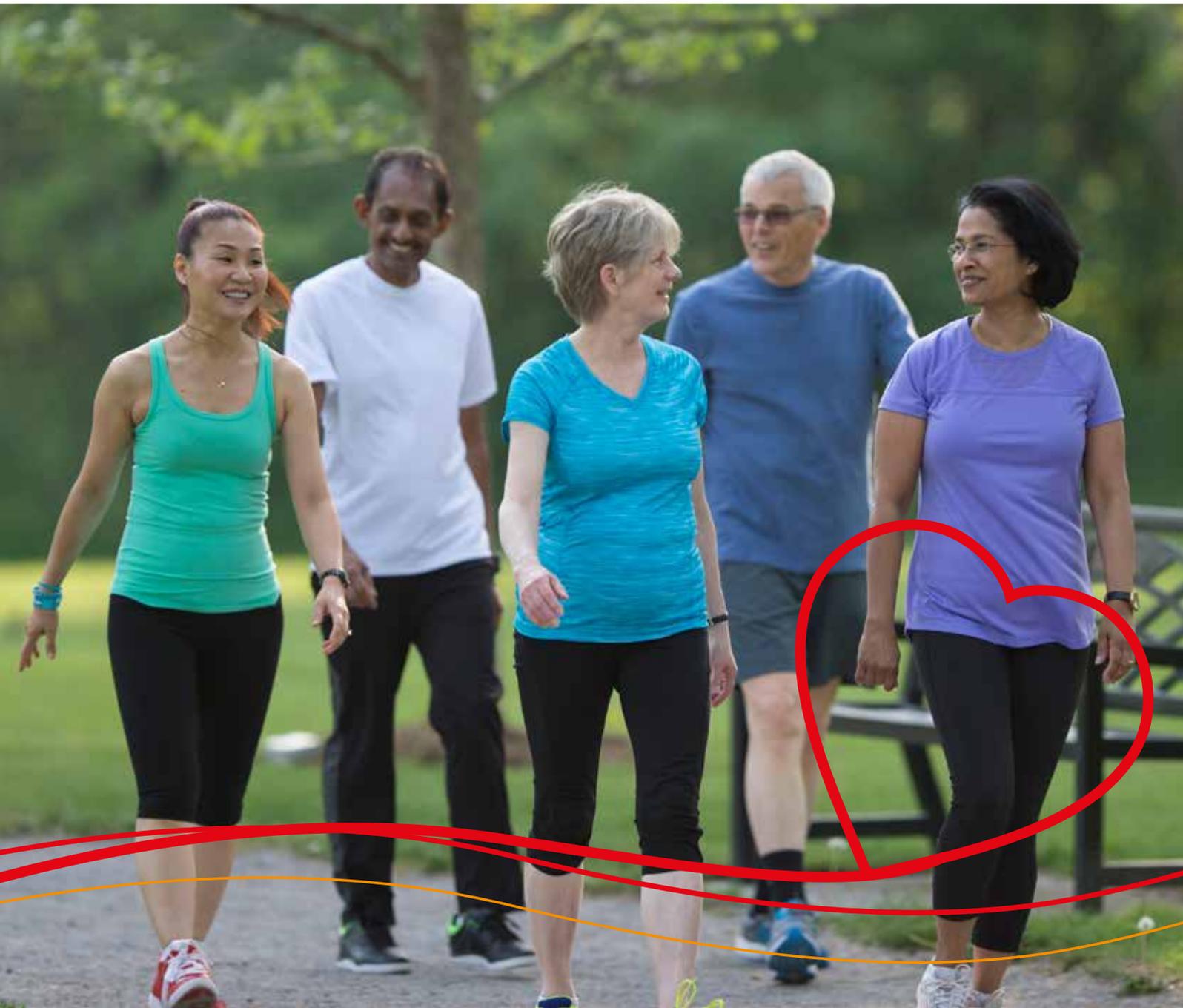


# Physical activity, exercise and heart failure



Queensland  
Government



This document is licensed under a Creative Commons Attribution 3.0 Australia licence. To view a copy of this licence, visit [creativecommons.org/licenses/by/3.0/au](https://creativecommons.org/licenses/by/3.0/au)

© State of Queensland (Queensland Health) 2015. Update September 2022.

