

Heart Arrhythmias Explained

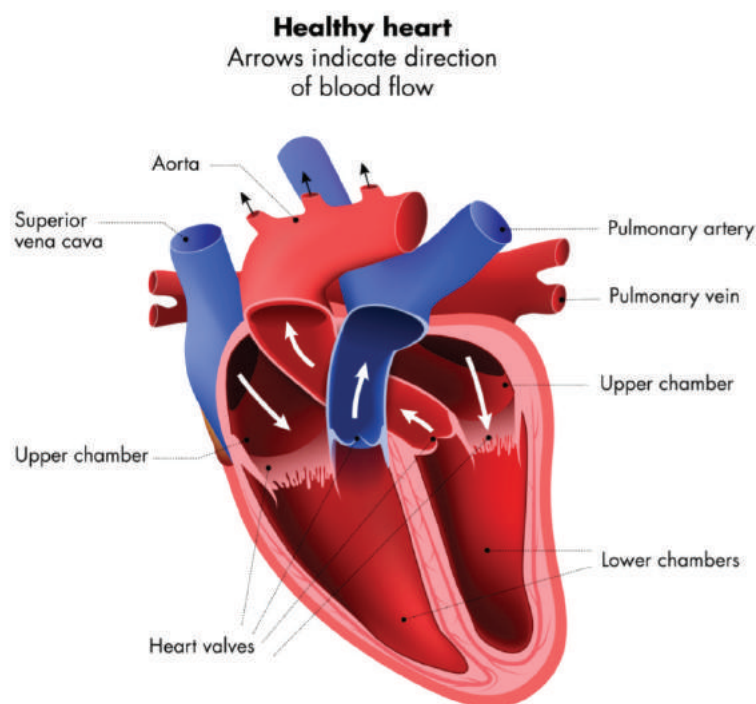


How your heart works

The heart is a muscle that works like a pump, sending blood around the body to keep you alive. It pumps blood to deliver oxygen and nutrients to other parts of the body, allowing your organs and muscles to work properly.

The heart has four chambers. The two chambers on the right side work to pump blood that is low on oxygen back into the lungs, where the blood collects a new supply of oxygen. This oxygen-rich blood is then transferred to the left side of the heart, which pumps blood around the entire body.

Pumping is controlled by the heart's electrical system, which uses signals to coordinate the heart's beats. In the healthy heart, these keep the heart's chambers contracting and relaxing in a regular rhythm. This rhythm usually has a speed of around 60 to 100 beats per minute.

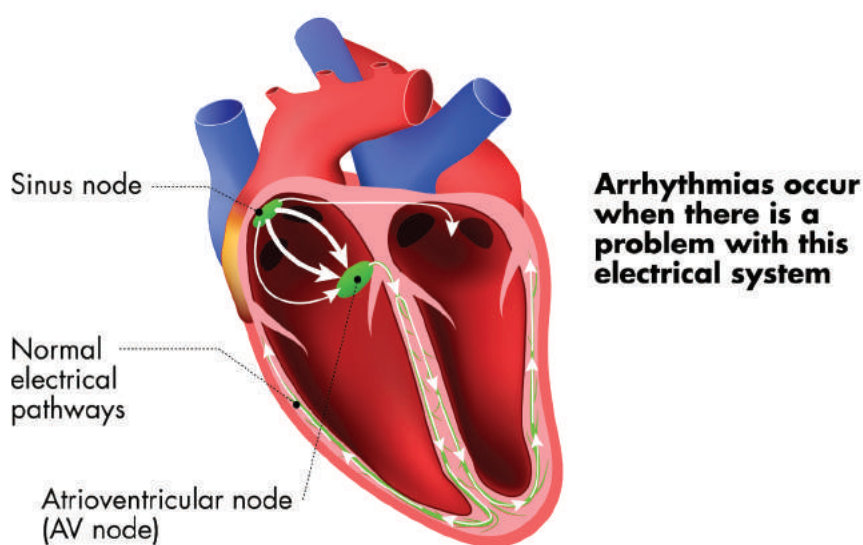


What do we mean by heart arrhythmias?

A heart arrhythmia is a problem with the rhythm of the heartbeat. Arrhythmias happen due to problems with the electrical system that controls the pumping of the heart. During an arrhythmia, abnormal electrical signals cause the heart to beat too quickly, too slowly, or irregularly. Some arrhythmias only occur briefly, but when an arrhythmia lasts longer it can cause the heart to pump less efficiently.

Not all arrhythmias are dangerous, and some have no effect on your ability to lead a normal life. Others can be more serious, and some need urgent treatment. With proper treatment and management, most people with arrhythmias can lead a full and enjoyable life.

The heart's electrical system



There are two main categories of arrhythmias. These are based on how fast the person's heart beats whilst resting:



1. Tachycardia

This is where the heart beats faster than normal, at a resting heart rate of more than 100 beats per minute.



2. Bradycardia

This is where the heart beats more slowly than normal, with a resting heart rate of less than 60 beats per minute.

There are many types of arrhythmias



Some types of arrhythmias include:

Atrial fibrillation (AF, A-fib)

- The most common type of arrhythmia, affecting almost half a million Australians. Abnormal electrical signals cause the heart's two top chambers to quiver rather than contract. This may lead to a fast and uncoordinated heartbeat, which is not in time with the lower chambers of the heart. It can lead to blood clots forming in the heart, increasing the risk of stroke. It can also lead to heart failure and other heart-related complications.
- By itself, atrial fibrillation is not usually life threatening. But it is a serious condition due to its possible complications. So proper diagnosis and treatment is important in allowing you to live your life to the fullest.
- There are several different kinds of atrial fibrillation. These include:
 - Paroxysmal or occasional: This is where symptoms come and go, lasting from a few minutes through to a week. These symptoms might go away on their own, but some people with paroxysmal AF will need treatment.
 - Persistent: This is where the heart's rhythm does not go back to normal on its own within 7 days. Treatment may be needed to bring the heart's rhythm back to normal.
 - Long-term persistent: This type is continuous, where the abnormal heart rhythm continues for more than a year. Treatment is needed in this situation.
 - Permanent: This is where the abnormal heart rhythm does not return to normal, and the patient and their healthcare team accept AF and prioritise keeping the heart rate under control. The AF is then considered to be permanent.

Some people with AF may not experience any symptoms. When symptoms are present, they can include:



- Fast, fluttering heartbeat



- Shortness of breath



- Chest pain



- Dizziness or fainting



- Fatigue



- Weakness

Treatments can include:

- Medicines, including:



- Beta blockers and calcium channel blockers, which work by slowing the heart rate. These can improve symptoms such as palpitations and fatigue.
- Digoxin, which helps to slow the heart rate and allows the lower chambers of the heart to fill with blood more effectively.
- Anti-arrhythmic medicines, which help restore a normal heart rhythm.
- Anticoagulant medicines, which help to prevent blood clots and reduce risk of having a stroke.



