

Direct Current Cardioversion (DCCV) Nurse-led

This information is for patients who are having treatment called Direct Current Cardioversion (DCCV) to restore a normal heart rhythm.

What is it Cardioversion?

Each normal heartbeat is triggered by an electrical impulse in an area of the heart known as the sinus node. Usually, the sinus node sends an organised electrical signal through the heart resulting in perfectly timed, rhythmic heartbeats. Sometimes, chaotic electrical signals can make the chambers (atria) of the heart flutter (fibrillate), this is known medically as atrial fibrillation or AF and results in an irregular, and sometimes, fast heartbeat. If AF has been unresponsive to drug therapy, electrical cardioversion is often carried out.

Cardioversion is the use of a brief electric shock to restore normal heart rhythm. It is particularly used to treat atrial fibrillation (AF) and atrial flutter. It is occasionally a definitive treatment for AF but more commonly used as a trial of normal rhythm to determine if this improves symptoms. Your symptoms will be assessed in clinic after the cardioversion. This is a simple nurse-led procedure, using a machine called a 'defibrillator', which is carried out under sedation, in the Coronary Care Unit (CCU) as a day case.

Why do I need a cardioversion?

While some people have no symptoms, others may experience shortness of breath, a feeling or sensation that your heart is pounding or racing, light-headedness and fatigue. Depending on your specific medical history and symptoms, your cardiologist may recommend a cardioversion to return your heartbeat to a normal rhythm and your symptoms should improve.

What are the alternatives?

Alternatives will have been discussed with you before your cardiologist considers you for a cardioversion procedure.

Are there any risks?

Cardioversion is a safe and simple procedure and complications are rare. However, potential risks include but are not limited to:

- **Risk of stroke** - We quote a risk of less than 1%. In order to minimise this risk, you will need to be on an anticoagulant drug to thin your blood
- **Dangerous rhythm** - In about 1% of cases, a potentially dangerous heart rhythm called ventricular fibrillation may occur during the procedure but this would be dealt with immediately and reverted by a repeat shock
- **Slow heart rate** - Very rarely, your heart rate may become too slow immediately after the procedure. This is usually only a temporary problem and often rectifies itself. However, if a slow heart rate were to continue, other treatment (such as pacing) would be necessary to restore a satisfactory heart rate. The risk of this happening is 1 in 1000
- The procedure may not be successful - Cardioversion is not 100% guaranteed to work. In many cases, patients revert back to AF following a period of being in sinus rhythm, for others it is not possible to achieve a normal rhythm (sinus rhythm)

- Localised skin burn or chest wall discomfort - It is not uncommon for patients to experience some skin irritation following a cardioversion or some generalised aching in the chest itself. It is important to remember that this will resolve itself and that it is not a serious problem and only temporary.

What are the expected benefits of treatment?

If we restore a normal rhythm your symptoms should improve. This will be assessed at your follow up in the cardioversion clinic.

What should I do before I come into hospital?

Four weeks before

To reduce the risks and prevent clot formation during the cardioversion, you will be prescribed a blood thinning drug called Warfarin or a Direct Oral Anticoagulation (DOAC) for at least four weeks before the procedure.

Warfarin will take careful monitoring by your practice nurse to get the dose right for you. It is very important that the balance is exactly right between your blood being too thick and clotting, or too thin and making you bleed too easily. Special blood tests called International Normalized Ratio's (INR) will be done weekly and your cardioversion appointment can only be arranged after these show a suitable and stable range between two and four over a period of four weeks.

DOAC medication e.g Rivaroxaban, Apixaban, Dabigatran and Edoxaban, must have been continued **without any missed doses** over a period of three weeks preceding the cardioversion otherwise the procedure will need to be rescheduled as the risk of stroke is too high.

One week before

When you are stable and nearing the top of the waiting list, you will be sent an appointment to attend for pre-assessment. This will involve having an Electrocardiogram (ECG) and bloods. If you are taking Digoxin this will need to be stopped **48 hours before** the procedure.

What will happen on the day?

