

# Raffles HealthNews

A PUBLICATION BY **RafflesMedicalGroup**

## *Understanding Heart Diseases*

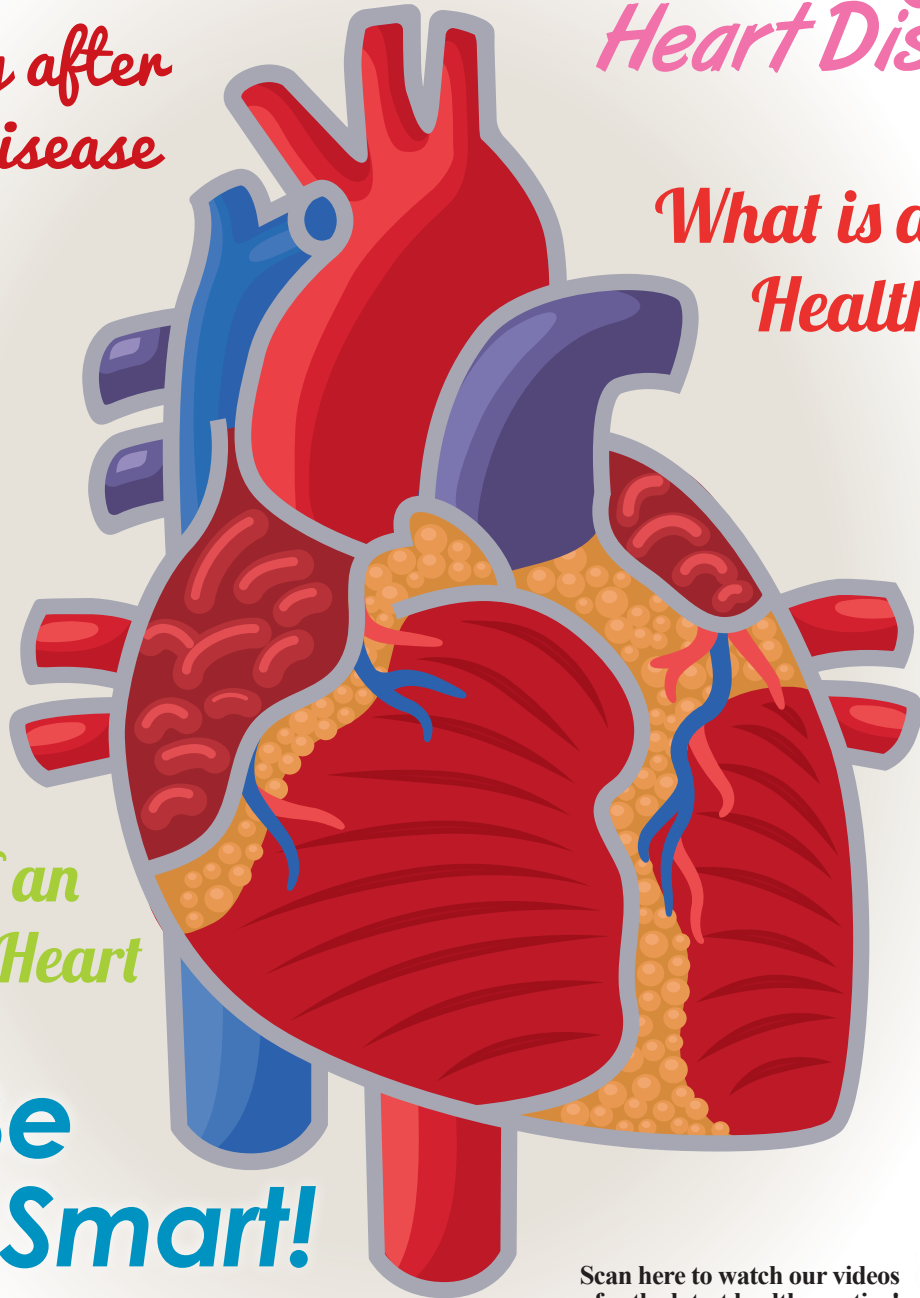
*Restarting after a Heart Disease*

*What is a Heart-Healthy diet?*



*5 Signs of an Unhealthy Heart*

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## LIVEWELL

## 10 COVER STORY

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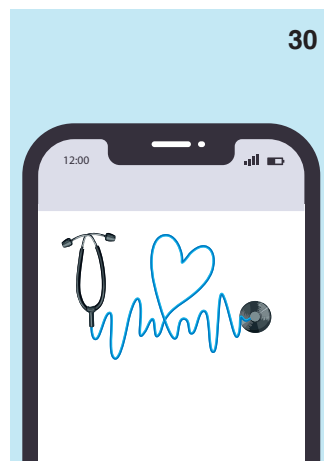
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# Hello Readers!

## Heart Pills to Swallow

Don't know what all your medicine does? We break it down for you so that you need not.

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## The Heart Truths

Once and for all, we debunk five myths surrounding heart diseases.

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## Six Steps to a Heart Healthy Diet

What you need to do to see improvements to your health.

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Heart Things to Do.

Hi there! I am Dr Hoo Kai Meng. This issue, I am sharing the editor's spot with Dr Melvyn Wong.

A little bit about myself, I have been practising as a family physician for almost 30 years. Through the years, I have seen tremendous progress especially in the field of cardiology. I note that technological advances are extremely helpful to improve diagnostics and treatment of heart conditions.

Back when I was in medical school in the early 80's, most heart diseases were secondary to rheumatic fever and its valvular complications. There was certainly less focus on coronary heart disease.

Today, coronary heart disease is now a top killer in Singapore. Many patients we see in general practice are fearful of this disease and don't know enough about it.

In this issue, we put together all the heart things to do in relation to heart disease. We give you everything you need to know about that ticker in your chest. In our cover story, we start by sharing with you five signs of an unhealthy heart as well as the treatments that doctors may prescribe. We play 'mythbusters' too and debunk all the hearsays about heart diseases.

Well, if you have a troubled heart, help has arrived. We share with you lifestyle tips — from exercises to changing your diet, how to use apps and blood pressure monitors to turn things around for you. There is also a Medical Word Search for you to learn through play. This game includes words from throughout this issue, think of it as a glossary with a little bit of spice.

There is hope. Don't give up now.

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**Dr Hoo Kai Meng**  
Deputy Medical Director  
Raffles Medical



# Nurses' Day 2019



Brightly coloured thank you notes plastered across the exhibition panels.

Nurses are our everyday heroes who care for us relentlessly through the years. They dispense comfort, compassion and care without the need of a prescription. Nursing is indeed a work of heart. A word of thanks may seem small, but it can make their day. On 1 August, we said 'thank you' to our nurses for their sacrifices and dedication to this profession.

Here are the highlights of our celebration in Raffles. To mark this special day, we put up an appreciation booth in Raffles Hospital lobby and welcomed the public to pin their heartfelt messages to our healthcare angels.



Messages written by our patients and the members of the public.



What's a celebration without a cake?



We celebrated this joyous occasion with a luncheon and lucky draw giveaways!



Ms Lilian Yew, Chief Nurse, Raffles Hospital (right), hands out a prize to a lucky winner.



We congratulate our Nurses' Merit Award 2019 recipient, Ms Irny Hidaya Binte Muhammad, and our three Raffles Best Nurse Award recipients for the good work done!

Ms Irny was one of the 101 nurses to receive the Nurses' Merit Award from Mr Gan Kim Yong, Minister for Health. (Photo source: Ministry of Health)



*Ms Png Ci En, Nurse Clinician II,  
Inpatient – Medical / Surgical Ward*



*Ms Ng Hui Ping Kelly, Senior Nurse Clinician,  
Raffles Children Centre*



*Ms Carol Lee Chyong Horng, Staff Nurse II,  
Raffles Medical – Health Check at Tampines 1*

## Raffles Hospital Shanghai Completes Milestone Phase of Construction



(Third from right) Dr Loo Choon Yong, Executive Chairman, Raffles Medical Group, leading the guest of honour (centre of photo) Mr Heng Swee Keat, on a tour of the hospital site.

A grand topping out ceremony of Raffles Hospital Shanghai was held on 24 May 2019 in the central business district of Qiantan in Pudong, Shanghai. Mr Heng Swee Keat, Deputy Prime Minister of Singapore and other distinguished guests — Mr Xu Kunlin, Vice Mayor of Shanghai Municipal People's Government, and Mr Li Jinzhao, Chairman of Shanghai Lujiazui Group, were invited to witness the completion of the building's structure.

Raffles Hospital Shanghai is jointly developed and owned by Raffles Medical Group and the Shanghai Lujiazui Group. This hospital is slated to be a high-end, first-class international tertiary hospital located in Qiantan's International Business District, the first-ever free trade zone in Shanghai. It is the second international tertiary hospital to be established in China after Raffles Hospital Chongqing, and the first to be built along the Yangtze River Delta.

The successful construction of Raffles Hospital Shanghai not only marks a historic milestone in the project's completion, it is also a step towards the goal of Raffles Hospital in providing international medical services to locals, international patients, and expatriates living in Shanghai and the surrounding provinces.



Representatives from Singapore and Shanghai looking forward to the completion of Raffles Hospital Shanghai.



