



Education on Cardiac Rehabilitation

Cardiology services are provided in the Specialist Outpatient Clinic, Emergency Department, Intensive Care Unit and as an inpatient service. A full spectrum of care is provided to cardiac patients as well as healthy individuals who wish to reduce their future risk of cardiovascular disease. Our patients may be referred from the polyclinics or from private practitioners.

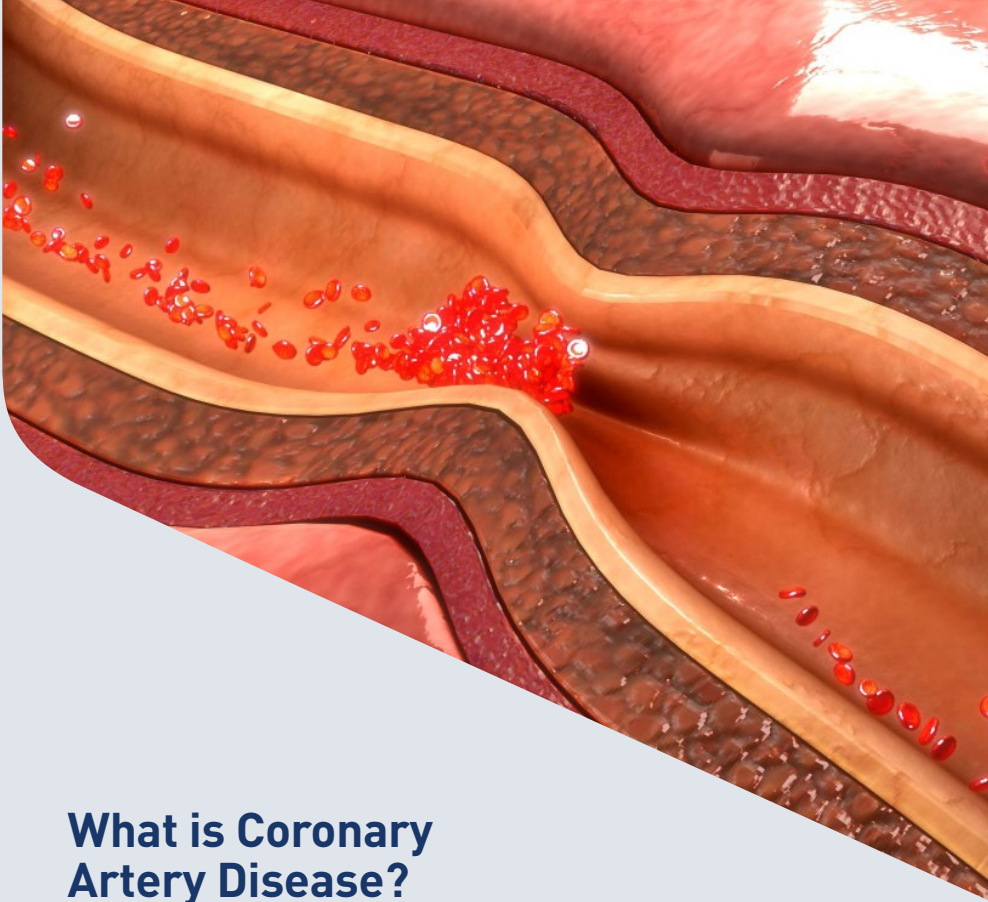


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This booklet is for people who have had angina, a heart attack, a stent implant in the blood vessel of the heart or a bypass/valve operation. These people may benefit from cardiac rehabilitation.

Cardiac rehabilitation can commence as soon as your procedure is completed unless otherwise advised by your doctor.

Through cardiac rehabilitation, patients regain the confidence to return to normal activity levels and lower the risk of another heart attack. Individuals who had a heart attack are at risk of another. Cardiac rehabilitation can help to lower this incidence and the risk of death on the programme is rare.



What is Coronary Artery Disease?

Coronary Artery Disease is caused by the narrowing of the inner walls in the coronary arteries (blood vessels) due to fatty deposits (cholesterol) accumulated over time which cause the arteries to narrow and harden. When this happens, a stenosis or blockage occurs to limit blood supply to the heart's muscles. This in turn causes chest pains during exertion or rest.

Causes of Heart Attack

When a blood clot forms in a narrowed artery, the plaque ruptures. This may cause the artery to be completely blocked and lead to a heart attack. If the heart is deprived of oxygen-rich blood for too long, a section of its muscle may 'die' from lack of oxygen-rich blood and affect its ability to pump blood to the rest of the body effectively.

+ Symptoms of chest pain

You may experience some of these symptoms:



- Chest pain or discomfort that does not go away with rest or medication
- Heaviness, tightness, squeezing or a dull ache in the chest
- Pain that radiates to the neck, jaws, back or down the arms
- Heartburn
- Nausea/vomiting
- Excessive sweating
- Shortness of breath or difficulty breathing
- Severe dizziness or fainting
- Rapid or irregular heartbeat

If you experience any of the above symptoms, seek medical attention immediately.

+ **After Angioplasty/Stenting**

For the first week after the procedure:

- Do not engage in strenuous activities, e.g. heavy housework or lifting heavy objects that weigh 5 kg or more
- Take it slow and gradually increase your activity levels
- Start with light housework, e.g. washing dishes or light dusting
- If you feel well after one week, gradually move on to vacuuming or light gardening
- If you experience chest discomfort, consult your doctor or cardiac rehab nurse for an assessment

It is important to exercise regularly to keep your heart muscles active.

+ **Care for the Insertion Site**

- Avoid strenuous exercise, heavy lifting, intense exercise and driving for the next one week
- Keep the insertion site clean and dry
- Small bruising is expected after the procedure. If you notice any increasing swelling, pain, or numbness over your arm, please visit your nearest emergency centre

In case of an emergency, call 995 or go to the nearest emergency department.

