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A Visual Guide to Heart Disease

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2021 started quite well for Sarawak Heart Foundation even in the midst of the COVID-19 pandemic that has put a halt to our outreach activities. All other projects that were planned last year have come to fruition in the first half of this year.

We are raising funds for the purchase of a Magnetic Resonance Imaging (MRI) machine that costs RM2.6 million for Sibu Hospital. The hospital is in dire need of the MRI machine as the present one there is near end of life. Patients in the Central Region of the State had to be referred to Sarawak Heart Centre as the machine in Sibu Hospital cannot treat or does not have the capacity to handle those cases. We appeal for more sponsorship towards this project and you can read more about it on Page 3.

In February, the Foundation took up the offer by Sarawak Heart Centre to start up a fund for genetic testing that will benefit both patients with inherited cardiovascular disease and their immediate families. Heart Centre is the only one providing genetic testing in the country. As each test costs RM1,300.00 per patient and the target patients are from the low income group who cannot afford the testing, the fund has to be sustained with the support of donors.

The generosity of three corporate organisations enabled the Foundation to supply four portable oxygen concentrator machines to four hospitals in Sarawak in May this year. The full report is in the cover spread on Pages 6 and 7.

The Foundation also responded to the plight of needy heart patients in Sarawak who had to pay for the cost for Covid-19 tests upon admission to Institut Jantung Nasional, Kuala Lumpur for paediatric cardiac treatment in June this year.

Our free health screening programmes, being the Foundation's core activity, has been put on hold since March last year. We could only manage with one health screening event in Kampung Tesu Kura, Tebedu,



*From
the
Editor*

Serian last year which is reported on Page 8. The Foundation could only do its small part, among other things, in donating essentials to frontliners and covering the cost of quarantine for two mothers accompanying their children for heart treatment in National Heart Institute (IJN), Kuala Lumpur in November last year.

We were glad to be able to hand over a Wire-Free Fractional Flow Reserve System (wf-FFR) to Sarawak Heart Centre before the Movement Control Order was imposed. The wf-FFR, used to assess the degree of severity of blockages in the coronary artery, cost RM199,800.00. The report is on Page 5.

As long as the pandemic prevails, the more challenging it would be for the Foundation to do its part in building a heart-healthy community in Sarawak. Or the more we need the generosity and continued support and contribution of our benefactors towards our cause.

In this time of COVID-19, taking care of your heart is more important than ever before. People with heart disease are more vulnerable. This issue features Part 2, the continuation of the article on heart disease on Pages 10 and 11.

Stay protected and stay safe. We cannot be safe until everyone is safe. We will all get through this together.

Eric Lim Swee Khoon

Sarawak Heart Foundation Contributes To Fund for Genetic Testing For Inherited Cardiovascular Disease

Dr Oon Yen Yee
Consultant cardiologist

Department of Cardiology,
Sarawak Heart Centre

The Foundation has contributed RM 50,000 to start up a fund for genetic testing for inherited cardiovascular disease at Sarawak Heart Centre.

An inherited cardiovascular disease is one that has been passed on through families. Many cardiac diseases can be inherited, including cardiomyopathy, high cholesterol, arrhythmias and congenital heart disease. They can affect people of any age. People with inherited cardiovascular can present with palpitations, fainting spells, shortness of breath, chest pain and sudden death. Some may have no symptoms at all. If one parent has a faulty gene, there is a 50% chance that a person could have it too. And if the person carries the faulty gene, there is a 50% chance that it can be passed down to his or her children.

Since January this year, the Department of Cardiology has started engaging genetic testing service from a US-based company called INVITAE (<https://www.invitae.com/en>). A single genetic test costs USD 250 (approximately RM 1000) per person. Including transportation fees ranging from RM250 to RM260 (depending on current fuel price), a person needs to pay up to RM1260 for the test. The company provides free testing for first-degree family members if the person is tested positive for a pathogenic mutation. Whenever there is a clinical suspicion of inherited cardiovascular disease, the treating cardiologist will counsel the patient about genetic testing. After obtaining the patient's written consent, a date will be arranged for sample collection (saliva). The results will be available in approximately 3 weeks from the time of sample collection.