- **Electrical cardioversion:** This procedure gives an electric shock to the heart to help it get back to a normal rhythm. Electrode pads are placed on the chest, and medicine is given through a vein to put you to sleep during the procedure. The electrodes are connected to a cardioversion machine (defibrillator) via wires. This machine checks the rhythm of your heart and delivers shocks to the heart to restore a normal rhythm. Once you are asleep, the procedure usually only takes a few minutes. Risks of the procedure include: developing another abnormal heart rhythm, dislodging existing blood clots which can lead to stroke, or skin damage where the electrodes are placed. These risks are uncommon, and your doctor will discuss the risks and benefits of this treatment with you. For most people, the procedure quickly restores a normal heartbeat, allowing you to get back to your usual activities after a very quick recovery. Long term medication may also be needed to help the heart to continue beating normally.



- **Chemical cardioversion:** This is similar to electrical cardioversion in that it aims to get the heart back to a normal rhythm, but instead of using an electric shock, a medicine (flecainide or amiodarone) is used. The medicine may be given to you through a vein. This only lasts a few seconds, but can make you feel quite unwell for those few seconds. It is typically not quite as effective as electrical cardioversion, but has the advantage that you do not need to be sedated, and it does not involve electric shocks. Risks of the procedure include: developing another abnormal heart rhythm, increased occurrence of the original abnormal heart rhythm, side effects of the medicine used, or dislodging of existing blood clots. These risks are uncommon, and your doctor will discuss the risks and benefits of this treatment with you. Most people recover very quickly after chemical cardioversion, and feel better with their heart being back in a normal rhythm.



- **Catheter Ablation:** In this procedure, heat or cold energy is used to modify the tissues of the heart that create the abnormal signals. Risks of ablation can include: bleeding, infection after surgery, damage to blood vessels or heart valves, a new or worsening arrhythmia, blood clots, stroke or heart attack. Your doctor will discuss the risks and benefits of this treatment with you. Although there are a number of possible risks, the procedure is generally considered low risk, and can be done with an overnight stay or as a day procedure. It is common to get a flare up of atrial fibrillation in the first month or two while the ablated heart tissue settles down. It is also possible that AF may return even after the ablated tissue settles down. If this happens, another ablation or a different treatment may be needed. After an ablation you may need to take anticoagulant medicine long term to prevent stroke, if your stroke risk is high enough.



- **Maze operation:** This is similar to ablation, but produces a 'maze' of small scars in the upper chambers of the heart. The scar tissue does not carry electrical signals, so it stops the abnormal electrical signals that cause AF from travelling through the heart. This procedure is most often done when the person also needs heart surgery for other reasons, such as a heart valve repair. Risks of the procedure are low, but include: infection following surgery, bleeding, blood clots which can lead to a stroke or heart attack, kidney failure, or other abnormal heart rhythms. Your doctor will discuss the risks and benefits of this treatment with you. Although there are some risks, this procedure can improve symptoms and quality of life.



- **Pacemaker:** This may be used if you have AF along with another arrhythmia, or to allow use of medicines for AF if your heart rate is slow. It can also be used in combination with an ablation if your AF cannot be controlled using medicines alone. A pacemaker is a device that is implanted in the body that sends electrical signals to the heart to help it keep a steady heart rhythm. Risks associated with getting a pacemaker include: infection following implantation of the device, bruising or bleeding at the site of implantation, blood clots, damage to blood vessels or nerves, bleeding between the lung and chest wall, collapsed lung, problems with the device stimulating muscles other than the heart, or problems with the device or its leads moving within the body. These risks are uncommon, and your doctor will discuss the risks and benefits of this treatment with you. A pacemaker can help improve your daily life, and allow you to get back to your usual activities.



- **Advances surgical techniques, including hybrid catheter ablation and surgical ablation (HyCASA).** The HyCASA procedure has two stages. In the first stage, a surgical ablation is done, to modify areas of the heart that are causing your HF. You will also have an AtriClip device implanted. This blocks off part of the heart where blood clots can form, and therefore reduces your risk of having a stroke. Six months later, you will have a mapping and ablation procedure to 'touch up' the ablation from the first procedure. HyCASA aims to modify areas of the heart which are causing your AF, interrupting the abnormal electrical signals that cause AF. Most patients considered for this procedure have persistent AF (AF that lasts continuously for more than 7 days), or have had previous



unsuccessful procedures. Risks of this procedure are rare, but include: stroke, fluid build-up in the membrane around the heart, damage to structures in the heart, inflammation of the sac around the heart (pericarditis), hernia under the incision, or infection following the placement procedure.

Your doctor will discuss the risks and benefits with you. The procedure takes around 3-4 hours, and you will usually stay in hospital for a few days. You will need to avoid driving for 2 weeks after the procedure, and avoid lifting heavy items for 3 weeks.

In addition to medical treatment, positive lifestyle changes can make a big difference. AF is strongly related to high blood pressure, obesity, sleep apnoea and lack of physical activity. Making lifestyle changes can help manage AF and reduce your risk of problems such as stroke.

Some positive lifestyle changes your doctor may suggest include:



- Controlling high blood pressure, cholesterol and diabetes



- Eating heart-healthy foods, including a diet rich in fruit, vegetables and whole grains, that is low in salt and fat



- Maintaining a healthy weight



- Exercising regularly



- Reducing your alcohol consumption



- Quitting smoking

Atrial flutter (AFL)

This is similar to atrial fibrillation, except the heartbeats can be more regular. It is caused by abnormal electrical signals which make the upper chambers of the heart beat quickly, fluttering instead of fully contracting. This causes a fast heart beat, and does not allow the heart to pump properly. It is usually an age-related condition, but can also be caused by previous heart surgery or previous catheter ablation as a treatment for atrial fibrillation.

If not treated, it can lead to weakening of the heart muscle (cardiomyopathy) and heart failure, although this is relatively uncommon. It can also lead to blood pooling in the upper chambers of the heart, increasing the risk of clots forming. If these clots travel from the heart to the bloodstream, they can cause a stroke. So proper diagnosis and treatment is important to help prevent these complications and allow you to live a full life.

Some people with atrial flutter do not experience any symptoms. When symptoms are present, they can include:



- Fast, fluttering heartbeat



- Shortness of breath



- Fatigue



- Chest pain



- Lightheadedness or fainting

Treatments can include:



- Medicines: Anti-arrhythmic or anticoagulant medicines may be used. Anti-arrhythmic medicines help restore a normal heart rhythm, while anticoagulant medicines help to prevent blood clots, and so reduce risk of having a stroke.



- **Electrical cardioversion:** This procedure gives an electrical shock to the heart to help it get back to a normal rhythm. Electrode pads are placed on the chest, and medicine is given through a vein to put you to sleep during the procedure. The electrodes are connected to a cardioversion machine (defibrillator) via wires. This machine checks the rhythm of your heart and delivers shocks to the heart to restore a normal rhythm. Once you are asleep, the procedure usually only takes a few minutes. Risks include: developing another abnormal heart rhythm, dislodging existing blood clots, or skin damage where the electrodes are placed. These risks are uncommon, and your doctor will discuss the risks and benefits of this treatment with you. For most people, the procedure quickly restores a normal heartbeat, allowing you to get back to your usual activities.



- **Catheter Ablation:** In this procedure, heat or cold energy is used to modify the tissues in the heart that create the abnormal signals. Risks of ablation can include: infection after surgery, damage to blood vessels or heart valves, a new or worsening arrhythmia, blood clots, stroke or heart attack. Your doctor will discuss the risks and benefits of this treatment with you. Although there are a number of possible risks, the procedure is generally considered low risk, and can be done with an overnight stay or as a day procedure.