For more information contact:

**Statewide Heart Failure Services,**  
email [qldheartfailure@health.qld.gov.au](mailto:qldheartfailure@health.qld.gov.au)

## **Disclaimer**

The content presented in this publication is distributed by the Queensland Government as an information source only. The State of Queensland makes no statements, representations or warranties about the accuracy, completeness or reliability of any information contained in this publication. The State of Queensland disclaims all responsibility and all liability (including without limitation for liability in negligence for all expenses, losses, damages and costs you might incur as a result of the information being inaccurate or incomplete in any way, and for any reason reliance was placed on such information).

## **Acknowledgements**

This booklet was developed by the Statewide Heart Failure Exercise and Rehabilitation Network. We would like to thank members of the Queensland Heart Health Consumer Advisory Group for their invaluable contribution in reviewing the booklet and recommending changes to make it more consumer friendly.

# Contents

Introduction.....	4
What is heart failure?.....	4
Why is physical activity and exercise important? .....	5
Cycle of inactivity in heart failure and benefits of exercise .....	6
Is physical activity and exercise safe?.....	7
Safety considerations for exercising in water.....	8
Symptoms when exercising .....	9
Getting started.....	10
Warming up, cooling down, and training .....	10
The FITT principle of exercise.....	11
Frequency .....	11
Intensity .....	12
Time of each session .....	13
Type of exercise .....	14
Making progress .....	14
Tips for staying motivated .....	16
How to be more physically active.....	17
Common exercises .....	18
Rehabilitation and beyond.....	19

For more information, please contact:

Name:

Phone number:



# Introduction

This booklet is for those interested in knowing more about the benefits of exercising with heart failure and the type and amount of physical activity to undertake.

Many people with a heart condition are concerned that exercise or physical activity may be harmful to their heart. In fact, the opposite is true. People with a heart condition who undertake regular physical activity and exercise generally remain healthier than those who don't stay active.

Physical activity is any movement you do carrying out your daily activities. Exercise is planned, structured and repetitive physical activity.

An exercise specialist (physiotherapist or exercise physiologist) can set up a program to help improve your fitness and to give you more energy to get the most out of life.

## What is heart failure?

Chronic heart failure is a condition where the heart does not pump as well as it should to keep up with the body's needs.

