

# Protect your heart, ditch the three highs

blood pressure

cholesterol

blood sugar

## This flipchart covers:

**Questions and  
answers about the  
three highs**

**Q & A**



**Tips for managing  
the three highs**



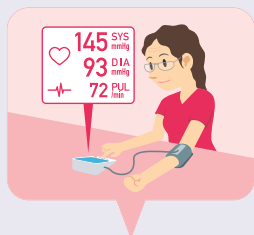
**What can you do  
to prevent heart  
diseases?**



# What are the three highs?

## High blood pressure (hypertension)<sup>1</sup>

You consistently have an **elevated SBP  $\geq 140$  mmHg** and **DBP  $\geq 90$  mmHg<sup>1</sup>**



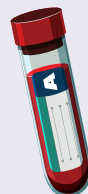
*When should you measure your BP?<sup>1</sup>*

**At home:**

**Once in the morning (before taking medication) and once in the evening (before meal) at the same time for a minimum duration of 3 days**

## High cholesterol (hypercholesterolemia)<sup>2</sup>

You have the following lipid profile:



- ✓ TC  $>5.2$  mmol/L
- ✓ HDL-C  $<1.0$  mmol/L (males),  $<1.2$  mmol/L (females)
- ✓ TG  $>1.7$  mmol/L
- ✓ LDL-C  $>2.6$  mmol/L

*When should you check your cholesterol level?<sup>2</sup>*

**Following initiation of treatment, lipid profile should be measured at 1–3 months and repeated at 6–12 month intervals**

## High blood sugar (Hyperglycaemia)<sup>3</sup>

Your fasting plasma glucose is  $\geq 7.0$  mmol/L and after meal plasma glucose is  $\geq 11.1$  mmol/L or **A1c level is  $\geq 6.3\%$**



*When should you measure your blood glucose?<sup>3</sup>*

- ✓ Self-monitoring:
  - Once before and once after breakfast, lunch and dinner
  - Once before bedtime
- ✓ A1c level is checked every 3–6 months

Use the patient record booklet to log your measurements



Take charge of your health and get checked!

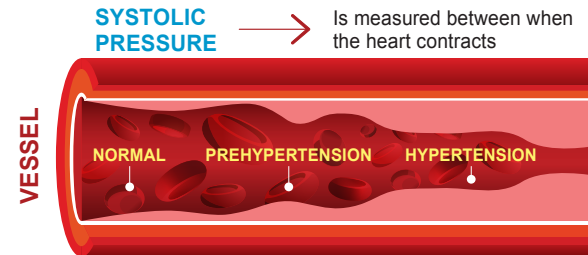
Understanding the three highs

# First high: High blood pressure

- BP is determined by the amount of blood your heart pumps and the amount of resistance to blood flow in your arteries<sup>4</sup>




The more blood your heart pumps and the narrower your arteries, the higher your BP<sup>4</sup>



Adapted from MedicineNet. Blood pressure guidelines.  
Accessed from [https://www.medicinenet.com/blood\\_pressure\\_guidelines/views.htm](https://www.medicinenet.com/blood_pressure_guidelines/views.htm).

- Most people with hypertension have no signs or symptoms. Some people may experience headaches, shortness of breath or nose bleed but are usually at severe stage<sup>4</sup>



**Did you know?** 

About 3.5 million (17.2%) Malaysian adults aged 18 years and above do not know they have hypertension<sup>6</sup>



# First high: High blood pressure

## What are the causes of hypertension?

### Modifiable factors<sup>7</sup>



Smoking/  
secondhand smoking



Diabetes mellitus



Dyslipidaemia



Overweight/obesity



Lack of exercise



Unhealthy diet

### Non-modifiable factors<sup>7</sup>



Stress & anxiety



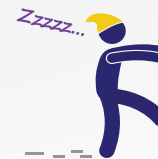
Low socioeconomic/  
educational status



Increase in age



Male sex



Sleep disturbance



Family history



Chronic kidney  
disease



Modifiable factors if  
changed may reduce  
the risk of heart  
diseases<sup>7</sup>

## First high: High blood pressure



- If you are monitoring your BP at home (usually to help the doctor determine if the treatment is working), these are the ways to measure a correct BP<sup>8</sup>