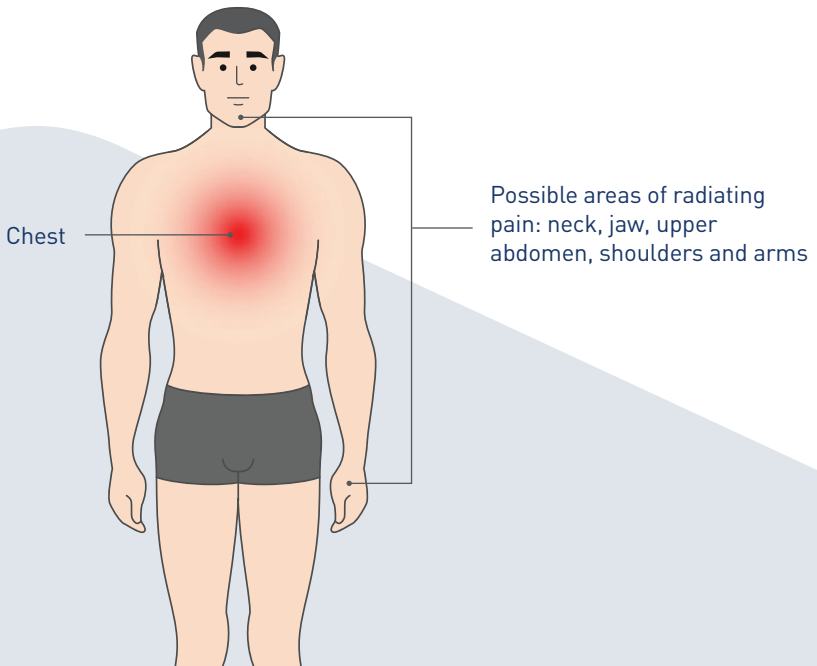
What is Cardiac Rehabilitation?

Cardiac rehabilitation teaches patients to be more active and to embrace lifestyle changes for a stronger heart and better health. The programme is medically-supervised by doctors, nurses, dietitians, pharmacists and physiotherapists, and teaches patients to take charge of their lifestyle, choices and habits which can affect the heart. The programme consists of four phases.

Phase I takes place when the patient is warded. Advice will be provided on ways to lower the risks of heart disease, benefits of quitting smoking, bringing down one's weight, useful medication advice and the importance of regular exercise.

In Phase II, a structured gym exercise gets patients back on their feet. It is offered two weeks after a patient is discharged and is conducted over an eight-week period. Aerobic exercises improve muscle strength, heart health and blood circulation.

Phase III and IV are offered at the Singapore Heart Foundation as a community-based programme to provide patients with long-term maintenance and to support them on changed behaviours.



Frequently Asked Questions

+ Who is at risk of Coronary Artery Disease?

The likelihood of coronary heart disease increases if you smoke, have a history of hypertension, diabetes, high cholesterol and obesity. Other non-modifiable (cannot be controlled) risk factors include age (males over the age of 45 years old and females over the age of 55 years old), gender, ethnicity and family history (first degree, before 55 years old).

+ What can I do to control my Cardiovascular Risk Factors?

Every Cardiovascular Risk Factor (CVRF) removed lowers your risk of a heart attack. CVRF can be modifiable (controlled) or non-modifiable. Quit smoking and gain better control of your cholesterol levels, diabetes and high blood pressure are some major modifiable CVRFs.



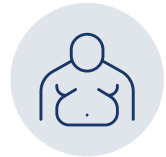
Hypertension



High cholesterol levels



Diabetes



Being overweight



Family history of heart disease



Smoking



Lack of exercise



Stress

+ What can I do to control high blood pressure?

Even a small reduction in blood pressure can lower your risk of heart problems. Losing weight, abstaining from alcohol/smoking, increasing physical activity levels and lowering one's salt intake can help to lower your blood pressure. Some individuals require medications to bring down their blood pressure.

+ What dietary changes are considered heart-healthy?

A low cholesterol (fat) and low salt diet are forms of a heart-healthy diet. People with diabetes need to control their sugar intake while those who need to lose weight are advised to go on a calorie-restricted diet.

+ I am often tired after a heart attack and find it difficult to perform a simple task.

It is normal to feel this way. Consult your occupational therapist on how you can conserve energy and learn simple lifestyle modifications that can help you to resume daily activities with confidence.

+ Can I drive?

If your angina is well controlled, you may return to driving after the procedure.

If angiography/stent procedure was successful, you may drive two weeks later.

If you had a heart attack, it is best that you avoid driving for a month.

+ Can I go on a holiday?

You may travel as early as one month after your procedure or at your doctor's advice.

+ Can I have sex after a heart attack/angina?

People with heart conditions are concerned about their sex life. Like any energetic forms of physical activity, sex is safe and can resume* four weeks after the procedure.

IMPORTANT

The procedure you underwent aims to improve blood supply to your heart. It does not cure you of the disease. Continue to control your cardiovascular risk factors and take all medications as prescribed to you.

** Provided you are recovering well with no recurrent symptoms of chest pain*



Medicine and Your Heart

+ **Why and how long should I be on medication?**

All heart medications must be taken regularly unless your doctor advises you otherwise. Different medications help you feel better, lower your risks of recurring problems and control existing problems. Do not stop taking them even if you feel better as doing so could worsen your condition.

If you experience side effects after taking your medication, discuss with your doctor on alternatives. Do not stop taking the medication on your own. If in doubt, check with your pharmacist or cardiac nurse.

Listed in the table on the next page are common medications prescribed for the heart.

