Information for patients having electrical cardioversion

This leaflet explains the electrical cardioversion procedure and why it has been recommended for you.

If there is anything that you feel the leaflet does not explain in enough detail or you have any further questions, then you will have the opportunity to discuss this with a specialist nurse when you attend the hospital for a pre-assessment appointment.

The procedure will only be carried out when you are fully informed and happy to go ahead.

At the end of this leaflet you will find a list of important points to remember and also some contact numbers for further information, advice and support.

What is an electrical cardioversion?

An electrical cardioversion is a procedure used to treat an abnormal heart beat. The abnormal heart beat is caused by a disturbance in the electrical activity within the heart (for more information, see the enclosed leaflet ‘Information for people with an abnormal heart beat’).

Electrical cardioversion involves placing sticky patches on your chest. The patches are attached to a machine called a defibrillator, the defibrillator delivers a small current of electricity to your heart. This small current of electricity stops your heart beating for a second and when it starts again, it usually beats normally. Before having the procedure you are given medication to put you to sleep for a few minutes, the procedure takes about 5 minutes and you are woken up as soon as it is over.

What preparation is required for the procedure?

The day before your electrical cardioversion you will be asked to come to a pre-assessment appointment on the procedure investigation unit (PIU for short). This is done for a number of reasons. We need to check that you still have an abnormal heart beat by doing an ECG (a recording of the electrical activity in your heart). Sometimes your heart beat can go back to normal by itself. In this case you would no longer need to have the electrical cardioversion. We also need to check you are well enough to have the procedure. We do some blood tests to check several things, including:

- Your blood count, to ensure you are not anaemic.
- Your kidney function, to ensure your kidneys are working normally. Abnormal kidney function could put you at risk of other abnormal heart beats, which could be dangerous.
- Your infection markers, infection could mean it would be unsafe to give you an anaesthetic (medicine to put you to sleep). Infection could also reduce the chances of the cardioversion being successful.
• We also check your INR (see leaflet ‘Information for people with an abnormal heartbeat’ for more information) to ensure your blood is thin enough but not too thin to safely carry out the procedure.

The nurse will need to complete some paper work. This will include your personal details, next of kin details and any medication you are taking. Please bring any tablets or other medications (inhalers, insulin etc) to your pre-assessment appointment. Please also make sure you have a contact number for your next of kin.

The pre-assessment is also an opportunity for you to ask any further questions about the procedure and for the nurse to explain anything you don’t understand or are worried about. Once all your test results have been checked and are ok, and you are happy you understand what is going to happen, you will be asked to sign a consent form. You can read more about the consent form in the next section of this leaflet.

At this stage your nurse will let you know what time you need to return to the PIU in the morning to have your electrical cardioversion. It is important that you do not have anything to eat or drink from midnight the night before the procedure. This is because you are going to have a general anesthetic and an empty stomach reduces the risk of any possible complications. You can take your usual morning medication with a sip of water, unless your nurse tells you otherwise.

If you have not been well leading up to your pre-assessment appointment then it is very important that you let the cardioversion nurse know. If you know you are not well enough for the procedure then you can contact the specialist nurse on the telephone and rearrange your appointment. If you are uncertain whether or not you are well enough for your procedure you can ring the cardioversion nurse to discuss the matter. The nurse will advise you whether or not you are well enough to have your procedure.

Contact numbers can be found at the end of the leaflet.

Why do I need to sign a consent form?
The consent form says that you are happy to go ahead with the procedure, that you understand how the procedure is carried out and that you accept any risks involved. Possible risks involved with the procedure are described further on in this leaflet under the heading ‘what are the risks of having a cardioversion’. Once you have signed the consent form you still have the right to change your mind at any time.

The consent form is usually completed at your pre-assessment appointment with the cardioversion nurse, however occasionally your doctor may have already asked you to sign a consent form previously. If this is the case then the cardioversion nurse will just ask you to confirm that you are still happy to go ahead.

What does electrical cardioversion involve?
• When you arrive at the PIU on the morning of your procedure you will meet the nurses who work on this ward. They will show you to your bed area and also the bathroom facilities. The PIU is a short stay ward treating many patients with many different conditions.
• Soon after arrival you will meet the cardioversion nurse who you will have already met the day before. The cardioversion nurse will be carrying out the procedure and will want to check that you are still happy to go ahead and that you do not need to ask any further questions.

• You will be given a gown to wear and once again the nurse will check your heart beat by recording an ECG. Your blood pressure, temperature and oxygen levels will also be checked, these are quick, simple, painless tests.

• If you have a hairy chest it may be necessary to shave some of the hair off. Your nurse will discuss this with you.

• A cannula (small plastic tube) will be placed in the back of your hand or your arm. This will sting, a bit like having an injection. If you are worried about this then please let the nurse know at your pre-assessment appointment.

• The cardioversion nurse will then take you along to one of the rooms within the theatres department. We use this department because this is where the anaesthetist is based and where most of the equipment to safely put you to sleep is stored.

• Here you will meet the anaesthetist who will need to ask you a few questions. The anaesthetist will explain how they will put you to sleep and also explain any risks associated with this.

• You will be attached to a heart monitor so that we can watch your heart beat throughout the procedure. Your blood pressure and oxygen levels will be recorded several times throughout the procedure.

• You will then be laid flat on a trolley bed and the anaesthetist will place an oxygen mask on your face. Medicine to put you to sleep will be injected into the cannula in your hand or arm. You will be asleep within seconds.