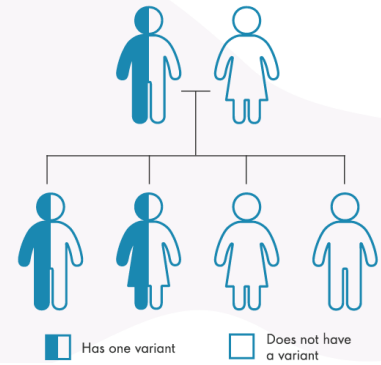
As of June 2021, four patients have undertaken the test under Sarawak Heart Foundation's funding. A few others are still waiting for their turn.

*The fund will help patients from the **low-income group** who cannot afford the test. Besides benefitting the patients, the genetic test will enable **early detection** of disease among their close family members.*

Inherited Cardiovascular Disease and Genetic Testing Contrary to many people's beliefs, inherited cardiovascular diseases are not uncommon. In our centre, the commonest inherited cardiovascular disease seen is hypertrophic cardiomyopathy (HCM). HCM is a disease affecting the heart muscle, causing it to thicken abnormally. Patients with HCM can present with shortness of breath, chest pain, palpitations and fainting spells. However, many patients with HCM under our care, are healthy individuals who display no symptoms. They are usually referred to us because of abnormal heart findings from a health check.

In the past, when genetic testing is not available, family screening for inherited cardiovascular disease is carried out in the form of performing a 12-lead electrocardiogram (ECG) and ultrasound of the heart on all first-degree family members. This creates anxiety and uncertainties among family members, especially the younger ones, who may be a carrier of the affected gene but have not shown any clinical manifestation. Genetic testing enables us to be more targeted in cascade screening of family members. Those family members who are tested negative are certainly free from the disease. On the other hand, those who

Chance for passing on a variant



are tested positive may or may not have the disease. This is because some individuals are only carriers of the mutated gene, and will not have any clinical manifestation of the disease in their entire life. But they can still pass on the gene to their children.

We often get a question from patients like "will a genetic test change the treatment of our heart disease?". Unfortunately, there is currently no cure for most inherited cardiovascular diseases. The treatment provided is mainly for symptom alleviation and prevention of sudden cardiac death. But, there are studies examining treatment targeted at the mutated gene, and the findings showed promising results. In the future, these investigational treatments called gene therapy might offer a complete cure for inherited cardiovascular disease.

We understand that there are many social implications if a person is tested positive for an inherited cardiovascular disease. Those who are professional athletes will be advised to stop participating in competitive sports, hence affecting their career and income. Insurance companies may impose certain restrictions or limit on their coverage. And the fear of passing down the gene to their offspring may hinder one from having a child. That is why we provide counseling before genetic testing, and when the results are out, another session of counseling will be arranged to explain the test results and the next course of action.

We will try our best to help you and your family, so allow us to explain genetic testing to you when it is indicated. There may be no cure for the heart problem at present, but in the future, things might change.

FUND DRIVE FOR MRI MACHINE FOR SIBU HOSPITAL

The Sarawak Heart Foundation is raising funds for the purchase of a Magnetic Resonance Imaging (MRI) machine for Sibu Hospital.

A number of corporate donors have come forward with their sponsorships namely Sanyan Holdings Sdn Bhd, Samling Resources Bhd, R H Forest Corporation Sdn Bhd, Harum Bidang Sdn Bhd, KTS-BLD Foundation, Cahya Mata Sarawak Bhd, Simalau Plantation Sdn Bhd, Hock Peng Furniture and General Contractors Sdn Bhd, Titanium Project Management Sdn Bhd, Asteel Sdn Bhd and TAS Offshore Bhd.

The machine, a Philips Diamond Select 1.5T Achieva dStream, costs RM2.6 million and is recommended by Sarawak Heart Centre for Sibu Hospital.