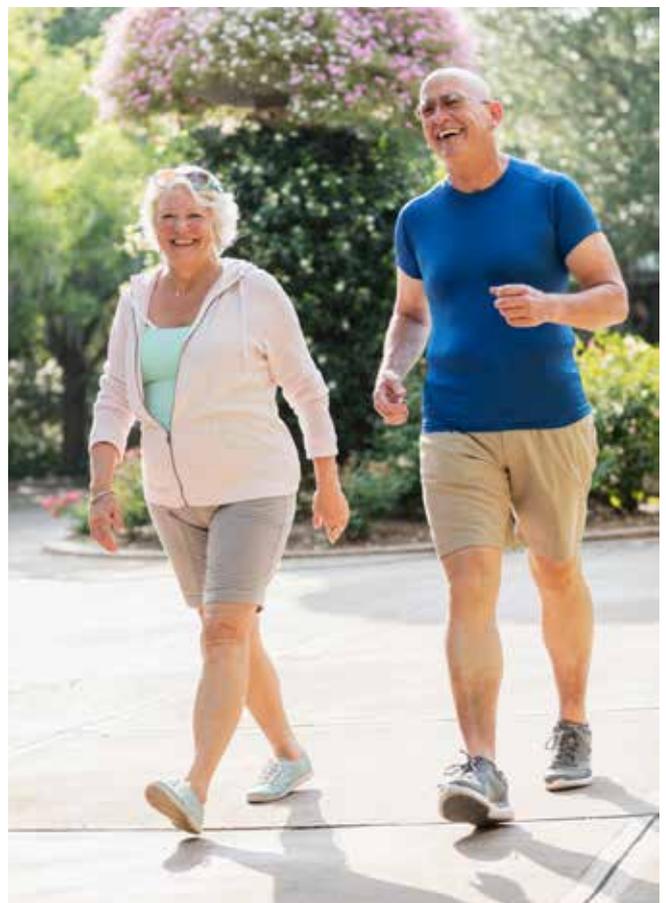
Causes	Symptoms
<ul style="list-style-type: none"><li>• Heart attack (from blocked arteries)</li><li>• High blood pressure (hypertension)</li><li>• Abnormal heartbeat (arrhythmias)</li><li>• Heart valve problems</li><li>• Heart abnormalities present at birth</li><li>• Diabetes</li><li>• Viral infections</li><li>• Chemotherapy</li><li>• Alcohol or drug misuse</li><li>• Family history</li><li>• Unknown cause (idiopathic)</li></ul>	<ul style="list-style-type: none"><li>• Shortness of breath (especially when exercising or lying flat in bed)</li><li>• Swollen stomach, legs or ankles or abdomen</li><li>• Racing or irregular heartbeat (palpitations)</li><li>• Lack of energy</li><li>• Dizziness</li><li>• Muscle weakness</li><li>• Lack of hunger</li><li>• Feeling sad or worried</li></ul>

# Why is physical activity and exercise important?

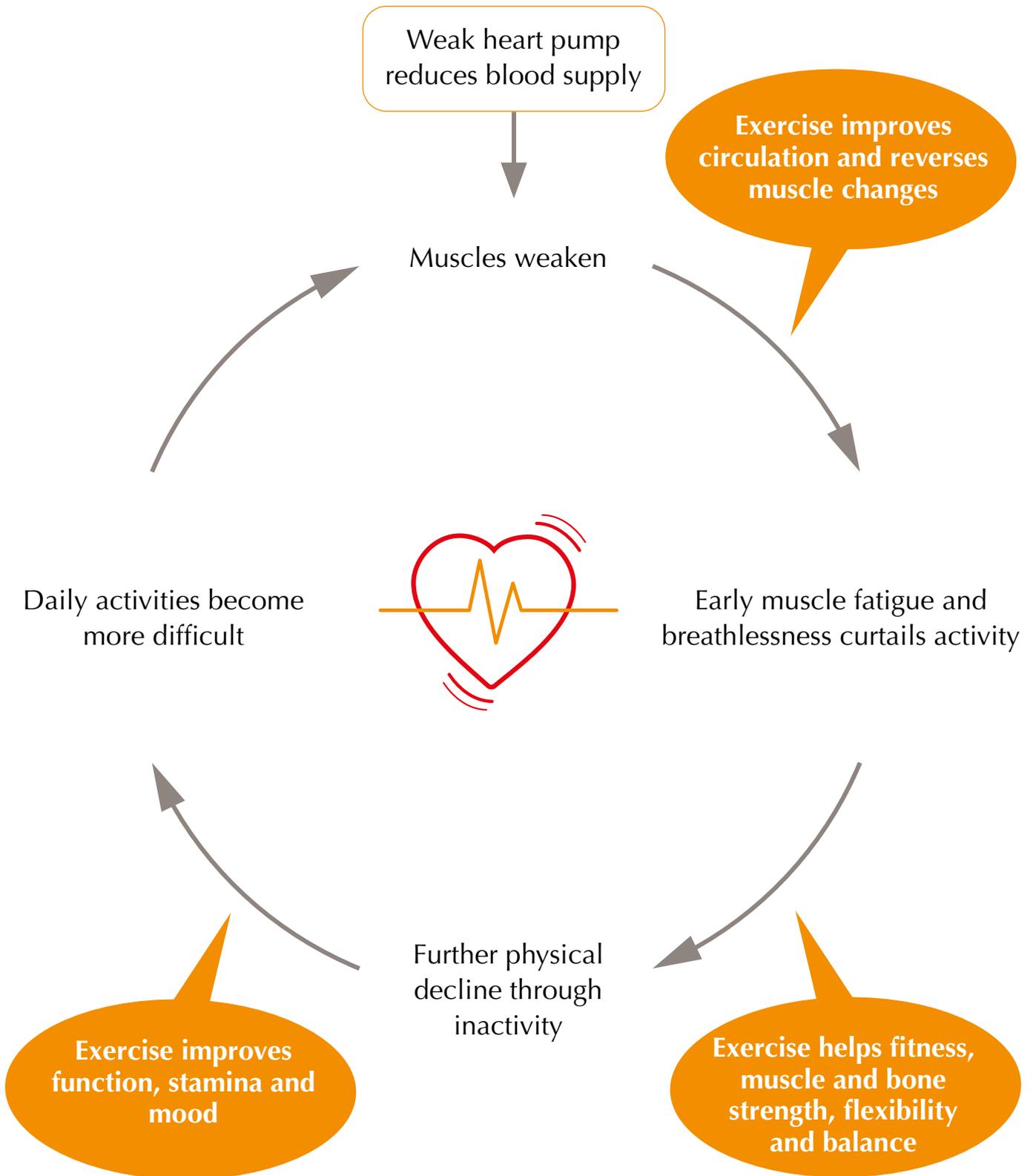
*If exercise was a pill it would be prescribed for every patient.*

