

Department of Cardiology

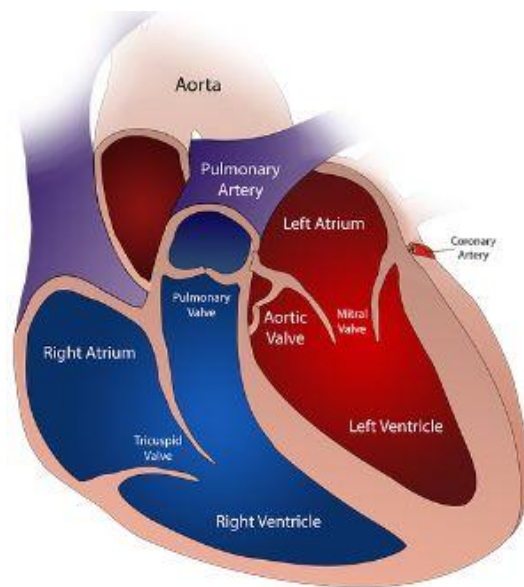
## Living with Heart Failure



# An Introduction to Heart Failure

Our heart is an important muscle that pumps blood to all parts of the body.

It has four chambers which are separated by valves.



For the heart to function efficiently, it needs to have:

- Healthy heart muscle that relaxes properly to fill the heart chambers with blood and contracts strongly to pump blood to the rest of the body
- Valves that work properly to ensure blood flows in the right direction
- An electrical conduction system that coordinates the pumping and relaxing action of the heart
- Coronary (heart) arteries to supply blood to the heart muscles

# An Introduction to Heart Failure

## What is Heart Failure (HF)?

It is a chronic condition where your heart is unable to pump enough blood to sustain your body's needs.

With heart failure, you may develop a lower activity tolerance. This means you will only be able to endure a shorter period of physical activity before feeling breathless and tired.

If left unaddressed, it may worsen your heart function and result in hospitalisation.



# Signs and Symptoms of Heart Failure

## Common Signs and Symptoms

Common signs and symptoms of heart failure include:

- Breathlessness during activity or when lying flat
- Fatigue and weakness
- Light-headedness/dizziness
- Coughing
- Fast heartbeat

## Signs and Symptoms of Worsening Heart Failure

The following are possible signs that you are experiencing an acute episode of worsening heart failure:

- Sudden weight gain of >1kg per day, or >3kg in 5 days, from fluid build-up
- Chest pain on exertion
- Increased swelling in the legs/ankle/feet
- Abdominal bloating
- Worsening breathlessness when resting or during activity

If you are experiencing any of the above symptoms, please consult your doctor within 24 hours and do not engage in any exercise.

# Managing Your Heart Failure

## Take Your Medications as Prescribed

Medications are an important part of your treatment plan. It is important to take them consistently, and as prescribed.

Your doctor or pharmacist may:

- Prescribe several different classes of medicines as they work differently to control your heart failure (You can find more information on the next few pages)
- Gradually increase the dosage of some medications to better suit your needs
- Stop or adjust your medications depending on your blood tests or condition

You can learn more about what to monitor while on your medications by visiting this link:



[Medications to Treat Heart Failure](#)

# Medications to Treat Heart Failure

## Common Medications

## How the Medications Work

### Angiotensin-Converting Enzyme Inhibitors (ACE-I):

Enalapril



Lisinopril



Perindopril



- Prevent your heart from getting weaker
- Reduce workload of the heart (This means it helps to make it easier for the heart to pump blood to all parts of the body)
- Help control your blood pressure

### Angiotensin II Receptor Blockers (ARB):

Candesartan



Losartan



Valsartan



### Angiotensin Receptor-Neprilysin Inhibitor (ARNI):

Sacubitril-Valsartan



# Medications to Treat Heart Failure

## Common Medications

## How the Medications Work

### Beta Blockers:

Bisoprolol    Carvedilol    Nebivolol



- Regulate your heart rate
- Reduce workload of the heart (This means it helps to make it easier for the heart to pump blood to all parts of the body)

### Mineralocorticoid Receptor Antagonist (MRA):

Spirolactone    Eplerenone



- Targets hormone in body to reduce worsening of heart failure

### Sodium-glucose cotransporter 2 Inhibitors (SGLT2 Inhibitors):

Empagliflozin    Dapagliflozin



- Protective effects on the heart
- Reduce fluid buildup by increasing urine production

# Medications to Treat Heart Failure

## Common Medications

## How the Medications Work

### Diuretics

#### Thiazide-like Diuretic:

Metolazone



#### Loop Diuretics:

Bumetanide



Furosemide



- Reduce fluid buildup by increasing urine production
- These medications may be prescribed together with potassium supplements

### I<sub>f</sub> Channel Inhibitor:

Ivabradine



- Regulate your heart rate
- Reduce workload of the heart (This means it helps to make it easier for the heart to pump blood to all parts of the body)