Brugada syndrome (BrS)

This is a rare type of arrhythmia that can be inherited genetically. In this condition, changes within the ion channels of the heart cause a faster than normal heart rhythm. Ion channels are a part of cells that convert chemical messages within the body into electrical signals. When these electrical signals are abnormal, they can affect the rhythm of the heart and cause an arrhythmia.

Some people who have Brugada may not experience any symptoms. If symptoms are present, they can include:



- Dizziness or fainting



- Fast or irregular heartbeat

If not treated, this condition can cause you to feel dizzy or faint, since the heart is not pumping as efficiently as normal and not enough blood may be reaching the brain. More rarely, it can cause cardiac arrest, where the heart stops beating. Due to this, diagnosis and proper treatment of this condition are very important. You should also check whether medicines you are currently taking are safe to take with this condition, including prescription and over the counter medicines, supplements and herbal remedies.

If you have Brugada syndrome and are at risk of developing an abnormally fast heart beat, you may need to have an implantable cardioverter defibrillator (ICD). This device can help treat arrhythmias when they occur, and has the benefit of reducing risk of death. Risks of having an ICD include: infection when having the device surgically implanted, damage to blood vessels caused by the ICD leads, blood leaking through the heart valve where the ICD lead is placed, the device emitting shocks when they are not needed, and lung collapse. There is also a small chance that the device may fail before it is due to be replaced, or that the ICD leads may move within the body and another surgery may be needed to put them back in place. Your doctor will discuss the risks and benefits of this treatment with you. Having an ICD can help to extend your life and improve your quality of life.

Ectopic or premature heartbeats

This is where the heart either misses a beat or adds an extra beat. There is often no clear cause of these skipped or extra beats. They can occur in healthy people and are usually not a cause for concern.

There are often no symptoms. If symptoms are present, you may feel like your heart has skipped a beat, or as though your heart has added an extra beat.

In most cases, ectopic heartbeats do not need to be treated. It can be helpful to try to identify triggers and avoid them. If the condition is severe, or if extra beats are occurring often, treatments such as medicine may be considered. Medicines used can include beta blockers or calcium channel blockers.



Heart block (atrioventricular heart block (AV block) or bundle branch block (BBB))

This is where there is a blockage or delay in the electrical signals that control the heart's beats. It can cause the heart to beat more slowly than normal, or to pump abnormally. Heart block is categorised as first-, second- or third-degree, with first-degree being the least severe. Third-degree heart block is the most severe, and can be fatal. Some people are born with this condition, but it usually occurs due to ageing. Conditions that damage the heart can cause heart block, including coronary artery disease, conditions that weaken the heart muscle, and certain cancers.

*People with first-degree heart block may not experience any symptoms.
Symptoms of heart block can include:*



- Dizziness or fainting



- Feeling like your heart has paused for a beat



- Shortness of breath



- Nausea



- Fatigue



- Irregular heartbeat



- Chest pain

Possible complications of more severe heart block include damage to other internal organs, low blood pressure and cardiac arrest. So proper diagnosis and treatment are important.

Treatment depends on the type of heart block that you have. First-degree heart block may not need any treatment. For more severe heart block, a pacemaker may be needed. This is a device that's implanted in the body that sends electrical signals to the heart and help it keep a steady heart rhythm. Risks associated with getting a pacemaker include: infection following implantation of the device, bruising or bleeding at the site of implantation, blood clots, damage to blood vessels or nerves, bleeding between the lung and chest wall, collapsed lung, problems with the device stimulating muscles other than the heart, or problems with the device or its leads moving within the body. These risks are uncommon, and your doctor will discuss the risks and benefits of this treatment with you. A pacemaker can help improve your daily life, and allow you to get back to your usual activities.



Inappropriate sinus tachycardia (IST)

In this condition, the heart rate is abnormally fast but no cause can be found for the abnormal heart rate. There are several theories about what causes IST, including that it is caused by the sinus node (the part of the heart that controls the heart rate) being abnormal in some way, or due to the person being particularly sensitive to the hormone adrenaline, that causes the heart to beat more quickly. Although the cause is not known, physical stress, emotional stress, or exercise can be triggers.

Symptoms can include:



- Fast heartbeat



- Shortness of breath



- Tiredness after a small amount of exercise



- Feeling fatigued, dizzy or faint

This is not a life threatening disorder, and in some cases, no treatment is needed. For many people, symptoms improve on their own. If symptoms are interfering with the person's life, treatments can include:



- Medicines such as beta blockers, which work by slowing your heart rate and reducing blood pressure. This can help to improve symptoms such as an abnormally fast heart beat.



- Ablation of the sinus node is a treatment that is now rarely used for this condition. In ablation, heat or cold energy is used to destroy the tissues that create the abnormal signals. Risks of ablation include: infection after surgery, damage to blood vessels or heart valves, a new or worsening arrhythmia, blood clots, stroke or heart attack. Your doctor will discuss the risks and benefits of this treatment with you. Although there are a number of possible risks, the procedure is generally considered low risk, and can be done with an overnight stay or as a day procedure. The effects of ablation may not be lasting in IST.



- Cognitive behavioural therapy (CBT) can be helpful in managing IST. This is a talking therapy that aims to change how a person thinks about and deals with difficulties that they are experiencing. It can be used to help cope with problems such as the symptoms experienced in IST.

Long QT syndrome (LQTS)

This is a rare condition where an abnormality in the heart's electrical system leads to a very fast heart or erratic heart rhythm. These abnormal heart rhythms can cause the heart to pump inefficiently. This can mean that the brain does not receive enough oxygen, which can cause fainting, seizures or, in some cases, death. This condition can be inherited genetically, or it can have other causes, often due to taking certain medicines.

Some people with LQTS do not experience any symptoms. When symptoms are present, they can include:



- Fainting for no obvious reason
- Fainting during or after exercise
- Fainting after emotional excitement or stress
- Seizures

Generally the heart will return back to its normal rhythm by itself, but if this doesn't happen, death can suddenly occur. Due to this, diagnosis and proper treatment are important.

You could be at risk of LQTS if there is a history in your family of unexplained fainting or sudden death. You are also at risk if you take medicines that prolong the QT interval. Your doctor can let you know whether any medicines you take can do this.

Treatments can include:



- Medicines such as beta blockers, which work by slowing your heart rate and reducing blood pressure. This can help to improve symptoms such as an abnormally fast heart beat.



- Having an implantable cardioverter defibrillator (ICD). This may be used for people for whom beta blockers do not work. ICDs can help treat arrhythmias when they occur, and have the benefit of reducing risk of cardiac arrest. Risks associated with having an ICD include infection when having the device surgically implanted, damage to blood vessels caused by the ICD leads, blood leaking through the heart valve where the ICD lead is placed, and lung collapse. There is also a small chance that the device may fail before it is due to be replaced, or that the ICD leads may move within the body and another surgery may be needed to put them back in place. Your doctor will discuss the risks and benefits of this treatment with you. An ICD can reduce risk of cardiac arrest and improve your quality of life.

Paroxysmal arrhythmias

This type of arrhythmia starts suddenly and stops on its own, with episodes that can last for seconds or up to a week. Paroxysmal arrhythmias can be brought on by triggers such as some medicines or caffeine.