Sibu Hospital is in dire need of the MRI machine as the present one there is near end of life. Patients in the Central Region of the State had to be referred to Sarawak Heart Centre as the machine in Sibu Hospital cannot treat or does not have the capacity to handle those cases.

The machine will be able to address the immediate needs of Sibu Hospital in providing MRI services to patients in the whole of the Central Region of the Sarawak that includes Sarikei, Mukah and Kapit Divisions.

Three hospitals in the country namely Subang Jaya Medical Centre, Hospital Seberang Jaya and Hospital Sultan Abdul Halim are using Philips Diamond Select 1.5T Achieva dStream.

The Foundation is appealing for more sponsorships towards this project.



AID FOR MCO FRONTLINERS

Sarawak Heart Foundation answered the call of Sarawak General Hospital for foodstuff and necessities for its frontliners during the Movement Control Order period in March and April 2020. Foodstuff consisting of instant noodles, biscuits and Milo were delivered to 300 nurses and doctors and 300 support staff involved in the sanitation and maintenance of the hospital on 22 March and mugs, spoons and forks were sent over on 23 March.

Caps were distributed to volunteers of Federation of Chinese Associations, Kuching who were handling the collection and delivery of foodstuff and necessities to the staff of the hospital.

This was followed by another donation of four units of shower heaters to the hospital on 26 April 2020.



WIRE-FREE FRACTIONAL FLOW RESERVE SYSTEM FOR SARAWAK HEART CENTRE

Sarawak Heart Foundation handed over a Wire-Free Fractional Flow Reserve System (wf-FFR) to Sarawak Heart Centre on 15 January 2020.

The wf-FFR, used to assess the degree of severity of blockages in the coronary artery, costs RM199,800.00.

This sponsorship brings the total value of medical equipment donated by the Foundation to the Heart Centre since 2011 to RM2.66 million.



The wf-FFR can be used for up to 400 patients. With this new technology, there is nearly no risk of perforation of the coronary artery compared to the conventional FFR that requires the use of a wire. The amount of potentially kidney-damaging iodinated contrast use is reduced.

By rapidly providing a reading in about five minutes, wf-FFR can safely and quickly provide the necessary information to improve the risk stratification of the patient with coronary heart disease.

The Foundation has always been working closely with the Sarawak Heart Centre in upgrading its facilities and equipment to provide the best cardiac service for the people in the State.



YB Datin Patinggi Datuk Amar Hajah Jamilah Binti Haji Anu, State Assemblywoman for Tanjong Datu and Board Trustee of the Foundation, handed over the equipment to Director of Sarawak Heart Centre, Dr. Haji Mohd Asri Bin Riffin. Also present was Minister of Local Government and Housing and Board Trustee of the Foundation YB Dato Sri Prof Dr Sim Kui Hian and other Board Trustees.



PORTABLE OXYGEN CONCENTRATOR MACHINES FOR FOUR HOSPITALS IN SARAWAK



Early this year, the Foundation successfully raised RM140,000 for the purchase of four units of portable oxygen concentrator machines for four hospitals in Sarawak.

The Foundation would like to thank Sarawak Plantation Agriculture Development Berhad, Reservoir Link Energy Sdn Bhd and Perbena Emas Sdn Bhd for their sponsorships of the machines that were given to Sarawak General Hospital, Sibu Hospital, and Bintulu Hospital respectively. The Foundation donated one to Miri Hospital.

The portable oxygen concentrator is important equipment which provides continuous uninterrupted oxygen supply to sick children in situations when conventional oxygen supply using bulky and heavy oxygen tank is not possible such as during inter-hospital transfer by flight.

The fund raising for the machines was a response to an appeal from Sarawak Heart Centre. As dedicated paediatric cardiac service is only available at Sarawak Heart Centre, transfer of sick children suffering from serious heart problems happens frequently between the four major hospitals using medivac or flights. Similarly, cases requiring urgent surgery



Sibu

in Institut Jantung Negara have to be transferred to Kuala Lumpur using commercial flights. The portable oxygen concentrator becomes an indispensable tool, without which timely transfer of patients to receive life-saving treatment will be impossible.

