DO YOU HAVE A HEALTHY HEART SCORE?

VIATRIS™

HIGH BLOOD PRESSURE

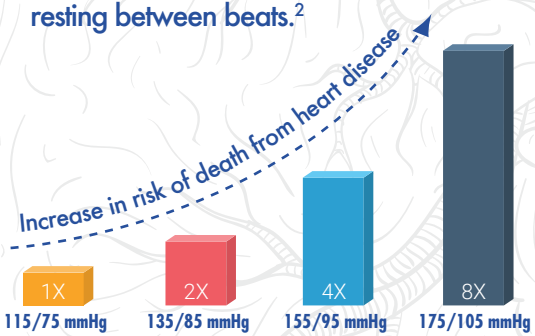
What you need to know?

Hypertension

High blood pressure (BP) is known as hypertension. It is defined as raised systolic BP (SBP) ≥140 mmHg and/or diastolic BP (DBP) ≥90 mmHg.[1]

Our blood pressure is recorded as two numbers:

- **Systolic blood pressure (the first number)** – indicates how much pressure your blood is exerting against your artery walls when the heart beats.
- **Diastolic blood pressure (the second number)** – indicates how much pressure your blood is exerting against your artery walls while the heart is resting between beats.[2]



Did You KNOW?

Each 20/10 mmHg BP increase doubles the risk of death from heart disease, stroke or other vascular diseases (abnormal condition of the blood vessels).[3]

Understand Your BP Numbers

(age ≥18 years):[4]

BP Category	Systolic (mmHg)		Diastolic (mmHg)
Optimal	<120	and	<80
Hypertension			
Stage I (Mild)	140–159	and/or	90–99
Stage II (Moderate)	160–179	and/or	100–109
Stage III (Severe)	≥180	and/or	≥110

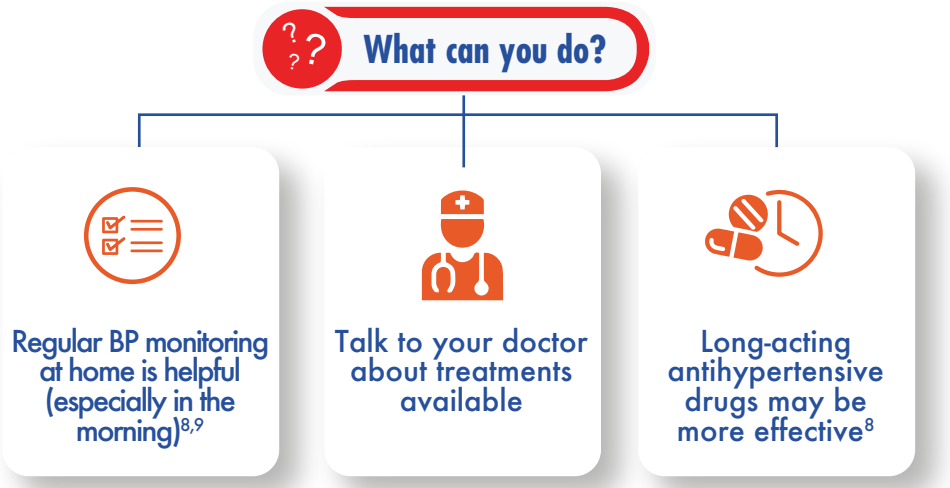
If high BP is not controlled, it results in damage to the heart by hardening the arteries, decreasing the flow of blood and oxygen to the heart. This may result in:[5]

- **Chest pain**, which is also known as angina.
- **Heart attack**, which occurs when the blood supply to the heart is blocked and heart muscle cells die due to lack of oxygen. The longer the blood flow is blocked, the greater the damage to the heart.
- **Heart failure**, which occurs when the heart cannot pump enough blood and oxygen to other vital organs of the body.
- **Irregular heartbeat**, which can even lead to sudden death.[5]

Morning BP Surge

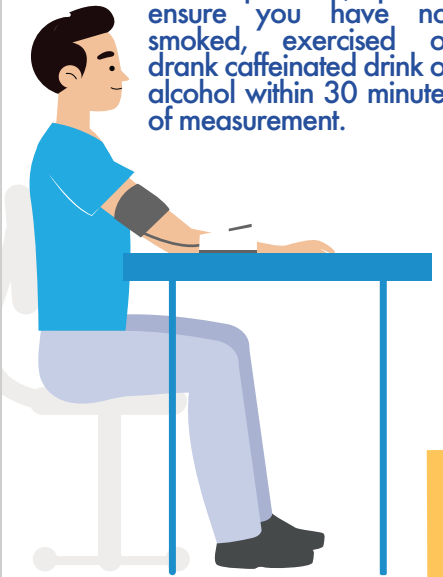
What is it?