Artist impression of Raffles Hospital Shanghai



Distinguished guests at the topping out ceremony

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# The Heart of the Matter is a Matter of the Heart

By Jonathan Yap

Let's talk about fixing a broken heart. It is not the kind where bae\* forgets your anniversary, but literally fixing an unhealthy heart. Here we share five signs of an unhealthy heart, the types of tests to diagnose heart disease, and treatments that doctors may prescribe for that vital organ of yours.

\*Bae – A person's boyfriend / girlfriend / romantic partner. Short for 'before anyone else' in urban speak. You are welcome.

## 5 Signs of an Unhealthy Heart

*When talking about an unhealthy heart, television has over dramatised this. Predictably, it is sudden chest pains, followed by the protagonist falling to his knees and face planting to the ground (in slow-motion, of course). He will gradually have blurry vision before the screen trails off with the sound of the siren. Chest pains are usually present but there are also subtle warning signs, sans the drama.*

*Here are five of them.*

### Heart Palpitations

Feeling your heart beating faster during stressful situations is expected. If you are not doing much and it still beats like you are at a disco, it may be a lack of sleep, too much caffeine or a panic attack.

In rare occasions, a condition called atrial fibrillation may be the causes of your woes. This condition occurs when the electrical impulses that regulate your heartbeat do fail to work properly, causing your heart to thump irregularly. People with this condition feel their heart beating too fast, too slow, or pounding too hard despite being at rest.

### Swollen Feet

Are you having difficulty squeezing your feet into a pair of shoes that once fitted well? Has that pair of shoes shrunk or did your feet become obese? You may be suffering from fluid retention that is also a sign of heart disease or a weakening heart. A weakened heart loses its ability to pump blood throughout your body effectively, causing blood to back up in your limbs.



## Fatigue or Sudden Exhaustion

Finding physical activities more strenuous than usual is the next sign of an unhealthy heart. Dr Teo Swee Guan, Specialist in Cardiology & Consultant, Raffles Heart Centre, warns that constant feelings of fatigue is your heart telling you it is not able to pump enough blood efficiently throughout your body. This may be due to clogged arteries or a weak heart function. In some cases, it may even be a harbinger of an impending heart attack.

Sometimes, exhaustion may be caused by overwork or stress that could be easily remedied with a good night's rest. Sleep is a luxury that escapes some. In Japan, *Karoshi* (過労死), loosely translates as 'death by overwork' is a major cause of suicide and mental health issues according to Japan's annual 'Karoshi' white paper. Try to get enough rest daily. As long as you feel energised most of the time, your heart is pumping enough blood to keep your body moving.

## Snoring During Sleep

Sleep apnoea is a condition where your airways become blocked and the muscles that control your breathing stop working. It not only disrupts your sleep quality (as well as your bae's), research also indicates that you will have a higher risk of heart disease. "People with sleep apnoea tend to stop breathing many times each night, causing their blood oxygen levels to fall," said Dr Teo. "When this happens, your risk of abnormal heart rhythm and heart disease increases."

## Swollen and Bleeding Gums

Even though swollen or bleeding gums are typical symptoms associated with periodontal disease, they are also linked to other conditions such as heart diseases. According to Dr Edgar Kieu, Deputy Director, Raffles Dental, patients with gum diseases have two to three times higher the chance of developing a heart attack or stroke. He also says that bacteria in the gums have shown to migrate to the heart, causing inflammation of the arteries.

Although good oral health is not the perennial answer to preventing heart disease, taking good care of your gums and teeth is essential. Brushing and flossing your teeth at least twice daily and scheduling regular half-yearly visits to your dentist are highly recommended.

## HAVING YOUR HEART CHECKED



Don't panic if these signs sound familiar. Consult your doctor, there are tests available to diagnose the condition of your heart. Your doctor will perform a physical examination and ask about your personal and family medical history before ordering any test. According to Dr Lee Yian Ping, Specialist in Cardiology, Raffles Heart Centre, here are various tests to diagnose heart diseases.

### Electrocardiogram (ECG)

An ECG records electrical signals and can help your doctor detect irregularities in your heart's rhythm and structure. You may have an ECG while you are at rest or while exercising (stress electrocardiogram).

### Holter Monitoring

A Holter monitor is a portable device you wear to record a continuous ECG, usually for 24 to 72 hours. Holter monitoring is used to detect heart rhythm irregularities that are not found during a regular ECG examination.

### Echocardiogram

An ultrasound of your chest, it shows detailed images of your heart's structure and function.

### Stress Test

This type of test involves raising your heart rate with exercise or medicine while performing heart tests and imaging to check how your heart responds.

### Cardiac Catheterisation

The pressures in your heart chambers are measured by having dye injected. The dye, which can be seen on an X-ray, helps your doctor see the blood flow through your heart, blood vessels and valves to check for abnormalities.

In this test, a short tube (sheath) is inserted into a vein or artery in your leg or arm. A hollow, flexible and longer tube (guide catheter) is then inserted into the sheath. Aided by X-ray images on a monitor, your doctor threads the guide catheter through that artery until it reaches your heart.

### Cardiac Computerised Tomography (CT) Scan

This test is often used to check for heart problems. In a cardiac CT scan, you lie on a table inside a donut-shaped machine. An X-ray tube inside the machine rotates around your body and collects images of your heart and chest.

### Cardiac Magnetic Resonance Imaging (MRI)

For this test, you lie on a table inside a long tube-like machine that produces a magnetic field. The magnetic field produces pictures to help your doctor evaluate your heart.

## Types of Treatment



Dr Lee also says that heart disease treatments vary by condition. For instance, if you have a heart infection, you will likely be given antibiotics. In general, treatment for heart disease usually includes:

- I Lifestyle changes. These include eating a low-fat and low-sodium diet, getting at least 30 minutes of moderate exercise on most days of the week, quitting smoking and limiting alcohol intake.
- II Medications. If lifestyle changes alone are not enough, your doctor may prescribe medications to control your heart disease. The type of medication will depend on the type of heart disease.
- III If medication is not sufficient, it is possible that your doctor will recommend specific medical procedures or surgery. The type of procedure will depend on the type of heart disease and extent of the damage done to your heart.

The heart of the matter is indeed the matter of the heart. You only have that one ticker beating inside of you. Taking care of your heart is important, especially if you like to live more years of quality life, and for your family.

### Random 'Out-out-of-nowhere' Trivia

*You have probably seen this hand gesture before. From teenagers on the street to the line dancing aunties at the community centres, everyone's doing this! It is the millennial iteration of the peace sign. This is supposed to loosely mean 'love' and it also gives your hands something to do when taking a photograph.*



### Which do you think is correct?

#### Option A

**A baby heart formed by the tip of your index finger and your thumb.**

**OR**

#### Option B

**A human heart where the arteries are the tip of your index finger and thumb, while your fist represents the heart itself.**

Many K-pop artistes have come out to lay claim as the originator of the heart symbol and giving their expert opinion on the matter. Depending on your loyalty, it's bound to sway your views. If you are like me, and don't give two hoots about K-pop culture, I would like to think it's a baby heart. It's cuter.

# Heart Pills to SWALLOW

For some people who have a heart condition, being on long-term medication is inevitable. There are different groups of drugs to manage different aspects of heart disease, including prevention. Here is a breakdown to help you understand the uses of each group of medication.

By Dr Hoo Kai Meng

## NOVEL ORAL ANTICOAGULANTS (NOACS) - BLOOD PRESSURE MEDICATION

### NAME OF DRUG

Angiotensin Converting Enzyme (ACE) Inhibitors (Lisinopril / Enalapril)

### WHAT IT DOES

This type of medicines help to reduce blood pressure and strain on the heart. It helps to prevent heart failure and improve the chances of survival after a heart attack.

### NAME OF DRUG

Angiotensin II Receptor Blockers (ARB) (Losartan / Telmisartan / Irbesartan)

### WHAT IT DOES

These are used in place of ACE inhibitors and work the same way. They are normally prescribed to patients who develop a persistent cough from taking ACE inhibitors.

### NAME OF DRUG

Betablockers (Concor (Bisoprolol))

### WHAT IT DOES

These are used to relax your heart muscle, slow heartbeat and decrease blood pressure to reduce risk of heart attack. They can also be given for abnormal heart rhythms or angina.

## ANTI-CLOTTING (BLOOD THINNING MEDICINE)

### NAME OF DRUG

Aspirin (Cardiprin)

### WHAT IT DOES

Generally known as a blood thinner, this drug is used because it reduces blood clotting and helps maintain blood flow through a narrow artery.

### NAME OF DRUG

Thrombolytic Agents (Eminase (Anistreplase))

### WHAT IT DOES

This is usually administered in a hospital setting. These drugs help to dissolve a blood clot that blocks blood flow to your heart. The earlier this drug is administered, the greater the chances of survival and less damage done to the heart.

## DRUGS MAINLY USED IN MANAGEMENT

### NAME OF DRUG

Diuretics (Hydrochlorothiazide / Furosemide)

### WHAT IT DOES

These drugs get rid of excess body water and sodium through urination.