+ **Dual Antiplatelet Therapy**

A combination of Aspirin and Plavix, or newer medications like Ticagrelor and Prasugrel are prescribed after a stent implant for a year. These help to lower the risk of clots forming in the stent, i.e. stent thrombosis. Do not stop taking them on your own. Any changes to your medications must be discussed with your doctor.

Type of Medications	Drug Name(s)	Uses of the Medications	Common Side-effects	Precaution and Advice
Antiplatelets	Aspirin	Help in preventing blood clot formation and reduce risks of a heart attack or stroke	Seek help if you develop the following symptoms <ul style="list-style-type: none"> • Bleeding • Bruising • Fever • Mouth Ulcers • Sore throat 	Contact the doctor if you experience gastric discomfort or pass out black tarry stools. Consult your doctor if you are going for any surgery especially if it will interrupt with therapy
	Clopidogrel Ticlopidine Ticagrelor Prasugrel			
Beta-Blockers	Atenolol Bisoprolol Carvedilol Metoprolol Propranolol	Reduce the workload and oxygen demands on the heart Control blood pressure, chest pain, heart rate and a second heart attack	<ul style="list-style-type: none"> • Tiredness • Dizziness • Cold hands and feet • Shortness of breath • Nightmares • Impotence • Slow heartbeat 	Consult your doctor if shortness of breath becomes severe or if there is persistent dizziness Inform your doctor if you have asthma
ACE Inhibitors	Catopril Enalapril Lisinopril Ramipril Perindopril	Prevent the heart from weakening further	<ul style="list-style-type: none"> • Dry cough • Changes in taste • Dizziness • Tiredness 	DO NOT take additional potassium supplements other than what is prescribed
Angiotensin II antagonists	Candesartan Irbesartan Losartan Valsartan	Control blood pressure to prevent heart attack, stroke and kidney failure		Avoid using salt substitutes
Lipid Lowering agents	Atorvastatin Lovastatin Pravastatin Simvastatin	Lower the production of cholesterol	<ul style="list-style-type: none"> • Constipation • Flatulence • Abdominal pain • Muscle pain/Stiffness 	Observe proper dietary instructions to optimise treatment
	Bezafibrate Fenofibrate Gemfibrozil	Reduce fat formation	<ul style="list-style-type: none"> • Nausea • Rash/Itchiness • Muscle stiffness 	Consult your doctor if you experience muscle pain, severe nausea, vomiting or yellowing of skin

Type of Medications	Drug Name(s)	Uses of the Medications	Common Side-effects	Precaution and Advice
Diuretics	Bumetanide Frusemide	Helps to remove excess water in the body by increasing urination	<ul style="list-style-type: none"> • Nausea • Muscle cramps • Muscle weakness • Dizziness 	<p>Take these medications in the day to avoid frequent visits to the toilet during your bedtime at night.</p> <p>Inform your doctor if you develop severe nausea, vomiting or diarrhoea</p>
Calcium Channel Blockers	Amlodipine Diltiazem Felodipine Nifedipine	<p>Reduce oxygen demands and workload on the heart</p> <p>Relax blood vessels to help in the control of blood pressure and chest pain</p>	<ul style="list-style-type: none"> • Headache • Flushing • Swelling of feet • Change in heart rate 	Inform your doctor if swelling of feet or fast heartbeat persists
Potassium Supplements	Potassium Chloride	Supplement the loss of potassium due to the effects of diuretic		
Vasodilators	Glyceryl Trinitrate Isosorbide Dinitrate Isosorbide Mononitrate Hydralazine	<p>Relax blood vessels</p> <p>Increase blood and oxygen supply to heart</p> <p>Nitrates reduce incidence of chest pain</p>	<ul style="list-style-type: none"> • Headache • Flushing • Dizziness <ul style="list-style-type: none"> • Palpitations • Flushing • Swelling of feet/lower legs 	<p>Get up slowly from a lying or sitting position to prevent dizziness</p> <p>Inform your doctor if joint pain occurs</p>
Cardiac Glycosides	Digoxin	Improve the strength and pumping action of the heart for better blood circulation	<ul style="list-style-type: none"> • Nausea and vomiting • Diarrhoea • Unusual tiredness • Visual changes 	Inform your doctor if any side effect develops
Aldosterone antagonist	Spironolactone	Remove excess fluid in the body	<ul style="list-style-type: none"> • Weight gain • Breast tenderness 	



What Should I Do if I Notice Symptoms of Angina or Heart Attack?

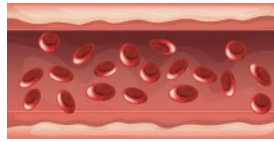
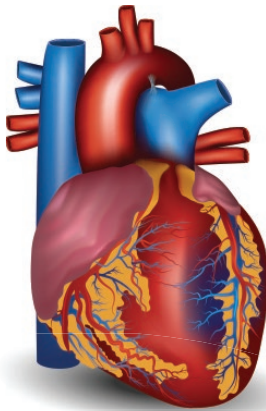
+ If you get chest pain:

1. Stop what you are doing.
2. Sit down and rest.
3. Take one tablet of GTN under your tongue. **DO NOT SWALLOW.**
4. This medication may cause dizziness. Ensure that you are sitting down.
5. Allow the tablet to dissolve completely. **DO NOT SWALLOW.**
6. Wait for 5 minutes. If the pain continues, take a second dose.
7. Wait for another 5 minutes. If the chest pain does not go away, call 995 for an ambulance to the nearest Emergency Department.

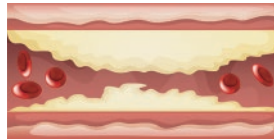
You can only take up to a maximum of 2 doses at a 5-minute interval at each dose.