Different types of arrhythmia can occur as paroxysmal arrhythmias, including atrial fibrillation, atrial flutter and supraventricular tachycardia.



Tachy-brady syndrome (sick sinus syndrome (SSS) or sinus node dysfunction (SND))

This is where the part of the heart that controls the heartbeat (sinus node) can't keep a steady beat. It causes an irregular heart rate that can be too slow or too fast, or can alternate between being too slow and too fast. This condition is relatively uncommon, but is more common in older people.

People with this condition may not experience any symptoms. When symptoms develop, they can be mild or may come and go. Symptoms can include:



- Fatigue



- Dizziness or fainting



- Shortness of breath



- Chest pain or discomfort



- Heart rate that is slower than usual



- Heart rate that is faster than usual

This condition can progress over time, and can eventually lead to complications. These can include damage to other organs due to not enough blood reaching them.

Your doctor may check the medicines that you are taking to ensure that they are not affecting your sinus node. Your doctor may then adjust the dose of your current medicines, or may prescribe different medicines to replace them.

Eventually, people with this condition may need to have a pacemaker implanted. This is a device that sends electrical signals to the heart to help it keep a steady rhythm. Risks associated with getting a pacemaker include: infection following implantation of the device, bruising or bleeding at the site of implantation, blood clots, damage to blood vessels or nerves, bleeding between the lung and chest wall, collapsed lung, problems with the device stimulating muscles other than the heart, or problems with the device or its leads moving within the body. These risks are uncommon, and your doctor will discuss the risks and benefits of this treatment with you. A pacemaker can help improve your daily life, and allow you to get back to your usual activities.

Sudden cardiac arrest (SCA)

This is a condition where the heart unexpectedly stops beating. This is due to a problem with the heart's electrical system, which causes an arrhythmia that leads to SCA. It is unpredictable and can occur suddenly. Most people who have SCA will lose consciousness and die from it, usually within minutes.

Symptoms include:

- Loss of consciousness
- Lack of pulse
- The person stops breathing
- Abnormal heart rhythm

Sometimes other symptoms may occur before sudden cardiac arrest. These can include:



- Discomfort or crushing pain in the chest



- Shortness of breath



- Dizziness or weakness



- Racing heart beat

However, SCA usually occurs without warning, and the person always loses consciousness once it occurs.

When someone experiences SCA, emergency treatment is needed. The only way to re-establish the heart's rhythm is by defibrillation (applying an electric shock), together with cardiopulmonary resuscitation (CPR). An automated external defibrillator (AED) is a portable device that checks the rhythm of the heart, prompting the user to deliver a shock if needed. An AED is used to defibrillate the patient and restore the heart's rhythm. If you survive an SCA, you will most likely need a hospital stay for further care.

Supraventricular tachycardia (SVT)

These are a group of arrhythmias caused by abnormal electrical signals in the upper chambers of the heart, causing the heart rate to suddenly become abnormally fast.

Some people with SVT may not experience any symptoms, and SVTs are generally not life threatening. When symptoms are present, they can include:



- Fast heart rate



- Chest pain or discomfort



- Shortness of breath



- Dizziness or fainting



- Fatigue

Treatments can include:



- **Manoeuvres to stop SVT:** These are usually the first treatment used for SVT, and they aim to stimulate a nerve called the vagus nerve. Activating this nerve can slow your heartbeat temporarily, which can help to break an abnormal heart rhythm. Manoeuvres can include a Valsalva manoeuvre (where you hold your breath and push down with your abdominal muscles, as you might during a bowel movement), coughing hard, or blowing through a straw. Your doctor may also try massaging your neck where the carotid artery splits into two branches. If these techniques don't work, other treatments may be tried.



- **Medicines:** Medicines such as calcium channel blockers or beta blockers may be prescribed. Blocking calcium has an effect on the sinus and atrioventricular nodes which control the heartbeat, and so calcium channel blockers can help to control arrhythmias. Beta blockers work by slowing the heart rate, which can improve symptoms such as palpitations and fatigue.



- **Chemical cardioversion:** A medicine called adenosine may be given through a vein. This only lasts a few seconds, but you can feel quite unwell for those few seconds. Most people recover very quickly, and feel better with their heart being back in normal rhythm. Most people with an SVT can have this and avoid an electrical cardioversion (see next).



- **Electrical cardioversion:** This procedure gives an electric shock to the heart to help it get back to a normal rhythm. Electrode pads are placed on the chest, and medicine is given through a vein to put you to sleep during the procedure. The electrodes are connected to a cardioversion machine (defibrillator) via wires. This machine checks the rhythm of your heart and delivers shocks to the heart to restore a normal rhythm. Once you are asleep, the procedure usually only takes a few minutes. Risks include: developing another abnormal heart rhythm, dislodging existing blood clots, or skin damage where the electrodes are placed. These risks are uncommon, and your doctor will discuss the risks and benefits of this treatment with you. For most people, the procedure quickly restores a normal heartbeat, allowing you to get back to your usual activities.



- **Catheter Ablation:** In this procedure, heat or cold energy is used to modify the tissues that create the abnormal signals. Risks of ablation can include: infection after surgery, damage to blood vessels or heart valves, a new or worsening arrhythmia (in some rare cases needing a pacemaker), blood clots, stroke or heart attack. Your doctor will discuss the risks and benefits of this treatment with you. Although there are a number of possible risks, the procedure is generally considered low risk, and can be done with an overnight stay or as a day procedure.



Ventricular tachycardia (VT)

This is caused by abnormal electrical signals in the lower chambers of the heart. A faster heart rate can start suddenly and last a few seconds, or go on for longer. VT can occur in a heart that is otherwise healthy, or can occur due to damage caused by heart disease. VT in an otherwise normal heart can stop by itself and may not be serious, but it is a more serious condition if it occurs with heart disease, and can be life threatening. The rapid heartbeat means that the heart doesn't have enough time to fill with blood before it pumps. This can mean that other parts of the body do not get the blood they need to work properly.

Some people do not experience any symptoms, but when symptoms are present they can include:



- Fast heartbeat



- Dizziness or fainting



- Chest pain



- Shortness of breath



- Cardiac arrest

Treatment is not always needed, particularly if you do not have heart disease or if your episodes pass quickly. If you need treatment, this could include:



- Medicines: Anti-arrhythmic medicine or a beta blocker may be prescribed. Anti-arrhythmic medicines help maintain or restore a normal heart rhythm, while beta blockers slow the heart rate, which can help improve symptoms including palpitations and fatigue.



- Implantable cardiac defibrillator (ICD): If your VT lasts for a long time or is life threatening, you may need to have an implantable cardioverter defibrillator (ICD) implanted. This device can treat arrhythmias when they occur, and has the benefit of reducing risk of death. Risks of having an ICD include: infection when having the device surgically implanted, damage to blood vessels caused by the ICD leads, blood leaking through the heart valve where the ICD lead is



placed, and lung collapse. There is also a small chance that the device may fail before it is due to be replaced, or that the ICD leads may move within the body and another surgery may be needed to put them back in place. Your doctor will discuss the risks and benefits of this treatment with you. Having an ICD can help prevent cardiac arrest and improve your quality of life.