With heart failure your heart and lungs may struggle to meet the demands of your body. Fortunately, a structured exercise program and regular physical activity can improve the blood and oxygen supply to your body. This in turn can make daily activities such as household chores, showering, or shopping easier to undertake.

Physical activity and exercise can help you stay out of hospital and enhance your quality of life by improving your fitness, sleep and energy levels. The benefits can also affect your mood by making you feel more confident, happier and relaxed.



# Cycle of inactivity in heart failure and benefits of exercise



# Is physical activity and exercise safe?

Some people with a heart condition fear that exercise may be harmful, but the evidence is very clear – those who exercise regularly remain healthier than those who don't. However, some care is needed to gradually improve your fitness.

## Safety tips

1. If you have been unwell, return to exercise at a lower level and gently build yourself back up.
2. If you have been in hospital, discuss your exercise program with your doctor or exercise specialist before restarting.
3. Carry a mobile phone if you are walking alone.
4. Exercise with a friend for safety and motivation.
5. If you have angina medicine, keep it with you when exercising.
6. Check with your doctor before swimming or exercising in water.
7. If you see an exercise specialist tell them about any other conditions you may have (such as diabetes, lung disease, atrial fibrillation, and arthritis).

## Pacemaker and defibrillators

You can exercise with a pacemaker or defibrillator as these devices are programmed to function normally during exercise and will react to abnormal heart rhythms.

## Fluid management

Many people with heart failure need to restrict their fluid intake to stop the build-up of fluid in their lungs and body. It is best to avoid being too active in the heat of the day but if you do sweat a lot, you may need to drink a little more to prevent becoming dehydrated.

## Safety considerations for exercising in water

When you stand or lie in water the heart works harder due to the pressure of the water on the body. The deeper you are under water, the greater the pressure, and the harder your heart must work.

### Do's

- Check with your doctor or exercise specialist to see if exercising in water is a safe activity for you.
- Start by exercising in shallow water (below the waist) as this reduces pressure on your heart.
- Exercise in warm water if possible and have someone close by in case you feel faint or unwell.

### Don'ts

- SCUBA diving and snorkelling (involving diving) should always be avoided by people with heart failure.
- Do not exercise in water if you have had a recent hospital admission or worsening of symptoms.
- Avoid very cold water as it causes your blood vessels to narrow and may trigger angina or irregular heartbeats.
- Be cautious with very warm water, steam rooms and saunas as they may lower your blood pressure and lead to dizziness.