1. Be still and rested<sup>1,7,8</sup>



2. Sit straight with your back supported<sup>1,7,8</sup>



3. Measure your BP at the same time every day<sup>1,7,8</sup>



4. Take multiple readings and record the results<sup>1,7</sup>



5. Do not take measurements over clothes<sup>8</sup>

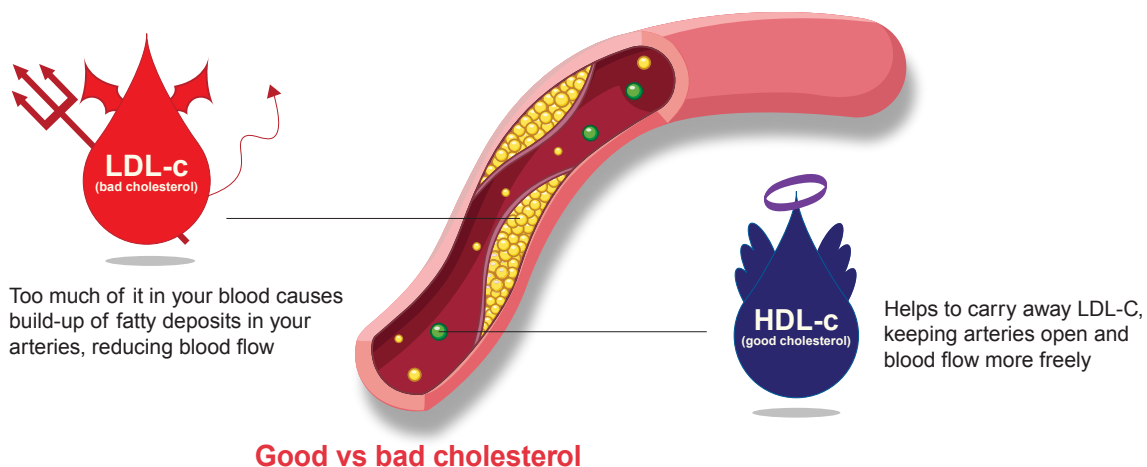


## Second high: High cholesterol

- Your doctor will run a lipid profile or complete cholesterol test to measure the amount of cholesterol and triglycerides in your blood<sup>9</sup>
- The lipid profile test sums up the following blood cholesterol content<sup>9</sup>:

<b>Total cholesterol</b>	A sum of your blood's cholesterol content
<b>Triglycerides</b>	Body converts calories it does not need into triglycerides, which are stored in fat cells
<b>HDL-C</b>	Known as the 'good cholesterol'
<b>LDL-C</b>	Known as the 'bad cholesterol'

- How do you differentiate between good and bad cholesterol?<sup>9</sup>



### Why is a lipid profile test done?<sup>9</sup>

- To help determine the risk of blocked arteries throughout your body
- To identify the risk of developing a heart attack or other forms of heart diseases



# Third high: High blood sugar

- Symptoms of T2DM may include<sup>3,10</sup>:



Increased thirst  
(polydipsia)



Excessive urination  
volume (polyuria)



Lethargy



Weight loss



Blurring vision



Increased risk of  
infection

- What are the causes of high blood sugar?<sup>10</sup>



Skip or forget  
your insulin or  
oral glucose-  
lowering  
medicine



Conduct strenuous activity  
when blood sugar is high  
and insulin levels are low



Eat too much  
carbohydrates for  
the amount of  
insulin you took



Have an infection



Under stress/ill



Inactive/lack of exercise

High blood sugar can affect people with T2DM as high sugar in blood can cause damage to nerves, blood vessels and organs<sup>10</sup>





# Management of the three highs: Changing your lifestyle

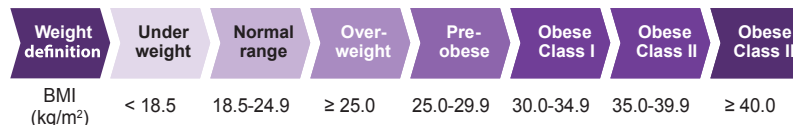
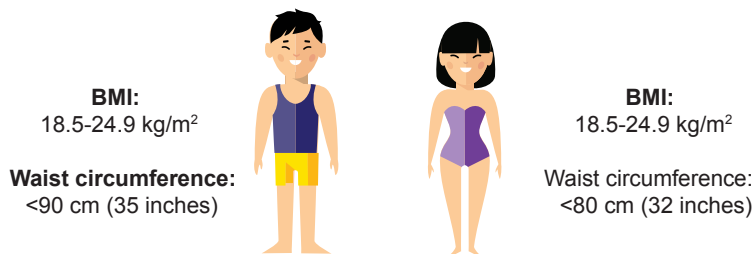


