

## When Your Heart Skips A Beat

Palpitations can be a trivial symptom but they can also be a symptom of heart rhythm disorder.

Palpitations are very common and almost everyone experiences them at some time in their lives.

In general, a palpitation is the awareness of the heartbeat or a feeling that your heart is racing or skipping a beat.

In many cases, it is a trivial symptom, however irregular heart rhythm, or arrhythmia, can also be a sign of an underlying serious heart disorder and in some cases requires immediate medical attention.

Arrhythmia can last just a few seconds or several hours. It can occur rarely or as regularly as once a day. Sometimes it is accompanied by symptoms such as light-headedness, dizziness, fainting, fatigue, chest pain and syncope, and loss of consciousness. On other occasions it is only detected with an electrocardiogram (ECG).

It occurs when the electrical process which pumps the blood in and out of the heart is disrupted. In some cases, this disruption acts like a short circuit sending faulty signals, which can have serious consequences including heart failure and death.

Arrhythmias are classified according to the involved heart chambers and the speed of the heart rate during an attack. A heart rate lower than 60 beats per minutes is called bradycardia, while more than 100 beats per minutes is known as tachycardia.

The common types of heart rhythm disorder are: Atrial Fibrillation (AF), Sick Sinus Syndrome (SSS), Supraventricular Tachycardia (SVT), Premature Contractions, Ventricular Tachycardia (VT), and Ventricular Fibrillation (VF).

The latter of these is the most serious of arrhythmias and accounts for half of all cardiac deaths. In VF, the heartbeat is rapid and chaotic, preventing the lower heart chambers from pumping blood and oxygen to the brain and body. It can happen without warning and causes the heart to stop completely. A prompt, life-saving shock (defibrillation) must be delivered to the heart to restore normal rhythm; otherwise death can occur within minutes.

Heart rhythm disorders are generally investigated with a one-off ECG or a 24-hour ECG examination called a Holter. Alternatively, an echocardiogram, exercise treadmill test and coronary angiography may be required. Occasionally, a cardiologist may perform something called an electrophysiology study in which the heart is stimulated with tiny catheters in order to look for different kinds of rhythm disorder.

There are three ways to treat heart rhythm disorder once the underlying cause has been determined.

The newest treatment is Catheter Ablation which involves inserting catheters — narrow, flexible tubes — into the heart via a blood vessel, often entering through the groin or neck area numbed by a topical anesthetic. The doctor uses electrodes on the tips of the catheters to conduct an electrophysiology (EP) study to find the short circuit and either destroy it, or block it from sending faulty signals to the rest of the heart.

Implanted Cardioverter Defibrillators (ICD) is a very effective treatment and the most successful therapy in treating ventricular fibrillation and preventing sudden arrhythmic death. These devices continuously monitor the heart and automatically function as pacemakers for heart rates that are too slow, and deliver life-saving shocks if a dangerously fast heart rhythm is detected.

Pacemaker is another kind of implanted device known for long time to manage slow heart rate which causes symptom like dizziness or syncope.

The advantages of these procedures are that it is considered low risk and can be performed as a day-case operation.

The third treatment option is medication. However, the efficacy of most anti-arrhythmic medications is low and they carry side-effects such as lung, liver or thyroid toxicity which can be life-threatening.

Studies have demonstrated the superiority of catheter ablation over anti-arrhythmic drugs both in terms of its 80 to 90 per cent success rate, and in the long term control of heart rhythm disorder. It also eliminates the need for open-heart surgery and long-term drug therapy and is now the preferred treatment for many heart rhythm disorders.

For further details, contact Hong Kong Adventist Hospital on 3651 8986.



**Dr. Jeffrey W H Fung**  
**Consultant Cardiologist**  
**at the**  
**Hong Kong Heart Center**