## Symptoms when exercising

It is fine to have some shortness of breath when exercising as long as you feel in control and your breathing returns to normal when you rest.

The table below will guide you to recognise responses to exercise and actions to take.

Response to exercise	Actions to take
Mild shortness of breath, increase in heart rate and sweating.	No action. This is <u>normal</u> when exercising.
Muscle or joint pain during exercise.	Change the exercise to one that does not hurt.
Irregular or unusually fast heartbeat (more than usual for you).	Rest and call your doctor if you have abnormal heartbeats for more than 15 minutes.
The symptoms below are severe OR getting worse: <ul style="list-style-type: none"><li>• Pain, pressure, or tightness in chest, shoulder, arm, jaw</li><li>• Dizziness or light-headedness</li><li>• Nausea, indigestion, vomiting</li><li>• Shortness of breath</li><li>• Sweating or cold sweat</li></ul>	If you feel angina symptoms: <ol style="list-style-type: none"><li>1. Stop and sit. Tell someone how you're feeling. Take a puff of your angina spray (if prescribed) and wait 5 minutes.</li><li>2. If the angina continues, take 1 more puff of your spray, and wait 5 minutes.</li><li>3. If you still have symptoms call 000 for an ambulance.</li></ol>

# Getting started

It is never too late to start regular exercise or to become more active. If you are already active, keep up the good work and perhaps add a new physical activity to your daily routine. If you spend a lot of time sitting, try and move more often.

## Preparing to exercise

- Wear loose, comfortable clothing and supportive flat shoes.
- Carry angina tablets or spray with you (if prescribed).
- Do not exercise immediately after eating a large meal.
- Find an environment that is not too hot or too cold.

## Warming up, cooling down, and training

For people able to exercise for at least 30 minutes, there are 3 components which should be included in all exercise sessions (as shown below).



# The FITT principle of exercise

A well-balanced exercise program should consider the **FITT** principle:

**F**requency – how often

**I**ntensity – how hard

**T**ime – duration of each session

**T**ype of exercise – aerobic, strength, balance or flexibility

The following pages provide general recommendations on how to apply the FITT principle when undertaking an exercise program. An exercise specialist can give you a more individual program.

## Frequency

How often you exercise will be guided by how you feel and the nature of your condition.

- Aim to do some exercise on most days.
- You can exercise once a day, or if this is too hard, exercise for several short periods spread across the day.
- Make exercise a habit, as a little activity more often is better than a lot every now and then.
- Some activity is always better than doing nothing.

# Intensity

Exercise intensity refers to how hard your body is working during physical activity.

- Start at a level that you can achieve
- Aim for light to moderate exercise intensity, as too light intensity will not maintain your health (see figure of rating scale)
- Heart rate is not usually a good indicator of how hard you are working (medicines often deliberately slow down the heart rate)
- Anything too hard may place stress on your heart and can be harmful. If the exertion feels too hard, reduce the intensity by slowing the pace or resting

## Talk test

A good way to judge the intensity of your exercise or physical activity is the talk test. You should be able to speak in full sentences and maintain a conversation comfortably without having to stop mid-sentence to catch your breath.

## Exertion rating scales

You can rate the effort you feel during an activity using the Rating of Perceived Exertion (RPE) scale. Some scales go from 1 to 10 and others from 6 to 20. Your exercise specialist will choose the scale most suitable for you.

RPE Scale		How hard am I working?
	6	No exertion at all
	7	Extremely light
	8	
↑ Ideal effort range ↓	9	Very light
	10	
	11	Light
	12	
	13	Somewhat hard
	14	
	15	Hard (heavy)
	16	
	17	Very hard
	18	
	19	Extremely hard
	20	Maximal exertion

Figure: Rating of Perceived Exertion (RPE) scale

## Time of each session

Exercise should be in addition to your usual daily physical activity (except for heavy manual labour). Aim for 30 minutes or more of light to moderate intensity exercise on most days (about 150 minutes a week).

