

Direct Current Cardioversion (DCC)

You have been given an appointment for a Direct Current cardioversion (DCC). This factsheet explains the benefits, risks, and likely outcomes of the procedure. Please read it carefully, and if you have any questions they can be answered for you on the day.

What is a DCC?

DCC is a procedure which is done to restore normal (sinus) rhythm in individuals who are in an irregular heart beat called atrial fibrillation (AF). The procedure is extremely short generally. We expect to administer the anaesthetic for about 5 minutes, and complete the shocks during the time you are asleep. There is a period of recovery from the anaesthetic which takes about 30 minutes in total.

Why do I need this procedure?

When your heart is in AF, the two collecting chambers (atria), at the top of the heart are not beating properly. There are multiple electrical signals getting sent off instead of just one, which is the normal situation. When this happens you may have no symptoms, or you may have palpitations, or breathlessness. During the DCC procedure, we apply an electric shock across the heart, which "knocks out" all the additional circuits, and allows the main circuit to come back in again to restore regular rhythm.

What will happen during the procedure?

You will be admitted to the surgical day unit. You must not eat for six hours before the procedure, you can have CLEAR fluids but only up to two hours before the procedure, such as black tea, coffee or water. It is important however that you take your usual tablets with a sip of water on the morning of admission.

You will see either a cardiology specialist nurse, or doctor, who will discuss the procedure with you, and the anaesthetist who will discuss putting you to sleep.

You will be taken to theatre, given a short general anaesthetic and, while you are asleep, we will apply the electric shocks to return your heart rhythm to normal.

The chance of success on the day is in the region of 80-90%; however we do recognise that the success rate at one year is in the region of 40-50%, because a number of people go back to the irregular rhythm despite an initially successful procedure.

What are the potential risks of the procedure?

Commonly there is some redness of the skin, like sunburn, particularly if you need several shocks. We apply a maximum of five shocks, and if that does not return your heart to the normal rhythm the procedure is unsuccessful. It is also common to have some discomfort in your chest after the procedure for a day or so.

There is a small risk of a stroke. We will minimise this by giving you blood thinners. This can either be Warfarin, which is the most common blood thinner, or one of the newer blood thinners such as Dabigatran, Rivaroxaban, Apixaban, or Edoxaban.

If you are already on Warfarin we will check your blood levels before the procedure to make sure the Warfarin level is adequate.

If you are on one of the newer blood thinners then we will ask you to sign that you have taken the tablets as prescribed for at least four weeks before the procedure which minimises the risk. However a small risk of stroke remains. The risk of this is less than 1:100 and is about equivalent to being in atrial fibrillation on blood thinners for one year.

Are there any alternative therapies?

It is possible to continue in atrial fibrillation safely for long periods of time, provided the rate or speed of your heart is controlled either with medication or on its own, and provided you take a blood thinner. The blood thinner can be either Warfarin or one of the new medicines dependent on a variety of factors, such as age and other medical problems.

If your procedure is successful

If the procedure is successful, then we will ask you to attend the ECG department at North Tyneside General four weeks after the procedure for a repeat ECG. If you are still in a regular rhythm after one month then we may be able to stop the blood thinners. There are however situations in which we would not stop the Warfarin/blood thinners even if you are in a regular rhythm. This will be discussed with you at the time of the procedure. In addition, after the procedure, we will sometimes discontinue some of the medication that we feel will not be necessary if your heart is in a regular rhythm.

What if the procedure is unsuccessful?

If the DC cardioversion is unsuccessful, for example if, after five shocks a regular rhythm has not been restored, then you would be left in the irregular rhythm. We may suggest a further attempt at cardioversion on different medications, or may suggest accepting the rhythm as being permanent. This will be discussed with you at the end of the procedure.

For further information contact:

Louise Edwardson
Clerical Officer
Telephone: 0191 2934175

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