Please note if you feel unwell on the day of your procedure please contact the Coronary Care Unit (CCU) - Tel: 0300 131 4500 Ext: 135743 prior to attending.

Please bring **all** your medication, slippers/flip flops and something to read with you on the day.

You must not eat or drink anything from midnight on the day of your procedure; this includes not chewing gum or sucking sweets.

We ask you to arrive at CCU at 8am and anticipate you to be discharged in the afternoon but this is only approximate as circumstances vary.

On arrival you will be shown to the recovery area, allocated a bed space and asked to change into a theatre gown (please remove all jewellery and bras if wearing). Please note the Recovery may be a mixed sex area.

After this the nurse will take your physical observations including blood pressure, oxygen saturations, temperature and ask you some questions. A small tube (cannula) will be inserted into your arm so that we can give you sedation to make you feel relaxed and sleepy. At this stage you may have another blood test to check your INR level and another ECG. Your

cardioversion can only take place if these results are satisfactory and will be rescheduled for another date if they are not.

Consent

Before a specialist nurse examines or treats you, they need your consent. You will be asked to sign a consent form which we will keep in your records. Although you consent for this treatment, you may at any time after that withdraw such consent. Please discuss this with your cardiology team.

The procedure

The procedure will take place in a treatment room called the Advanced Echo Room, and you will be taken down on your bed. Try not to worry about the equipment around you, but please ask the nurse any questions you may have.

A heart monitor will be attached to your chest and your blood pressure, oxygen saturations and breathing will be monitored throughout. An oxygen mask will be placed over your mouth and nose. Your heart rate and breathing will be carefully monitored during the procedure.

Once the nurse confirms that you are fully sedated, they will use the special cardioversion hard paddles from the defibrillator machine to give a controlled electric shock in an attempt to restore your normal heart rhythm. It may take more than one attempt to be successful but you will not be aware of this due to the sedation.

How will I feel afterwards?

After you will be taken back to your bed area where you will receive care from a nurse specially trained to look after patients who have had sedation. A second ECG will be performed following your cardioversion. The nurses will record your pulse, blood pressure and oxygen saturations regularly. They will also tell you when you can have a drink, something to eat and when it is safe to get out of bed. They will let you know when you can go home this is usually two hours after the end of the procedure.

You must have a responsible adult to drive you home and stay with you for 24 hours. The sedation may temporarily impair your judgement so it is important that you do not drink alcohol, undertake exercise, take a hot bath, drive, sign any legal documents, work or handle machinery for 48 hours.

The DVLA stipulate that you do not drive for 48 hours following your cardioversion. After this it is recommended you can return to work if you feel well enough.

A cardiology follow-up appointment for about six weeks after the procedure will be sent from the hospital so that further treatment can be discussed.

Until your follow up appointment

You will need to keep taking all your usual medications (including the Warfarin/DOAC) for at least a further four weeks or until told otherwise by your cardiologist or GP.

It is important to continue to avoid caffeine, excess alcohol and smoking for this procedure to be beneficial.

Please see your practice nurse at your next usual appointment and she will arrange your next INR test dates.

Unfortunately, cardioversion does not always manage to restore the heart rhythm to normal. It is important that you carry on with your medications as instructed by the doctor and keep your next appointment with your practice nurse.

Sources of information

Coronary Care Unit - Tel: 0300 131 4500 Ext: 136634

Heart Rhythm Alliance - www.heartrythmalliance.org

British Heart Foundation - www.bhf.org.uk

Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the Patient Experience Team – Tel: 0300 131 4731 (direct dial) or by email at: esh-tr.patientexperience@nhs.net

Hand hygiene

We are committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

Other formats

If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.

Tel: 0300 131 4434 - Email: esh-tr.AccessibleInformation@nhs.net

Reference

The following clinicians have been consulted and agreed this patient information:
Professor N Patel, Clinical Lead, Dr R Veasey, Consultant Cardiologist, Dr S Furniss, Consultant Cardiologist, Dr A Marshall, Consultant Cardiologist

The Clinical Specialty/Unit that have agreed this patient information leaflet: Coronary Care Unit.

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