When aiming to reach your goal remember that:

- Some people may take weeks or months to build up to exercising for 30 minutes daily. Others may find it difficult to achieve this target.
- If you find exercising for long periods difficult, break the exercise into short periods such as 2 x 10 minute blocks spread across the day.
- Extra health benefits may be gained from exercising for longer periods (if you are able to do this without getting too exhausted).

		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Walking	30 mins	✓	✓		✓	✓	✓	
Hand weights	3 x 10 2kg					✓		
Step ups	3 x 10		✓		✓			
Stretches	10 mins						✓	

Figure: Sample exercise diary

## Type of exercise

The main types of exercise (summarised in the table below) are suitable for people with a heart condition. If you have an exercise specialist, they can select the most appropriate combination for you.

	Activities	Benefits	Techniques
<b>Aerobic activity</b> 	<b>Walking, cycling, dancing and golf</b>	Improves fitness, heart health and breathing	<ul style="list-style-type: none"> <li>• Start slowly and gradually build up the time or distance</li> <li>• Aim to build up to 30 minutes most days if possible</li> <li>• Avoid hard or fast bursts of aerobic activity unless advised by your exercise specialist</li> <li>• Keep below 14 on the Rate of Perceived Exertion (RPE) scale</li> </ul>
<b>Strength training</b> 	<b>Exercises using <u>light</u> weights, resistance bands, or your own body weight</b>	Strengthens bones and muscles, improves balance and posture	<ul style="list-style-type: none"> <li>• Do 1–3 sets of 8–15 repetitions for each exercise</li> <li>• Avoid holding your breath during strength exercises</li> <li>• Aim to improve muscle endurance by working muscles for longer rather than harder (increasing repetitions and sets before increasing weight)</li> </ul>
<b>Flexibility and balance</b> 	<b>Stretching and balance exercises, tai chi and yoga</b>	Improves joint movement and balance	<ul style="list-style-type: none"> <li>• Warm-up and cool-down by stretching before and after exercise</li> <li>• Gently hold each stretch (with no pain) for 15 to 20 seconds and avoid bouncing</li> <li>• Ensure you have a stable support nearby in case you lose your balance</li> <li>• Avoid head-down postures to prevent dizziness</li> </ul>

Repetition = one movement of the exercise

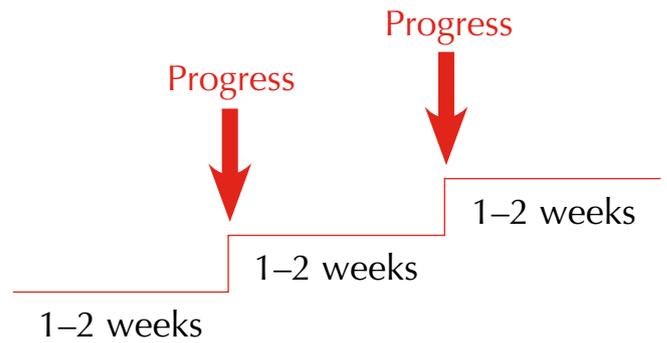
Set = one block of repetitions

# Making progress

As symptoms allow, gently progress (increase) your exercise and activity. This will ensure your heart and body become stronger as you are able to do more. Progressing your activity or exercise program is a slow and steady process.

Progress when your current exercise feels easy or light (6 to 11 on RPE scale) for several sessions.

When you increase your activity, it may feel somewhat hard (13 on RPE scale). Continue at this level until the activity feels easy or light again.



## Low baseline level of activity

If your activity level is low, try short periods of exercise (e.g. 2–5 minutes) and increase the number of periods throughout the day. Then increase the time of each period.

## High baseline level of activity

If you can exercise for 30 minutes on most days, try exercising for longer, or faster, or with more resistance. Note that when you increase the intensity you may need to cut down the time and build up again.

