
Atrial Fibrillation/Flutter and DC Cardioversion Explained

What is Atrial Fibrillation/Flutter (AF)?

AF is the most common form of an irregular heartbeat and is caused by abnormal electrical activity of the heart. In AF, the upper chambers of the heart (atria) beat irregularly, very rapidly and often in an uncoordinated fashion. This causes the lower chambers of the heart (ventricles) to beat irregularly and often rapidly. Will having a pacemaker affect my lifestyle?

Possible causes:

- High blood pressure
- Abnormal thyroid function
- Older age
- Excess alcohol intake
- Irritable areas or abnormal connections in the heart
- Following heart surgery
- Any other type of heart disease

Symptoms:

Some people may have no symptoms and may not realise they have AF.

Symptoms include:

- Dizziness
- Tiredness or weakness
- Shortness of breath
- Palpitations
- Chest pain or chest tightness

Restoration of a normal heart rhythm can help reduce these symptoms.

Complications:

When blood does not flow normally within the atria, a blood clot may form. The clot could dislodge and travel to the brain causing a stroke. Lowering the risk of stroke is one of the main goals of treatment.

AF can also reduce the efficiency of the heart's function and can lead to heart failure if rapid heart rates are not controlled.

Treatment:

Treatment depends on whether your AF occurs only once, is recurring or is permanent. You may need one or more of the following treatments. Your Cardiologist will decide what treatment is most appropriate for you.

Possible treatment includes:

- Medication to slow or stop the abnormal rhythm.
- Medication to prevent the blood from clotting so easily (anticoagulants). (If you undergo cardioversion, you will probably require anticoagulants for at least four weeks after your cardioversion and possibly long term).

- Cardioversion
- Pacemaker
- Catheter ablation

What is DC Cardioversion?

DC Cardioversion is an elective procedure that involves using electrical current to reestablish your normal heart beat. There may be a reduced risk of stroke in the long term, though you may require long term anticoagulation as well as restoration of normal rhythm.

An electric shock is applied across the chest wall while you are asleep under general anaesthesia.

Risks

The risk of stroke is not immediately reduced by the return of a normal rhythm and if a clot has formed while you are in AF it can dislodge within the first few days.

This is why anticoagulation (stopping your blood from clotting so easily, usually with warfarin) is essential before cardioversion; if you have been in AF any longer than 48 - 72 hours and for at least four weeks after successful cardioversion.

If you have not received adequate prior anticoagulation, a trans-oesophageal echocardiogram may be done before cardioversion to make sure no clot is already present.

The risk of stroke at the time of restoration of normal rhythm, provided you are anticoagulated, is very low (less than 1%) and the benefits of cardioversion are considered to outweigh the risks of the procedure.

Other risks of cardioversion are usually not long lasting or severe. They include:

- occasional superficial redness where the electrode pads are applied to the chest;
- abnormal heart rhythms induced by the shock; or
- muscle pains due to muscle contractions at the time of the shock.

Rarely, complications associated with a general anaesthetic may occur (the anaesthetist will discuss the anaesthetic with you before the procedure).

It is also possible that the cardioversion may not be successful or your heart may return to AF after a short time. If this is the case your Cardiologist will determine the next course of treatment.

Preparation for the Procedure:

- Plan to have a responsible person drive you home and stay with you overnight.
- Fast from food and drink for six hours before the procedure.
- Remove all your jewellery.
- Empty your bladder prior to the procedure.
- You will need to sign a consent form permitting the cardioversion.
- An electrocardiogram (ECG) and blood test will be taken if not done prior to admission.
- An intravenous cannula will be inserted.
- You will be connected to an ECG monitor.
- Your pulse, blood pressure, oxygen levels and breathing will be recorded.

Take all medications as instructed by your Cardiologist and bring all your medications into hospital with you.

IMPORTANT: For patients on Warfarin, your INR levels need to be above two for the two weeks prior to your procedure. You should contact your Cardiologist if this is not the case. Please bring your levels into hospital.

You may be asked to withhold your Digoxin for two or three days prior to your DC Cardioversion. Your Cardiologist will advise you appropriately.

The Procedure:

Medical staff will be with you throughout the procedure.

Oxygen will be administered to you via a facemask.

Your heart rhythm, pulse, blood pressure, oxygen levels and breathing will be checked constantly.

An Anaesthetist will administer the anaesthetic and when you are asleep, the Cardiologist will administer the electrical current.

After the Procedure:

- A nurse will stay with you until you are fully awake.
- Your heart rhythm, pulse, blood pressure, breathing and oxygen levels will be checked regularly for up to four hours after the procedure.
- An ECG will be performed.
- Oxygen, via a facemask, will continue until you are fully awake.
- When you are fully awake, you will be able to eat and drink.
- Your Cardiologist will advise you on your expected time of discharge, medications and follow-up appointment.
- At discharge you will be given written instructions to follow. It is important that you remain on any prescribed anticoagulants (eg. Warfarin).

Please contact your Cardiologist should you have any concerns.