Smoking and Coronary Heart Disease

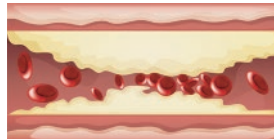
Smoking is one of the most preventable causes of premature deaths. Smokers experience higher risks of chronic disorders from the build-up of fatty substances in the arteries that harden over time (atherosclerosis). This is the chief cause of fatality associated with smoking but it is totally avoidable!



Normal coronary artery



Atherosclerosis



Atherosclerosis with blood clot

According to the World Heart Foundation, smoking is estimated to cause nearly 10 per cent of cardiovascular disease (CVD) and is the second leading cause of CVD, after high blood pressure.

Evidence shows that cigarette smoke is a major risk factor and causes coronary heart disease and heart attack. When combined with existing health conditions such as high blood cholesterol, high blood pressure, diabetes, and lifestyle factors such as physical inactivity and obesity, the risk increases.

Smoking is known to raise blood pressure, lower exercise tolerance and increase the formation of blood clots. The risk of a recurring coronary heart disease after bypass also increases with smoking.

Controlling or reversing atherosclerosis helps to prevent a future heart attack or stroke.

Cigarette smoking, Stroke and Peripheral Arterial Disease

Studies show that cigarette smoke is an important factor in strokes. Inhaling it damages the cerebrovascular system and women who smoke and take oral contraceptives increase their risk of stroke many times over. Smoking also raises one's risks of peripheral arterial disease and aortic aneurysm.

Myth – cigar and pipe smoking: A safer option to cigarettes

Cigars and pipes are not “safer” alternatives to cigarettes. People who smoke them may have a higher risk of death from coronary heart disease (and possibly stroke), but this risk is not as great as cigarette smoke. Although users are less likely to inhale the smoke compared to cigarette users, most of the nicotine and toxic chemical absorption will be through the mouth lining, and this may be more than conventional cigarettes due to the lack of filters for cigars and pipes.

Myth – “Light” or “Ultralight” cigarettes are safer

Such cigarettes are just as harmful to the health, if not worse. People who smoke “Light” cigarettes inhale the same amount of tar and nicotine as regular cigarette smokers, if not more, under the false illusion that it contains less tar, nicotine and other harmful chemicals.

Passive or second-hand smoke

The link between second-hand smoke (environmental tobacco smoke) and heart disease is well known. The connection to cardiovascular-related disability and death is also clear. Yearly, premature deaths arising from heart and blood vessel disease are caused by second-hand smoke. The risk of stroke for non-smokers who are exposed to second-hand smoke has increased by an estimated 20 to 30 per cent.



How Will I Benefit if I Quit Now?

If you already have heart disease, you may ask, “What good will it do to quit now?” Do not be discouraged. Your lungs can heal by themselves as soon as you stop harming them. Heart disease can be prevented and controlled, but you need to follow your treatment plan closely and quit smoking.

+ Benefits of quitting

- **Within 20 minutes**
Your blood pressure and heart rate start to recover from cigarette-induced spike
- **Within 8 to 12 hours**
The carbon monoxide levels in your blood decrease and oxygen levels go back to normal
- **Within 48 hours**
Your risk of heart attack starts to decrease and your sense of smell and taste improves
- **Within 3 months**
 - Your blood circulation and lung function begin to improve
 - For men, sperm quality returns to normal
 - For women, fertility improves
 - Walking and aerobic exercise become easier
- **Within 6 months**
Clear and deeper breathing gradually returns as you cough less and experience fewer sinus congestion, tiredness and shortness of breath
- **Within 1 year**
The risk of coronary heart disease is reduced by 50 per cent
- **Within 15 years**
The risk of heart attack and stroke is similar to someone who has never smoked before!

Ready, Get Set, Quit!

1. Speak to a Smoking Cessation Pharmacist

Our Smoking Cessation Pharmacists are accredited by the Health Promotion Board, Singapore as trained counsellors. They will share with you techniques to kick the habit, cope with withdrawal symptoms and stay smoke-free.

2. Set aside a “Quit Day”

Choose a date to quit smoking and prepare yourself by gradually cutting down on the number of cigarettes a day. Set aside a “quit date” to avoid procrastinating.

3. Choose a method to quit

There are four ways to quit. Choose a method that works for you. Medications can sometimes be prescribed.

- **Go cold turkey**

Just stop smoking on your quit day without any nicotine or non-nicotine therapy.

- **Progressively reduce smoking**

Reduce the number of cigarettes you smoke a day until you stop completely. Set achievable milestones e.g. number of cigarettes to reduce by a fixed period (e.g. one week). Celebrate small successes as you reach for your next goal.



- **Nicotine Replacement Therapy**

Nicotine Replacement Therapy (NRT) such as lozenges, chewing gum and patches reduce your craving for a cigarette and control withdrawal symptoms like fatigue, headaches or irritation. NRT helps you to resist the urge to pick up a cigarette and is especially useful in the first few weeks.

- **Non-nicotine Replacement Therapy**

Non-nicotine replacement medicines are commonly used to help individuals quit smoking. They block the effects of nicotine from tobacco, reduce the cravings for cigarettes and lower any satisfaction associated with smoking. Such medications require a doctor's prescription.

Medications can be helpful when they are combined with behavioural-modification programmes to help you quit smoking. Speak to a Smoking Cessation Pharmacist to find out more.

4. Plan your “Quit Day”

Use this checklist a day before your “Quit Day” to prepare yourself.

I have healthy food to eat when I quit smoking, such as:

- Fresh fruits
- Fresh vegetables
- Sugar-free hard candies
- Sugarless chewing gum
- Other foods I like: _____

Every day I am smoke-free, I give myself a pat on the back with one of these:

- Watch a movie
- Visit my friends
- Take a walk
- Do a hobby
- Do other activities I enjoy

I got rid of every cigarette, match, lighter, ashtray and cigarette butt from my house and car.

