

# When the flow slows

**Coronary heart disease is now one of the most common ailments in Singapore. As our population ages, the numbers can only go one way - UP! Are you at risk?**

Every day, 15 people die from cardiovascular disease in Singapore. Cardiovascular disease accounted for 31.6% of all deaths in 2009. Against this backdrop, coronary heart disease is among the top three causes of admissions to hospital, says Dr Goh Ping Ping, chief of the department of cardiology at Changi General Hospital.

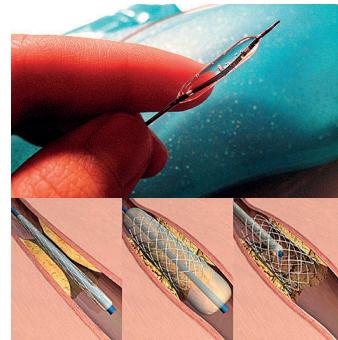
Coronary heart disease (CHD) occurs when the heart arteries narrow, due to the build-up of plaque, fatty materials and other substances on the walls of your arteries. As the coronary arteries narrow, blood flow to the heart can slow down or stop. This can cause chest pain, shortness of breath and heart attack.

## SYMPTOMS

The onset may come in the form of angina or heart attack. Those who experience angina will feel a squeezing chest discomfort that may spread to the neck, jaw, left shoulder and left arm, or upper abdomen, says Dr Joshua Loh, associate consultant, cardiac department of the National University Heart Centre.



A heart attack occurs when the narrowed coronary artery becomes completely blocked due to a blood clot of plaque. This will cause severe crushing chest discomfort. Other symptoms a heart attack patient may encounter include breathlessness, cold sweating, nausea, a feeling of indigestion, choking, light-headedness and palpitations. Some patients such as the elderly or those with diabetes may suffer from silent angina or heart attack, where they do not experience any chest discomfort.



When a person has symptoms that seem to suggest coronary heart disease, the doctor would usually take a thorough medical history and conduct a physical examination. Depending on the findings, some non-invasive and/or invasive tests on the heart may be conducted to determine the specific nature and severity of the condition. Examples of non-invasive tests include an **electrocardiogram (ECG)**, **blood test for heart enzymes**, **treadmill stress test** and **CT scan of the coronary arteries**. A **coronary angiogram**, which is an invasive test, may be performed when indicated.

## TREATMENT

If the condition is less severe, it can be controlled through regular medication such as aspirin, beta-blockers and nitrates. In more serious cases, **PCTA (Percutaneous Transluminal Coronary Angioplasty)** - a procedure done through the large artery in the groin or wrist is required. In PCTA, a balloon mounted on a thin tube (catheter) is advanced into the heart artery until it lies within the narrow area. The balloon is then inflated to expand the narrowing. Upon balloon deflation, the arterial narrowing is often reduced. This is usually followed by another procedure called stenting where a small metal coil called a stent is placed and expanded within the area of narrowing in the heart artery. This prevents the artery from collapsing and reduces the chance of repeat narrowing.

If there are several sites of narrowing in the coronary arteries, the patient may not be suitable for PTCA and may require Coronary Artery Bypass Surgery (CABG). This operation helps to improve blood flow to the heart muscle by taking blood vessels from other parts of the body and attaching them to the heart arteries past the blockages.

## RECENT BREAKTHROUGH

In some patients who require **angioplasty and stent placement**, Dr Razakjr Oman, specialist in cardiology and consultant at Raffles Heart Centre, says there are newer stent coated with drugs that will reduce the risk of re-narrowing of the coronary artery. If the condition is associated with the weakening of the heart function mortality can be reduced by implanting a pacemaker-like device such as the **automated implantable cardiac defibrillator (AICD)** and **cardiac resynchronisation therapy (CRT)**.

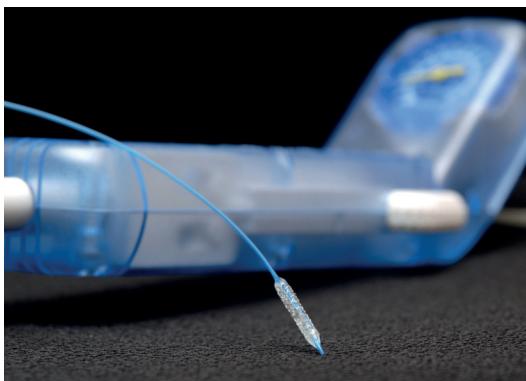
There are also newer design balloons and better medication to treat diabetes, hypertension and cholesterol which also help to prevent heart attacks and related problems.

