



## Cardiology Department

# Elective Cardioversion

### What is cardioversion?

Cardioversion simply means getting your heart back into normal rhythm. It can be done as an emergency procedure, with medication, or as a planned (elective) procedure. This leaflet will focus on cardioversion as a planned procedure (Elective Cardioversion) for people with atrial fibrillation/flutter (AF). Elective cardioversion is a simple procedure using an electric (defibrillation) shock across the chest to re-establish the heart's normal rhythm.

### Why do I need cardioversion?

When your heart is beating irregularly in AF, its pumping action may be reduced, which can lead to symptoms such as breathlessness, reduced exercise tolerance and tiredness. Cardioversion is an option if your heart is beating irregularly as it may restore your heart to a regular rhythm.

### What are the benefits?

Restoring a regular rhythm can improve symptoms connected to AF.

### What are the chances of success?

The success of the procedure varies from person to person. We have the greatest chance of success if you have been in AF for a short time. Your doctor may feel it is worth trying even if it has been irregular for longer. The highest success rates are seen in patients with normal heart structure. The lowest success rates are seen in patients with physical heart abnormalities (eg leaking valves or enlarged heart chambers). These aspects should be discussed with your doctor or arrhythmia nurse specialist.

There are no absolute guarantees that the procedure will be successful. Even if the procedure is initially successful, there are no guarantees that your heart will remain in normal rhythm. Generally, we quote a 50:50 chance of you remaining in a normal rhythm one year after the cardioversion treatment.

### What are the alternatives?

Some people decide not to proceed with cardioversion if they are not too troubled by symptoms of AF. In these circumstances, heart rate control medication and anti-coagulation is used to manage the condition.

If cardioversion is successful, but AF returns within a short period of time, we may discuss using stronger medication (anti-arrhythmic medication) or referring you for more invasive procedures such as ablation.

## **What are the risks?**

We must by law obtain your written consent to this procedure beforehand. Staff will explain all the risks, benefits and alternatives before asking you to sign a consent form. If you are unsure about any aspect of the treatment proposed, please do not hesitate to speak with a senior member of staff.

- There is a small risk (approximately 1 in 100) of a major complication, such as a stroke, occurring as a result of the procedure. This risk of a major complication is minimised by ensuring that your blood is adequately “thinned” before the procedure by taking medication such as warfarin, apixaban, rivaroxaban or dabigatran.
- There is a small risk of complication with slow or fast heart rhythms during or after the treatment. The clinicians who carry out the procedure can deal with these. On very rare occasions, some patients require a temporary ‘pacemaker wire’ to be inserted if the heart rate becomes too slow.
- Most patients experience some soreness where the defibrillator pads have been on their chest/back. This is usually fairly minor - similar to sun burn.

The risks of this procedure may be higher in some cases, and this should be discussed with the cardiologist or arrhythmia nurse specialist. You will speak with an anaesthetist prior to the procedure to discuss the anaesthetic and, in some cases, will have an appointment with them before the treatment day if there are specific concerns about anaesthetic.

## **Before scheduling for the procedure**

You will have had a ‘Heart Tracing’ (ECG), an echocardiogram scan (heart ultrasound scan) and been reviewed by the arrhythmia nurse specialist. You will have a chance to discuss any questions you may have about your heart condition and cardioversion before your name is placed on the waiting list. We will aim to keep the amount of time that you are waiting for this procedure to a minimum (weeks rather than months).

## **Why do I have to be anti-coagulated for the procedure?**

When your heart is in AF, it is possible for small clots to form in the heart’s chambers. To reduce the possibility of dislodging these clots when normal rhythm is restored, we need to ensure that you have been taking anti-coagulant medication (warfarin, apixaban, rivaroxaban, edoxaban or dabigatran) without having missed any doses, for a minimum of three full weeks. It is important to take your medication as prescribed and not miss any doses. If a dose has been missed prior to the cardioversion being undertaken, it is important to inform the arrhythmia nurse specialists via telephone on 01305 254920 (voicemail available).

A missed dose before the cardioversion will increase your risk of a stroke during the procedure so the cardioversion may need to be postponed; this is for your safety.

On the day of the procedure, you will be asked to confirm that you have taken your medication correctly and that you have not missed any doses. If you use warfarin, your INR clinic will measure how thin your blood is by taking a blood test for “INR” on a weekly basis.