They also help to relieve the heart's workload that may result in body fluid build-up in lungs, and that may relieve symptoms like breathlessness.

### NAME OF DRUG

Digoxin

### WHAT IT DOES

This drug increases the strength and efficiency of heart contractions, and it is used in managing heart failure and to control heart rhythm (eg. atrial fibrillation).

## OTHER DRUGS USED

### NAME OF DRUG

Calcium Channel Blockers (Amlodipine (Norvasc))

### WHAT IT DOES

These medications are used to control high blood pressure, chest pains and some heart arrhythmias.

They are either short acting or long acting (released slowly to produce long lasting effects).

## BLOOD THINNING MEDICATION

### NAME OF DRUG

Antiplatelet Agents (Clopidogrel (Plavix))

### WHAT IT DOES

These are platelet aggregation inhibitors to prevent clots from getting larger and the formation of new clots.

These are usually prescribed after you have a coronary angioplasty, stent implant, or have had recurring heart attacks or angina. They may be taken with aspirin.

You should not stop such medication unless there is severe bleeding or advised by your doctor especially after a stent implant.

### NAME OF DRUG

Anticoagulant Medication (Warfarin)

### WHAT IT DOES

This is used to prevent blood clots from forming or treat existing clots. You may need to have regular blood checks to ensure that you have the right dose and that it is working properly.

This is because other medicines or foods, herbs and vitamins may interact with this medicine. You are strongly advised to inform your doctor that you are on it.

## Important Tips

- △ **Keep a written copy of your prescriptions. This is useful for other doctors, pharmacists and nurses to avoid duplicate prescriptions and drug interactions.**
- △ **Use pillboxes marked with days of the week.**
- △ **Inform your doctor if you experience any side effects.**
- △ **Do not stop your medication without your attending doctor's advice or try to save by cutting down the prescribed dosage.**

## CHOLESTEROL MEDICATION

### NAME OF DRUG

Statins (Simvastatin)

### WHAT IT DOES

These drugs help to control blood cholesterol by lowering it. They work by blocking a cholesterol-producing substance in your body. It may also help to reabsorb cholesterol that has built up in plaques on your artery walls, and prevent further blockage in your blood vessels and heart attacks.

Statins help to stabilise plaques in arteries and may be given to patients who have had a heart attack, stroke or angina with a normal cholesterol range.

### NAME OF DRUG

Short Acting Nitrates (Glyceryl Trinitrate)

### WHAT IT DOES

They relieve angina symptoms within a few minutes. They can be sublingual (under the tongue) or used as a spray orally.

### NAME OF DRUG

Anti-anginal Medicines (Isosorbide Dinitrate)

### WHAT IT DOES

They increase blood flow through your heart by widening blood vessels.

### NAME OF DRUG

Long Acting Nitrates (Isosorbide Dinitrate / Isosorbide-5 - mononitrate / transdermal nitroglycerin)

### WHAT IT DOES

These prevent angina symptoms. They do not relieve angina symptoms immediately, and come in tablets or in patches.

Men should not take erectile dysfunction drugs when on nitrates.



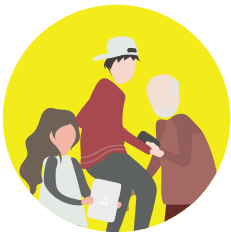
# RISK FACTORS OF THE HEART

By Dr Hoo Kai Meng

Coronary heart disease is the top killer in Singapore. People with this condition are at risk of angina and heart attack.

There are certain risk factors that increase the chances of developing coronary heart disease, and they can be divided into non-modifiable risk factors (factors that you cannot change) and modifiable factors (factors that can be changed to decrease the risk of developing coronary heart disease).

## Non-modifiable Risk Factors



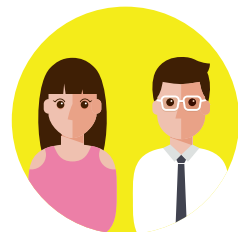
### AGE

The older a person gets, the likelihood of being susceptible to heart disease increases. There is also a higher chance of developing cardiac arrhythmias too. For women who have reached their menopause, the loss of oestrogen hormone appears to increase their risks of coronary heart disease and stroke.



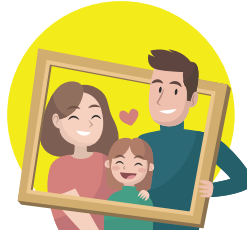
### ETHNICITY

In a study done in Singapore, it was found that coronary heart disease is the highest in South Asians. They are three times higher and Malays are two times more likely to suffer from coronary heart disease than Chinese.



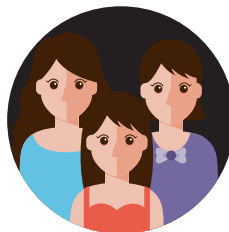
### GENDER

Men are three to five times more likely to have coronary heart disease than women. However, the risk increases for women after menopause, and their risk approaches the same rate as men five to 10 years post menopause.



### HEREDITARY

You are at a higher risk of having heart disease if your immediate family members have a history of premature heart disease. Certain risk factors such as hyperlipidaemia may run in the family.



### MENOPAUSE

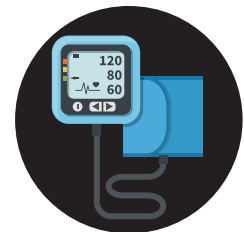
Once a woman reaches menopause, her oestrogen level decreases and this increases her risk. Her biochemical profile will see an increase in the level of triglycerides and low density lipoproteins (LDL), or 'bad' cholesterol. This makes her more susceptible to developing coronary heart disease.

## Modifiable Risk Factors



### SMOKING

Smokers are two to three times more at risk than non-smokers for sudden cardiac death. About 40 per cent of people below 65 years old who died of heart disease were smokers. Smoking also leads to hypertension, blood vessel disease, cancer and lung disease.



### HIGH BLOOD PRESSURE

This is one of the major risk factors for developing coronary heart disease. If left untreated, it can lead to heart failure. It is also a common risk factor for stroke.

Hypertension seldom has symptoms, but it may be a cause of severe headaches, dizziness and visual disturbances if it is extremely high.

Blood pressure should be measured once a year. Mildly raised blood pressure may return to normal through weight loss, exercise and reduction of salt intake.

If lifestyle modification fails, drug treatment is initiated and treatment is life-long.



## OBESITY

Obese people are at increased risk of developing heart disease and stroke in the absence of other risk factors. It puts them at risk of having increased blood pressure, increase LDL or triglyceride levels, and lower high density lipoproteins (HDL) level.

Although family history and the environment play a role in determining obesity, a healthy lifestyle may mitigate these factors. You are advised to control your weight by decreasing calorie intake, have a low-fat diet, and exercise regularly to keep your weight in check.



## DIABETES MELLITUS

Diabetes Mellitus is a chronic illness. Patients with diabetes are two to four times more likely to suffer from coronary heart disease and stroke. It is often associated with other risk factors like hypertension, raised LDL and triglycerides levels, low HDL levels, and obesity.

The treatment goal is to maintain good blood glucose control and a healthy diet, control other risk factors like raised LDL or triglyceride levels, and have a regular exercise routine.



## SEDENTARY LIFESTYLE

An inactive lifestyle puts one at risk of developing heart disease. Regular exercise routine can improve other cardiovascular risk factors like weight loss, lower blood pressure, and increase HDL levels.

The Health Promotion Board recommends doing 150 minutes of moderate intensity exercise weekly. For adults, one should start at a low pace and increase gradually. Patients recovering from heart attacks, have been inactive and are over 40 years old are advised to seek medical advice before starting an exercise programme.



## STRESS

Stress like anger, fear, and excitement may lead to an increase in blood pressure momentarily. Constant stress over a prolonged period puts you at a higher risk of high blood pressure.

Stress may cause palpitations, headaches, insomnia and digestive problems. Prolonged stress may contribute to heart attack. Emotional stress can increase adrenaline and cause the heart to pump harder that may lead to narrowing the blood vessels.



## HIGH CHOLESTEROL

LDL or 'bad' cholesterol will increase the build-up of fatty plaque in the arteries. HDL or 'good' cholesterol, removes cholesterol from cells before they are deposited as plaques in the arteries.

The goal is to keep the total cholesterol as low as possible to prevent excess cholesterol from being deposited in the arteries. Deposition of cholesterol plaques will harden and obstruct blood flow in the arteries and hence increase the risk of heart attack.

It is important to have your cholesterol levels checked regularly. Having a healthy diet is recommended, and have drug treatment initiated, if necessary, as determined by your pre-existing risk for coronary heart disease.



## ALCOHOL

Alcohol is a double-edged sword. If you drink in moderation, it reduces the risk of heart disease. However, overconsumption is harmful to the heart and other organs.

In excess, it can damage the heart muscle and cause irregular heartbeats. It also contributes to obesity, high blood pressure, increased risk of stroke, and cancer.

Drink in moderation. Men should drink no more than two standard drinks a day, and women, no more than one. A standard alcoholic drink is defined as a can (330 ml) of regular beer, half a glass (100 ml) of wine or 1 nip (30 ml) of spirit.