### Arterial Vasodilators:

Hydralazine



- Help control your blood pressure
- Reduce workload of the heart

# Medications to Treat Heart Failure

## Common Medications

## How the Medications Work

### Venous Vasodilators (Nitrates) such as:

Isosorbide Dinitrate



Isosorbide-5-Mononitrate  
controlled release



- Help control your blood pressure
- Reduce workload of the heart (This means it helps to make it easier for the heart to pump blood to all parts of the body)

### Cardiac Glycosides:

Digoxin



- Control fast and irregular heart beat
- Improve heart function by strengthening the force of your heartbeat

# Managing Your Heart Failure

Taking too much fluid and salt (sodium) in your diet will cause fluid to build up in your body and worsen the symptoms of heart failure. You should:

## Limit Your Fluid Intake

- Restrict your fluid intake to 1 to 1.5 Litres per day or as advised by your doctor
- This includes all liquids such as beverages/soups/porridge/fruits



# Managing Your Heart Failure

## Limit Your Salt Intake

- Maintain a low salt diet (less than 2g of sodium per day)
- Avoid processed or canned food
- Avoid gravy or sauces

1 level teaspoon of salt  
= 2g sodium



## Avoid Smoking and Alcohol Intake

- Smoking and alcohol intake will worsen the condition of heart failure, so it is essential that people with heart failure reduce their alcohol intake and quit smoking.



# Managing Your Heart Failure

## Daily Monitoring of Weight

Watching your weight is important as a sudden increase in weight could mean excess fluids collecting in your body.

- Weigh yourself every morning, after passing urine but before having your breakfast
- Wear the same amount of clothes each time you weigh yourself
- Use the same weighing scale
- Record your weight daily in a diary
- Contact your nurse/doctor if you have weight gain of >1kg per day or >3kg in 5 days



# Managing Your Heart Failure

## Daily Monitoring of Blood Pressure

Keeping your blood pressure under control can reduce the risk of heart failure and improve your response to heart failure therapy.



Check your home blood pressure (BP) twice a day.

- 1<sup>st</sup> measurement: Measure your BP upon waking up or after emptying your bladder, before your medication and food
- 2<sup>nd</sup> measurement: Measure your BP before bedtime
- Do not take BP immediately after exercising, smoking, eating/drinking or when you are stressed



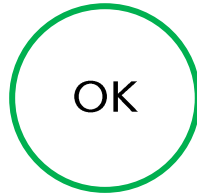
[Home Blood Pressure Guide](#)

- Keep a daily record of your weight & BP in a diary or notebook
- Bring along your record each time you visit your healthcare professional

# Heart Failure Action Plan

## You are doing well when you experience

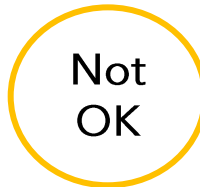
- No shortness of breath
- No weight gain
- No feet, ankle and leg swelling or stomach bloating
- No chest pain



- Your symptoms are under control
- Keep up the good work
- Continue to weigh yourself daily
- Continue to follow medical instructions

## Consult a doctor within 24 hours if you experience

- Increased difficulty in breathing with activity
- Noticeable leg swelling or stomach bloating
- Weight gain of >1kg per day or >3kg in 5 days
- Persistent night cough



- Consult a doctor within 24 hours



## Seek medical treatment immediately if you experience

- Shortness of breath especially if accompanied with cold sweats
- Chest discomfort
- Dizziness
- Fainting (this is very serious)



- Call **995** immediately; or
- Go to the nearest Emergency Department immediately; or
- See a doctor immediately



<ul style="list-style-type: none"> <li>- Record weight, blood pressure daily</li> <li>- Record blood glucose (if applicable)</li> <li>- Check symptoms daily</li> </ul> <p>Refer Heart Failure Action Plan          ✓ the colour zone accordingly</p> <p><b>● OK ● NOT OK ● GET HELP!</b></p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin-bottom: 5px;"></div> <p>Weight: _____ kg              BP: _____ / _____ mmHg              Blood Glucose: _____ mmol/L (finger prick)              Heart failure symptoms: ● ● ●              Remarks:</p>
<div style="border: 1px solid black; width: 40px; height: 20px; margin-bottom: 5px;"></div> <p>Weight: _____ kg              BP: _____ / _____ mmHg              Blood Glucose: _____ mmol/L (finger prick)              Heart failure symptoms: ● ● ●              Remarks:</p>	<div style="border: 1px solid black; width: 40px; height: 20px; margin-bottom: 5px;"></div> <p>Weight: _____ kg              BP: _____ / _____ mmHg              Blood Glucose: _____ mmol/L (finger prick)              Heart failure symptoms: ● ● ●              Remarks:</p>
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# Living with Heart Failure

- Many people can continue to lead a relatively normal lifestyle despite having a heart condition.
- Consider using energy conservation techniques as you gradually return to your daily activities.