5. Stop smoking on your “Quit Day”

Congratulations on taking the first step to better health!

As soon as you quit smoking, your blood circulation, blood pressure and heart rate improves. The carbon monoxide and oxygen levels in your blood gradually return to normal.

Within a few days, you breathe more easily and regain a better sense of taste and smell.

Your urge to smoke gradually decreases by the day. It is important to understand your urges and know what to do on this quit journey.

Keep a calendar to mark the days you have not given into a cigarette and stay motivated.

If you know of someone who has successfully quit, speak to them for moral support.

If all else fails, our Smoking Cessation Pharmacists are here for you.



Eat a Balanced Diet

Healthy eating means having a balanced diet of fruits, vegetables, wholegrains, meats, etc. in the correct proportions to optimise nutrition.

The “**My Healthy Plate**” image on the right shows you what to eat and how much to eat at each meal.

- **Fill ½ of your plate with fruit and vegetables**

Fruit and vegetables are nutrient-dense and contain vitamins, minerals and fibre and are low in calories. Having more of them lowers your risk of heart disease and stroke. Eat a variety every day to maximise your nutrient intake.

- **Fill ¼ of your plate with wholegrain**

Choose wholegrain foods like oats and brown rice which contain phytochemicals, vitamins and minerals to reduce your risk of heart disease, stroke and diabetes. It fills you up and helps with weight control as compared to eating refined grains such as white rice and white bread.

- **Fill ¼ of your plate with meat**

Choose oily fish such as tuna, salmon and mackerel which are rich in omega-3 fatty acid. Such fat promotes heart health. Also include lean meats, beans, tofu and nuts for better weight control as they provide more protein per calorie as compared to fatty meat.

- **Use healthier oil**

Choose healthier oils such as sunflower, corn, olive or peanut oil, which contain more healthy unsaturated fats to lower your risk of heart disease.



Manage Your Weight

Being overweight or obese may cause serious health consequences like diabetes, some cancers, stroke and heart disease. Food that are high in refined sugars and fat are generally low in nutrients and high in calories. Excessive intake of such food can cause unwanted weight gain.

Tips to manage your weight:

- Limit cooking in large amounts of oil. Choose healthier methods such as sauteing, steaming and baking.



- Limit gravies, sauces or dressing on food. Opt for soupy dishes instead but do not drink the soup.
- Choose drinks that are lower in sugar or sweetened with artificial sweetener.
- Replace desserts with a serving of fresh fruits.



Manage Cholesterol Level

Blood cholesterol can deposit on the walls of your blood vessels when they rise above optimal levels. This causes narrowing of the vessels, restricting blood flow. Stroke and heart attack occur when blood flow to the brain or heart is restricted.

Manage your cholesterol by:

- Opting for fibre-rich food e.g. wholegrain, fresh fruit and vegetables
- Reducing intake of saturated fat like fried food, pastries, biscuits and food rich in coconut oil or milk
- Limiting food high in cholesterol e.g. internal organs

If you have high blood pressure, you may be at a higher risk of developing a stroke or heart disease.

Control High Blood Pressure (Hypertension)

A high salt intake is linked to increased blood pressure and could raise your risk of hypertension. This is linked to higher risk of stroke and heart disease.

Limit your salt intake by:

- Choosing fresh produce and avoid processed/canned food. Opt for low salt options.
- Limiting the use of salt to flavour food. Choose herbs and spices instead e.g. pepper, cinnamon.

Individuals with specific dietary needs or existing medical conditions should check with their doctors and/or dietitian if these dietary recommendations meet their dietary needs.



Stress and Anxiety on Cardiac Rehabilitation

After surgery, some patients may have negative thoughts such as:



Low Mood
“Can I exercise/be with my family?”

Fear
“What is this pain I’m experiencing? Is it heart attack?”

Pain
“This is too hard!”

Poor sleep
“I can’t seem to sleep! Will this affect my health?”

Post-procedure emotional experiences like these are normal but can cause stress and anxiety to you.

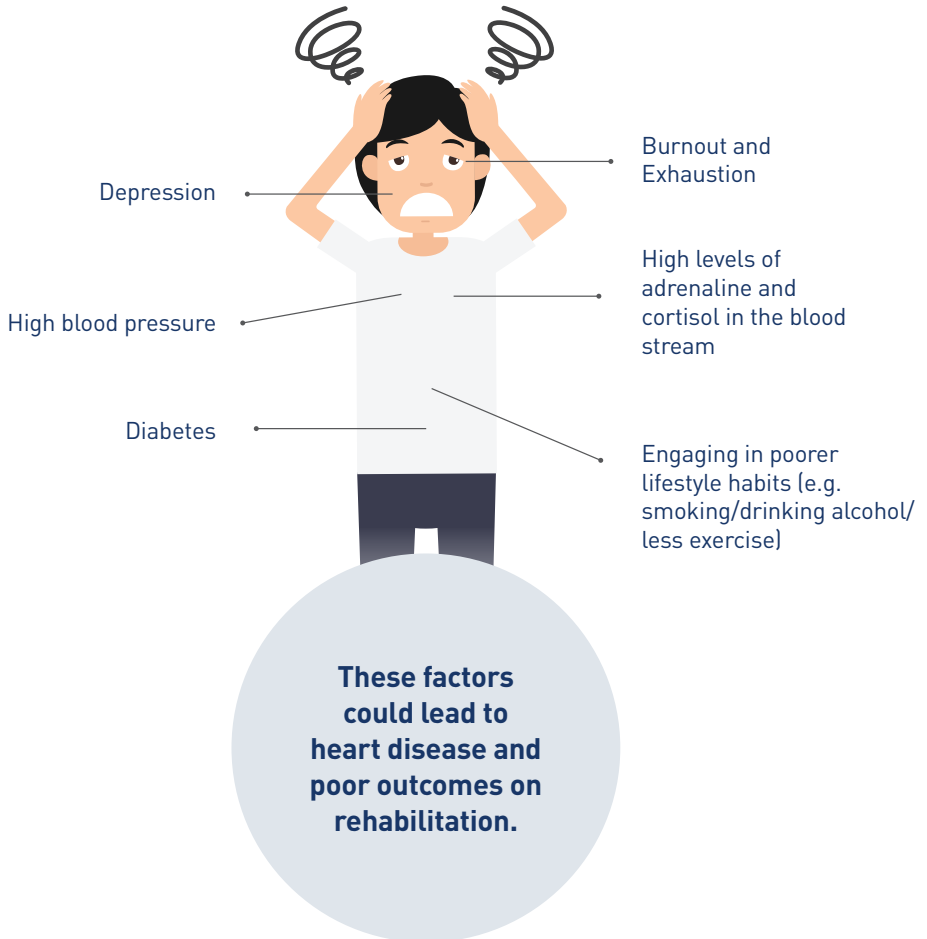
It also affects you from having meaningful connections with your family and loved ones. Over time, such negativity leads to poor adherence on the cardiac rehabilitation programme and raises your risk of heart disease or a recurrence.