- **Catheter Ablation:** In this procedure, heat or cold energy is used to destroy the tissues that create the abnormal signals. Risks of ablation can include: infection after surgery, damage to blood vessels or heart valves, a new or worsening arrhythmia, blood clots, stroke or heart attack. Your doctor will discuss the risks and benefits of this treatment with you. Although there are a number of possible risks, the procedure is generally considered low risk, and can be done with an overnight stay or as a day procedure. It is generally used as a second treatment option in people with VT who already have an ICD.



Ventricular fibrillation (VF)

This is caused by abnormal electrical signals in the lower chambers of the heart. The electrical signals that would normally tell your heart to pump instead cause the lower chambers of your heart to quiver, or fibrillate. This causes an irregular, very fast heartbeat, so the heart can't pump blood to the rest of the body effectively.

There is not always an obvious cause, but it can occur during a heart attack, when the heart muscle does not receive enough blood, due to certain medicines or low potassium levels, or due to some genetic conditions. It needs to be treated urgently. Without treatment, death can occur within minutes.

The most common symptoms of ventricular fibrillation are loss of consciousness and collapse. Warning signs that occur before an episode of ventricular fibrillation can include:



- Very fast heartbeat



- Chest pain

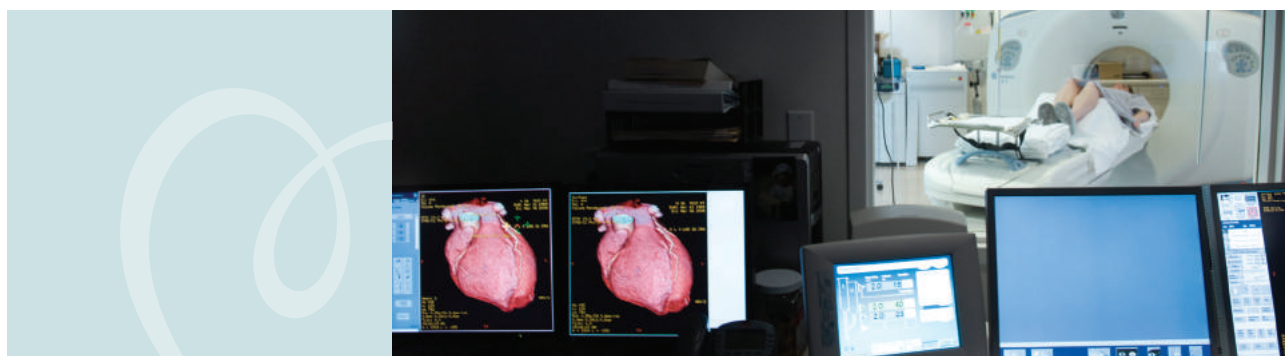


- Dizziness or fainting



- Shortness of breath

Urgent, emergency treatment is required, including cardiopulmonary resuscitation (CPR) and use of an automated external defibrillator (AED). An AED is a portable device that checks the rhythm of the heart, prompting the user to deliver a shock if needed. This shock is used to restore the heart's rhythm. If you survive an episode of ventricular fibrillation, you will most likely need a hospital stay for further care.



Wolff-Parkinson-White syndrome (WPW)

In this syndrome, an abnormal electrical pathway connects the top chambers of the heart to the bottom chambers of the heart. This means that electrical signals bypass a piece of tissue called the atrioventricular (AV) node, which slows electrical signals in the healthy heart. Since the AV node is bypassed in WPW, electrical signals can arrive at the lower chambers of the heart too quickly, which causes problems with the heart's rhythm. This condition is thought to be caused by a small piece of the heart muscle that develops in the wrong place before birth.

Symptoms include:



- Episodes where the heart beats a lot faster than normal



- Rapid, fluttering or pounding heartbeat



- Pain or tightness in the chest



- Shortness of breath or difficulty breathing



- Dizziness or fainting

Generally the episodes of fast heartbeat in WPW do not last long, and the person can recover quickly. Many people with WPW do not experience serious problems. But complications of untreated WPW can include:



- Low blood pressure



- Fainting



- Rarely, cardiac arrest or death

There are several potential treatments. For people who do not have symptoms, anti-arrhythmic medicines may be used. These help to maintain or restore a normal heart rhythm, and have the benefit of avoiding the risks of surgery. In other cases, an invasive procedure (where an incision is made in the body and instruments are inserted) may be used to determine where the extra electrical pathway is located. An ablation can then be used to modify the abnormal pathway that causes the arrhythmia. In this procedure, a thin tube called a catheter is used to guide heating or cooling energy to the site of the extra pathway. This energy is used to modify the pathway. The procedure helps to prevent the heart going out of rhythm, and has a high success rate.

Risks of ablation can include: infection after surgery, damage to blood vessels or heart valves, a new or worsening arrhythmia (in some rare cases needing a pacemaker), blood clots, stroke or heart attack. Your doctor will discuss the risks and benefits of this treatment with you. Although the procedure has risks, it is usually highly successful, and patients are able to return to their normal activities with a good quality of life.



Some of the main causes of heart arrhythmias

Heart arrhythmias can be caused by a number of conditions including:

- Scarring caused by a previous heart attack
- Heart disease present since birth (congenital heart disease)
- Blocked arteries in the heart (coronary heart disease)
- Changes to the structure of the heart, such as from cardiomyopathy or heart valve disease
- Heart failure
- Diabetes
- High blood pressure
- Sleep apnoea
- Thyroid problems (overactive or underactive thyroid)
- COVID-19 infection

Risk factors for arrhythmias include:

- Ageing
- Being overweight
- Drinking too much alcohol or caffeine
- Smoking
- Drug use (eg cocaine, amphetamines)

- Electrolyte imbalance (ie imbalance of substances in the blood such as potassium, sodium, calcium and magnesium)
- Genetic or hereditary causes
- Some medicines and supplements, including some prescription medicines and over-the-counter cold and flu medicines
- Emotional stress or anxiety
- Endurance and elite athletes are at higher risk of atrial fibrillation
- Sleep apnoea

Arrhythmias that come and go (paroxysmal arrhythmias) may have triggers. These can include:

- Alcohol
- Caffeine
- Emotional stress
- Illness (eg cold or flu)
- Nicotine
- Physical activity
- Some medicines or supplements
- Tiredness
- Dehydration

If you have a paroxysmal arrhythmia, try to work out what may cause it so you can avoid these triggers. If your triggers include medicines or exercise, speak to your doctor. They can suggest alternative medicines or activities that may be more suitable for you.

A proper diagnosis is important

Some types of arrhythmia can be serious, so an accurate diagnosis is important. This will help to ensure you receive the right treatment to allow you to lead a healthier life.

It's important to see your doctor as soon as possible if you experience any symptoms. To check for heart arrhythmias, your doctor will ask you questions, do a physical check-up and may send you for further tests.

Tests that can be used to confirm an arrhythmia diagnosis or rule out other conditions include:



- **Echocardiogram:** An ultrasound of the heart which can show if you've had previous heart attacks or if your heart valves are damaged.



- **Electrocardiogram (ECG):** This test is used to check your heart rhythm. This is done by measuring the electrical activity of your heart, which can show the length and timing of each electrical phase in your heartbeat.



- **Holter monitor:** A portable ECG which records the activity of your heart over 24 hours or more. It may be used if a traditional ECG does not provide your doctor with enough information about the activity of your heart, and can capture occasional abnormalities in the heart rhythm that an ECG might miss. Your doctor can use the information collected by the Holter monitor to work out if you have an arrhythmia.