## Energy Conservation

- **PRIORITISE** → Do what is important first
- **PLAN** → Plan your schedule ahead for the day or week and alternate between light and heavy tasks
- **POSITIONING** → Perform task in body positions that will not overexert your body.  
For e.g. Sit on a chair when showering
- **PACING** → Take multiple breaks when performing a task  
(Remind yourself to: DO – REST – DO)

# Heart Failure and Exercise

## Engage in Regular Exercise

Benefits of exercise include:

- Reduced breathlessness (difficulty breathing) during physical activity
- Increased muscle mass and strength
- Better exercise tolerance (Improved ability to engage in physical activity without getting overly tired or fatigued)
- Gain confidence in performing daily activities
- Improved quality of life (experiencing better health and feeling a greater sense of happiness)

### **\*TO NOTE\***

Please engage in exercise or physical activity only as directed by your doctor or healthcare team.

Please speak to your doctor, physiotherapist or healthcare team about your exercise training.

You can also find out about cardiac rehabilitation, supervised exercise training and educational programme from your doctor or healthcare team.

# Recognising Your Symptoms

## Normal Symptoms You May Experience During Exercise:

- Light to moderate shortness of breath
- Sweating
- Tiredness
- Light muscle aches

## Abnormal Symptoms Which You Should Take Note of During Exercise:

- Chest pain
- Intense joint pain
- Dizziness or light headedness
- Heart beating abnormally fast/pounding
- Severe or prolonged breathing difficulties
- Headaches

If you experience any of the above abnormal symptoms, please stop your exercise immediately. Please contact your doctor if the symptoms continue even after resting.

# Getting Ready to Exercise

## During Exercise:

- Pace yourself throughout the exercise session
- Progressively increase the intensity and duration of your exercises overtime
- Wear comfortable clothing and proper footwear
- Warm-up before starting your exercise and cool down afterward with light stretches

An example of an exercise session will look like this:



# Different Types of Exercises

## You Are Recommended to Do:

### Endurance Training



- 3 to 5 times per week
  - 30 minutes per session, accumulating to 150 minutes per week
  - Do **low to moderate intensity** exercises where you are still able to talk but not able to sing
  - Examples include walking and cycling
- 

### Strength Training



- 2 to 3 times per week
  - Start with 3 to 5 sets of 10 to 15 repetitions
  - Gradually progress to use heavier weights, completing 3 to 5 sets of 8 to 10 repetitions
  - Examples include exercises targeting the upper limbs, abdominal and lower limbs
- 

### Flexibility



- Daily
- Hold stretches for 30 seconds and repeat each stretch three times
- Examples include stretches for upper body, arms and legs
- Usually done during warm-up and cool down

# Other Treatments for Heart Failure

There are other treatments depending on your medical condition.

Your doctor may discuss these options with you for these treatments :

- Percutaneous Coronary Intervention
- Coronary Artery Bypass Graft (CABG)
- Heart Valve Surgery
- Device Therapy for Heart Failure
  - Pacemaker (PPM)
  - Automatic Implantable Cardioverter Defibrillator (AICD)
  - Cardiac Resynchronisation Therapy (CRT) devices
- Ventricular Assist Device and Heart Transplant

# Advanced Care Planning (ACP)

- **What is ACP?**
  - The Advanced Care Planning is a written document that indicates your preference on your future medical care should you become too sick and unable to communicate one day.
- **Importance of ACP**
  - Having your desired medical plan in writing helps you to communicate your wishes accurately to your healthcare providers and loved ones so they can respect your wishes in the event that you cannot speak for yourself
- **Get started on ACP**
  - Talk to your doctors and nurses about your heart condition. It is important to know and understand your condition well so that you know what might be involved in your future care
- **What to do with ACP**
  - To submit your ACP to the National Electronic Healthcare Record (NEHR), you'll need to discuss it with a certified ACP facilitator.
- **What if you change your mind after ACP discussion?**
  - You can always change your choice for your future medical care, as long as you are still mentally alert and able to think. It is always important to let your family members and healthcare team know when you change your mind so that they can follow your wishes.



# Useful Links

1. Learning to Live with Heart Failure  
[Living with Heart Failure: Video](#)

2. Cardiac Rehabilitation and Heart Support group @ Singapore Heart Foundation  
[What is Cardiac Rehabilitation | Singapore Heart Foundation \(myheart.org.sg\)](#)

3. Agency for Integrated Care  
<https://www.aic.sg>

4. HealthHub for Health Information, Tips and Tricks  
<https://www.healthhub.sg>

5. My Legacy  
<https://mylegacy.life.gov.sg>

Scan QR code for link



Heart Failure



SHF



AIC



Healthhub



My legacy

**Clinics 3A**  
TTSH Medical Centre, Level 3  
**Contact:**  
6357 7000 (Central Hotline)



Scan the QR Code with your smart phone  
to access the information online or visit  
<https://for.sg/ttsh-health-library>

Was this information helpful?  
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feedback regarding what you have just read at  
[patienteducation@ttsh.com.sg](mailto:patienteducation@ttsh.com.sg)



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