## 1. Reduce your weight: Aim for at least 1-kg reduction in body weight for overweight adults<sup>1,7</sup>



Every 1 kg reduction = 1 mmHg reduction in SBP<sup>1</sup>

Healthy weight = Normal BMI + Healthy waist circumference<sup>2,11</sup>



### ■ Lose weight with a calorie restriction of 1200 to 1500 kcal/day<sup>12</sup>

	1500kcal	
<b>Breakfast</b>	Fried rice (1cup) cooked with carrot (1/4 cup) and French beans (1/4 cup) + Coffee (1 cup) with low fat milk (1/4 cup)	
<b>Morning Tea</b>	Tea without sugar (1 cup)	
<b>Lunch</b>	Bihun sup (1 cup) cooked with small prawn (10 pieces) + sawi + tomato + carrot+ baby corn (1 cup) + Watermelon (1 slice) + Ice lemon tea (with 1 teaspoon sugar) (1 glass)	
<b>Afternoon Tea</b>	Popia basah (2 pieces) + Tea without sugar (1 cup) with low fat milk (1/4 cup)	
<b>Dinner</b>	White rice (1 cup) + Sup sayur campur (1/2 cup) + Ikan kembung bakar berlada (1 medium) + Pisang emas (2 whole) + Plain water (1 glass)	

BMI, body mass index; SBP, systolic blood pressure










Managing the three highs

# Management of the three highs: Changing your lifestyle














## 2. Eat healthily: Consume a diet rich in fruits, vegetables, whole grains and low-fat dairy products<sup>1,2,3,7</sup>









- Substitute high GI foods with lower GI foods<sup>3</sup>

Low GI foods	Intermediate GI foods	High GI foods
Muesli Full fat, low fat and skim milk	Basmati/brown rice Udon/Wheat noodles	Glutinous/Jasmine rice Fried meehoun/kuey teow
 		
Barley      Wholegrain bread	Spaghetti	Roti canai
 		
Apple      Yoghurt	Ice cream	Teh tarik
		
		White flour/ wheat flour bread

- Prepare food with less salt and sauces<sup>13</sup>

Low sodium foods	Moderate sodium foods	High sodium foods
 	Fermented durian Fish ball Dried cuttlefish	Dried anchovy Instant flavouring/ oyster sauce
Fresh fruits      Chicken breast or thigh		
 	Fried chicken/ chicken frankfurter	Pickled fruits
Hen eggs      Low sodium cheddar cheese		
	Duck egg	Canned sardine
Reduced salt margarine		
	Chili sauce	Chicken curry

- Substitute foods with bad fats with foods with good fats<sup>14</sup>

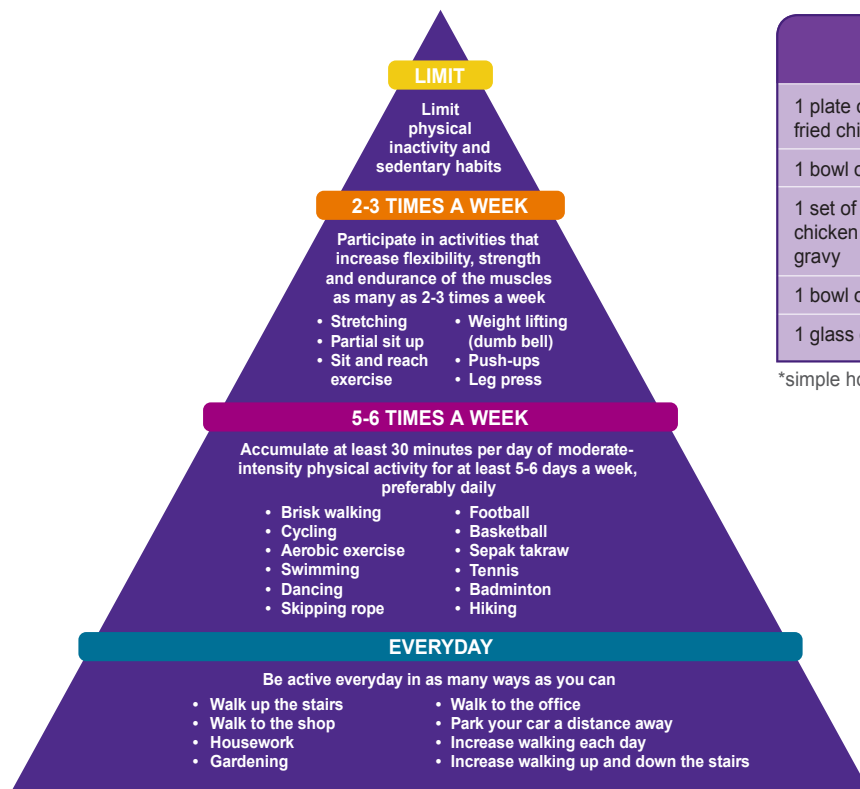
Good Fats					Bad Fats				
									
Olive oil	Avocado	Nuts	Salmon	Tofu	Palm oil	Beef	Margarine	Shortening	Coconut Oil