Morning BP surge occurs when a person has an abnormal rise in morning BP (≥135/85 mmHg). Morning BP surge usually takes place between **6:00 am and 12:00 pm**.[6–8]



SIMPLE STEPS FOR ACCURATE BP MEASUREMENT[1]

Before measuring your blood pressure, please ensure you have not smoked, exercised or drank caffeinated drink or alcohol within 30 minutes of measurement.



Step 1:
Rest for 5–10 minutes.

Step 2:
Sit on a chair, relax your back with both the feet flat on the floor (do not cross your legs).

Step 3:
Place the arm freely at the level of your chest.

Step 4:
Put on the cuff 1 inch above the elbow (do not place the cuff over the cloths).

Step 5:
Switch on the digital machine and observe the BP readings.

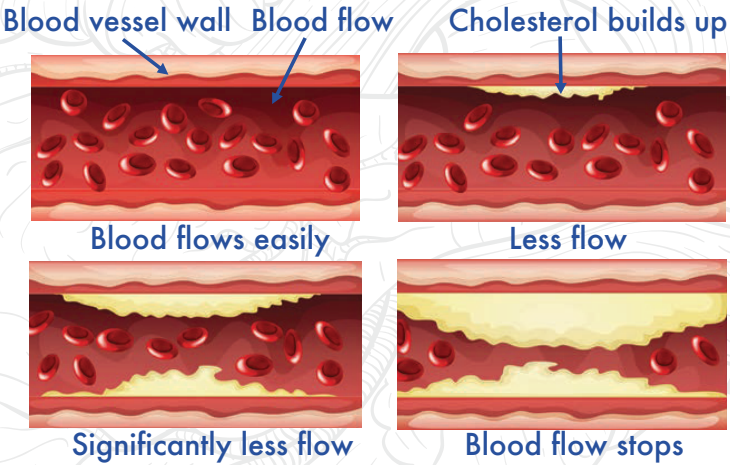
- Take at least two readings 1 minute apart in the morning before taking medications and in the evening before dinner.
- Record all results.

HIGH CHOLESTEROL

What you need to know?

Hypercholesterolaemia

Hypercholesterolaemia is a condition caused by very high levels of cholesterol in the blood.[10]



HDL-C Versus LDL-C

LDL-C is considered as the "bad" cholesterol, because it contributes to fatty build-ups in arteries (atherosclerosis). This condition narrows the arteries and increases the risk for heart attack, stroke and peripheral artery diseases.[11]

HDL-C can be thought of as the "good" cholesterol. Experts believe that HDL acts as a scavenger, carrying LDL-C (bad) away from the arteries and back to the liver, where the LDL is broken down and passed from the body.[11]

LDL-C = Low Density Lipoprotein Cholesterol
HDL-C = High Density Lipoprotein Cholesterol

Risk of Having High Cholesterol[12]

Atherosclerosis

Excessive cholesterol will form fatty deposits (plaque) that clog your arteries, that is called atherosclerosis. As plaque builds up, the wall of the blood vessel thickens. The plaque will partially or totally block blood flow through large or medium-sized arteries in the heart, brain, pelvis, legs, arms or kidneys, and cause the following complications.[13]


Stroke


Chest pain


Heart attack


Chronic kidney disease

Understand Your Cholesterol Test Result[14]*

Total cholesterol	
<5.2	Desirable
5.2–6.2	Borderline high
>6.3	High

LDL cholesterol		HDL cholesterol (Higher the better)	
<2.6	Optimal	<1.1	Low
2.6–3.3	Near optimal	>1.6	High
3.4–4.1	Borderline high		
4.2–4.9	High		

Triglycerides			
<1.7	Normal	2.3–5.6	High
1.7–2.2	Borderline high	>5.7	Very high

*All values are in mmol/L.

Management of High Cholesterol

Healthy lifestyle[15,16]

Exercise prevents high blood cholesterol levels[15]

Balanced diet (low in saturated fat) reduces the levels of bad cholesterol[15]

Fatty acids (building blocks of the fat in our body and in the food we eat) lower the triglyceride levels[15,16]

Cholesterol-lowering medication[15,17]

Statins
Hinder cholesterol production in the liver, and in turn reduce cholesterol in the blood.

Bile acid sequestrants
Reduce the amount of LDL-C circulating in the blood.

Nicotinic acid
Inhibits lipoprotein synthesis and decreases the production of VLDL in the liver.

Fibrates
Typically reduce the amount of LDL-C.

Cholesterol absorption inhibitors
Inhibit the absorption of cholesterol from the food and bile juices.