- **Event recorder:** Another kind of portable ECG, which records the activity of your heart over weeks or months. It is similar to a Holter monitor, but does not record continuously. Instead, it starts recording if you activate it when you feel that you are having symptoms of an abnormal heart rhythm. Some event recorders can start recording automatically if the device detects an abnormal heart rhythm.



- **Electrophysiological testing and mapping:** This looks at the electrical activity of your heart, using a wire to electrically stimulate the heart and trigger an arrhythmia. Small wire electrodes are inserted into the body moved through a vein to the heart, using a type of X-ray imaging to guide the electrodes. Once the electrodes are in the heart, they measure the heart's electrical signals. The electrodes are also used to stimulate the heart to try to trigger the arrhythmia, to investigate it and try to work out its cause.

Implantable loop recorder (ILR)

This is a small device implanted under the skin of the chest. It records the electrical activity of your heart so that abnormal heart rhythms can be found. It is automatically triggered to record the heart's activity, but can also be activated by the patient to start recording when they feel

that they are having symptoms. The recordings can be used by the doctor to work out whether symptoms the person is having are caused by an arrhythmia.



- **Stress test:** This is where a specialist doctor will get you exercising on a treadmill or bike. Sensors are placed on the surface of your chest, legs and arms. These are connected to a computer, which records the electrical activity of the heart. A cuff on your arm is used to check your blood pressure, and you may be asked to breathe into a tube to see how well you breathe during exercise. This test measures how well your heart responds to exercise, and can be used to look at arrhythmias triggered by exercise.



- **Tilt table test:** This changes your bodily position to see how your blood pressure and heart rate respond. Your blood pressure and heart rhythm will be recorded throughout the test. The test involves lying flat on a table that is then slowly tilted upwards until you are in an almost upright position. Once the test is finished, the table will be lowered back to a lying position. This test is used to see if symptoms a person is experiencing are being caused by sudden drops in heart rate or blood pressure.



- **Smart phone or watch applications:** Smart phone and watch apps have now been developed that can record and check episodes of palpitations or arrhythmia. These apps are not used to diagnose an arrhythmia on their own, but it can be helpful to take your app results and discuss them with your doctor.

Treating heart arrhythmias

Heart arrhythmias don't always need to be treated. They may only need treatment if the arrhythmia is causing health problems or symptoms. Although some arrhythmias are serious, with the right medical treatment and positive lifestyle changes people with arrhythmias can still have a good quality of life.

Treatments for arrhythmias vary depending upon their cause and how the arrhythmia impacts you. Options may include medicine, surgery, medical procedures and devices. When considering which treatment is right for you, it is a good idea to get opinions from more than one health professional, eg from a cardiologist and a surgeon.

Medicines used to treat heart arrhythmias include:

- **Anti-arrhythmic medicines:** These help maintain or restore a normal heart rhythm. There are several different types of anti-arrhythmic medicines, and they can either bring the heart back to a normal rhythm, or can be used to prevent an arrhythmia. Types of anti-arrhythmic medicines include beta blockers and calcium channel blockers (see below), as well as sodium channel blockers and medicines that block potassium channels in the heart.

Some common anti-arrhythmic medicines include:

- Amiodarone
- Flecainide
- Sotalol

These medicines can have a range of side effects, and if you are taking amiodarone you may need to have tests from time to time to make sure the medicine is working safely for you. Speak to your doctor about possible side effects of these medicines. Despite the risk of side effects, these medicines can help you to feel better and decrease the symptoms of your arrhythmia.

- Beta blockers

These work by slowing your heart rate and reducing blood pressure. They do this by blocking the effects of the hormone adrenaline. By slowing the heart rate they can improve symptoms of arrhythmias, including palpitations and fatigue. This can help you feel better and get back to your normal daily activities.

Types of beta blockers include:

- Atenolol
- Metoprolol succinate
- Sotalol

Possible side effects include:

- Dizziness
- Tiredness
- Cold hands and feet
- Breathlessness

If you experience side effects, speak to your doctor about them.

Some beta blockers can make the symptoms of asthma worse. If you have asthma, make sure it is well controlled, and let your doctor know if you become wheezy or short of breath.

Beta blockers can sometimes hide the signs of low glucose levels, so if you have diabetes you may need to check your blood sugar more often when taking beta blockers.

You should not stop taking beta blockers suddenly, since this can increase your risk of heart attack or other heart problems. Speak to your doctor before you stop taking a beta blocker.

- Calcium channel blockers

These can be used to slow a fast heart rate or the speed at which the heart's electrical signals travel. They work by stopping calcium from entering the cells of the arteries and the heart. Calcium causes the arteries and heart to contract harder. Blocking calcium has an effect on the sinus and atrioventricular nodes which control the heartbeat, and so can help to control arrhythmias. These medicines can help decrease your symptoms and improve your quality of life.

Types of calcium channel blockers include:

- Diltiazem
- Verapamil

Possible side effects can include:

- Dizziness
- Constipation
- Nausea
- Headache
- Tiredness
- Mood changes
- Trouble sleeping
- Swollen ankles
- Skin rash

If you experience side effects, speak to your doctor about them. Seek medical treatment urgently if you experience chest pain, dizziness, shortness of breath, fainting or collapse while taking calcium channel blockers.

You should not stop taking calcium channel blockers suddenly. Speak to your doctor before you stop taking a calcium channel blocker.

- Digoxin

This can also be used to treat a fast heart rate. It helps to slow the heart rate and improve the ability of the lower chambers of the heart to fill with blood. It works by changing the levels of some minerals (including sodium and calcium) in the cells, which can help the heart to beat with more force. It can help to manage symptoms of arrhythmias that have not been controlled by other treatments.

Possible side effects can include:

- Nausea, vomiting, diarrhoea or loss of appetite
- Fatigue
- Feeling confused or generally unwell
- Blurred vision or difficulty looking at bright light
- Headaches
- Skin rash

See your doctor as soon as possible if you have more than 2 of the side effects listed above, or if you have a fast heart rate, shortness of breath, feel dizzy and are sweating.

Your doctor may have you do regular blood tests to check the levels of digoxin in your body, as well as to check your kidney function. This is to make sure the medicine is safe for you. You should not stop taking digoxin suddenly. Speak to your doctor before you stop taking digoxin.

- Anticoagulants:

Can help prevent blood clots from forming, and may be prescribed if your arrhythmia increases the risk of having a stroke. They work by interrupting the processes that cause blood clots to

form. They are important because they can help to reduce your risk of having a stroke or heart attack if you have a high chance of developing blood clots.

Types of anticoagulant medicine include:

- Apixaban
- Dabigatran
- Rivaroxaban
- Warfarin

The main side effect of anticoagulants is that you can bleed more easily than usual. This can cause symptoms including:

- Passing blood in your urine
- Passing blood in your stool, or having black stool
- Bruising more easily than normal
- Bleeding gums
- Prolonged nosebleeds
- Heavy periods in women

For most people who need anticoagulants, their benefits outweigh the risks. Your doctor can help you to weigh up the risks and benefits of these medicines.

If you are taking warfarin, you will need to have regular blood tests to check that it is working safely for you. You will also need to keep an eye on your diet, since some foods and drinks can affect how this medicine works.