# The Heart Truths

## Debunking Myths About Heart Diseases

By Jasia Shamdasani

You have definitely heard about heart diseases before, but do you know what they are and its severities? Heart disease describes a range of conditions that affects the ticker in your chest. Some of these diseases include blood vessel diseases, such as coronary artery disease, heart rhythm problems (arrhythmias), and congenital heart defects, among others.

There are many myths out there that people have been believing over the years. We debunk some myths about heart diseases once and for all!

### myth / 01.

**Only the elderly will suffer from heart diseases.**

When it seems as though only the elderly will contract such diseases, it is easy to believe that it will never happen to you. While it is true that heart diseases affect mainly more mature adults and the elderly, it is still possible for young people to get heart diseases. Shocking right? Younger patients, especially, tend to underestimate their risks of getting heart diseases. This leads them to ignore early symptoms and delay treatment.

Important cardiovascular risk factors include diabetes, high blood pressure, smoking, family history of premature heart attacks, and high cholesterol. Never assume that if you are young, you will be immune to heart diseases. How you live your life now can affect your risk of getting cardiovascular diseases later on in life.



### myth / 02.

**I would know if I have a heart disease, there are always symptoms.**

The major risk factors for heart diseases are diabetes and high cholesterol, both of which have no symptoms. Occasionally, symptoms may even go unnoticed until a heart attack or stroke happens.

It is important to go for regular checkups so that any early signs can be identified. Your doctor will be able to help you ensure that your blood pressure, sugar and cholesterol levels are in the healthy range. Besides visiting your doctor regularly, you can also make some lifestyle changes like eating healthily and exercising to keep your blood pressure and cholesterol level in the healthy range.



## myth / 03.

**I'm in good shape, I won't get heart disease.**

Although doing regular physical activity can help lower your risk of getting a heart disease, it is still possible for you to be affected. This is because some conditions are hereditary and can be passed down by previous generations. Therefore, no matter how fit you are, there is still a chance for you to get the disease if you have a family history of it.

It is important to know your family medical history so that you can make changes to your lifestyle to lower your risk of getting heart diseases in the future. If you have a family history of heart-related illnesses, do make sure that you visit your doctor regularly for checkups.



## myth / 04.

**I am having a heart attack if I have chest pain.**

This is not necessarily true. Although chest pains are very common for patients who experience a heart attack, there are also other symptoms that go alongside it. Some of the other symptoms a heart attack patient will experience include shortness of breath, nausea, feeling lightheaded, and pain or discomfort in one or both arms, the neck, jaw or back. If you ever experience any of these symptoms or know someone who experiences them, you need to get help quickly by going to the nearest hospital.



## myth / 05.

**Heart failure means the heart stops beating.**

This is not true! The heart only stops beating when you are experiencing a cardiac arrest, but not heart failure. When a person is experiencing heart failure, the person's heart is still pumping blood but it is just not as well as it should be. Some of the symptoms for heart failure are shortness of breath, fatigue, swelling in the feet and ankles, and persistent coughing or wheezing.



# BAD CHOLESTEROL RESULTS? HOW NOW BROWN (UW?)

By Dr Melvyn Wong

Doctors usually order cholesterol tests to assess a patient's risk of developing cardiovascular disease. They will do so especially if you have the following symptoms:

Your chances of developing a cardiovascular disease also increases if you:

- ☐ Have a family history of high cholesterol or heart attack
- ☐ Have diabetes
- ☐ Smoke cigarettes
- ☐ Are a man older than 45 or a woman older than 55

- ☐ Are overweight
- ☐ Are physically inactive
- ☐ Eat an unhealthy diet
- ☐ Have hypertension

There is a large genetic element that pre-determines an individual's level of cholesterol.

If a patient has high cholesterol noted for the first time. Very often, the first thing we do is propose lifestyle changes. However, we also advise that in most cases, lifestyle can only alter the lipid profile so much.

If you are already on medications, these changes, when in tandem, may improve and lower your cholesterol level.

## TOP 3 LIFESTYLE CHANGES TO IMPROVE YOUR CHOLESTEROL

### ☒ EAT HEART-HEALTHY FOODS

A few changes in your diet can reduce cholesterol and improve your heart health.

Find out how you can do so by referring to pages 24 to 27.

### ☒ QUIT SMOKING

Smoking suppresses your high density lipoproteins (HDL) cholesterol level. There are immediate and long-term benefits to quitting cigarettes.

- a) Within 20 minutes of quitting, your blood pressure and heart rate recover from the cigarette-induced spike.
- b) Within three months of quitting, your blood circulation and lung function begin to improve.
- c) Within a year of quitting, your risk of heart disease is half that of a smoker.

*Bonus Benefit: Assume you smoke a packet a day, if you are able to quit, that's almost \$5,000 in savings! As the Chinese says, 'HUAT LA!'*



## EXERCISE ON MOST DAYS OF THE WEEK AND INCREASE YOUR PHYSICAL ACTIVITY

Exercise can improve cholesterol. Moderate physical activity can help raise HDL cholesterol, the "good" cholesterol. With your doctor's consent, try to hit 150 minutes of exercise a week. According to the Health Promotion Board, aiming for 150 minutes of physical activity per week can provide substantial health benefits for adults and seniors. However, it is important to note that even some physical activity is better than none, and more is better than some.

How about:

- a) Taking a brisk daily walk during your lunch hour.
- b) Riding your bike to work.
- c) Climbing the stairs instead of taking the elevator or the escalator.
- d) Join community or workplace exercise programmes.

yes!



## GO EASY ON YOUR 'YAM SENG-ING'

Moderate use of alcohol has been linked with higher levels of HDL cholesterol, but the benefits aren't strong enough to recommend alcohol for anyone who doesn't already drink.

If you drink alcohol, do so in moderation. For healthy adults, that means up to one drink a day for women of all ages and men older than age 65, and up to two drinks a day for men age 65 and younger.

Too much alcohol can lead to serious health problems, including high blood pressure, heart failure and stroke.



## GO EASY ON SUGAR

Carrying even a few extra pounds contributes to high cholesterol. Small changes add up. Go easy on your sugary beverages, switch to plain water. These days, bubble tea stores are everywhere! Go easy on your bubble tea. According to Ms Bibi Chia, Principal Dietitian, Raffles Diabetes and Endocrine Centre, bubble tea is typically high in sugar and carbohydrates. She says if you really want to drink bubble tea, go for Jasmine tea, and if you have to, ask for the least amount of honey or sugar. Give the toppings a miss.

Maybe try: Homemade variants eg. fresh passion fruit + green tea + ice topped with no sugar added homemade konjac jelly.

Get To The

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**Of The Matter**



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# — Hearty Food —

for a **Healthy Heart**

By Jasia Shamdassani

Heart disease is one of the leading causes of death. According to the Singapore Heart Foundation, 17 people die from cardiovascular diseases everyday in Singapore.

In 2017, cardiovascular diseases accounted for a total of 30.1 per cent of all deaths in Singapore. This also means that one out of three deaths is due to heart diseases or stroke.

What you eat can play a major role in the health of your heart, and this can even impact your risk of heart diseases. To protect yourself against these deadly ailments, here is what Ms Bibi Chia, Principal Dietitian, Raffles Diabetes & Endocrine Centre, has to advise about eating a hearty diet.

## Green leafy vegetables and Whole Grain

Vegetables like spinach and kale are known to have a lot of minerals, vitamins and antioxidants. They are also a great source of vitamin K that can help to protect your arteries and ensure proper blood clotting. Besides that, vegetables are also high in dietary nitrates that are good in reducing blood pressure, arterial stiffness and improve the function of cell lining in the blood vessels.

Whole grains are high in fibre, and they can help to reduce cholesterol and decrease the risk of heart diseases. Some common types of whole grain include wheat, brown rice, oats, quinoa, buckwheat and more.



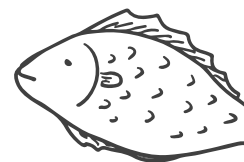
## Berries



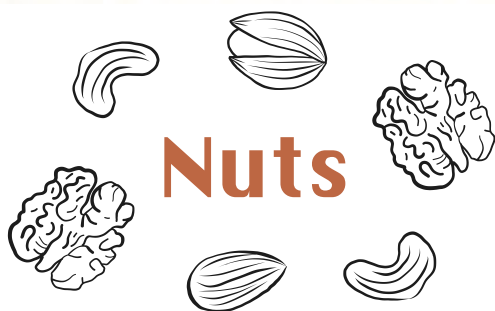
Berries, including strawberries, blueberries, blackberries and raspberries, contain many important nutrients that are key to a healthy heart. In particular, antioxidants like anthocyanins can protect you against the oxidative stress and inflammation that contribute to the development of heart disease. Many studies have shown that eating lots of berries can also reduce several risk factors that are related to heart disease.



## Salmon



Salmon and other fatty fish like mackerel and sardines are extremely good for your heart. They contain a huge amount of omega-3 fatty acids that can help to lower the risk of arrhythmia, where you have irregular heartbeat, atherosclerosis, which is plaque build-up in the arteries, and decrease triglycerides — a type of fat found in your blood. It is recommended that you eat fish at least twice a week for a healthy heart.



