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**PACE**

Prevent Arrhythmic Cardiac Events

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## Frequently Asked Questions

### Glossary of terms

<b>Arrhythmia</b>	The heart beat can be irregular, too fast or too slow.
<b>Cardiologist</b>	A Doctor or (Physician) specializing in the diagnosis and treatment of patients with heart disease.
<b>Catheter Ablation</b>	The use of catheters to pass energy into the heart to cauterize abnormal tissues that are giving rise to arrhythmia.
<b>ECG</b>	An Electrocardiogram (ECG) records the electrical activity within the heart. It is a simple procedure which involves applying small stickers to the patient's arms, legs and chest. The patient is then connected to an ECG machine via leads that are attached to the stickers and then connected to the machine.
<b>Electrophysiologist</b>	An Electrophysiologist is a cardiologist who has specialized in heart rhythm disorders.
<b>ICD</b>	Implantable cardioverter defibrillator (ICD) is a device implanted under the skin and connected to the heart via leads. The ICD sends signals to the heart via the leads if it beats too slowly or too fast to restore a normal heart rhythm.
<b>SA Node</b>	Sino-atrial node, the natural pacemaker of the heart which is situated in the right atrium.
<b>Tilt Testing</b>	Tilt test is a test to determine why a patient faints.

### What is an arrhythmia?

To enable your heart to beat, electrical impulses travel through the heart via what is sometimes referred to as a conduction pathway. Arrhythmias are disorders of your heart's electrical system, which means there is a change in the regular beat of your heart. This can be as a result of the conduction pathway being damaged or blocked, or because an extra pathway is present. The heart may beat too quickly (tachycardia), or too slowly (bradycardia) or irregularly, all of which may affect the heart's ability to pump blood around the body. These abnormal heart beats are known as an arrhythmia. Arrhythmias can occur in the upper chambers of the heart (atria) or in the lower chambers of the heart (ventricles). An arrhythmia may occur at any age, and are most often a nuisance rather than a serious problem.

### What happens in the heart to cause an arrhythmia?

Any interruptions in the heart's electrical system can cause arrhythmias. For example, an irregular heart beat may begin with an abnormal impulse in the part of the heart other than the normal pacemaker (the sinus node), or the sinus node may develop an abnormal rate or rhythm.

### What can trigger an arrhythmia?

Common causes of an arrhythmia can include stress, caffeine, tobacco, alcohol, diet pills and cough and cold medicines. If your heart tissue is damaged as a result of acquired heart disease, such as myocardial infarction (heart attack) or congenital heart disease, you may be at risk of developing an arrhythmia. For some patients, however, doctors cannot identify a cause of their arrhythmia.

### How do I know what kind of arrhythmia I have?

You will need to visit your doctor and have an ECG. If the ECG does not detect any abnormality it may be necessary to arrange for further monitoring of your heart. This may involve having a continuous ECG for a period of time, usually 24-72 hours. This is done via a small recording device which can easily be carried around with you. You do not have to stay in hospital for this test. Once the recording device is fitted, which involves attaching some small stickers to your chest and connecting the leads of the device to these, you can go home and return the recorder at the end of the specified period. There are also other ways of monitoring your heart over a period of time; your nurse, physiologist or doctor will discuss these with you if required.

### “My heart starts to race and then skips a beat or two. I feel very light-headed.” Can you help?

Yes, first you should visit your doctor for advice. There may be a simple explanation as to what is happening or he may decide to send you for further tests. In many cases palpitation, or awareness of the heartbeat, may feel very frightening but actually be quite safe. Many palpitations are due to extra beats that cause the heart to pause for a second or two. This can feel as if the heart is about to stop and can be very frightening, but in fact there is no threat of this. In many cases an electrical disturbance causing awareness of the heart beat occurs in the absence of any other heart problem. Palpitations can occur when there is no risk whatsoever of a heart condition/problem.

### Will I die from an arrhythmia?

Arrhythmia should not be dismissed, and it is always advisable to seek advice from an appropriate health care professional if you think you may have an arrhythmia. Many patients with palpitations are at no risk whatsoever, but their symptoms need investigating. If an arrhythmia occurs in a patient who has other heart disease, such as a previous heart attack, heart valve disease or abnormal heart muscle, this can be a sign that there is a more serious problem. The arrhythmia should then be investigated further. In some cases patients should then be referred to a heart rhythm specialist EP (Electrophysiologist).

### What should I expect my GP to do?

You should expect your GP to establish whether you have any underlying heart disease and to refer you to an appropriate health care professional for investigations to establish the cause of the arrhythmia. If there is no underlying heart disease, and the arrhythmia is easily explained, for example by extra beats, reassurance may be all that is needed. If a more complicated arrhythmia is suspected, then you should expect to be referred to a cardiologist or an electrophysiologist.

