	50%	

Households with no income				
Annual Value [#] (AV) of Home	Subsidy at subsidised SOCs [^]		Subsidy at polyclinics	 Additional PG / MG subsidy
	Subsidised services	Subsidised medications	Subsidised medications for adults*	
\$13,000 and below	70%	75%	75%	PG: Additional 50% off the remaining bill MG: Additional 25% off the remaining bill
\$13,001 to \$21,000	60%			
Above \$21,000/ Unassessed	50%	50%	50%	







[^]To receive subsidies for Public SOC visits, you will first need to be assessed and referred by a CHAS clinic or polyclinic. The doctor will refer you to a Public SOC as a subsidised patient where eligible

* Children (18 years or younger) and elderly (65 or older) already receive 75% subsidy for subsidised medications at the polyclinics

[#]The AV of your home is the estimated annual rent if it is rented out. It is assessed by IRAS.

Government subsidies at CHAS GPs

From
1 November
2019

					
PCHI (Per Capita Household Income)	Above \$2,000	\$1,201 to \$2,000	\$1,200 and below	All Merdeka Generation seniors receive CHAS benefits, regardless of income or AV of home	All Pioneers receive CHAS benefits, regardless of income or AV of home
AV (Annual Value) of Home (For households with no income)	Above \$21,000	\$13,001 to \$21,000	\$13,000 and below		
Acute (common illnesses)	-	Up to \$10 per visit	Up to \$18.50 per visit	Up to \$23.50 per visit	Up to \$28.50 per visit
Simple Chronic	Up to \$28 per visit, capped at \$112 per year	Up to \$50 per visit, capped at \$200 per year	Up to \$80 per visit, capped at \$320 per year	Up to \$85 per visit, capped at \$340 per year	Up to \$90 per visit, capped at \$360 per year
Complex Chronic	Up to \$40 per visit, capped at \$160 per year	Up to \$80 per visit, capped at \$320 per year	Up to \$125 per visit, capped at \$500 per year	Up to \$130 per visit, capped at \$520 per year	Up to \$135 per visit, capped at \$540 per year
Dental	-	\$50 to \$170.50 subsidy per procedure (denture, crown, root canal treatment only)	\$11 to \$256.50 subsidy per procedure (dependent on procedure)	\$16 to \$261.50 subsidy per procedure (dependent on procedure)	\$21 to \$266.50 subsidy per procedure (dependent on procedure)
Recommended Health Screening under Screen for Life (SFL) 	A fixed fee of \$5 with SFL Invitation letter, for recommended screening test(s) and first post-screening consultation, if required	A fixed fee of \$2 with SFL Invitation letter, for recommended screening test(s) and first post-screening consultation, if required		A fixed fee of \$2 with SFL Invitation letter, for recommended screening test(s) and first post-screening consultation, if required	Free with SFL Invitation letter, for recommended screening test(s) and first post-screening consultation, if required

Pioneer Generation eligibility

- Born on or before 31 December 1949
- Received citizenship by 31 December 1986

Merdeka Generation eligibility

- Born from 1 Jan 1950 to 31 Dec 1959; and
- Received citizenship by 31 December 1986 OR
- Born on or before 31 Dec 1949; and
- Received citizenship on or before 31 Dec 1996; and
- Did not receive Pioneer Generation Package

MediSave for outpatient bills



Chronic Disease Management Programme (CDMP)

- CDMP is part of MediSave500, a scheme for outpatient care
- Requires 15% co-payment
- You can withdraw up to \$500 per year¹ for specific chronic diseases:
 - Diabetes (including pre-diabetes)
 - Hypertension
 - Lipid disorders
 - Stroke
 - Asthma
 - Chronic Obstructive Pulmonary Disease (COPD)
 - Schizophrenia
 - Major depression
 - Bipolar disorder
 - Dementia
 - Osteoporosis
 - Benign Prostatic Hyperplasia (BPH)
 - Anxiety
 - Parkinson's disease
 - Chronic kidney disease (Nephrosis/nephritis)
 - Epilepsy
 - Osteoarthritis
 - Psoriasis
 - Rheumatoid arthritis
 - Ischaemic heart disease

Flexi-MediSave

- For patients ≥ 60 years old
- Can be used for the 15% co-payment under CDMP
- Up to \$200 per patient per year²
- Can be used at Specialist Outpatient Clinics (SOC) in public hospitals and national specialty centres, polyclinics, and participating Community Health Assist Scheme (CHAS) Medical GP clinics

To start using MediSave for the Chronic Disease Management Programme (CDMP)

- Visit a clinic/ doctor who is registered with MediSave for CDMP to:
 - Be certified by a doctor that you have one of the listed chronic conditions
 - Sign the MediSave authorisation form
- If you are using multiple accounts, your family members' consent will have to be provided

¹Patients can tap on accounts of immediately family members (i.e. spouse, parents and children); Patients who are SC/PR can tap on grandchildren's and sibling's MediSave

²Patient's own and spouse's account may be used, provided spouse is also ≥ 60 years old