If you are taking other kinds of anticoagulant medicine, you may need to have a blood test every 6 to 12 months, to check that your kidneys are working properly.



Medical procedures that are used to treat heart arrhythmias include:



- **Catheter ablation:** This is where a long, flexible tube is inserted to modify the area inside the heart that is causing the abnormal rhythm. The tube is used to direct heat (radiofrequency ablation) or cold (cryoablation) energy to the tissues that are creating the abnormal signals. This energy is used to modify these tissues. Some of these procedures can take 4 hours or more. You may be able to go home on the same day, or you may need to stay in hospital overnight. Most people can return to their normal activities within a few days, but you should avoid strenuous activities or lifting heavy items for a few days. Risks of ablation can include: infection after surgery, damage to blood vessels or heart valves, a new or worsening arrhythmia (in some rare cases needing a pacemaker), blood clots, stroke or heart attack. Your doctor will discuss the risks and benefits of this treatment with you. Although there are a number of possible risks, the procedure is generally considered low risk, and can be done with an overnight stay or as a day procedure.



- **Atrioventricular (AV) node ablation:** This is a type of ablation that targets and modifies the AV node, a nerve that transmits electrical signals from the upper chambers of the heart to the lower chambers of the heart. It is used to treat atrial fibrillation when medicine has not been enough to control the condition. This procedure permanently stops the electrical connection between the upper and lower chambers of the heart, so you will need to have a pacemaker implanted to regulate your heartbeat before having an AV node ablation. This option is used when other treatment methods have not been successful. It helps the heart to beat in a controlled manner, helping you to feel better. Risks of the procedure are similar to those for catheter ablation.



- **Electrical cardioversion:** This procedure delivers a shock to the heart to help it get back to a normal rhythm. Electrode pads are placed on the chest, and medicine is given through a vein to put you to sleep during the procedure. The electrodes are connected to a cardioversion machine (defibrillator) via wires. This machine checks the rhythm of your heart and delivers shocks to the heart to restore a normal rhythm. Once you are asleep, the procedure usually only takes a few minutes. Most people will stay at the hospital for a few hours, and go home later that day. Risks of the procedure include: developing another abnormal heart rhythm, dislodging existing blood clots, or skin damage where the electrodes are placed. These risks are uncommon, and your doctor will discuss the risks and benefits of this treatment with you. For most people, the procedure quickly restores a normal heartbeat, allowing you to get back to your usual activities. Long term medication may also be needed to help the heart to continue beating normally.



- **Surgical ablation:** Surgical ablation can take the form of a maze operation. This is similar to ablation, but produces a 'maze' of small scars in the upper chambers of the heart. This scar tissue does not carry electrical signals, so it stops the abnormal electrical signals that cause AF from travelling within the heart. It is usually done when the person also needs heart surgery for other reasons, such as a heart valve repair. The procedure takes around 3 hours, and you can expect to stay in hospital for around 7 to 10 days. Most people are able to return to their usual activities within around 3 months. Risks of the procedure are rare, but include: infection following surgery, bleeding, blood clots which can lead to a stroke or heart attack, kidney failure, or other abnormal heart rhythms. Your doctor will discuss the risks and benefits of this treatment with you. Although there are some risks, this procedure can improve symptoms and quality of life.

Devices that are used to treat heart arrhythmias include:



- **Automated external defibrillator (AED):** This uses a small electrical current to get the heart's rhythm back to normal during a cardiac arrest caused by a life threatening arrhythmia. It is a portable device that checks the rhythm of the heart, prompting the user to deliver a shock if needed. An AED is used to defibrillate the patient and restore the heart's rhythm. A person who has had a cardiac arrest and had an AED used will need to go to hospital for further care and treatment.



- **Implantable cardiac defibrillator (ICD) :** This is a device implanted in the body that monitors the heart's rhythm and corrects it if necessary. This may be used for when medicines have not worked. ICDs can help treat arrhythmias when they occur, and have the benefit of reducing risk of cardiac arrest. Surgery to implant the device usually takes one to two hours, and you will usually be able to go home the next day. It may take a few weeks of recovery before you are able to return to your usual daily activities. Risks associated with having an ICD include infection when having the device surgically implanted, damage to blood vessels caused by the ICD leads, blood leaking through the heart valve where the ICD lead is placed, and lung collapse. There is also a small chance that the device may fail before it is due to be replaced, or that the ICD leads may move within the body and another surgery may be needed to put them back in place. Your doctor will discuss the risks and benefits of this treatment with you. An ICD can reduce risk of cardiac arrest and improve your quality of life.



- **Pacemaker:** This is a device that is implanted in the body that sends electrical signals to the heart and help it keep a steady heart rhythm. A pacemaker can be implanted either on the surface of the heart or inside one of the heart's chambers, and is a small metal device that contains electrical circuitry that controls the rate of electrical pulses delivered to the heart. The procedure to implant a pacemaker usually takes 1 to 2 hours, and you can generally go home within 1 to 2 days after surgery. You will usually be able to go back to your normal routine within 1 to 2 weeks after surgery, and reach a full recovery after a couple of months. Risks of getting a pacemaker include: infection following implantation, bruising or bleeding at the site of implantation, blood clots, damage to blood vessels or nerves, bleeding between the lung and chest wall, collapsed lung, problems with the device stimulating muscles other than the heart, or problems with the device or its leads moving within the body. These risks are uncommon, and your doctor will discuss the risks and benefits of this treatment with you. A pacemaker can help improve your daily life, and allow you to get back to your usual activities.



- **Left atrial appendage closure device: Watchman™:** When people are not able to take anticoagulant medicines, a small device can be implanted into the heart via a catheter (narrow tube). This device is guided through the blood vessel and placed so that it seals off a part of the heart where blood clots could form. It stops blood clots from moving to other parts of the body, and so can help to prevent stroke. The procedure to implant the device usually takes around an hour, and you will need to stay in hospital overnight. You can usually go back to your usual daily activities after around a week, but should avoid strenuous activities (eg going to the gym, picking up heavy items) for two weeks. This device has the advantage that it does cause a risk of bleeding. So it can be an option for people who are not able to take anticoagulant medicines due to risk of bleeding. There are some risks associated with this device. A small number of people with the device still suffer stroke, or blood clots around the device. It can also cause fluid build-up in the membrane around the heart, damage to structures in the heart, bleeding, bruising, infection following the placement procedure, or the device can become dislodged. Your doctor will discuss the risks and benefits of this device with you.



- **Left atrial appendage closure device: AtriClip:** This is another device that can be implanted to help prevent blood clots and stroke in people who are not able to take anticoagulant medicines. It is a clip made from metal and covered with cloth that helps the AtriClip become incorporated into the heart's tissues. The surgeon makes three small openings in the side of the chest, which they use to place the clip on the outside of the heart. The clip is used to seal off a part of the heart



where blood clots could form, stopping blood clots from moving to other parts of the body, and so helping to prevent stroke. The procedure to implant the device usually takes around 30 minutes, and most people stay in hospital for around 2 days after surgery. You can usually go back to your usual daily activities after about a week, but you should not drive for 2 weeks after the procedure. This device has the advantage that it does cause a risk of bleeding. So it can be an option for people who are not able to take anticoagulant medicines due to risk of bleeding. There are some risks associated with this device. A small number of people with the device still suffer stroke, or blood clots around the device. It can also cause fluid build-up in the membrane around the heart, damage to structures in the heart, inflammation of the sac around the heart (pericarditis), or infection following the placement procedure. Your doctor will discuss the risks and benefits of this device with you.

