



Insertion or removal of an IVC filter

This leaflet aims to provide answers to questions that you may have about insertion or removal of an IVC – inferior vena cava – filter.

If you are having the IVC filter inserted as a pre-planned procedure, then you should have plenty of time to discuss the situation with your consultant and the radiologist who will be inserting the vena cava filter. If you need the IVC filter inserted as an emergency, there may be less time for discussion, but none the less you should have had sufficient explanation before you sign the consent form.

What is a vena cava filter?

An IVC filter is a small, metal device about an inch long, shaped rather like the spokes of an umbrella. The filter is placed in the inferior vena cava, the large vein in the abdomen which brings blood back from the legs and pelvis to the heart. If there are blood clots in the veins in the legs or pelvis, these can pass up the inferior vena cava and into the lungs, causing a pulmonary embolus (a life threatening blockage). The filter will trap these blood clots and prevent them entering the lungs.

Why do I need an IVC filter?

Other tests may have shown that you have, or have had, clots in the veins in your legs, pelvis or lungs. Usually, these problems can be treated with blood thinning drugs called anticoagulants. However, sometimes these don't work or it is not safe to use them (i.e. there is a risk of serious bleeding from elsewhere or surgery is planned). In these cases an IVC filter is inserted to prevent blood clots reaching the lungs (pulmonary embolism) from the leg veins.

Sometimes, IVC filters are left in permanently but more often they are removed when they are no longer required (i.e. when anticoagulation has been restarted after surgery).

Who has made the decision that I need an IVC filter?

The consultant in charge of your case, the interventional radiologist inserting the IVC filter, and sometimes a blood clotting specialist (haematologist) 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.

Who will be inserting the IVC filter?

A specially trained doctor called an interventional radiologist. They have special expertise in performing procedures under X-ray guidance.

Where will the procedure take place?

In a special Interventional Radiology room, equipped for these sorts of specialised procedures.

How do I prepare for insertion of an IVC filter?

You need to be an inpatient or day-case patient in the hospital.

You should not eat for 6 hours beforehand, (in case a sedative is required) though **you may water up to 2 hours before**. Occasionally, a sedative is given to help you relax but this is not usually necessary. You will be asked to put on a hospital gown.

If you have any allergies, you must let the doctor know. If you have previously reacted to intravenous contrast medium (the dye used for kidney X-rays and CT scanning) then you must also tell your doctor about this.

You do NOT need to stop your anticoagulants (warfarin, tinzaparin, rivaroxaban or dabigatran) for this procedure.

What actually happens during insertion of an IVC filter?

You will lie flat on your back on the X-ray table. You will have monitoring devices attached to your chest and finger.

The radiologist will keep everything sterile and will wear a theatre gown and operating gloves. The skin near the point of insertion, either the neck or groin, will be cleaned with antiseptic, and most of the rest of your body covered with a theatre drape.

The skin and deeper tissues over the vein will be numbed with local anaesthetic, and then a needle will be inserted into the vein.

A guide wire is passed through the needle into the vein. The needle is withdrawn and a fine plastic tube, called a catheter, is passed over the wire and into the vein.

A picture of the inferior vena cava is taken by injecting contrast through this catheter. If the picture is satisfactory, the filter is passed down the catheter and deployed in the inferior vena cava where it expands and grips onto the vein wall.

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

Removal of an IVC filter

It is possible to remove IVC filters if they are no longer required. If it has been decided that your filter is to be removed you will be given a card (at the time of insertion) with a telephone number to call to arrange for it to be removed (usually this is after planned surgery is finished and you have restarted anticoagulant drugs). If you weren't given this card or have misplaced it please ring 0118 322 8368 to arrange for your filter to be removed (especially as we don't always know when your surgery has been finished). We also keep and check a database to ensure all filters that should be removed are removed. If you have any concerns that you may have been overlooked or want to arrange removal please call the number above.

The preparation, location of procedure, timing and arrangements are the same as for insertion. The procedure is similar to insertion except it is can only be done from the neck. It can take a little longer. Sometimes, for technical reasons (either the filter has become stuck to the inferior vena cava wall or is full of clotted blood) it is not possible to remove it. If it is not possible to remove it then it is usually left in place as open surgery is difficult and can be risky.

Filters that can't be removed usually don't give symptoms but occasionally can lead to swollen legs or deep vein thrombosis.

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.

You will be awake during the procedure, and able to tell the radiologist if you feel any pain, or become uncomfortable in any way.

How long will it take?

Generally, the procedure will be over in about half an hour, but you will probably be in the X-ray department for about 2 hours altogether.

What happens afterwards?

You will be taken back to your ward or the Radiology Day Case Unit on a trolley or wheelchair. Nurses 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. You will generally stay in bed for an hour, until you have recovered. You will usually be allowed home soon after (unless you are already an inpatient in the hospital). You will need to arrange for someone take you home as you should not drive on the day of insertion.

What are the risks or complications?

IVC filter insertion and removal are very safe procedures, but there are some risks.

- There may occasionally be a small bruise, called a haematoma, around the site where the needle has been inserted.
- Occasionally, patients do have clots in the lung despite the presence of an IVC filter. Although IVC filters provide protection from clots reaching the lungs they increase the risk of clots forming in the leg veins.
- Very rarely, some damage can be caused to the vein by the catheter.
- There is a possibility that over time the filter will block the inferior vena cava, usually this does not cause symptoms but can occasionally lead to swelling of the legs.

Despite these possible complications, the procedures are normally very safe, and carried out with no significant side effects at all.

Finally...

This leaflet should have answered some of your questions, 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.

Any other questions?

If you have any other queries please telephone the Radiology Department on 0118 322 8368 or email rbft.radiologyadmin@nhs.net.

Further information

Radiology Department (appointments) Tel 0118 322 7991.

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

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