## WHO'S AT RISK?

Men in their 40s have a higher risk than women. But for those who reach menopause, their risk is almost equal to that of men.

The other high risk groups include those with:

- A family history of heart disease especially if they had it before age 50.
- Diabetes mellitus.
- Hypertension.
- Abnormal cholesterol levels: a high LDL ("bad") cholesterol and low HDL ("good") cholesterol increase risk of CHD.
- High triglyceride levels, high blood pressure, excess body fat around the waist, and increased insulin levels.
- Smokers
- Chronic kidney disease can increase your risk
- Stroke and peripheral vascular disease increase your risk of having coronary heart disease.
- Other risk factors include alcohol abuse, not getting enough exercise, and having excessive amounts of stress. 



**Varella Carl Benito**

## The smoking connection

"I had a heart attack in October 2000 at the age of 32. I experienced chest pain and my heart stopped beating for 13 seconds. I was a heavy smoker, on three packets of cigarettes a day. I even had a puff before seeing the cardiologist at Changi General Hospital. Yes, I am such a hard core smoker.

The diagnosis showed one of my arteries was 100% blocked and the other two arteries had 60% blockage. A PTCA was performed on me. But I didn't get better until I consulted Dr V.P Nair of Nair Cardiac & Medical Centre at Mt Elizabeth Hospital.

Since then, I have quit smoking as well as my full-time swimming coach job. I started a company Coach Carl Aquatic & Recreational Lifestyle to provide scuba diving, swimming and sky-diving lessons. Despite my doctor's advice, I continued to dive and I sky-dive too. I was very upset when he told me I had to stop diving.

I'm on regular medication but I have to go back to Dr Nair for a yearly stress treadmill test and ECG. In terms of my diet, I had to cut down on carbohydrates, fatty foods, chocolate, sugar and coconut milk. It's hard as I have a sweet tooth. But I am allowed to indulge in chocolate and ice-cream once a week because of my active lifestyle.

My family supports my lifestyle changes. I plan to write a book to share my experience with others and encourage them to think positive and stay active."



### Cheng Chee Seng Incidental discovery

"In October 2010, I was at Khoo Teck Puat Hospital in preparation for surgery on an acute hernia condition. I was in A&E a couple of days earlier. When I told the cardiologist I had an angina attack back in 1995 and an angiogram that showed 70% blockage at two arteries, he ordered a stress treadmill test despite my objections. I have felt fine all these years despite not being on any medication.

However, the truth was revealed by the test - three of my heart-arteries were blocked: 90% for two right ones and almost 99% for the main left artery. In the end, we decided on insertion of stents at the National University Hospital. I spent close to four hours on the operating table while they cleared the blockages and inserted three stents, including one 38mm long, one of the longest in use.

I was discharged the next day and have been feeling fine since. But at the time, even heart bypass surgery was considered. That was really scary given the lengthy recuperation time and the need to saw through the breast bone and all. Yikes. Yet, I seriously thought of opting for it as it is 100% subsidised. On the other hand, stents aren't. I had to pay several thousands in cash as I wasn't working at the time, and did not have medical insurance.

I lost about 2kg. There was no dramatic change as far as my diet is concerned but I made some concerted efforts to avoid favourite fatty foods like bak-kwa, roti-prata, mutton soup and anything deep fried. But I cannot resist curry puffs and char kway teow. I keep them as indulgent treats once or twice a month.

I used to play golf, but have not been on the golf course since then, and my only exercise is taking the MRT (prolonged walking) and swimming for maybe 30 minutes. So far so good. There is no chest pain or shortness of breath. I resigned from my job as a senior counsellor with SAGE Counselling Centre back in November 2010 and am currently unemployed.

I am approaching 60 and as one of the surgeons said, it took over 50 years for my arteries to be so severely blocked. Optimistically, if I watch my diet, take my medications and maintain good work-life balance, I should be able to live a normal life." 