Increase the number of short periods of activity



Low level of activity



Very active

Increase the total time or intensity

Maintain

# Tips for staying motivated

Keeping motivated to exercise or to be physically active is hard for most people, especially when you are feeling unwell with a heart condition. Here are some tips to help keep you moving.

1. Keep to a routine and set goals. For example, aim to walk 10 minutes, 5 days per week. When you can do this comfortably, aim to walk 15 minutes, 5 times per week, and so on.
2. Record your baseline and your progress using an exercise diary, phone app, or smart watch.
3. Have fun. Exercise doesn't have to be boring. Find something you enjoy like dancing or a variety of other activities. Listening to music when doing exercises.
4. Make exercise social by walking or exercising with a friend.
5. Be kind to yourself. Everyone has bad days and setbacks. Get back on track as soon as you can.
6. Do something. Every moment that you are on your feet is helping your health. The only bad workout is the one that didn't happen.
7. Think of activity as an opportunity rather than as a burden.



# How to be more physically active

Incidental physical activity is any unplanned movement that you add into your day. Small amounts of activity throughout the day quickly add up and can help you to stay fit or improve faster. Below are ideas on ways to limit the amount of time you sit each day.



When checking the mailbox, do a lap of the garden or walk to the end of the street and back.



While watching TV, walk on the spot, ride an exercise bike or use the ad breaks as an opportunity to move around.



Use stairs instead of lifts or escalators.



Move your legs, circle your feet or move your arms and hands whenever you can.



Household chores such as cleaning or gardening.



Park further away from the shops and walk the extra distance.

# Common exercises

Below are some exercises that you can do at home. Ask your exercise specialist for advice about the best exercises to meet your needs and circumstances.

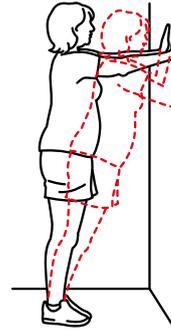


## Sit to stand

From a seated position, use your thigh muscles to push up into standing.

Repetitions \_\_\_\_\_ Sets \_\_\_\_\_

Progressions \_\_\_\_\_

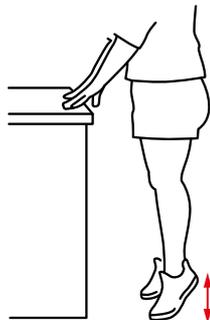


## Wall push ups

Standing arms' length from the wall, lower yourself towards the wall. Keep your back straight and elbows tucked in.

Repetitions \_\_\_\_\_ Sets \_\_\_\_\_

Progressions \_\_\_\_\_



## Heel raises

Use fingertips to support yourself near a table or chair. Push up onto your toes as high as you can using your calf muscles.

Repetitions \_\_\_\_\_ Sets \_\_\_\_\_

Progressions \_\_\_\_\_



## Bicep curls

Standing tall with palms facing forwards, bend your elbows to move your hand towards your shoulder. Use light weights or items such as tin food or packets of rice. This exercise can also be done while sitting.

Repetitions \_\_\_\_\_ Sets \_\_\_\_\_

Progressions \_\_\_\_\_ Weight \_\_\_\_\_

# Rehabilitation and beyond

## Exercise and education rehabilitation programs

Rehabilitation programs offer a series of supervised exercise sessions and educational talks.

Ask your health care team about rehabilitation programs suitable for your heart condition. If you can't attend a rehabilitation program, ask about alternatives such as videoconferencing.

Benefits of rehabilitation:

- ✓ Get fitter and stronger quickly and safely
- ✓ Build confidence to exercise independently
- ✓ Learn how to manage your heart condition
- ✓ Provides social contact

## Staying active forever

It is very important to keep exercising and to stay active after completing a rehabilitation program.

Discuss with your rehabilitation team about ways to maintain your heart health.

People with heart failure who complete rehabilitation usually do better than those who do not. They have fewer symptoms and spend less time in hospital.





Physical activity, exercise and heart failure