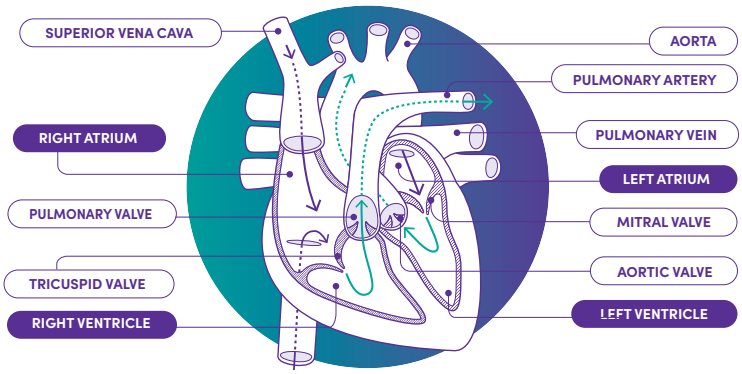
What is heart failure?

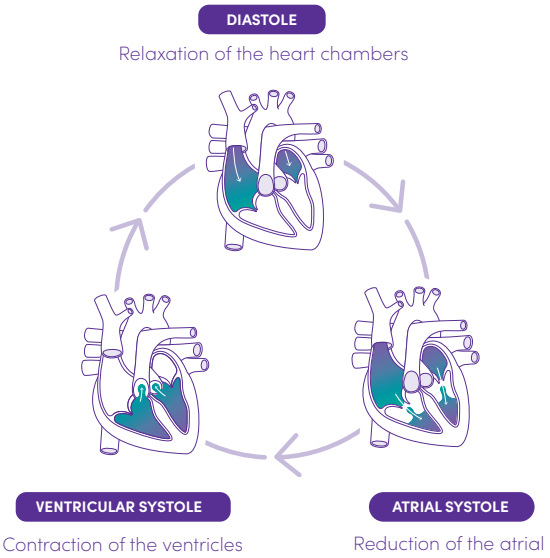
Heart failure refers to signs, symptoms or both caused by a structural and/or functional heart abnormality. The heart is a pump which pushes blood around the body. It has 4 chambers: a right atrium, right ventricle, a left atrium and a left ventricle.

In a heart with a normal structure, the right atrium receives blood that has sent oxygen around the body. Blood flows into the right ventricle. This large chamber pumps blood into the lungs, where red blood cells pick up oxygen. Then blood returns to the heart into the left atrium. From here, blood passes into the left ventricle. From the left ventricle, blood is pumped to the body. This rhythmic, co-ordinated sequence during a heartbeat is called the cardiac cycle.

The four chambers of the heart



The cardiac cycle



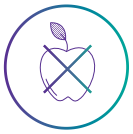
What is the ejection fraction?

The ejection fraction is the amount of blood pumped out from the left ventricle each time this chamber contracts. Measuring your ejection fraction is one of the ways your medical team can see how well your heart is working.

What are heart failure's typical signs and symptoms?

You should inform your doctor if you have the following symptoms:

A DRY COUGH



LOSING YOUR APPETITE

DISCOMFORT OR SWELLING IN THE TUMMY (ABDOMEN) OR LOWER BODY

INCREASED TROUBLE SLEEPING

BREATHLESSNESS with activity, when resting or when you can't lie flat comfortably

SUDDEN WEIGHT GAIN More than 2-3 lbs (1-1.5kg) in 24 hours or 5lb (2.25 kg) in a week

NEW OR WORSENING DIZZINESS, CONFUSION, SADNESS OR DEPRESSION

INCREASED SWELLING OF YOUR LEGS, ANKLES OR FEET

What causes heart failure?

Heart failure can have lots of causes. Among them, heart failure can be caused by ischaemic heart disease, high blood pressure (hypertension), autoimmune diseases, obesity, the side effects of certain medications, and drugs of abuse. Other conditions (including under- and over-active thyroid, diabetes, abnormal heart rhythms and iron deficiency) can cause heart failure or mean you are more likely to get it.

What are the different stages of heart failure?

The New York Heart Association (NYHA) Classification places you into one of four classes (I-IV) based on how well you can perform the activities of daily living.

CLASS	PATIENT SYMPTOMS
I	No limitation of physical activity. Ordinary physical activity does not cause undue fatigue, palpitations, dyspnea (shortness of breath).
II	Slight limitation of physical activity. Comfortable at rest. Ordinary physical activity results in fatigue, palpitation, dyspnea (shortness of breath).
III	Marked limitation of physical activity. Comfortable at rest. Less than ordinary physical activity results in fatigue, palpitation, dyspnea.
IV	Unable to carry on any physical activity without discomfort. Symptoms of heart failure at rest. If any physical activity is undertaken, discomfort increases.

Breaking the heart failure journey into four stages shows how heart failure may progress and can guide management.

A STAGE A AT-RISK FOR HEART FAILURE

- Patients at risk for HF but without current or previous symptoms/ signs of HF and without structural/ functional heart disease or abnormal biomarkers
- Patients with hypertension, CVD, diabetes, obesity, exposure to cardiotoxic agents, genetic variant for cardiomyopathy, or family history of cardiomyopathy

B STAGE B PRE-HEART FAILURE

Patients without current or previous symptoms/ signs of HF but evidence of 1 of the following:

- Structural heart disease
- Evidence of increased filling pressures
- Risk factors and increased natriuretic peptide levels or persistently elevated cardiac troponin in the absence of competing diagnoses

C STAGE C SYMPTOMATIC HEART FAILURE

Patients with current or previous symptoms/signs of HF

D STAGE D ADVANCED HEART FAILURE

Marked HF symptoms that interfere with daily life and with recurrent hospitalizations despite attempts to optimize guideline-directed medical theraphy

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