The existing machines in Bintulu Hospital and Sarawak General Hospital break down frequently whereas the ones in Sibu Hospital and Miri Hospital are faulty beyond economical repair. Replacement is long overdue but the Heart Centre could not secure any funds from the Ministry of Health.

The machines were handed over to the four hospitals in May 2021.



Miri



HEALTH SCREENING @ Kampung Tesu Kura, Tebedu, Serian 5 February 2020





CHINESE NEW YEAR Cheer for Patients of Sarawak Heart Foundation *15 January 2020*

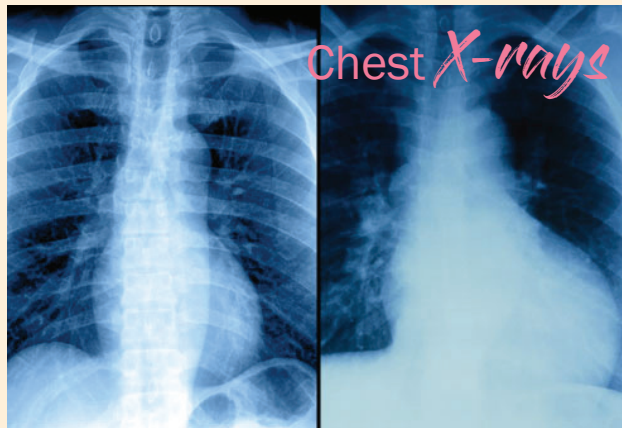


What's Heart Disease?

Mention heart disease, and most people picture a heart attack. But the term covers several conditions that can hurt your ticker and keep it from doing its job. These include coronary artery disease, arrhythmia, cardiomyopathy, and heart failure.

Learn the warning signs of each and how to react.

-Part 2 of 2-



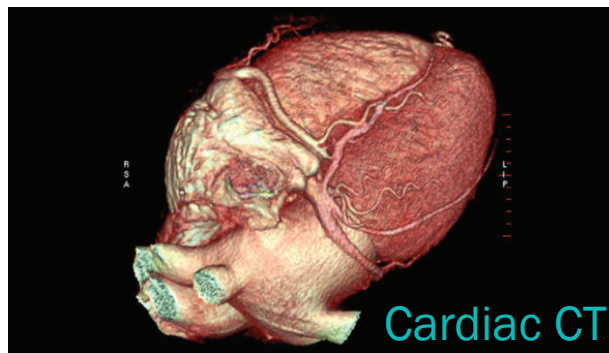
Chest X-rays

These pictures of your heart, lungs, and chest bones are made with a small amount of radiation. Doctors use them to spot signs of trouble. In this image, the bulge on the right is an enlarged left ventricle, the main pumping chamber.



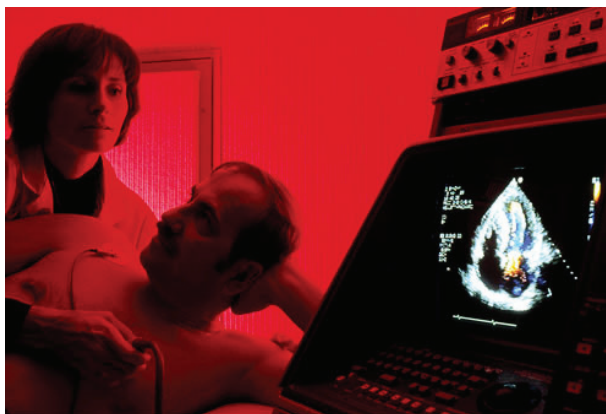
Holter Monitor

This portable device records the rhythm of your heart. If your doctor thinks there's a problem, he might ask you to wear the monitor for a day or two. It tracks the electrical activity nonstop (unlike an EKG, which is a snapshot in time). Your doctor will probably ask you to log your activities and symptoms, too.



