

Day Case Cardioversion

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Aim of the leaflet

This leaflet is aimed at patients having a day case cardioversion. The leaflet aims to tell you what a cardioversion is and to tell you what will happen.

Cardioversion

Cardioversion is the conversion of the heart rhythm from Atrial Fibrillation (or Atrial Flutter) to the normal rhythm, known as Sinus Rhythm. Electrical cardioversion is also known as Direct Current Cardioversion (DCCV).

This may sound scary, but it is very simple in principle and it is a highly effective treatment in carefully chosen patients. The idea is to use a controlled electric shock to get your heart rhythm back to normal. After the shock, the normal heart beat (Sinus Rhythm) will be able to emerge. The cardioversion itself involves linking you to an ECG monitor which is connected to the cardioverter/defibrillator. An injection of short acting anaesthetic or powerful sedation is given. You will then be asleep and/or totally unconcerned about the procedure.

Electrode patches are positioned on the back and front of the chest, or on the upper right and lower left of the chest. The cardioverter/defibrillator is charged and set to deliver a shock simultaneously with the next heart beat.

The normal rhythm is restored in about 90% of patients, but a small proportion immediately return to Atrial Fibrillation. Over the next few days, 10 to 20% of patients lapse back into the irregular rhythm but this may be reduced, when necessary, by prescription of an anti-arrhythmic drug.

References:

Atrial Fibrillation Association (2009) **Cardioversion** <http://www.atrialfibrillation.org.uk/files/file/Translations/AFA%20Australia%20Cardioversion%20FACT%20sheet.pdf>

British Heart Foundation (2012) **Atrial Fibrillation**

European Society of Cardiology (2014) **Guidelines for the Management of Atrial Fibrillation** <http://www.escardio.org/guidelines-surveys/esc-guidelines/guidelinesdocuments/guidelines-afib-ft.pdf>

NICE (2006) **CG36 Atrial Fibrillation** <http://www.nice.org.uk/nicemedia/live/10982/30054/30054.pdf>

Blood clots and anticoagulation

Because the upper chambers of the heart are 'quivering' rather than squeezing when the heart is in AF there is a risk that blood clots may form. Restoring a normal heart rhythm could dislodge a clot resulting in a stroke. For this reason, anticoagulation is necessary prior to the procedure.

Two types of anticoagulation are used:

- Warfarin - if you are on warfarin your INR blood test **MUST** be greater than 2 for at least 3 weeks prior to the procedure to reduce the risk of stroke. If your INR level falls below 2 you will need to have your cardioversion rescheduled. Warfarin is continued after the cardioversion until you are seen by the cardiologist, when a decision will be made if this can safely be stopped or if it should continue. It would help us if you could call us with your INR results weekly for the 4 weeks leading up to your cardioversion.
- Dabigatran/Apixaban/Rivaroxaban – if you are on any of the new anti-coagulant drugs it is very important that you take this as prescribed for a minimum of 21 days prior to the cardioversion. We do not need to monitor blood levels if you are on this drug so **you must tell us if you have missed a dose in the last 3 weeks**. You will need to continue taking the anticoagulant after the cardioversion and the need for this to be continued long-term will be discussed at your follow up appointment with the cardiologist.

Pre-assessment

You will be asked to attend the hospital to see the Cardiology Advanced Clinical Practitioner (ACP) who will carry out the cardioversion a few days before your scheduled date. At this appointment an ECG and blood pressure check will be done, you will be asked to sign a consent form and you will then be asked to go to the pathology lab to have bloods taken to check that your salt levels are within normal limits. You will be able to ask any questions you may have.

The day of the procedure

If your procedure is in the morning you will be asked to be nil by mouth from midnight the night before, if it is in the afternoon you can have a light breakfast before 8.00am and nil by mouth from 10.00am. It is very important that you follow this instruction as you will be having an anaesthetic. If you take digoxin; you should not take this for 2 days before the cardioversion. If you are diabetic, you will have your procedure early on the list. You will be able to eat and drink as soon as you are awake.

When you arrive on the day case unit you will be admitted by a nurse and have your blood pressure and heart rate taken. Then you will be helped into a gown ready for the procedure. Any false teeth should be removed.

The Cardiology ACP will take you into the procedure room and the anaesthetist will insert a cannula (a small plastic tube) into your vein so that the anaesthetic can be given. Cannulation very rarely causes complications, if you want more information about these please ask. You will have an oxygen mask to provide oxygen whilst you are asleep.

Once you are asleep the cardioversion will be done. After the procedure you will be awake within a minute or so and although groggy for a while, you will quickly regain full control and will be ready to go home after a few hours. The ECG is monitored until

you are fully recovered. A 12-lead ECG is recorded and you are then allowed to get up and move around.

Before you leave, the Cardiology ACP will come and see you and advise you if the cardioversion was successful.

A friend or partner should come to hospital with you but they will not be able to stay on the day case ward as there are no facilities. You must not drive for 24 hours after the procedure and should be collected and accompanied home. Someone should also stay with you on the night after the procedure, in case you have a late complication. If this is a problem, please discuss at the pre-admission appointment.

Follow up

If the procedure is successful you will need to come to the hospital after 4 weeks to have a repeat ECG in the Cardio Support Services Department. This will allow us to see if you remain in a normal heart rhythm or if you have reverted to Atrial Fibrillation or Flutter.

If your symptoms return after your cardioversion please see your GP. If you feel very unwell with chest discomfort, shortness of breath, lightheadedness or palpitations then you should call 999.

You will see your consultant cardiologist, or one of their team, in Outpatients for follow up and ongoing advice. If you have gone back into atrial fibrillation or flutter you may be offered a further cardioversion or an alternative treatment.

Risks

- Slow heart rhythm (bradycardia) – usually very transient and at most needing treatment with an intravenous medicine (Atropine) or a short period of pacing (electrical stimulation of the heart to initiate heart beats) for a short time.
- Fast heart rhythm (such as ventricular tachycardia) which may need a follow-up shock before you regain consciousness. Very rarely cardiac arrest may occur (less than 1% risk).
- Stroke, which is very unusual if you have been fully anticoagulated before the procedure (less than 1% risk).
- Skin burns or irritation from the electrodes (patches) - this is unusual with modern patch electrodes but can happen more frequently with older metal paddle electrodes.
- Early reversion of the normal rhythm back to Atrial Fibrillation – this may require a further shock (when still under anaesthetic/sedation).
- General anaesthetic risks – rare in normal sized people with no other medical problems.