## Nuts

Nuts contain a whole lot of fibre that is good for your heart. They are also rich in vitamin E that can help to lower bad cholesterol. Walnuts, in particular, are really high in omega-3 fatty acids that can help keep your heart healthy. Many studies have shown that people who consume nuts on a daily basis are leaner than people who don't, and leaner people are at lower risk of heart problems.



### How much and what type of nuts should you eat?

#### Not a tough nut to crack.

Although 80 per cent of a nut is healthy fat, they still contain a high number of calories. This is why moderating your intake of nuts is very important. Nuts should be used as a substitute for saturated fats, like those found in meats and dairy products. You can try substituting a handful of nuts or one to two tablespoons of nut spread instead of eating foods that contain unhealthy saturated fats.

It is recommended that you eat about four servings of unsalted nuts a week. A serving is a small handful (1.5 ounces) of whole nuts or 2 tablespoons of nut butter. However, do remember that just eating nuts and not cutting back on unhealthy saturated foods won't help your heart.

The type of nuts you eat does not really matter, as long as you do not eat nuts that are covered with chocolate, sugar or salt as it would cancel out the heart-healthy benefits of the nut. Some nuts you can consider eating are walnuts, macadamia nuts, almonds and hazelnuts.



## Dark Chocolate

Contrary to popular belief, eating dark chocolate can help to lower your risk of getting heart disease. Dark chocolate is filled with flavonoids that can help better your heart health. However, chocolates are also high in sugar and calories that may do more harm than good. Therefore, it is important that you choose a high quality dark chocolate with a cocoa content of at least 70 per cent, and eat it in moderation so as to make the most of its good benefits for the heart.

## 6

## Steps to a Heart-Healthy Diet

**Ready to start your heart-healthy diet? Here's six tips to get started.**

*Courtesy of the Mayo Clinic News Network*

**Eating certain food increases your risk of heart disease. Although it's tough to change your eating habits, knowing which foods to choose or avoid is the first step towards a heart-healthy diet.**

## 1 Manage your portion

How much you eat is as important as what you eat. Taking seconds and eating until you feel stuffed is piling more calories than necessary.

Use a smaller plate at meals. Eat more fruits and vegetables, and less processed and fast foods. This does wonders for your heart and waistline.

Keep track of what you consume. The recommended number of servings per food group may vary on the specific diet or guidelines you follow. Serving size is the specific amount of food, measured by cups, ounces or pieces. Judging serving size is a skill that needs the use of measuring cups and spoons or a scale initially.

## 2 Eat more fruits and vegetables

Fruits and vegetables are excellent sources of vitamins and minerals. They are low in calories and high in dietary fibre. Like other plants or plant-based foods, vegetables and fruits help prevent cardiovascular diseases.

Carrot sticks make for a quick and nutritious snack. Keep fruits in a bowl so that it's easy to grab. Choose recipes that have vegetables or fruits as the main ingredients, eg. fresh fruit salad.



- Fresh or frozen vegetables and fruits
- Low-sodium canned vegetables
- Canned fruit packed in juice or water



- Coconut
- Vegetables with creamy sauces
- Fried or breaded vegetables
- Canned fruit packed in heavy syrup
- Frozen fruit with sugar added

## 3 Reduce the sodium in your food

Sodium contributes to high blood pressure, a risk factor for cardiovascular disease. Reducing sodium is an important part of a heart-healthy diet. We recommend:

- Healthy adults have no more than 2,300mg of sodium a day (about a teaspoon of salt)
- Most adults ideally have no more than 1,500mg of sodium a day

Reducing the amount of salt in your food is a good first step, but note that salt is also present in canned or processed foods. Make your own soups, it reduces the amount of salt you consume.

If you like the convenience of instant food, choose those with reduced sodium. Many people assume food with sea salt is lower in sodium but it has similar nutritional value as regular salt.

Choose your condiments wisely. Select reduced-sodium versions.



- Herbs and spices
- Salt-free seasoning blends
- Reduced-salt canned soups or prepared meals
- Reduced-salt versions of condiments, such as reduced-salt soy sauce and reduced-salt ketchup



- Table salt
- Canned soups and prepared foods, such as frozen dinners
- Condiments such as ketchup, mayonnaise and soy sauce



## 4 Choose low-fat protein

Poultry, fish and eggs are the best sources of protein. Choose lower fat options, ie. skim milk instead of whole milk and skinless chicken breasts instead of fried chicken.

Fish is a good alternative to high-fat meat. Certain fish are rich in omega-3 fatty acids that lowers blood fats called triglycerides. You'll find the highest amounts of omega-3 fatty acids in cold-water fishes (eg. salmon, mackerel and herring). Other sources are flaxseed, walnuts, soybeans and canola oil.

Legumes — beans, peas and lentils — also are good sources of protein and contain less fat and no cholesterol, making them ideal substitutes for meat. Substituting a hamburger with a soy burger will reduce your fat and cholesterol intake while increasing your fibre intake.



- Low-fat dairy products, such as skim or low-fat (1 per cent) milk, yogurt and cheese
- Eggs
- Fish
- Skinless poultry
- Legumes
- Soybeans and soy products
- Lean ground meats



- Full-fat milk and other dairy products
- Organ meats, such as liver
- Fatty and marbled meats
- Spare ribs
- Hot dogs and sausages
- Bacon
- Fried or breaded meats



## 5 Select whole grains

Whole grains contains fibre that regulate blood pressure. You can increase the amount of whole grains in a heart-healthy diet by making simple substitutions for refined grain products. How about trying quinoa or barley?



- Whole-wheat flour
- Whole-grain bread, preferably 100 per cent whole-wheat bread or 100 per cent whole-grain bread
- High-fibre cereal with 5g or more fibre in a serving
- Whole grains such as brown rice, barley and buckwheat
- Whole-grain pasta
- Oatmeal (steel-cut or regular)



- White, refined flour
- White bread
- Biscuits
- Cakes
- Egg noodles
- Buttered popcorn
- High-fat snack crackers



## 6 Limit unhealthy fats

Eating less saturated and trans fats is important to reducing blood cholesterol and lowering your risk of coronary artery disease. High blood cholesterol levels can lead to a build-up of plaques in your arteries, increasing your risk of heart attack and stroke.

See our guidelines on how much fat to include in a heart-healthy diet:

Type of fat	Recommendation
Saturated fat	No more than five to six per cent of your total daily calories, or no more than 11 to 13g of saturated fat if you follow a 2,000-calorie-a-day diet
Trans fat	Avoid



Reduce your fat intake by trimming fat off meat or choose lean meats with less than 10 per cent fat.

Use low-fat substitutions where possible. Instead of margarine, use sliced whole fruit or low-sugar fruit spread on toast.

Read your food labels. Food labelled as "reduced fat" may be made with oils containing trans fats. If the label states "partially hydrogenated", trans fat is present.

Consider choosing monounsaturated fats, like olive oil or canola oil. Polyunsaturated fats, found in certain fish, avocados, nuts and seeds, are also a good idea. When used in place of saturated fat, monounsaturated and polyunsaturated fats may help lower your total blood cholesterol. Exercise moderation. All types of fat are high in calories.

To easily include healthy fat (and fibre) to your diet, choose flaxseeds. They are high in fibre and omega-3 fatty acids. Some studies have found that flaxseeds may help lower cholesterol in some people, but more research is needed. You can grind the seeds in a food processor and add to yogurt or cereal.



- Olive oil
- Canola oil
- Vegetable and nut oils
- Margarine, trans fat free
- Cholesterol lowering margarine
- Nuts, seeds
- Avocados



- Butter
- Lard
- Bacon fat
- Gravy
- Cream sauce
- Non-dairy creamers
- Hydrogenated margarine and shortening
- Cocoa butter, found in chocolate
- Coconut, palm, cottonseed and palm-kernel oils

This issue, we decided to change things up a little and introduce an interactive word search to help you understand some common terms cardiologists use, and what they actually mean. Have fun!