### **Will I see a cardiologist?**

All patients with a diagnosis of heart disease should see, or have seen, a cardiologist. All patients with an arrhythmia which is not due to simple extra beats should see a cardiologist or a heart rhythm specialist, even if this is the only problem and the heart is otherwise quite normal.

### **Who / what is an electrophysiologist?**

An electrophysiologist (EP) is a cardiologist who has had special training in diagnosing and managing arrhythmias.

### **How can I find a specialist locally?**

You may contact your General Practitioner for advice.

### **What is an ECG?**

An electrocardiogram (ECG) is a tracing of the electrical activity that triggers each heart beat. This should be recorded wherever possible with four leads attached to the arms and legs, and 6 leads attached across the chest. Patterns seen on the ECG can tell if a heart attack is happening or has happened and also roughly where in the heart the damage has occurred. The ECG is quite critical in assessing a heart rhythm disorder, the presence of any underlying heart problems, whether an arrhythmia is present, and whether it is an arrhythmia that requires treatment. Your own doctor or other medical attendant MUST organize an ECG immediately if you are having on-going symptoms of arrhythmia that are not transient.

### **Can my GP carry out an ECG or will I have to go to hospital?**

Your GP practice may have an ECG machine, and we believe that every practice should acquire one. If there is no ECG available, all practices should have easy access to an ECG nearby. An ECG should be arranged immediately if symptoms of palpitation are continuing.

### **What is a Tilt Test?**

A Tilt Test is used to find the cause of blackouts. In some cases a blackout may be precipitated and then the doctors will have a much clearer idea of the cause. The patient is secured to a tilting table and monitors are attached to their chest. The table tilts up to a near standing position where the patient remains for about 1 hour.

### **What is a pacemaker and how will it help my arrhythmia?**

A pacemaker is a small self-contained metal box containing a battery, circuits and connections for wires. These are passed down through the veins under the collar bone under local anesthetic, guided by x-rays. The implantation of a pacemaker under the skin near the collar bone leaves a scar about two inches long, takes about 1 hour, and sedation is often given to increase comfort. Often patients can go home the same day, and after a week or two, when the wound has settled, a completely normal life can resume. There are sensible restrictions on activity, which might damage the pacemaker box, such as the recoil from a shotgun and competitive swimming which strains the wires. Airport security should be alerted as you approach the routine checks. Otherwise pacemakers hardly affect normal life. The batteries last about 10 years, and then they are changed with another simple procedure under local anesthetic.

### **Will I need to have open heart surgery?**

Patients with an arrhythmia, who need a procedure to cauterize a short circuit, (catheter ablation procedure) or have a pacemaker or other device fitted, do not need heart surgery. These procedures are done under local anesthetic to freeze the skin, often with some sedation to ease anxiety, but with the patient breathing on their own. Catheter ablation is done through tiny needle punctures in the skin; pacemakers or other devices need small incisions and stitches. It is very unusual nowadays for any arrhythmia patient to need heart surgery.

### **How long will I be in hospital?**

Most arrhythmia treatments can be done as a day case or with one night in hospital.

### **What is an ICD and how will it help my arrhythmia?**

An Implantable Cardioverter Defibrillator (ICD) is a small self-contained metal box containing a battery, circuits and connections for leads, which are passed down through veins under the collar bone under local anesthetic, guided by x-rays. The implantation of an ICD under the skin near the collar bone takes about 2 hours, and leaves a scar of about three inches long. In most cases sedation is given to increase comfort, and may allow patients to have no memory of the implant, but general anesthetic is not needed. Often patients can go home the same day, and after a week or two, when the wound has settled, a near-normal life can resume. There are sensible restrictions on activity, which might damage the ICD box, such as the recoil from a shotgun and competitive swimming which strains the wires. You should alert airport security about your pacemaker as you approach the routine checks. Batteries last 5-6 years, and then are changed with a simple procedure under local anesthetic.

### **Are there any drugs I could take rather than have an arrhythmia procedure?**

Drugs are effective for many arrhythmias, but are not a cure. They may give side-effects and may have risks associated with their use, such as causing a new arrhythmia in some circumstances. Many doctors will try simple drugs first for conditions that are not life-threatening. However, any patient who has a life-threatening arrhythmia should see a heart rhythm specialist and be offered a rhythm control procedure such as catheter ablation or an implantable pacemaker or ICD.

### **I have Atrial Fibrillation - can you tell me what it is and is there any treatment?**

This is one of the most common types of arrhythmia. AF occurs in the atria, in the upper chambers of the heart. The electrical impulses normally originate at the SA node. However in AF many electrical impulses are fired rapidly resulting in the heartbeat becoming irregular and fast. You are therefore at risk of stroke, treatment for which includes an anticoagulant (blood thinner) called warfarin.

### **Ectopic beats - are there any treatments for them?**

Most ectopic beats are harmless and do not require treatment. If a patient is very symptomatic, medication such as beta blockers may help. Some arrhythmias have an ectopic focus which can be ablated.

