

Insertion of a Vena Cava Filter

Information For Patients

This booklet is intended to provide answers to common questions that you may have about the insertion of a vena cava filter.

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 inferior vena cava, which is the large vein in the abdomen that brings blood back from the legs and pelvis to the heart and lungs. If there are blood clots in the veins in the legs or pelvis, these could pass up the vena cava to 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?

Other tests that you have had done may have shown that you have clots in the veins in your legs or pelvis. Your consultant has decided that there is a significant risk of these clots travelling to your lungs and causing further significant problems. Generally these problems can be treated effectively with blood thinning drugs, called anti-coagulants, but in your case it is felt that a further method of dealing with the blood clots is required.

Who has made the decision to insert a filter?

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 your opinion will be taken into account and if, after discussion, you do not want the procedure carried out, then you can decide not to give your consent.

Who will be inserting the vena cava filter?

A Consultant Interventional Radiologist, who is specially trained to perform this type of procedure, will insert your filter.

Where will the procedure take place?

Your procedure will be carried out in the X-ray department in a special "screening room", which is adapted for specialised procedures.

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

If you are not already an in-patient in the hospital the x-ray department will arrange for your admission to a ward on the day of your procedure. You may have a light breakfast/lunch prior to your admission, and can drink as normal. You will need to wear a hospital gown for the procedure but there is no need to remove jewellery or dentures.

If you have any allergies or have previously reacted to contrast medium, the dye used for kidney x-rays and CT scanning, then you **must** let the x-ray department know before the procedure.

If you are diabetic you must inform the x-ray department before your appointment.

What actually happens during the procedure?

The exact technique may vary slightly but the general outline of the procedure is as follows :

- You will lie on the x-ray table on your back.
- You may have a monitoring device attached to your finger.
- The radiologist will keep everything as sterile as possible, and will wear a theatre gown and gloves throughout the procedure.
- The filter is usually inserted through the vein in the right groin. The skin around this area will be cleaned with antiseptic and a sterile sheet will be placed over your chest and lower body.
- The doctor will numb the area at your groin with local anaesthetic, and then a needle will be inserted into the vein.
- Through this needle the radiologist will pass a guidewire and over this will be passed a small flexible tube called a catheter. This catheter has the filter attached to it.
- The radiologist will use the x-ray machine to make sure that the catheter is in the correct place before positioning the filter.
- When the filter is correctly positioned in the vein the catheter is removed and the radiologist will press firmly on the skin at the entry point for several minutes to prevent any bleeding.
- If the vein at your groin has clot in it we may have to use a vein in the side of your neck to place the filter. This only happens if the vein in the groin is not suitable, which is rare.

Will it hurt?

Some discomfort may be felt in the skin during the injection of the local anaesthetic. After this, the procedure should not be painful. There will be a nurse and radiographer looking after you during the procedure. If the procedure does become uncomfortable then we can arrange for you to have some painkillers.

You will be awake during the procedure, and therefore able to let us know if you are uncomfortable.

How long will the procedure take?

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

What happens afterwards?

You will be taken back to the ward on a trolley. Nurses on the ward will carry out routine observations, taking your pulse, blood pressure and also looking at the skin entry point to make sure there is no bleeding. You will generally stay in bed for a few hours, until you have recovered.

If your admission was arranged by the x-ray department you may be allowed home on the same day, or you may have to stay overnight depending on circumstances.

Will the filter ever be removed?

The filters we place can be permanent or temporary. Permanent filters remain in place for the rest of your life while the temporary filter can be removed at a later date when the risk of clotting has passed. The consultant performing the procedure will inform you as to whether your filter is to be removed or not.

What are the risks and complications?

Vena cava filter insertion is a very safe procedure, but there are some risks and complications that can arise. There may occasionally be a small bruise, called a haematoma, around the site where the needle has been inserted, and this is quite normal. If this becomes a large bruise, or becomes infected then you may require further treatment.

There is a possibility that the filter will actually cause some blockage of the vena cava and this may cause some swelling in 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 carried out with no significant side effects at all.

Does this procedure use radiation?

This procedure does use x-rays which involves you receiving a moderate dose of radiation, however, the benefit of an accurate diagnosis or successful treatment far outweighs the risk.

Removal of vena cava filters.

If your consultant has decided the risk from clotting has passed, you may be referred back to radiology to have your vena cava filter removed.

The process for this procedure is very similar to above. You will come back to radiology for a pre-assessment and on the day of the procedure you will be admitted and prepped for your procedure as above in the radiology day case ward.

To remove the filter:

- You will lie on your back on the x-ray table.
- The consultant will keep everything as sterile as possible and wear a sterile gown and sterile gloves.
- The removal device will be inserted via the vein in your neck (the jugular vein). The skin around this area will be cleaned with antiseptic and a sterile sheet will be placed over your chest and head, but your face will not be covered.
- The doctor will numb the area at your neck with local anaesthetic, and then a needle will be inserted into the vein.
- Through this needle the radiologist will pass a guidewire and over this will be passed a small flexible tube called a catheter.
- The radiologist will use the x-ray machine to make sure that the catheter is in the correct place.
- Once in the correct position the consultant will take a picture using x-ray contrast to make sure there is no clot in the filter.
- If there is no clot in the filter, the consultant will proceed and remove the filter.
- When the filter and catheter have been removed, the radiologist will press firmly on the skin at the entry point for several minutes to prevent any bleeding.

If there is clot in the filter, the filter will be left in place. The catheter will be removed and the radiologist will press firmly on the entry site to stop any bleeding. You will be referred back to see your consultant in clinic.

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If you have any comments about this leaflet or the service you have received you can contact :

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If you would like this information in another format or language contact the above.

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This leaflet has been prepared by the British Society of Interventional Radiology (BSIR) with the Clinical Radiology Patients' Liaison Group (CRPLG) of The Royal College of Radiologists and edited accordingly by Calderdale & Huddersfield Trust

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