## Search The Heart



- Palpitations
- Echocardiogram
- Heart Attack
- Obesity
- Stroke
- Flaxseed
- Oatmeal
- Nitroglycerin
- Arrhythmias
- Angiogram

- 
- 1. Palpitations** – Heart palpitations are feelings of having a fast-beating, fluttering or pounding heart. Stress, exercise, medication or, rarely, a medical condition can trigger them.
  - 2. Echocardiogram** – This test uses sound waves to produce images of your heart. It allows your doctor to see your heart beating and pumping blood. Your doctor can use the images from an echocardiogram to identify heart disease.
  - 3. Heart Attack** – A heart attack occurs when the flow of blood to the heart is blocked. The blockage is most often a build-up of fat, cholesterol and other substances, which form a plaque in the arteries that feed the heart (coronary arteries).  
The plaque eventually breaks away and forms a clot, and this interrupted blood flow can damage or destroy part of the heart muscle.
  - 4. Obesity** – A complex disorder involving an excessive amount of body fat, obesity isn't just a cosmetic concern. It increases your risk of diseases and health problems, such as heart disease, diabetes and high blood pressure.
  - 5. Stroke** – Occurs when the blood supply to part of your brain is interrupted or reduced, depriving brain tissue of oxygen and nutrients. Within minutes, brain cells begin to die. A stroke is a medical emergency and prompt treatment is crucial. Early action can minimise brain damage and potential complications.
  - 6. Flaxseed** – Flaxseed is high in fibre and omega-3 fatty acids, as well as phytochemicals called lignans. Most nutrition experts recommend ground over whole flaxseed because the former is easier to digest. Whole flaxseed may pass through your intestine undigested, and this means your body can't get all the benefits.
  - 7. Oatmeal** – Freshly harvested whole oats have a fibre-rich protective outer coat called bran. Beneath the bran, an oat kernel contains a starchy endosperm that surrounds a tiny vitamin and mineral-rich reproductive structure called the germ. For some foods, the bran and germ are stripped from the oat grains, leaving just the starchy endosperm that is often pulverised before use.
  - 8. Nitroglycerin** – This is used to prevent angina (chest pain) caused by coronary artery disease. This medicine is also used to relieve an angina attack that is already occurring.
  - 9. Arrhythmias** – Heart rhythm problems (heart arrhythmias) occur when the electrical impulses that coordinate your heartbeat don't work properly, causing your heart to beat too fast, too slow or irregularly.
  - 10. Angiogram** – A coronary angiogram is a procedure that uses X-ray imaging to see your heart's blood vessels. The test is generally done to see if there's a restriction in blood flow to the heart.
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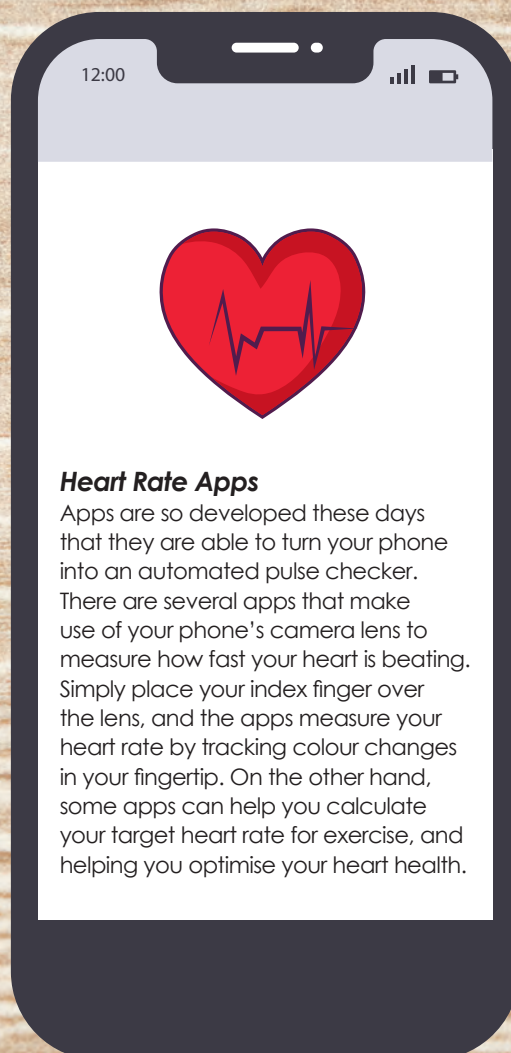
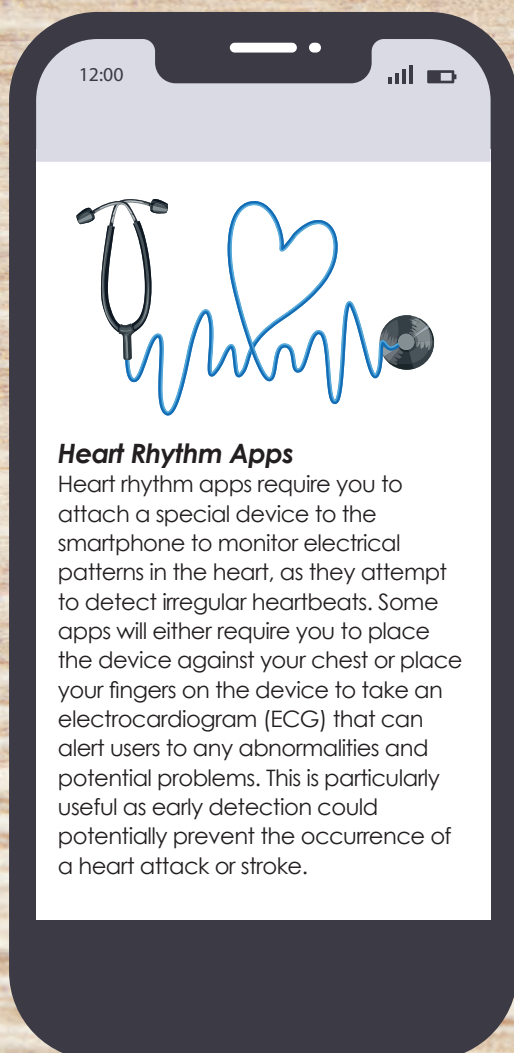
# SMART APPS FOR A HEALTHY HEART

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By Shermaine Lee

A mobile phone can do so much more than just sending text messages and making calls these days. Technology has paved the way for accurate and real-time data feedback of our health through apps. They now play a greater role by engaging users and involving them to stay healthy. They help users make precise, better and faster informed health choices, thus empowering users to transform their health by being in charge.

There are hundreds of applications developed for the modern day use. Just type "heart health", and you will find a wide range of heart-related applications readily available on the App Store or Google Play.



## BEFORE YOU HIT THAT DOWNLOAD BUTTON CONSIDER THESE FIRST...

Dr Raymond Choy, Senior Physician, Raffles Medical, shares the following to consider before downloading health apps.

- ☒ Is the platform user-friendly?
- ☒ How can the app help or improve your health and / or your existing medical conditions?
- ☒ Does the platform have all the basic function?
  - For health monitoring apps – are there alerts for alarming signs like high blood pressure?
  - For medication reminder apps – do they remind you to take your medication or refill them?
- ☒ Are there costs incurred to use the app? Is it sustainable?
- ☒ Personal Data Protection Act – Is your personal data safe? How will the provider use your data, and where do they store your information?

### Remember!

Downloading apps alone can't help you unless you are motivated enough to input data on a regular basis. You need to take full ownership of your condition and have the determination to keep track of your health on a long-term basis.



#### **Blood Pressure Monitoring Apps**

A staple for patients with chronic diseases, there are numerous blood pressure monitoring apps that track your health data across various platforms, from diastolic and systolic pressure, to pulse and weight. Several apps track your body mass index and blood sugar levels, and offer a wide range of sharing options that allow you to update caregivers of your medical condition. This makes it convenient to share your medical information at your fingertips.



#### **Emergency apps**

Having emergency apps on phones can potentially save someone's life if they are suffering from a heart attack. There are apps that can guide you on using and locating an automated external defibrillator (AED). They assist someone if they are in need of help. Several apps can also guide you through the steps of performing cardiopulmonary resuscitation (CPR) together with the defibrillator.

However, it is best to go through the descriptions and videos before you need it, and use them as a refresher when responding to an emergency.

# Understanding Blood Pressure Monitors

By Jasia Shamdassani

Have you ever had your doctor strap an inflatable arm cuff around your arm and squeeze a little 'ball' during a health checkup? Your doctor was probably checking your blood pressure on a blood pressure monitor. Read on for what Dr Michael Wong, Senior Physician, Raffles Medical, has to advise about each type of blood pressure monitor.

## What Do the Readings Mean?

Your blood pressure reading has two numbers. The top number is called systolic – measures how hard your blood pushes against the wall of your arteries as it flows through the body. The bottom number is the diastole that measures the pressure on your blood vessels between beats when the heart is at rest.

With the advancement of technology in the medical field, there are many different types of blood pressure monitors available in the market for you to get your hands on.

## 1 AMBULATORY BLOOD PRESSURE MONITORS (ABPM)

ABPM is commonly recommended by doctors for evaluation of people with volatile blood pressure measurements or white-coat hypertension. This device allows you to wear it throughout the day, and it measures your blood pressure automatically as you move around, living your normal daily life. It is a valuable tool in the management of a hypertensive patient because it measures daytime and night-time blood pressure, and provides an assessment of swings in blood pressure changes to facilitate optimal adjustment of the doses and timing of medication.



### What to look out for when getting a blood pressure monitor



#### Ensure that the arm cuff fits

It is important to select the most suitable arm cuff size that fits you. Otherwise, it may affect your readings. For most people, a cuff with a bladder measuring 12 - 13cm by 35cm in size will suffice. A cuff with a larger bladder should be used for those with large upper arms.



#### Features are important

Different models of monitors have differing features, and it is important to find the one that will best cater to your needs. Certain features such as memory storage capacity, irregular heartbeat detector, advanced averaging function are some common ones that will be useful to have.



#### Cost does not equate quality

A blood pressure monitor that is wireless and has the latest technology may cost a few hundred dollars. However, it may not be better or more accurate than models that are cheaper in price. Do ensure that you read the reviews and ask your doctor for recommendation.



#### Ease of use

Before purchasing, try your hands on the different monitors and select one that you find the easiest to use.

