The ROYAL MARSDEN
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Insertion of an inferior vena cava (IVC) filter

Interventional Radiology

Patient Information

NHS

Introduction

Your doctors have recommended that you have an inferior vena cava (IVC) filter inserted. The aim of this procedure is to prevent blood clots from reaching your lungs. They will have weighed the benefits of having this procedure against the possibility of complications. Your clinical team will have discussed these with you. If you are still unsure about the benefits of having the procedure, please ask. This leaflet explains what the procedure involves, the possible risks and the complications you may experience.

It is important that you fully understand what is involved before you sign the consent form.

What is a vena cava filter?

A vena cava filter is a small, metal device about an inch long, shaped 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 from entering the lungs and causing problems.

Why do I need a vena cava filter?

There are a number of reasons why you may need a filter. One of these could be that you have a blood clot in your leg called a deep vein thrombosis (DVT). If a patient has clots, which could be 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 may be inserted. 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 care, and the doctor inserting the vena cava filter will have discussed your situation, deciding that this

is the best treatment option for you. However, your opinion will also be taken into account and if, after discussion with your doctors, you do not want the procedure carried out, you can decide against it.

Who will be inserting the vena cava filter?

A doctor called an interventional radiologist will insert the filter. Radiologists have special training and expertise in using x-ray and scanning equipment and in interpreting the images produced. They need to look at these images while carrying out the procedure. They will be assisted by radiology nurses and radiographers who will care for you throughout the procedure.

Where will the procedure take place?

This procedure is carried out in a room in the x-ray (radiology) department, at The Royal Marsden, Chelsea.

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

- You will need to be admitted to the hospital for the day.
- You must not to eat for **four hours** before the procedure, although you will be allowed to drink clear fluids up to **two hours** before the procedure.
- You should not bring any valuables with you in case of loss or theft.

Can I bring a relative or friend?

You may bring someone with you but for safety reasons they cannot accompany you into the x-ray room.

When you arrive at The Royal Marsden

- Please report to the day care area.
- On arrival, you may have some routine blood tests. You will have a fine plastic tube (cannula) put into a vein in your arm, so that you can be given fluids and receive medication while in the x-ray department.
- You will be allocated a bed, although you may not go there until after the procedure.
- Before you go to the x-ray department, you will be asked to change into a hospital gown.

- You can either walk to the x-ray department or be taken there on a trolley.
- When you arrive at the x-ray department, a nurse will greet you and the radiologist will explain the procedure and discuss it with you before you sign the consent form. If you have any questions, this is a good time to ask the radiologist.
- If you have any allergies, you must let your doctor know. If you have previously reacted to intravenous contrast medium (the dye used for kidney x-rays and CT scans), then you must also let your doctor know.

What actually happens during insertion of a vena cava filter?

- You will lie on the x-ray table, generally flat on your back.
- The procedure is generally carried out through a vein in the neck, but is occasionally carried out through a vein in the groin. If the procedure is to be carried out through the groin, the skin around this area may be shaved.
- You may have a monitoring device attached to your chest, arm and finger, and be given oxygen through small tubes in your nose.
- The radiologist will keep everything as sterile as possible, and will wear a sterile theatre gown and operating gloves. Your skin near the point of insertion, probably your neck, will be cleaned with cold antiseptic. The rest of your body will be covered with a sterile theatre sheet.
- The radiologist will numb the skin and deeper tissues over the vein 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 threaded 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, close by throughout the procedure. You will be awake during the procedure and able to tell the radiologist if you feel any pain or discomfort. If the procedure becomes painful, then the nurse will be able to arrange for you to have a painkiller through the cannula in your arm.

How long will it take?

Every patient's situation is different, and it is not always easy to predict how complex or straightforward the procedure will be. Generally, the procedure will be completed in about half an hour, but you may be in the x-ray department for about an hour altogether.

What happens afterwards?

- You will be taken back to your ward on a trolley or a bed.
- 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 needle entry point to make sure there is no bleeding from it.
- You will generally stay in bed for two hours until you have recovered.
- You will usually be allowed home on the same day, but occasionally you may be kept in hospital overnight.
- Generally, you can eat and drink normally after the procedure.

Are there any risks or complications?

Vena cava filter insertion is a very safe procedure, designed to prevent the serious complications that can develop from blood clots. There are some risks and complications that can arise.

- A small bruise may develop around the site where the needle was inserted. This is quite normal.
- Occasionally the vein in the neck 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.

It is difficult to say exactly how often these occur – they are generally minor and do not happen very often.

Removal of an IVC filter

Your doctor may decide that your IVC filter should be removed because it is no longer needed. This can be done 10-12 days after its insertion. This is done either through the neck or the groin, depending on the type of filter used. This is a very similar procedure to the insertion, but sometimes the filter may have tilted slightly in your body, which can make its removal more complicated and lengthy. Occasionally it is not possible to remove the filter, in which case the radiologist will leave it in place.

Contact details

If you have any questions or concerns about your procedure, or you are unable to attend for this appointment, please call the Radiology Department on **020 7808 2571**.

Alternatively, please call:

The Royal Marsden Macmillan Hotline:

020 8915 6899 (available 24 hours a day, 7 days a week)

This leaflet has been developed from information produced by The Royal College of Radiologists website.

www.rcr.ac.uk

Should you require information in an alternative format, please contact The Royal Marsden Help Centre.

References

This booklet is evidence based wherever the appropriate evidence is available, and represents an accumulation of expert opinion and professional interpretation.

Details of the references used in writing this booklet are available on request from:

The Royal Marsden Help Centre
Freephone: 0800 783 7176
Email: patientcentre@rmh.nhs.uk

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