Stress and Anxiety: Links to the Heart

Though similar, stress and anxiety are not the same. Stress is an experience that we feel daily and may be related to work, family, interpersonal relationships, financial difficulties or other commitments.

Anxiety is triggered by actual or imagined experiences, e.g. reacting to chest pain as a heart attack.

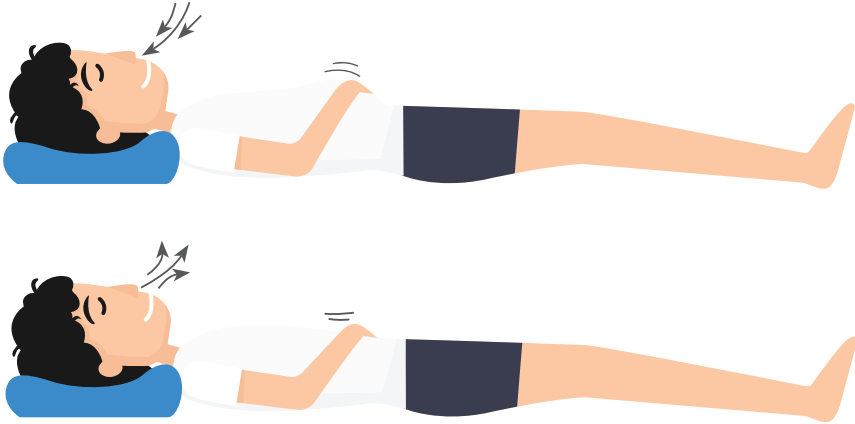
Although moderate stress and anxiety are healthy, chronic stress and anxiety are not. They may lead to:



So...What Can You Do?

With chronic stress and worry known to raise one's risk of heart disease and cause poor rehabilitation, it is important to manage your emotions well. Practise stress management to keep your worries under control.

+ Deep breathing



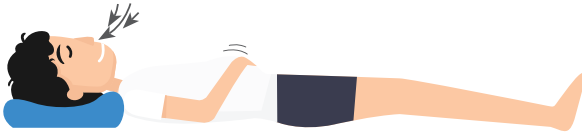
Deep breathing or diaphragmatic breathing relaxes you when you feel overwhelmed.

Is my heart beating irregularly?

I cannot eat fried food anymore! I cannot exercise like I used to! I am useless!

Is this chest pain I'm feeling? Am I getting another heart attack?

- + Take a moment to do the following (either in a sitting or lying down position):



With one hand on your stomach, take a deep breath and feel the rise of your abdomen as you inhale through the nose.

Hold your breath for two seconds.



As you exhale, purse your lips into an “O” shape and push the air out of your body slowly, feeling your abdomen fall.

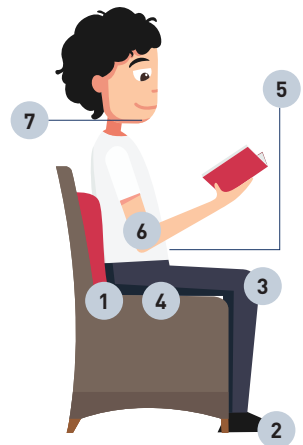
Focus on breathing in and out. As your mind wanders, gently bring it back to the activity. This can be done as many times as you need.

General Guide: Do this exercise for approximately five times (one set). Exhale deeply for 5 to 7 seconds each time. The slower you exhale, the more relaxed you will feel.

+ Body scan

When you feel stressed or worried, falling asleep or feeling rested may be hard. A body scan helps to improve mindfulness and reduces any tension you may feel.

- 1 Sit or lie in a comfortable position. Wear loose-fitting clothes and adopt an “open and non-judgemental” attitude as you notice and observe each part of your body.
- 2 Start with your toes and feet. Pay attention to all sensations you feel e.g. warmth, coolness, tingling and/or numbness. Be aware.
- 3 Bring the attention to your lower limbs and knees. Your joints work hard for you daily; be aware of the sensations you feel without judgment.
- 4 Gently bring your awareness to the upper thighs, hips and butt area. Be aware of how it feels against the floor, bed or chair.
- 5 Observe the rise and fall of your stomach as you breathe in and out gently. Be aware of any tension or pain, and do the same for the chest and back.
- 6 Gently notice your shoulders and arms, down to your fingers. Be aware of any sensation. Do not judge; just be curious.
- 7 Finish off by paying attention to your chin, cheeks, nose, forehead and top of the head.