Cardiac CT

Cardiac computerized tomography takes detailed X-rays of your heart and its blood vessels. A computer then stacks the images to create a 3-D picture. Doctors use it to look for buildups of plaque or calcium in your coronary arteries, as well as valve problems and other types of heart disease.



Echocardiogram

This test uses sound waves to show live, moving images of your heart. From the ultrasound, your doctor can spot damage or problems with your chambers, valves, or blood flow. It helps to diagnose disease and see how well your treatments are working.



Cardiac Catheterization

In this procedure, your doctor guides a narrow tube, called a catheter, through a blood vessel in your arm or leg until it reaches your heart. Then, he injects dye into each coronary artery, which makes them easy to see in an X-ray. The picture shows any blockages and how bad they are.

Living With Heart Disease

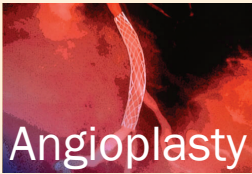


Most types are long-lasting. At first, symptoms can be hard to spot and may not disturb your daily life. But left alone and ignored, they get worse.

If your heart starts to fail, you might be short of breath or feel tired. Keep an eye out for swelling in your belly, ankles, feet, or legs. In many cases, long-term treatment can help keep things under control. You can fight heart failure with medication, lifestyle changes, surgery, or a transplant.

Medicines

A number of prescription drugs can help you. Some lower blood pressure, heart rate, or cholesterol levels. Others control irregular rhythms or prevent clots. If you already have some damage, other medications can help your heart pump blood.



This procedure opens a blocked artery and improves blood flow. Your doctor guides a thin catheter with a balloon on the end into your artery. When the balloon reaches the blockage, the doctor fills it with air. This inflates your artery and allows blood to move freely. He may also put in a small mesh tube called a stent to keep it open.

Living With Heart Disease

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Who Gets Heart Disease?

Men are more likely to have a heart attack than women, and at an earlier age. But heart disease is still the No. 1 killer of both sexes. People with a family history of it also have a higher risk.



Things You Can Control

These daily habits can lower your chances of heart disease:

- Exercise regularly (30 minutes most days)
- Stay at a healthy weight
- Eat a balanced diet
- Limit how much alcohol you drink (one drink a day for women, two a day for men)
- Don't smoke
- If you have diabetes, it's important to manage your blood sugar levels. And if you have high cholesterol and high blood pressure, do everything you can to get them in check.

Why Smoking Hurts Your Heart

If you light up, you're two to four times more likely to get heart disease. Now is the perfect time to quit. Your risk for a heart attack starts to fall within 24 hours.



Life With Heart Disease

Get back on track with a cardiac rehab program. Your doctor can give you a referral. Specialists will help you come up with a plan that covers exercise, nutrition, emotional support, and more. These programs can make a big difference for you.



SARAWAK HEART FOUNDATION

(383498-P)

"FRIENDS OF THE FOUNDATION" FORM

WE NEED YOUR HELP?

Join our team to promote a heart-healthy community in Sarawak. We need people who are keen to share their skills and interests.

Areas that you can help us in include:-

- >>Fund raising
- >>Website design and maintenance
- >>Photography
- >>Venue preparation
- >>Health Screening
- >>Health Talk

Help us to get to know you by telling us your skills and interests

Full Name

Address

Mobile Phone Email :

Date

Sarawak Heart Foundation

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SARAWAK HEART FOUNDATION

(383498-P)

DONATION FORM

Full Name

Address

Tel. Fax Email

[] **Cheque No.** RM

Cheque payable to: **Sarawak Heart Foundation**

[] **Bank Draft** RM

[] **Direct Remittance** : Our Bank details
 Name : **Sarawak Heart Foundation**
 Bank : **RHB Bank**
 A/C No. : **21104350033342** (Please fax or email the bank-in slip to us)

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