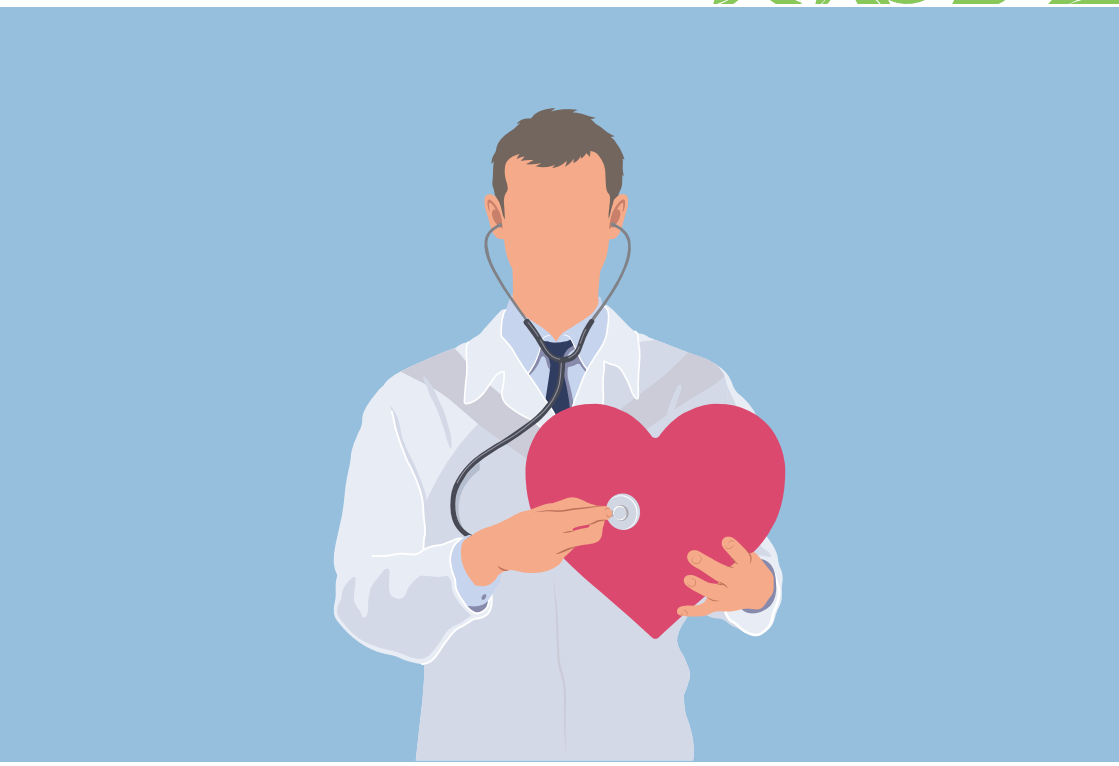
# Cancer Treatment and Your Heart



مؤسسة حمد الطبية
Hamad Medical Corporation
HEALTH • EDUCATION • RESEARCH
صحة • تعليم • بحوث

Patient and Family Education
patienteducation@hamad.qa

# Cancer Treatment and Your Heart



## Know Your Heart:

Your heart is a large muscle that helps pumping blood around your body. Blood brings oxygen and nutrients around and removes carbon dioxide and waste products from your body. The heart has two sides (left and right) and four cavities.

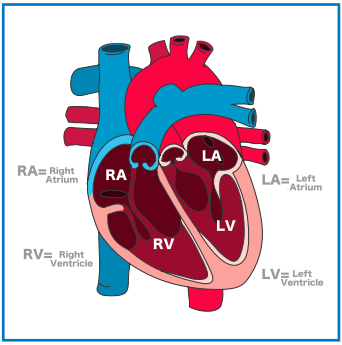



Figure 1 Heart

Figure one explains to your heart cavities. The upper smaller cavities collect blood that comes in from the body. The two larger cavities below, pumps blood out the heart.

Your heart has its own electrical system. It helps heart to beat and pump blood around your body. A group of cells sends an electrical signal through the heart to start beat. If your heart beats about 60 to 100 times a minute, it is considered a normal.

## How Can Cancer Treatment Affect Your Heart?

Certain kind of cancer treatment can affect your heart function. Most heart problems resulting from problems cancer medication is short lived, with improvement after stopping the medication. Talk to your treating Doctor for more detailed information. Inform your doctor if you have known heart disease or any health issues, such as diabetes, hypertension, and high levels of cholesterol in your blood.

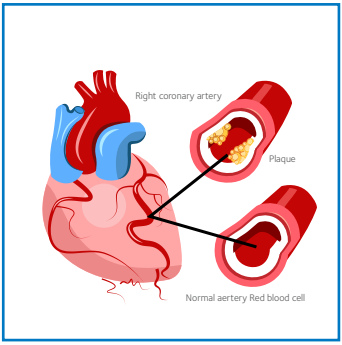



Figure 2 Heart Coronaries

## Heart Attack

A blood clot can form when a portion of the accumulated fat breaks off. This may cause a blockage in the blood vessel, preventing blood flow to the hearts muscles. If these symptoms exist with unrelieved chest pain, then immediately seek medical assistance by calling 999

## Heart Failure

Inability of the heart to pump sufficient blood, this does not mean that the heart stops. It just means that it does not pump blood around the body effectively.


Figure 3 Heart Failure Symptoms

## Heart Valve Disease

Heart valve disease is when one or more of your heart valves don't work as they should. The main problems are caused by the valve not opening fully or not closing properly. This puts extra strain on the heart and make the heart work harder. The main symptoms are unusual tiredness, shortness of breath, chest pain, swelling of the legs, feet, and ankles.