General Guide: A body scan is useful before sleep or when you feel overwhelmed or tired. Combine it with deep breathing in areas where you feel pain or tension. With each breath, inhale fresh air and release pain/tension with each exhale.

+ **Mindful engagement in activities (use your 5 senses)**

It is normal to entertain negative thoughts when you are stressed. You may feel “useless” or “not as good as before”. Such feelings are normal as cardiac patients cope with the sudden lack of exercise or not being able to eat their favourite food.

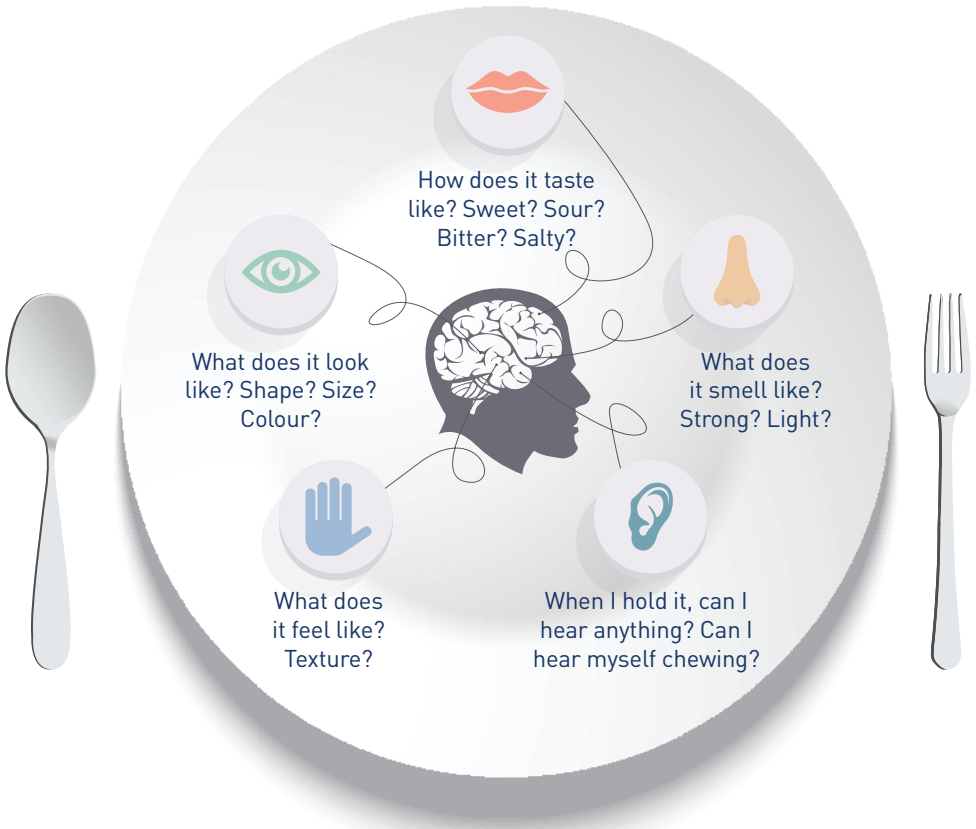
Focus instead on:

Quality
Instead of
Quantity

Using Your
5 Senses

Being **Mindful!**

When you eat your favourite food, pause and savour it with your five senses.
Do not simply rush through it.



Observe your reaction to the food you are eating and thank yourself for doing so mindfully.

When you take a walk or exercise, stop to:



See



Hear



Feel



Smell

Appreciate what is around you!

Engaging your five senses grounds you in the present and frees your mind of stressful thoughts.

Manage stress and anxiety with:

- Deep breathing
- A body scan
- Mindful eating and walking

Doing so helps you to achieve better cardiac health and rehabilitation outcomes

Physical Activity and Exercise

Why do you need to exercise?



Improve fitness



Improve circulation



Reduce stress



Lower blood pressure



Control weight



Improve cholesterol

Create an Exercise/Activity Plan

+ The four phases of an exercise plan:



+ Monitor your exercise intensity

- Talk test



- Rate of Perceived Exertion (RPE):

0	Nothing at all	} Low intensity
0.5	Very, very slightly (Just noticeable)	
1	Very slightly	
2	Slightly	} Moderate intensity
3	Moderate	
4	Somewhat severe	
5	Severe	} High intensity
6		
7	Very severe	
8		
9	Very, very severe	
10	Maximum	

+ Start your exercise

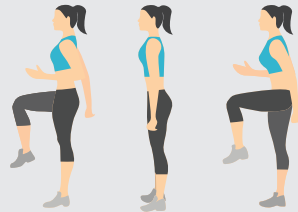
Each exercise should include proper warm up, exercise and cool down.

Warm up

Do 30 repetitions for each exercise

March on the spot

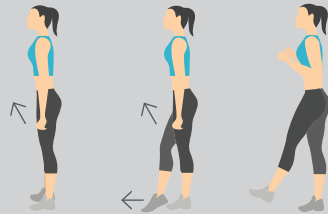
Lift your knees, alternating between both legs. Swing your arms naturally.



Heel digs

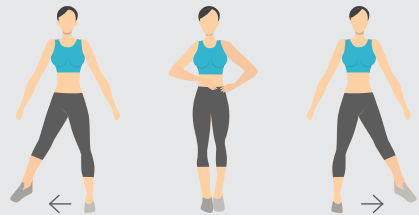
Start from a standing position, tap your heel forward. Alternate between both legs.

Curl both arms upwards as you tap your heel forward.