## Planning ahead

- Cardioversions are carried out under general anaesthetic in the Day Surgery Unit at Dorset County Hospital. You will need to come in as a day case (overnight stay is rarely needed).
- You will need to arrange for a responsible adult to escort you home and stay with you for 24 hours after the cardioversion.
- Digoxin tablets (not everyone is on this medication) are usually stopped one day before your planned cardioversion date. For example, if the day for cardioversion is a Friday, then the last dose of digoxin will be taken on the Wednesday.
- A letter from the Day Surgery Unit confirming your procedure date. If the procedure is on a Friday, we ask that you have the blood test on the Monday of the same week and a blood request form will be given to you at the pre-assessment appointment. Please arrange an appointment at your GP surgery for this blood test.
- You will receive a telephone call from the arrhythmia nurse specialist in the week leading up to the procedure. This will be to confirm that your blood tests are satisfactory and to answer any other questions that you may have.

## On the day of the procedure (cardioversion)

- **Do not** apply lotions or ointments to your chest or back. If you have a hairy chest or back, we may need to clip the hair beforehand. If you are able to arrange for someone to shave your chest and back (left side) that would be helpful.
- **Do not** eat any food (including chewing gum) for six hours before the procedure time. You can drink clear fluids up to admission time (preferably water).
- **Take** your medication as usual (except for digoxin and diabetic medication, which will be discussed with you). We sometimes ask you not to take other medication such as beta-blockers. If this is the case, your arrhythmia nurse specialist will have advised you. If in doubt; please check with them.
- If you use inhalers for a respiratory condition, please take these at the usual time.
- Bring all medication (including inhalers) and your warfarin book (if you take warfarin) in with you on the day.

## **If you are diabetic**

The arrhythmia nurse specialist will give you specific instructions about your diabetic tablets and/or insulin and what you should do with these on the day you come in. This will depend on what you take and whether the procedure takes place in the morning or afternoon.

## **Arriving in the Day Surgery Unit**

When you arrive you will have a 'Heart Tracing', (ECG), be seen by the arrhythmia nurse specialist and day surgery nurses who will check that you are ready for the procedure. You will also be reviewed by the anaesthetist who will describe and discuss the anaesthetic you will receive and consent you for this.

## **The procedure**

The actual cardioversion procedure itself takes very little time (approximately 10-15 minutes in theatre). You will be wheeled on a trolley into the theatre and introduced to the team who will be looking after you. The defibrillation pads will be placed on your chest (front and back). The anaesthetic drugs will be given, usually as an injection through a drip into one of your veins (usually in the back of your hand). The anaesthetist will give you some extra oxygen through a mask. If you have any concerns about the anaesthetic let us know before you attend or discuss with the anaesthetist before the procedure.

Once the anaesthetic is working fully, we will attempt to shock your heart back to normal rhythm, using the defibrillation pads on your chest. We will deliver up to a maximum of three to four shocks in total, in an attempt to restore your normal heart rhythm. We sometimes need to change the position of the pads.

## **What happens afterwards?**

You will be taken to the recovery ward and monitored until you wake up. Generally, people wake up within 15 minutes. As soon as you feel able to, and providing your nurse is happy with your condition, you will be allowed to eat and drink.

Another ECG will be taken. We will be able to inform you whether the procedure has been successful or not.

Your medication will be reviewed, and you will be advised if any medication might need to be stopped or reduced. Anti-coagulation must not be interrupted for a minimum period of one month following the procedure as this will help to reduce your risk of having a stroke. Many people are recommended to continue with anticoagulation long-term, but this will be discussed with you fully on an individual basis at your follow-up appointment.

Following the procedure, you may develop superficial soreness where the adhesive pads have been on the chest. The day surgery staff can issue ointment for this but placing cool damp towels on the chest and taking mild painkillers can help ease the discomfort.

## Going home

You will usually be allowed to go home within 1 ½ hours of the procedure. You will need to make arrangements for someone to drive you home and stay with you for 24 hours.

For the next 24 hours you should not drive a car, operate heavy machinery, make any important decisions, or sign any documents. We strongly advise you to spend the remainder of the day quietly at home.

## What about follow-up arrangements?

If the procedure is successful, an appointment will be arranged for you to see the arrhythmia nurse specialist four to six weeks after the procedure. If the procedure is not successful, your need for follow-up will be discussed and arranged for you on an individual basis.

## Contacts

We hope that you have found this information useful. If you have any questions or are worried about anything, please speak to the following Dorset County Hospital Staff:

Arrhythmia Nurse Specialists: 01305 254920 (voicemail available)

Email: [ArrhythmiaNurseSpeci@dchft.nhs.uk](mailto:ArrhythmiaNurseSpeci@dchft.nhs.uk)

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If you have feedback regarding the accuracy of the information contained in this leaflet, or if you would like a list of references used to develop this leaflet, please email [pals@dchft.nhs.uk](mailto:pals@dchft.nhs.uk)



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