The importance of shared decision-making

Decisions about ongoing care for heart arrhythmias should be based on an individual's needs. That's why shared decision making is so important. Shared decision-making means you have all the information you need to make decisions about the management of your condition with your health care professionals and your family.

This usually brings together a multidisciplinary team (MDT) of health professionals with different skills. The MDT will recommend a treatment approach in consultation with you, and often family or close friends who are brought into the decision-making process. MDTs help make sure you receive care that considers your needs, as well as other factors in your life that affect your health and well being.

Lifestyle factors and managing heart arrhythmias

There are many things you can do to help manage your heart arrhythmia. This can include looking after your own mental health and that of your carer, ensuring that you have the right support at home, taking part in a cardiac rehabilitation program, and seeing an exercise physiologist.



Some positive lifestyle changes you can make to manage your condition include:



- Knowing your arrhythmia triggers and taking steps to avoid them.



- Alcohol can trigger arrhythmias, so it's a good idea to reduce or avoid alcohol for the health of your heart.



- A healthy diet can lead to a healthier heart. Eat more vegetables, fruits and embrace whole grains, poultry and seafood whilst limiting salt, sugar, highly processed foods and saturated fats.



- Try to keep a healthy weight and if you are overweight or obese your doctor will be able to recommend ways to manage this



- It only takes a small amount of physical activity every day to make a difference. Talk to your doctor about what kind of physical activity you can do with your arrhythmia.



- Try to minimise stress by doing relaxing activities and spending quality time with friends and family.



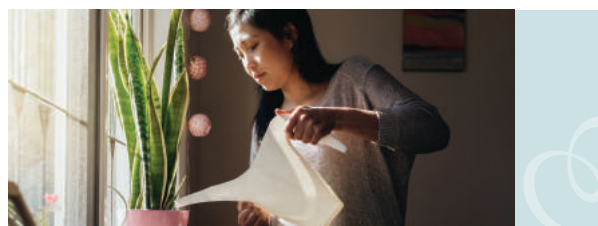
- If you smoke, quitting is good for the health of your heart. Speak to your doctor or call Quitline on 13 7848 for support with giving up smoking.

Try to maintain a healthy state of mind

When heart arrhythmias are serious, it can be a mental health challenge as much as a physical one. You need to do all that you can to support your mental health moving forward.

Talking to a professional can help with your mental health. Counselling or psychological therapy can be very useful for managing mental health and your condition. Your doctor can provide you with some options, and give you a referral to a psychologist.

Alternatively, to talk to someone at hearts4heart about any concerns you might have about your arrhythmia, email info@hearts4heart.org.nz We can provide you with answers to your questions from a clinician, or a member of the patient advocate group.



When should you speak to your doctor?

You can never be too cautious in managing your condition, so be aware of changing symptoms and reach out to a doctor as soon as possible. Things to look out for include:

- Feeling like your heart is beating too quickly or slowly
- Feeling like your heart has skipping a beat
- Feeling you're having heart palpitations or a fluttering feeling in the chest
- Feeling faint

Make an appointment to see your doctor if you experience any of these physical feelings. This is even more important if the symptoms persist, or if you have diabetes, high blood pressure, coronary heart disease, heart failure or a family history of heart problems.

When should you call 000?

Call an ambulance or get someone to take you to the closest hospital emergency department if you have an irregular heart rhythm along with any of the following symptoms:

- Shortness of breath
- Weakness
- Dizziness, lightheadedness, or fainting
- Chest pain

You should also call an ambulance if you are having signs of stroke. The FAST test as an easy way to remember the most common signs of stroke, and involves checking the following:

- Face: Check the person's face. Has their mouth drooped?
- Arms: Can they lift both their arms?
- Speech: Is their speech slurred? Can they understand you?

Time is critical, and in cases of stroke it is important to get to a hospital right away. If you see any of these signs call 000 immediately.

Doctor consultation guide - preparing for an appointment

Your appointment is a good chance to discuss your ongoing condition with your doctor and discuss better ways of managing it. Here's how to make the most of every consult.

Monitor your symptoms

It's important for your doctor to know about any changing symptoms. This will allow your doctor to better treat and manage your condition. Symptoms include:

- Feeling of fluttering in the chest
- Racing heartbeat (tachycardia) or slow heartbeat (bradycardia)
- Feeling pauses between heartbeats, or like your heart missed a beat
- Feeling faint

You can check and track your symptoms using a symptom tracker available at [\[insert link to symptom tracker page\]](#). It can also help to talk about your symptoms with family and friends, as they may notice changes you have missed.

Keep a list of current medicines and tests

Keeping a list is important so all the doctors you see know which medicines you're taking and which medical tests you've had. Don't forget to include dosage of the medication and any other supplements you take, like vitamins.

Write down your questions and concerns

It can be hard to remember all the questions you want to ask your doctor. So, in the days leading up to the appointment, be prepared and make a list. These questions could be about side effects of medicines, ways to improve your condition, or practical questions about your care. Write everything down. It can also be helpful to bring a friend or family member to be part of the discussion. Don't forget to write down the doctor's advice. This is where a support person can help after the appointment in case you miss something.

It's also helpful to make some practical steps with your doctor to work on for the next appointment. Setting small goals can make a big difference, building confidence and giving you something to aim for.

Examples of things to talk to your doctor about include:

- Telling your doctor how you're feeling. Try to be as specific as you can about changes in your symptoms. Give examples of how heart arrhythmia affects you in your daily life, such as:
 - I can't do activities I used to enjoy, like mowing the lawn or walking the dog, because I get tired easily
 - When I walk up a flight of stairs, I get short of breath quickly
 - I find that I get dizzy and lightheaded more often than I used to
- Some examples of questions you might want to ask your doctor include:
 - How do you think my heart arrhythmia will affect my daily activities, like walking to the shops, mowing the lawn, or baking?
 - What can I expect with my heart arrhythmia over the next few months and years?
 - What changes can I make in my life to help improve my condition?
 - What are the possible side effects of my medicines?
 - If my other health conditions affect my arrhythmia, what can I do?

Make a plan

It's worthwhile to work with your doctor to plan one to three things to work on before your next appointment. It could be a medical or a lifestyle improvement, but setting small goals can make a big difference, build confidence and give you something to aim for.

After your appointment

When you get home, look at your notes and update your family or friends about your appointment. The more they know about your health, the better they can support you.

Make a plan

It's worthwhile to work with your doctor to plan one to three things to work on before your next appointment. It could be a medical or a lifestyle improvement, but setting small goals can make a big difference, build confidence and give you something to aim for.

After your appointment

When you get home, look at your notes and update your family or friends about your appointment. The more they know about your health, the better they can support you.



**Hearts4heart supports, educates
and advocates for Australians
living with atrial fibrillation and
other heart conditions. Join our
community and the conversation.**

-  hearts4heart.org.nz
-  facebook.com/hearts4heart/
-  [@hearts4heart](https://twitter.com/hearts4heart)
-  info@hearts4heart.org.nz