• While you are asleep the nurse will stick two large sticky pads to your chest. The sticky pads improve the flow of electricity and protect your skin from burns. The sticky pads are attached to a defibrillator. The nurse will press a button to deliver a small current of electricity to your chest. The electric current travels through your chest to your heart. Sometimes this only needs to be done once. Sometimes it can take 2 or 3 attempts before your heart beat returns to normal. As previously mentioned, occasionally the procedure does not work at all.

• After the procedure you will be woken up by the anaesthetist, you will still have an oxygen mask on your face. Your blood pressure, pulse and oxygen levels will be checked again and a further ECG will be taken.

• You will be informed at this point whether or not the procedure was successful.

• You will then be taken back to the PIU to recover from your anaesthetic. You may feel sleepy for several hours after the procedure.
After you feel fully recovered (2-4 hours) you will be allowed home. A relative will need to collect you and accompany you home. Your nurse will advise you if there are any changes to your medication following your procedure.

Is the procedure painful?
The procedure itself is not painful as you will be asleep. Some patients suffer slight skin burns or soreness to their chest where the sticky pads have been placed. This may be slightly uncomfortable but nursing staff will provide pain killers and cream to rub on which will help relieve any pain.

What are the risks of having electrical cardioversion?
As with any procedure, there are risks involved in having a cardioversion. It is normal to worry about these risks however it is best to try and weigh up the risks and the benefits together. Your cardioversion nurse will help you do this.

- Having a stroke caused by a blood clot is the most serious risk of electrical cardioversion, although this is rare. The procedure could dislodge a clot inside your heart. This risk is significantly reduced by taking warfarin to thin the blood and dissolve any clots which may be present. With warfarin the risk of this happening is less than 1% or in other words less than 1 in 100 people (Information taken from a study by MM Gallagher and colleagues, 2002)

- There is a very small risk of the procedure itself causing a more serious, life threatening abnormal heart beat, although this is so rare that there are no available statistics.

- It is possible to have a reaction to the medication we give you to put you to sleep. Your anaesthetist will assess your risk of this happening and discuss this with you. However, it is not always possible to predict an allergic reaction.

- It is fairly common to experience some mild chest soreness or slight skin burns. This is not a serious side effect at all and can easily be treated (see ‘Is the procedure painful’). It can occur in as many as 84% of cases (Information taken from a study by JJ Ambler and colleagues, 2004)

Are the effects of the electrical cardioversion permanent?
The procedure is usually successful on the day but the results may not be permanent. The success of your procedure often depends on the cause of your abnormal heart beat.

Keeping a normal heart beat after cardioversion is more likely if the cause is not heart disease. This is because there is no cure for heart disease and although it can be treated the effects leave you prone to abnormal heart beats. If you do have heart disease then there is a high risk that your abnormal heart beat will come back. We estimate that this happens in 50% of people within 6 weeks of their cardioversion.

If your abnormal heart beat has been caused by something that can be cured or does not have life long effects then the result of your cardioversion is more likely to be successful on a more permanent basis. Success also depends on the length of time you have had your abnormal heart beat. The longer you've had it the more likely you will get it again.
We will always consider the above points when considering electrical cardioversion as a treatment option for you. If you have heart disease, we would only tend to recommend electrical cardioversion if you are bothered by symptoms and tablets have not helped.

**What do I need to bring on the day of the cardioversion?**

- Any medication you are taking
- Pyjamas or a night dress
- A dressing gown
- A book or magazine to read if you would like.
- Slippers

Please do not bring any valuables into hospital with you. This includes money and jewelry.

**How long will I be in hospital?**
Providing the procedure is straightforward you will only need to stay in hospital for a few hours.

**What happens when I'm ready to go home?**
It is essential that you ask a friend or relative to collect you and accompany you home.

**Can I drive?**
You must not drive for 24 hours following your procedure. This is because you may still feel sleepy from your anesthetic.

**When can I go back to work / start normal activities again?**
You can go back to work and/or do normal activities 24 hours after your procedure.

**Will I be seen again after the procedure?**
You will receive a follow up appointment to see the cardioversion nurse approximately 4-6 weeks after the procedure.

**Important points to remember**

- You must not have anything to eat and drink from midnight the night before your cardioversion.
- Please take your medication as normal with a sip of water, unless the nurse has told you otherwise.
- Please arrange for someone to collect you after the procedure. Remember you can not drive for 24 hours and you would not be able to travel alone on public transport. If no one is available to collect you then please let the cardioversion nurse know at your pre-assessment appointment.

**How to find PIU**
PIU can be found next to ward 14, on level 6 of the surgical block. It is signposted from all the entrances to the hospital.

**Contacts numbers:**
cardioversion nurse, coronary care unit Tel 0191 4452018
The coronary care unit is open 24 hours a day 7 days a week. The cardioversion nurse may not always be available however the nurses on the coronary care unit will be able to advise you at any other time.

PIU   Tel 0191 4452825
(where your pre-assessment will take place and where you will be looked after on the day of your procedure)

**For further advice / support contact:**
Arrhythmia alliance
The heart rhythm charity
Tel: 01789 450787
Email: info@arrhythmiaalliance.org.uk

Arrhythmia alliance offer information and support to individuals with cardiac arrhythmia (abnormal heart beat).

NICE (national institute for health and clinical excellence) offer information for people who use NHS services. On their website you can find information about the care and treatment which should be offered to people with AF.

www.nice.org.uk