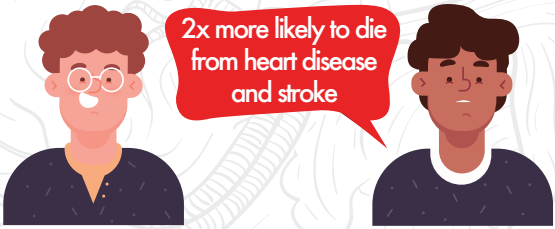
HIGH BLOOD SUGAR

What you need to know?

High Blood Sugar

High blood sugar is a common problem for people with diabetes mellitus. It is important to keep the blood sugar level as near to normal level as possible because having high blood sugar regularly for long periods can result in permanent damage to the eyes, nerves and kidneys.[18]

Over time, high blood glucose from diabetes can also damage your blood vessels and the nerves that control your heart and blood vessels. The longer you have diabetes, the higher the chances that you will develop heart disease.[19]



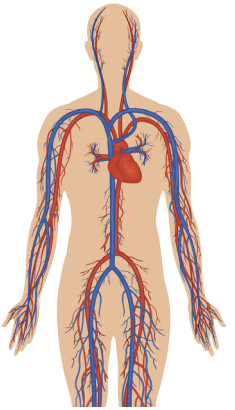
Without diabetes

With diabetes

Type 2 Diabetes Mellitus

Type 2 diabetes mellitus (T2DM) is characterised by:

- Fasting plasma glucose ≥7.0 mmol/L
- After meal plasma glucose ≥11.1 mmol/L
- A1c level ≥6.3%.[20]



Aim for these levels to control T2DM[20]

Glycaemic control	Target levels
Fasting plasma glucose	4.4–7.0 mmol/L
After meal plasma glucose (measured at least 90 minutes after meals)	4.4–8.5 mmol/L
A1c	≤6.5%

When should you check your blood sugar level?

- Self-monitoring: Once before and once after breakfast, lunch and dinner.[16]
- A1c level is checked every 3–6 months.[20]

GLOBAL RISK ASSESSMENT TO CALCULATE HEART DISEASE

Experts globally have developed tools to calculate a person's risk of developing a heart disease and event such as heart attack and death over a specified period, usually 10 years.

These tools recognise risk factors such as:

