

Inferior Vena Cava (IVC) Filter Insertion

An information guide



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Introduction

This leaflet tells you about having an inferior vena cava (IVC) filter inserted. It explains what is involved and the possible risks. It is not meant to replace informed discussion between you and your doctor, but can act as a starting point for such discussions. If you have any questions about the procedure please ask the doctor who has referred you or the department which is going to perform it.

What is an IVC filter?

An IVC filter is a small metal device usually placed in a large vein called the inferior vena cava (IVC) that carries blood from the legs and lower part of the abdomen. The IVC filter allows blood to flow through normally but traps any large blood clots, stopping them from getting to your lungs.

What is it used for?

Blood clots (thromboses) sometimes form in the veins of the legs and pelvis. The blood clot is known as a deep vein thrombosis (DVT). The clot can sometimes break free and flow with the blood into the lungs and make you very unwell. This is called pulmonary embolism (PE) and can be fatal.

An IVC filter prevents a large pulmonary embolism by trapping a clot before it reaches the lungs.

Why should you have an IVC filter?

The usual treatment for DVT and PE is drug treatment to thin the blood. In a few patients, warfarin does not prevent further PEs, in others thinning the blood is too risky. When this happens, patients are considered for treatment by inserting an IVC filter.

Very occasionally, a patient is advised to have an IVC filter inserted as a preventative measure even though they do not have a DVT or PE at that time.

Your doctors will explain the reasons why they think you should have an IVC filter.

What are the benefits and risks?

Benefits

- No surgical incision is needed - only a small nick in the skin that does not have to be stitched closed.
- The filter has a high rate of success in protecting lungs from serious pulmonary embolism (PE) in patients who have failed conventional medical therapy or cannot be given conventional medical therapy.

Risks

- IVC filter insertion is a very safe procedure. Serious complications are very rare.
- Any procedure where the skin is penetrated carries a risk of infection. The chance of infection requiring antibiotic treatment appears to be less than one in 1,000.
- There is a very slight risk of an allergic reaction if contrast material (x-ray dye) is injected.
- Any procedure that involves placement of a catheter inside a blood vessel carries certain risks. These risks include damage to the blood vessel, bruising or bleeding at the puncture site, and infection.
- There is a chance that the IVC filter can lodge in the wrong place, change position or penetrate through the vein (which can rarely lead to injury of a nearby organ) .
- The IVC filter or a piece of the IVC filter may break loose and travel to the heart or lungs causing injury or death.

- Rarely, IVC filters become so filled with clots that they block all flow in the blood vessel, causing swelling in the legs.
- In some cases, retrievable filters become scarred to the vein and cannot be removed, in which case they are left in permanently (as they are also designed to do).
- If you need a Magnetic Resonance (MRI) scan in the future, you should tell the person doing the scan that you have an IVC filter.

Are you required to make any special preparations?

This examination does involve using a small amount of radiation. This dose is kept to a minimum to reduce the risks to yourself.

If you take anti-coagulants please speak with your anti-coagulant clinic staff or your GP as your INR (blood clotting times) must not be greater than 2.5 for this procedure.

Insertion of an IVC filter is usually carried out as a day case procedure under local anaesthetic. You may be asked not to eat for a couple of hours before the procedure, although you may still drink clear fluids such as water.

The staff on the ward or in the Day Services Unit will ask you to change into a hospital gown. A thin plastic tube (cannula) will be placed into a vein in your hand or arm.

If you have any allergies or have previously had a reaction to the 'dye' (contrast agent) which is used in x-ray departments, you must tell the radiology staff before you have the filter inserted.

Where will the procedure take place?

The procedure will take place in the Intervention Suite within the radiology department. This is similar to an operating theatre into which specialised x-ray equipment has been installed.

Who will see you?

You will be seen by a specially trained team led by an interventional radiologist (a doctor), radiology nurses and radiographers. Interventional radiologists have expertise in reading x-ray images and using those images to guide catheters and wires to aid diagnosis and treatment.

What happens during the insertion?

You will be taken to the radiology department where the staff will introduce themselves and check your details.

The interventional radiologist will ask you to confirm that you have already had the procedure explained to you and will ask you to sign the final part of the consent form.

Please feel free to ask any questions that you may have and, remember that even at this stage, you can decide against going ahead with the procedure if you so wish.

You will lie on the X-ray table, generally flat on your back. A sedative or painkiller can be given if required. You may have monitoring devices attached to your finger to check your pulse and a blood pressure cuff around your arm. You may be given oxygen through small plastic tubes placed in your nostrils.

The procedure is performed under sterile conditions and the interventional radiologist and radiology nurse will wear sterile gowns and gloves to carry out the procedure.

The skin near the point of insertion, the neck or the groin, will be swabbed with antiseptic and you will be covered with sterile drapes. The skin and deeper tissues over the vein will be numbed with local anaesthetic. A fine tube (catheter) will be inserted and guided, using the X-ray equipment into the correct position.

Small amounts of dye (contrast agent) are used to check the position of the catheter. The filter is passed through the tube to the

exact site and released. Small hooks on the filter grip the wall of the vein and stop it moving away.

How long will it take?

Every patient is different, and it is not always easy to predict; however, expect to be in the radiology department for about an hour.

What happens afterwards?

You will be taken back to your ward. Nursing staff will carry out routine observations including pulse and blood pressure and will also check the treatment site.

You will generally stay in bed for a couple of hours and then you will be able to go home. Take it easy for the rest of the day but you can resume normal activities the next day.

How long will the filter stay in?

Modern IVC filters can be left in permanently; however, it is becoming more common for these devices to be a temporary solution and removed when they are no longer required. This is often at three months but may occasionally be longer.

The procedure for removal of the filter is very similar to that for the insertion. If your consultant decides it best for your filter to be removed you will be contacted, usually by the radiology department, three to six months after the filter was inserted.

Will I feel any pain from the filter once it is in place?

There may be a little bruising around the point where the local anaesthetic was injected. This will clear up in a few days. There will be no pain at all from the filter itself.

Further Information

More information is available on the British Society of Interventional Radiology website; www.bsir.org/patients

Your specialist consultant (or one of his / her team) will probably have already explained the reasons why you need to have this done and we hope that this information guide has been useful to you also.

However, if you are still uncertain, then please contact his / her secretary via the hospital switch board (0161 795 4567).

If you are in hospital at the moment, then ask a nurse to put you in contact with your consultant or a member of his / her team.

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.

If English is not your first language and you need help, please contact the Interpretation and Translation Service

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