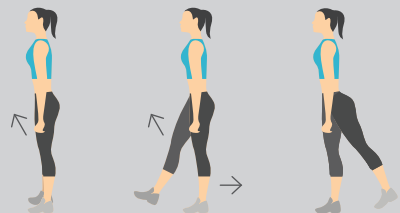
Side taps

Start from a standing position and tap your toes to the side, alternating between both legs. Swing both arms out as you tap your toes to the side.



Backward taps

Start from a standing position, tap your toes backward, alternating between both legs. Curl both arms upwards as you tap your toes backwards.



Keep a Walking Log

Begin with 10 to 15 minutes of walking in Week 1 and gradually add on 5 minutes to each week.

Week 1	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Duration							
Distance							

Week 2	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Duration							
Distance							

Week 3	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Duration							
Distance							

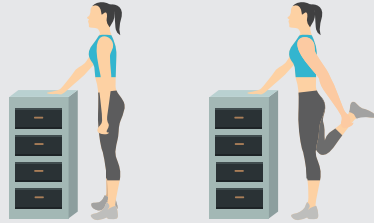
Week 4	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Duration							
Distance							

Cool down/Stretch

Hold each position for at least 15 seconds. You should feel a gentle 'pulling' sensation. Breathe normally. Avoid holding your breath, or bouncing/jerking.

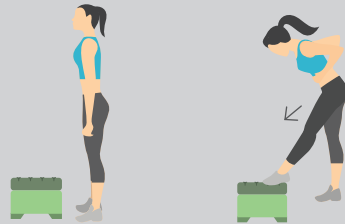
Quadriceps stretch

Bend one knee and hold onto your ankle as you pull it towards your buttocks. If you are unable to reach for your ankle, wrap a towel around it and pull it instead. You should feel a stretch at the front of your thigh.



Hamstring stretch

Sit on the edge of a chair and put one leg straight in front of you. Bend at your hip and reach for your foot. You should feel a stretch at the back of your thigh.



Calf stretch

Place one foot behind the other and bend the front leg. Keep the rear leg straight and heel on the ground. Shift your weight forward. You should feel a stretch in your calf muscle.



+ Important

- If you experience pain or discomfort, stop exercising and consult your physiotherapist.
- It is normal to experience muscle soreness after each exercise. Give yourself 1 to 2 days to recover before resuming the activity.
- Gradually aim to increase your exercise to 5 to 7 days a week for at least 30 minutes a day. You may do them at a go or break them up into shorter intervals in a day, e.g. 15 minutes of brisk walking twice a day or 10 minutes of cycling 3 times a day.

Occupational Therapy and Cardiac Rehabilitation

Occupational therapy aims to enable people who suffer from physical, cognitive and mental conditions with the skills to perform activities in a meaningful and purposeful way. Interventions aim to remediate an individual's motor functions and cognitive abilities. It also includes compensatory strategies for permanent loss of functions through the use of adaptive equipment and modifying one's environment.

Living with a heart condition can impact your physical and psychological health. This prevents you from leading a productive lifestyle. An occupational therapist empowers you with long-term strategies to lead a more confident lifestyle.

He/she will:

- Review and manage your daily routine
- Teach you to conserve energy
- Prescribe assistive aids and technology
- Set goals to help you manage your time
- Help you return to work
- Explore leisure occupations with you

Restart your routine

After a procedure, simple self-care activities like dressing and bathing will need to be done with some precaution. Start with light household chores like wiping or dusting but do not engage in lifting, pushing or pulling activities until a few weeks later.

Conserve your energy

Plan 

Prioritise 

Pace 

Position 

- Plan and prioritise what needs to be done first and what activities take up more energy. Do not feel guilty if you cannot complete your tasks and need to reschedule. Do not over exert yourself.
- Pace yourself and take small breaks.
- Good posture and positioning helps you to conserve energy and protect your joints from excess strain.

Try to relax as you go about your normal routine. Being anxious only adds stress to your heart.

Return to work

Most people can return to work after treatment. If your work involves manual labour, consider negotiating for a lighter load. Most individuals who have had a heart surgery or heart attack can return to light duties 6 weeks later. Your doctor will advise you on your fitness level to return to work.

It is important to manage your stress levels when you return to work so that you do not add stress to your heart.

Driving

People with heart conditions can continue to drive. Depending on the condition, treatment and recurring symptoms (if any), your doctor will advise if you can resume driving. He/she may even refer you to an occupational therapist for a driving assessment and rehabilitation sessions. Please consult the Singapore Medical Association's (SMA) Guidelines on Fitness to Drive for more information.

Sex/Physical intimacy

People with heart condition can continue to enjoy sex and resume it once they have recovered. Like any physical activity, sex increases the heart rate. Choose a time when you feel relaxed and comfortable, and pay attention to signs like breathlessness and chest pain. If you feel uncomfortable, breathless or tired, communicate to your partner to stop.

It is normal to experience a loss of sex drive after an illness. This could be due to emotional stress. If you are considering medications like Viagra, please consult your doctor first.

Going on a holiday

Unless your doctor advises you otherwise, most people can travel or take a plane after they have recovered. If you have a pacemaker, remember to bring the Implantable Device Patient Identification card with you and pack extra medication in your carry-on luggage.

Travelling can sometimes be stressful. Take frequent breaks and exercise precaution in activities such as hiking or water sports. Avoid heavy bags and over-exertion.

Caregiving

If you are a caregiver, learn to conserve your energy as you go about caring for your loved ones. Make sure you take regular breaks in-between and get enough rest.

Caregiving can be tiring and emotionally-draining, adding stress to your heart.

It is important to get enough rest or speak to someone to share your difficulties. Alternatively, consult healthcare professionals who can link you up with caregiver respite services.



Notes



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