## What causes heart valve damage?

Infections, changes in the heart valve structure due to aging,damage / disease to the heart muscle, birth defect, radiotherapy treatment to (or nearby) the heart.

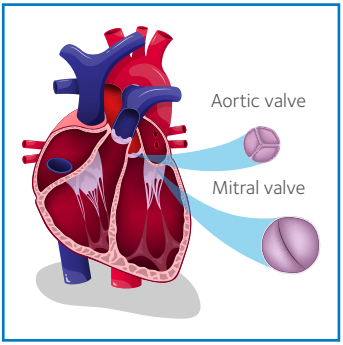



Figure 4 Heart Valves

## Electrical Heart Disease

A problem with the heart's electrical system may make your heartbeat extremely fast/ too slow and it may stay steady or irregular. This is a different pattern from the regular heart rhythm. For example, when you are resting, your heart may beat more slowly and when you are active or anxious, your heart may beat faster. Arrhythmia (irregular heartbeats) is the medical term for an abnormal heart rhythm.

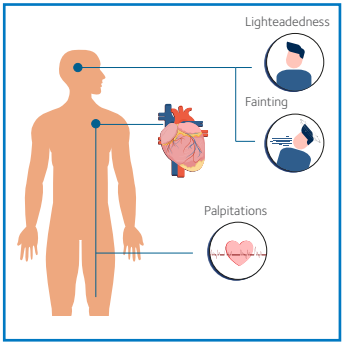



Figure 5 Electrical Heart Disease

## The reasons for abnormal heart rhythm:

- Old age
- Previous history of heart disease
- Some cancer treatments

## Many people get occasional palpitations (feelings of having a fast heartbeat) and often describe the sensation as:

- Flutter, or funny feeling
- Bounding
- Too slow or fast beat
- Skipped beats

## Heart Disease and Cancer

The risks for the development of heart disease with cancer treatment depend on:

- Type of the cancer treatment
- The amount of the administered cancer medications.
- Previous history of any heart disease

Risk increases if you have any risk factor for heart diseases such as age, obesity, smoking, hypertension, diabetes, and high cholesterol level.

Once your primary treating doctor identifies any one of these risk factors, then, you will be referred to the Cardio Oncologist (A specialist who helps in preventing or managing heart disease in people with cancer) for the assessment and evaluation of your heart.

## Cardio-Oncology Team

We're a team to assist you to take control of your wellbeing as we protect your heart while fighting your cancer. We will deliver personalized treatment to you based on your heart assessment.

## Patient Guide to Cardiac Tests and Screenings

Current cancer treatments are making a difference in the cancer patient's disease journey, either to help prolong life or to attain remission. Some cancer medication could impact the heart function temporarily and, in a few cases, have long-term effects. Your Cardio-oncologist may order few of these tests (including some blood tests) to check your heart wellbeing before, during and after cancer therapy.If you have received cancer medication or radiation which may affect the heart, we will do few tests to monitor your heart function before, during and after cancer treatment.

### A. Test that checks the Electrical movement of the heart:

Electrocardiogram (ECG)- Certain cancer medicines alter the electrical activity movement in your heart. You will require an ECG which takes a picture of your heart's electrical action before, during or after the course of treatment.

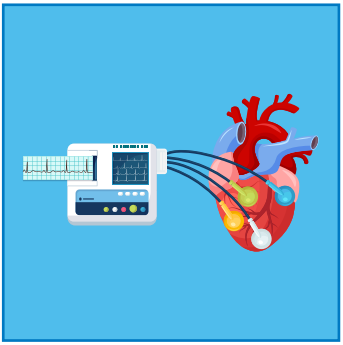


Figure 6 ECG

### B. Tests to check the ability of the heart to pump blood:

A few cancer medications can lower your heart power, which is the capacity of the left ventricle to pump blood, increasing the risk of heart failure. If you have received cancer medication or radiation within the range of the heart, you will do few tests to monitor your heart function before, during and after cancer treatment.

These tests may incorporate:

**Echocardiogram with Strain Imaging:** This is an advanced ultrasound test that allows a view of the moving heart and early discovery of impairment before it leads to a decrease of the heart's capacity to pump. This non-invasive test uses a transducer that's positioned on your left chest and abdomen as you lie on your left side. This test takes around 20 to 40 minutes and is performed by a qualified and trained ultrasound technologist.

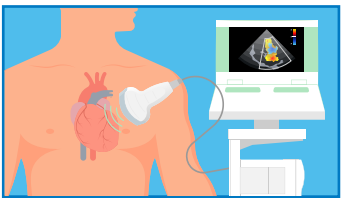


Figure 7 Echocardiogram

**Cardiac MRI**
This detailed test is often requested when there are concerns about the structure of the heart or when echocardiogram pictures are not helpful. It uses non-radiating contrast and requires you to lie on a moving table that slides you through a magnetic field

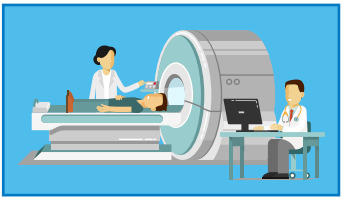


Figure 8 Cardiac MRI

**Other Diagnostic Tests such as cardiac catheterization and cardiac stress test.**

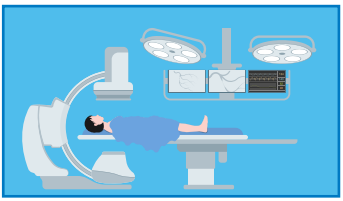


Figure 9 Cardiac Catheterization

Figure 10 Cardiac Stress Test

### Contact your Support Team

Contact the Clinical Nurse Specialist if your symptoms are getting worse or you develop new symptoms, and advice will be given about when and where to seek emergency assistance.