Age

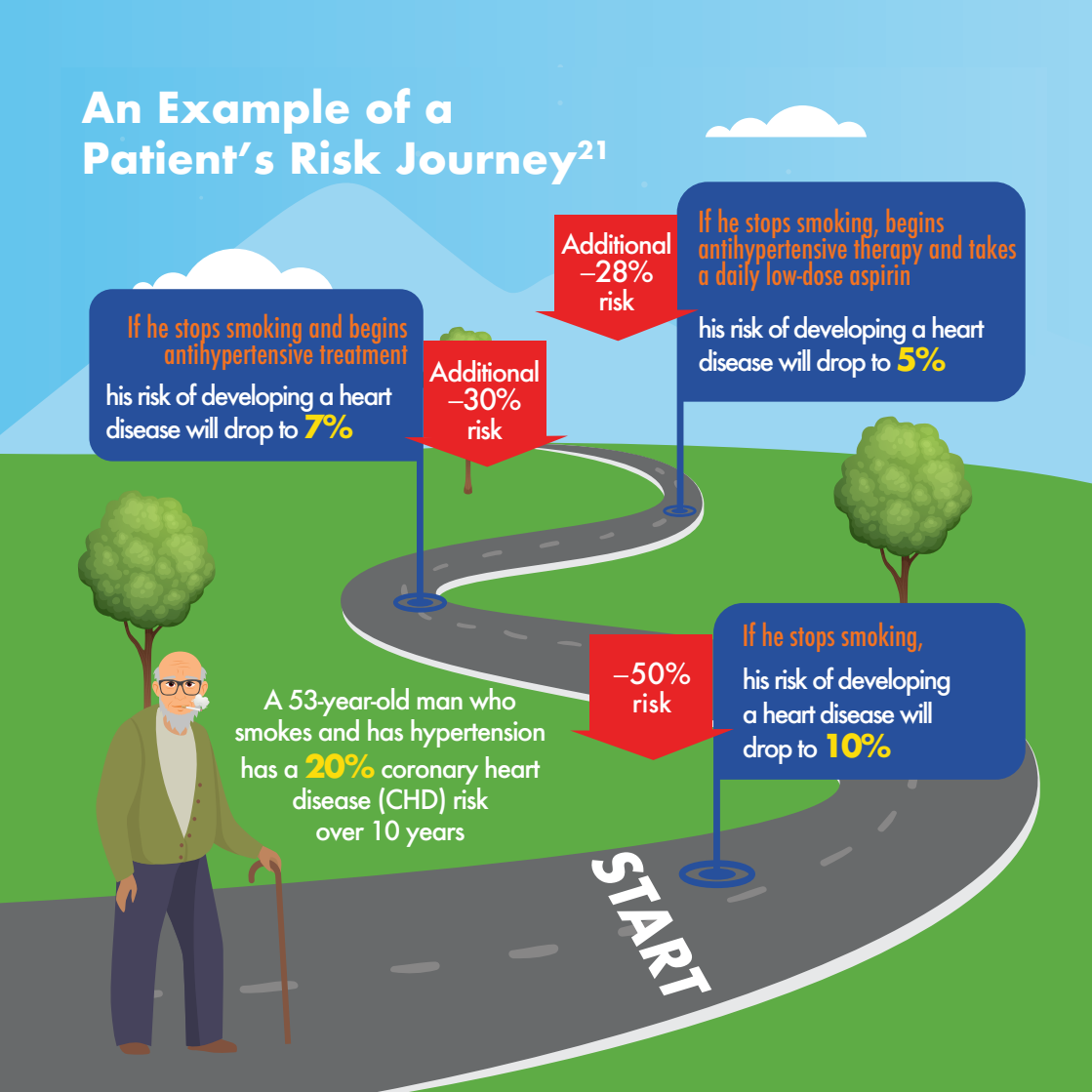
Smoking

Blood pressure

Diabetes and cholesterol

as major parameters in the calculation. Once your healthcare provider has identified your risk, he/she will discuss with you about treatment strategies to lower the risk.[21]

An Example of a Patient's Risk Journey[21]



FREQUENTLY ASKED QUESTIONS

1. Fasting before a cholesterol test: Should I do it?[22]

You probably do not need to do so. The evidence suggests that fasting is not necessary before a common blood test, often referred to as a lipid profile. Researchers found that fasting or not fasting before the test had a negligible effect on predicting people's risk of future heart problems.

2. Does eating oatmeal lower cholesterol?[23]

Oatmeal contains soluble fibre, which is beneficial in lowering cholesterol levels in our bloodstream. Oats contain a substance called beta-glucan, which isa water-soluble fibre that prevents the body from absorbing excessive amount of dietary cholesterol, thus reduces the level of LDL.

3. If I am fit and healthy, could I still have a heart attack?[24]

People who maintain a healthy lifestyle through exercise and a healthy diet show a reduced risk of having certain heart disease factors. Individuals who are physically fit should still regularly check their BP and cholesterol levels.

4. Can I stop cholesterol medications once I started?[17,25,26]

You cannot stop taking your prescribed medications/pills as your LDL cholesterol might rise back to the level where it was when you first started. As the cholesterol level increases, so does the risk of a heart attack or stroke. High cholesterol levels can be successfully managed by making necessary lifestyle changes and taking medications.

Take your medications/pills exactly as prescribed by your doctor, including at the right time and for the full length of your prescribed treatment.

5. **Do I need to change my diet when I am on medication?**[4,27]
   Yes. It has been recommended that following a healthy diet is important in reducing the risk of cardiovascular diseases. In fact, dietary lifestyle changes are recommended before and after the initiation of any lipid-lowering treatment. Patients with hypertension and chronic kidney disease should restrict their dietary salt when they are on diuretic therapy (medications designed to increase the amount of water and salt expelled from the body as urine). Remember, you are what you eat!

6. **I find it difficult to adhere to my medication. Sometimes, I miss doses or medications. How can I improve this?**[4,27]
   It is important to adhere to your prescribed medications to benefit from the treatment. A simplified treatment regimen such as once-daily dosing helps to improve medication adherence. Take the effort to self-monitor your BP or sugar levels at home, you will be encouraged when you see improvement in your BP or sugar levels.

7. **Will hypertension go away without treatment?**[28]
   It is rare for hypertension to disappear by itself. If left untreated, blood pressure gets higher with time and the risk of complications goes up too.

8. **If I have diabetes, do I have to be more careful to control my high blood pressure?**[28]
   As diabetes itself increases the risk of cardiovascular complications, blood pressure (which can further increase risk) needs careful attention. In general, most doctors will consider treating blood pressure in patients with diabetes to lower levels than in patients who do not have diabetes.

9. **Will blood pressure medication make me feel funny or sick?**[28]
   These days drugs have good safety profile but no drug is completely free of side effects in all patients.

   As blood pressure drugs work by reducing blood pressure, sometimes too great a fall in blood pressure can cause dizziness on standing. Dizziness on standing also can be worse in older patients.

   There are a variety of other symptoms that can result from blood pressure medications, and if these appear in few days or weeks after the treatment has begun, you should consult your doctor. However, do not stop medications yourself without medical advice as sometimes the blood pressure will rebound to very high levels, which can be dangerous.

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