

Insertion of a Vena Cava Filter

Introduction

This leaflet tells you about the insertion of a vena cava filter. It explains what is involved and what the possible risks are. It is not meant to replace informed discussion between you and your doctor, but can act as a starting point for such a discussion.

Whether you are having the filter insertion as a planned or emergency procedure you should have had sufficient explanation before you sign the consent form.

The Medical Imaging Department may also be called the X-ray or Radiology Department. It is the facility in the hospital where radiological examinations of patients are carried out, using a range of x-ray equipment, such as a CT (computed tomography) scanner, an ultrasound machine and an MRI (magnetic resonance imaging) scanner.

What is a vena cava filter?

A vena cava filter is a small, metal device about an inch long, shaped rather like the spokes of an umbrella. The filter is placed in the vena cava, which is the large vein in the abdomen that brings blood back from the legs and pelvis, towards the heart. If there are blood clots in the veins in the legs or pelvis, these could pass up the vena cava and into the lungs. The filter will trap these blood clots and prevent them entering the lungs and causing problems.

Why do I need a vena cava filter?

There are a number of reasons why you may require a filter to be placed. If a patient has clots passing to the lungs then this is usually

treated by anticoagulant drugs which thin the blood and stop the formation of blood clots. Sometimes patients are either not able to have the anticoagulant drugs or clots are passing to the lungs despite the drugs. In this situation a filter is often placed. Some patients are at high risk of forming blood clots that pass to the lungs and again, in special situations, a filter is placed to stop this happening.

Occasionally a filter is placed for other reasons and your doctors will explain these to you if necessary.

Who has made the decision?

The Consultant in charge of your case, and the Radiologist inserting the vena cava filter will have discussed the situation, and feel that this is the best treatment option. However, you will also have the opportunity for your opinion to be taken into account and if, after discussion with your doctors, you do not want the procedure carried out, you can decide against it.

What are the options or alternatives?

Apart from blood thinning drugs (which as discussed may not be practical or safe) there are no other alternative treatments.

Who will be inserting the vena cava filter?

A specially trained doctor called an interventional Radiologist. These doctors have been trained to treat patients using 'key-hole surgery'. They are able to see what they are doing by using x-rays.

Radiographers and Radiology Nurses will be present in the room to assist during the procedure and they will introduce themselves at the start.

Occasionally Student Radiographers or Medical Students will be present to observe the procedure.

Where will the procedure take place?

Usually in the Medical Imaging Department.

How do I prepare for insertion of a vena cava filter?

- You need to be an inpatient in the hospital.
- You will have had some blood tests performed before the procedure to check that you do not have an increased risk of bleeding.
- You are asked **not** to eat for 4 hours prior to the procedure. You may drink a little water.
- If you have any allergies or you have previously reacted to intravenous contrast medium, you must let the doctor know. Intravenous contrast medium is the injection we give you during some scans.
- If you are diabetic, please contact the Medical Imaging Department **on 01392 402336 selecting option 2, in-patient enquiries, option 6** X-ray Special Procedures.
- If you normally take any medication to thin your blood (anticoagulation or antiplatelet drugs) such as: **warfarin / clopidogrel / aspirin / non-steroidal anti-inflammatory drugs (NSAIDS / brufen / ibrufen / nurofen) / dabigatran (Pradaxa) / rivaroxiban (Xarelto) / Apixaban (Eliquis) / phendione / acenocoumarol – then these may need to be stopped or altered. Please contact the Medical Imaging Department on 01392 402336 selecting option 2, in-patient enquiries and then option 6 for X-ray Special Procedures.**
- **Other medication should be taken as normal.**

What actually happens during insertion of a vena cava filter?

You will lie on the x-ray table, generally flat on your back. You may have a needle put into a vein in your arm, so that the Radiologist can give you a sedative or painkillers. You may also have a monitoring device attached to your chest and finger, and be given oxygen through small tubes in your nose.

The Radiologist will use a sterile trolley and wear a theatre gown and operating gloves. The skin near the point of insertion, probably the groin, will be cleaned with antiseptic, and the rest of your body will be covered with a theatre towel.

The skin and deeper tissues over the vein will be anaesthetised with local anaesthetic, and then a needle will be inserted into a vein. Once the Radiologist is satisfied that this is correctly positioned, a guide wire is placed through the needle, and into the vein. The needle is then withdrawn and a fine plastic tube, called a catheter, is placed over the wire and into the vein. This catheter has the filter attached to it.

The Radiologist uses the x-ray equipment to make sure that the catheter and the wire are moved into the right position. The wire is then withdrawn and the filter can be released from the catheter and left in place in the vena cava.

The catheter will then be removed and the Radiologist will press firmly on the skin entry point for several minutes to prevent any bleeding.

Will it hurt?

Some discomfort may be felt in the skin and deeper tissues during injection of the local anaesthetic. After this, the procedure should not be painful. There will be a Nurse, or another member of clinical staff, standing next to you and looking after you. If the procedure does become uncomfortable for you, then they will be able to arrange for you to have some painkillers through the needle in your arm. You will be awake during the procedure, and able to tell the Radiologist if you feel any pain, or become uncomfortable in any other way.

How long will it take?

Every patient's situation is different, and it is not always easy to predict how complex or how straightforward the procedure will be. Generally, the procedure will be over in about half an hour, but you may be in the Medical Imaging Department for about an hour altogether.

What happens afterwards?

You will be taken back to your ward on a trolley. Nurses on the ward will carry out routine observations, such as taking your pulse and blood pressure, to make sure that there are no problems. They will also look at the skin entry point to make sure there is no bleeding from it. You will generally stay in bed for a few hours, until you have recovered. You may be allowed home on the same day, or kept in hospital overnight.

What will happen to the results?

A report of the procedure will be recorded in your notes immediately and also sent to your specialist within 48 hours.

Are there any risks or complications?

Insertion of a vena cava filter is considered a very safe procedure, designed to prevent the serious complications that can develop from blood clots. There are some slight risks involved, and

although it is difficult to say exactly how often these occur, they are generally minor and do not happen very often.

There may be a small bruise around the site where the needle has been inserted, and this is quite normal.

Occasionally the vein in the groin may develop a clot. Very rarely some damage can be caused to the vein by the catheter, and this may need to be treated by surgery or another radiological procedure. There is a possibility that the filter will actually cause some blockage of the vena cava, the large vein that brings blood back from the legs to the heart, and because of this there may be some swelling of the legs. As with any mechanical device, there is also the possibility that the filter will eventually fail to work properly. Despite these possible complications, the procedure is normally very safe, and is carried out with no significant side-effects at all.

Finally....

Some of your questions should have been answered by this leaflet, but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. Make sure you are satisfied that you have received enough information about the procedure, before you sign the consent form.

Contact us

If you found reading your leaflet difficult, you do not understand what it means for you, if you have any queries or concerns you can contact us on: **01392 402336** and we can talk it through or alternatively you can email us - **rduh.radiologyappointments@nhs.net**

How to get to your appointment

Please refer to the enclosed "Welcome to the Medical Imaging Department" leaflet or use the Trusts website for the latest information:

www.royaldevon.nhs.uk/our-sites/royal-devon-and-exeter-hospital-wonford/

For more information on the Medical Imaging Department, please visit our website:

www.royaldevon.nhs.uk/services/medical-imaging-radiology-x-ray/medical-imaging-eastern-services/

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