GI, glycaemic index

# Management of the three highs: Changing your lifestyle



## 3. Exercise regularly: Brisk walking for 30–60 mins at least 5 times/week or take up aerobic for 90–150 mins/week<sup>1,3,7,15,16</sup>



Physical activity pyramid

Food	Calorie content (kcal)	Example of exercise needed to burn the calories	Duration*
1 plate of nasi lemak with fried chicken	640	Simple house chores such as scrub the toilet floors, clean the windows and wash the car	2 hours 40 mins
1 bowl of curry noodle	530		2 hours 12 mins
1 set of Briyani rice with chicken curry and dhal gravy	630		2 hours 38 mins
1 bowl of kuey teow soup	180		45 mins
1 glass of teh tarik	140		35 mins

\*simple house chores of at least 30 mins will burn 120 kcal



**Did you know?**  
Scrubbing the floors for at least 30 mins can burn 120 kcal (equivalent to half cup of vanilla frozen yoghurt!)<sup>15</sup>



# Management of the three highs: Changing your lifestyle



## 4. Moderation in alcohol intake: Reduce to $\leq 2$ drinks daily for men and $\leq 1$ drink daily for women<sup>7,15</sup>

Alcohol content of common drinks\*

Low Alcohol Beer, Lager & Cider	Bottle (330ml)	Can (440ml)	Can (440ml)	litre
2%	0.7 units	0.9 units	1.1 units	2 units
<b>Beer Lager &amp; Cider</b>				
4%	1.3 units	1.8 units	2.3 units	4 units
5%	1.7 units	2.2 units	2.8 units	5 units
6%	2 units	2.6 units	3.4 units	6 units
<b>Wine &amp; Champagne (red, white, rose or sparkling)</b>	Small Glass (125ml)	Standard Glass (175ml)	Large Glass (250ml)	Bottle (750ml)
10%	1.25 units	1.75 units	2.5 units	7.5 units

\*Department of Health. Alcohol know your limits. Alcohol units: A brief guide, National Health Service. Crown Copyright 2008. Accessed from [www.nhs.uk/units](http://www.nhs.uk/units).

## 5. Make the effort to stop smoking<sup>1,2,15</sup>

If you are nicotine-dependent and planning to quit smoking, here are a few ways to begin<sup>15</sup>:

Nicotine replacement therapy such as gums, transdermal patch, nasal spray, vapour inhaler and lozenges



Smoking cessation services are available at all health clinics and selected pharmacies in Malaysia and online ([www.jomquit.moh.com.my](http://www.jomquit.moh.com.my))



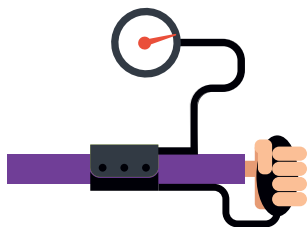
Drugs that promote smoking cessation and abstinence



# Three highs are associated with heart diseases



- Your risk of developing a heart disease is higher if you have high blood pressure, high cholesterol and high blood sugar<sup>15</sup>



High blood pressure



High cholesterol

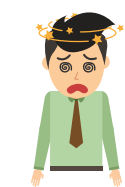


High blood sugar

- Watch out for these warning signs that could potentially lead to heart diseases<sup>17</sup>



Chest pain



Dizziness and lightheaded



Getting exhausted easily



Increased sweating



Nausea, indigestion or heartburn



Long-lasting cough



Swelling legs, feet and ankle



Pain that spreads down the left side of the body



Irregular heartbeat/palpitations



Loud snoring like gasping or choking

Talk to your pharmacist if you experience any of these signs!



Preventing heart diseases

# Preventing heart diseases: What can you do?



- Adhere to your medication with these simple steps<sup>18</sup>

Write it down



Report any side effects



Store your medication properly



Set a routine



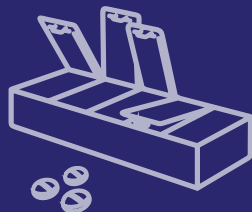
Phone reminders



Stick to a schedule



Organize your medication



Go to one pharmacy



Follow-up and share concerns



Keep a record of your health using a patient record booklet



# Preventing heart diseases: What can you do?



- Know your medicines with 5R<sup>19</sup>



- Talk to your pharmacist about your medicines<sup>20</sup>

I have trouble swallowing pills. Is liquid medicine available?

Should it be kept in the refrigerator or in a dry place?

Is it a generic or brand name drug?

Can you explain on how the drug should be taken?





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