## 2

**AUTOMATIC BLOOD PRESSURE MONITORS**

Also known as digital and electronic monitors, automatic blood pressure monitors are the most common in the market. They are the 'go-to' monitors for most people and they have microphones to detect blood pulsing in the artery. The device also has cuffs that are wrapped around the upper arm that automatically inflates when the button is pressed.

Blood pressure monitors that are used with arm cuffs are more reliable than those that are used on the wrist. Therefore, they are generally more expensive. Wrist blood pressure monitors are extremely sensitive to body positions. To get an accurate reading when taking your blood pressure with a wrist monitor, your arm and wrist must be at heart level. Even then, blood pressure measurements taken at the wrist are usually higher and less accurate than those taken at your upper arm.

This is because the wrist arteries are narrower and not as deep under your skin as those of the upper arm.

Some people can't have their blood pressure measured at the upper arm because they have a very large arm or find blood pressure measurements painful. In such cases, measuring blood pressure at the wrist is acceptable. It's common for blood pressure readings taken at home on any type of monitor to be different from those taken at your doctor's office. If you have a wrist blood pressure monitor, it would be a good idea to take your monitor to a doctor's appointment. Your doctor can then check your blood pressure with both a standard upper arm monitor and a wrist monitor in the correct position in the same arm to check your wrist blood pressure monitor's accuracy.



## 3

**MANUAL BLOOD PRESSURE MONITORS**

Manual blood pressure monitors are most commonly used by doctors. The device consists of an arm bulb, a squeezing bulb to inflate the cuff, a microphone or stethoscope and a gauge to calculate blood pressure.

In order to measure the blood pressure, the cuff needs to be inflated around the upper arm. This will stop the flow of blood in the artery for a short period of time and a stethoscope is placed on the skin over the artery. As air is released from the cuff, the appearance and disappearance of a knocking sound of your blood flowing through the artery can be heard through the stethoscope and recorded as the systolic and diastolic blood pressure respectively. Patients should use automated brachial blood pressure monitors that have been validated and calibrated annually against standardised clinic measurements so as to ensure the readings are reliable.

***Blood pressure and its connection to keep your heart going "Lub-Dub"***

Blood pressure is the measurement of the force of blood pushing against blood vessel walls. Treating high blood pressure (hypertension) is important because it puts you at risk of stroke, heart failure, kidney failure, and other conditions if hypertension goes untreated. It is often called the "silent killer" because you may not be aware that anything is wrong until one or more of the risk factors strikes. The only way to know if you have high blood pressure is to have your blood pressure monitored regularly.

If you have high blood pressure, you can control it with the help of prescribed medication. Treating high blood pressure (hypertension) is important to avert long term complications.

# RESTARTING AFTER A HEART ATTACK



By Joanna Lee

The thought of getting the heart pumping faster than the normal resting heart rate may be daunting to someone who has just survived a heart attack. Fret not, Dr Lee Yian Ping, Specialist in Cardiology & Consultant, Raffles Heart Centre, shares about how you can restart your regular physical regime, or ditch the once-familiar sedentary lifestyle to embark on a journey to stay physically active.



## How Much is Safe?

It is perfectly normal to worry about what you should or should not do after your doctor gives you the green light to be discharged from the hospital. You may also wonder how much is enough for a start. Since every individual's condition is different, just remember these two points.

- ◆ **Listen to Your Body**  
Learn to listen to your body and assess how you feel. This is your best guide in doing any physical activity at a safe level.
- ◆ **Progress Slowly**  
Be patient and take it step by step. Increase your physical activity gradually based on your doctor's advice. For a start, it is advisable to exercise with a companion to increase your motivation and for safety reasons.

## What to do for a **start?**

Difficulty  
Level



### Walking

The most common and best activity to start with is walking. It is an aerobic activity that is less stressful and good for your heart.

### Flat is good

Choose a flat route for your walks, be it outdoor or indoor on the treadmill machine, walk on a flat level before progressing to inclines, and up and down the hills.

### Increase duration gradually

Start by walking for a short duration. For example, walk for five minutes at a time during the first week before increasing to 10 minutes in the second week and so on, until you manage to increase the exercise duration to 30 minutes after six weeks. If you have been a runner before, you may start to jog for a short block of time after you can walk comfortably for 30 minutes. Thereafter, increase the duration as you progress.

### Warm up, cool down and stretch

Your pace should always be slower at the start to prepare your body to begin exercising, and at the finishing point to gradually bring your body to a complete stop. After that, remember to give your limbs a good stretch.

### Climate

Exercise in a comfortable temperature that is not too hot or cold. Exercising in extreme temperatures will stress the heart.

Here is a **guide** to get you started.

Difficulty  
Level



Minimum time (minutes)	Times per day	Pace	
30+ minutes	1	Comfortable / Stride out	Goal 6
25 to 30 minutes	1	Comfortable / Stride out	Goal 5
20 to 25 minutes	1-2	Comfortable / Stride out	Goal 4
15 to 20 minutes	2	Comfortable	Goal 3
10 to 15 minutes	2	Comfortable	Goal 2
5 to 10 minutes	2	Stroll	Goal 1

## Level Up

Difficulty  
Level



You can start adding new exercises after approximately six weeks into your recovery. But before doing so, discuss with your doctor about your exercise plan to seek for advice.

Try the following for a start.

### • Climb the stairs

If there are stairs where you live, try climbing them slowly when you leave or return home. If you can walk normally at your usual pace, you can also climb short flights of stairs at a comfortable pace. Gradually increase the speed and number of flights of stairs to climb.

### • Sports and recreational activities

Other activities that require more effort include cycling, golf, swimming and tennis. You can try incorporating some of these as your fitness level increases over time.

### • Strength training

As lifting heavy weights can raise your blood pressure, be patient with yourself. Start light and go slow.



"After a heart attack, your fitness and energy level would have affected your exercise tolerance to a certain extent. Therefore, manage your exercise expectations from day-to-day, and be patient as you go through the recovery process," advised Dr Lee.

# HIIT Workouts for the BUSY BEES



By Shermaine Lee

Leading an active lifestyle helps to keep your heart strong, but how do you fit in a workout when you are short on time?

High-intensity interval training (HIIT), is a type of short workout that involves brief bursts of quick and explosive moves, followed by short breaks or active recovery that are repeated over fixed intervals. Using big muscle groups, the HIIT workout elevates the heart rate, builds stamina, conditions the body, and allows you to burn more body fat and build more lean muscle.

The best part of this workout is that it can be done without the use of any form of equipment, and you can even do this in the comfort of your home!

You can consider body weight exercises like push-ups, sit-ups, squats and lunges for starters. They are a great way to reap the benefits of a HIIT workout and all you need is enough floor space to safely carry out each exercise.

You can perform the following exercises in sets of 12, and pause to take a rest for 30 seconds and repeat the same sequence thrice. Ms Nur Faradyna Putri Kamarudin, Senior Physiotherapist, Raffles Rehabilitation Centre, shares with us more on body weight HIIT exercises.

## Body-Weight HIIT Exercises

### 1 Lunges

A staple lower-body workout, lunges build leg strength, endurance and cardiovascular fitness.

**How to do it:** Stand with your feet shoulder-width apart. Step forward with one foot until the knee of the back leg is above the ground. Both knees should ideally be bent at a 90-degree angle. The front knee should bend over the ankle of the front leg, and not over the toes. Push the front leg back to a standing position and repeat with the other leg.



### 2 Triceps Dips

Triceps dips target primarily the back of your arms and is another excellent upper-body exercise that helps build shoulder strength. They can be done on a bench or chair or from the crab position (face up on all fours).

**How to do it:** Place a chair behind you and support yourself with your hands on the edge of the chair. Plant your heels firmly onto the ground. Then, lower your body as you bend your elbows so that they point back behind you. Straighten elbows and repeat.



## 3 Push-Ups

A body weight exercise that targets the chest, shoulders and triceps muscles. Push-ups are a universally recognised measurement of upper-body strength and endurance.

**How to do it:** Lie face down on the floor with your legs straight and feet together. Place both hands on the ground, shoulder-width apart. Keep your back, hips and legs straight as you bend your elbows and push up to extend them fully.



## 4 Burpees

Burpees are a full-body exercise that is a combination of cardio, mobility, strength and balance. They work your arms, chest, lower body and core muscles.

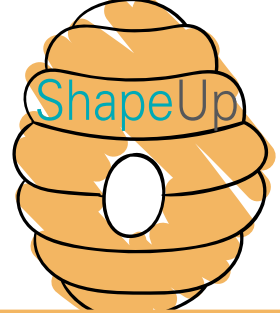
**How to do it:** Stand with your feet hip-width apart. Bend down into a squat and place both hands on the ground between your feet. Push your feet back into the plank position and perform a push-up. Pop your feet back to the squat position. Then, launch into a jump with your arms outstretched above your head. Land with your knees slightly bent before starting on your next round.



## 5 Jumping Squats

Part of the plyometric family, jumping squats works numerous muscles in the body as they help tone the core, calves, glutes, hamstrings and quadriceps.

**How to do it:** Stand with your feet pointing slightly outward and hip-width apart. Bend your knees and lower yourself into a squat. Then, jump up and fully extend your body as you reach overhead. Land with your knees slightly bent to protect them before dropping to your next squat.



According to a 2012 study in the *Journal of Physiology*, the benefits of HIIT workouts:

- 1) Helps overcome fitness or weight-loss plateaus.
- 2) Are short (generally 30 minutes or less).
- 3) Build cardiovascular endurance as efficiently as moderate-intensity aerobic exercises, but for longer periods of time.
- 4) Burns calories even after workout is over, due to excess post-exercise oxygen consumption (EPOC).



## 6 Step-Up

Step-up is a simple body resistance exercise that works the muscles in the legs and buttocks. It is a good general lower body conditioning exercise as it targets the quadriceps, hamstrings and muscles in the buttocks.

**How to do it:** You can either perform this exercise with a small step stool or in front of the stairs. Lift one foot and step onto the elevated platform, and push through to lift your body up onto the step. Step backwards to the starting position and repeat with the other leg. Remember to plant your foot entirely on the elevated platform and keep your back straight.

## Ask the Experts

**Q:** Is taking supplements or medication necessary to keep our heart healthy?

**A:** Eating a balanced diet would have all the nutrients the heart needs for a healthy heart function. It is more of a personal preference for those who do take supplements. Having a higher omega-3 intake has been shown in some studies to decrease heart attacks and strokes while other studies have shown lacklustre results. There is no harm in taking HSA approved supplements if it makes you feel good.



**Dr Lee Yian Ping**  
Specialist in Cardiology  
Consultant, Raffles Heart Centre

**Q:** How does red yeast rice reduce the risk of heart attacks?

**A:** Red yeast rice is a fermented rice, cultivated with the mold, *Monascus purpureus*. It has been consumed since the Tang Dynasty in China in 800 A.D. The active ingredient is Monacolin K, which in recent times have been known to be identical to lovastatin. Lovastatin is a well-known anti-cholesterol medication that aims to reduce the bad cholesterol (LDL) and raise the good cholesterol (HDL). Keeping your LDL low and raising your HDL helps to reduce the risk of a heart attack.



**Dr Razakir Oman**  
Specialist in Cardiology  
Consultant, Raffles Heart Centre

**Q:** What are some of the available treatments for pulmonary embolism?

**A:** Pulmonary embolism is the blockage of the pulmonary (lung) artery or its branches by blood clots that have travelled through veins from other parts of the body; usually the lower limbs.



The most effective treatment is early anticoagulation that is the thinning of blood. When clinical suspicion is strong, we may even start the treatment before the diagnosis can be confirmed with tests. This is to reduce treatment delay and to save lives. In patients who cannot take blood thinners, doctors may opt to put in a filter in the inferior vena cava (abdominal vein) to stop further blood clots travelling from the legs to reach the lungs. Imagine a drain with a filter that blocks all the dirt from travelling downstream.

**Dr Teo Swee Guan**  
Specialist in Cardiology  
Consultant, Raffles Heart Centre

**Q:** How to keep blood pressure readings in the healthy range to prevent heart diseases?

**A:** One way in which you can keep your blood pressure readings in the healthy range is to maintain a healthy weight. You can lower your blood pressure by 1mmHg with every kilogram of weight loss. Other ways include eating a balanced and low salt diet, exercising regularly, limiting alcohol intake, quitting smoking, reducing your caffeine intake and stress. You should also monitor your blood pressure regularly and engage the help of your family and friends to encourage you to keep a healthy lifestyle. Some of the things that you cannot control are age, family history and ethnicity.



**Dr Hoo Kai Meng**  
Family Physician  
Consultant, Raffles Medical – Compass One

# Connect with Raffles

We aim to empower you with the latest health news and tips, as well as for you to learn more about the people behind Raffles. Stay connected with us on social media.



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On Friday evening (21/6), Dr Christelle Tan, Specialist in Paediatric Medicine & Consultant, Raffles Specialists – Holland V, gave a talk to an audience of 80 at the Shaw Foundation Alumni House on "Demystifying Childhood Fevers - When to See a Doctor?"



Raffles Medical Group



**Do not overexert yourself.**  
**Excessive exercise is harmful to your health.**

While regular and moderate exercise is encouraged as part of a healthy lifestyle, excessive exercise is harmful to our health. Some health concerns that may come with it are muscle and joint injuries, dehydration, heart muscle injuries and more. It is important to exercise, but don't overexert yourself!



Twitter

@RafflesMedGrp



Have a habit of holding your farts in public? Holding it in can lead to uncomfortable symptoms, bloatedness, haemorrhoids or a distended bowel. So, like Elsa says, just "let it go"!

Timelines

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Messages

Me



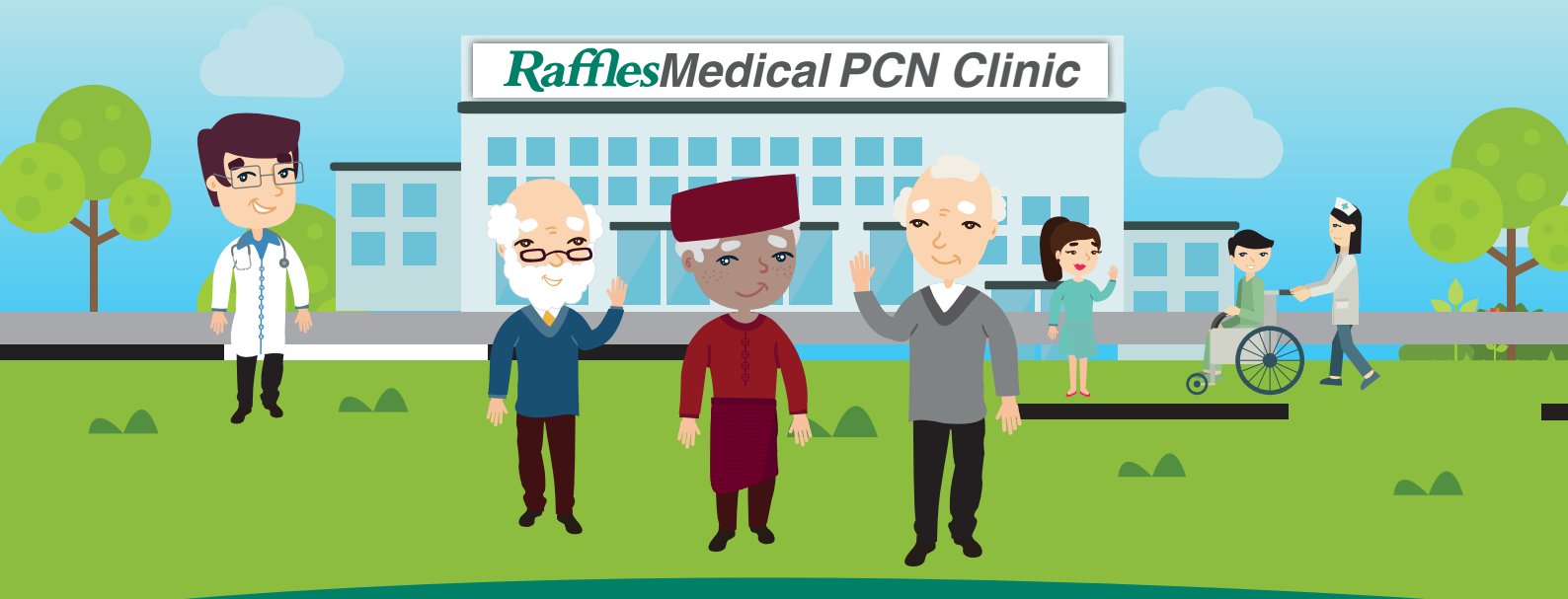
Raffles Hospital videos.....



While sugar is not the sole cause of diabetes, it is one of the key culprits behind the increased risk of diabetes. It is easy to consume sugar through your daily diet. Find out from this video on how much sugar you are drinking.

We want to hear from you – tweet, like, subscribe or share a photo with us!

You can also write to us at [healthnews@rafflesmedical.com](mailto:healthnews@rafflesmedical.com) and share how we can better engage you.



## Raffles Medical is part of the Primary Care Network (PCN).

The PCN is a network of doctors who provide holistic and coordinated care for patients with chronic conditions. This team-based care approach is supported by nurse counsellors and care coordinators to ensure that patients are better cared for.

Singaporeans who either own a CHAS card\*, or are part of the Pioneer Generation or Merdeka Generation\* are entitled to CHAS subsidies for three key services: Diabetic Retina Photography (DRP), Diabetic Foot Screening (DFS) and Nurse Counselling.



\*Merdeka Generation and CHAS green cards are applicable from 1 November 2019. Health Assist Cards will continue to be valid until the expiry date stated on the card.



Doctors provide close monitoring of patients' chronic conditions, review test results and conduct follow-ups.



Nurse counsellors perform Diabetic Foot Screening (DFS), Diabetic Retina Photography (DRP) and provide personalised advice to patients on achieving positive lifestyle changes.



Primary care coordinators schedule appointments and send reminders to patients for follow-up visits.

For more details, please call 6282 4150 or email [pcnenquiries@rafflesmedical.com](mailto:pcnenquiries@rafflesmedical.com).



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