Mersey and West Lancashire Teaching Hospitals NHS Trust

# Having an Inferior Vena Cava (IVC) filter

## Patient leaflet

**If you need this leaflet in a different language or accessible format please speak to a member of staff who can arrange it for you.**

اگر به این بروشور به زبان دیگر یا در قالب دسترس‌پذیر نیاز دارید،
لطفاً با یکی از کارکنان صحبت کنید تا آن را برای شما تهیه کند.

Jeśli niniejsza ulotka ma być dostępna w innym języku lub formacie,
proszę skontaktować się z członkiem personelu, który ją dla Państwa przygotuje.

Dacă aveți nevoie de această broșură într-o altă limbă sau într-un format accesibil,
vă rog să discutați cu un membru al personalului să se ocupe
de acest lucru pentru dumneavoastră

如果您需要本传单的其他语言版本或无障碍格式，请联系工作人员为您安排。

إذا احتجت إلى هذه النشرة بلغة أُخرى، أو بتنسيق
يسهل الوصول إليه، يرجى التحدث إلى أحد الموظفين لترتيب ذلك لك.

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# Introduction

This leaflet tells you about having an inferior vena cava (IVC) filter inserted. 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 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 drains 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 (thrombosis) sometimes form in the veins of the legs and pelvis. They are known as a deep vein thrombosis (DVT). The clot can sometimes break free and enter with the blood flow into the lungs and make you very sick. This is called pulmonary embolism (PE).
They can be fatal. An IVC filter prevents a large PE by trapping a clot before it reaches the lungs.

## Who should have an IVC filter?

The usual treatment for DVT and PE is drug treatment to thin the blood. This is usually with warfarin or a similar drug. In a few patients, these drugs do 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 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.

## Are you required to make any special preparations?

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 6 hours before the procedure, although you may still drink clear fluids such as water.

If you have any allergies or have previously had a reaction to the dye (contrast agent), you must tell the radiology staff before you have the test.

## Pregnancy

You are asked to contact the Radiology department if you suspect that you may be pregnant or if the appointment is more than 10 days after the start of your last period. If you are, or think you could be, pregnant then you must tell us prior to, or on arrival for, your appointment.

## Where will the procedure take place?

The procedure will take place in the Radiology department in a special “screening room” design specially for this type of procedure. This is similar to an operating theatre into which specialised X-ray equipment has been installed.

## Who will you see?

A specially trained team of radiographers and nurses led by an interventional radiologist within the radiology department. Interventional radiologists have special expertise in reading the images and using imaging to guide catheters and wires to aid diagnosis and treatment.

Due to the similarity of an operating theatre all staff members will be wearing scrub uniforms. All members of the team will introduce themselves

## What happens during the insertion?

The interventional radiologist will explain the procedure and ask you to sign a 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 be asked to get undressed and put on a hospital gown. A small cannula (thin tube) will be placed into a vein in your arm.

You will lie on the X-ray table, generally flat on your back. You will have monitoring devices attached to your chest and finger and may be given oxygen.

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, usually the neck but occasionally 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 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 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 1- 3 months but may occasionally be longer.

## Are there any risks?

IVC filter insertion is a very safe procedure. Serious complications are very rare. There may be a small bruise at the needle site and very rarely there may be damage to the vein or blockage of the inferior vena cava. Extremely rarely, the filter can migrate which may require a further procedure to reposition the IVC filter.

If you need a magnetic resonance (MRI) scan in the future, you should tell the person doing the scan that you have a filter.

## Radiation

Having a IVC filter involves the use of radiation. Any examination using radiation is only performed when strictly necessary and it is felt the benefits of the examination outweigh any potential risks. All imaging is performed using the minimum amount of radiation necessary, and is individualised for each patient depending on the size of the patient and the condition being investigated.

For more information on radiation please see the link below:
https://www.ukhsa-protectionservices.org.uk/radiationandyou/


## Extravasation

Occasionally when you are having a contrast (dye) enhanced procedure there is a small risk that the injection of contrast can leak out of the vein and under the skin. This is called an extravasation. We find this occurs in 1 out of 200 injections. If this does happen then further advice will be given to by the Radiographer and Radiologist at the time of the procedure.

## Injection of X-ray contrast (dye)

If you have had an allergic reaction to iodine or the X-ray contrast (dye) in the past, then you must tell us prior to, or on arrival for, your appointment.

The contrast (dye) used during the procedure contains iodine.

There are risk factors associated with injections of X-ray contrast (dye), which can be increased by certain conditions. We will complete a safety questionnaire to check your suitability to have the X-ray contrast (dye). The risk of serious allergic reaction to contrast materials that contain iodine is extremely rare, and radiology departments are well equipped to deal with them.

The injection usually causes nothing more than a warm feeling passing around your body, a metallic taste in your mouth and a sensation of passing water. These effects will pass within a few minutes.

**Table 1: Types of allergic reaction to Contrast (X-ray Dye)**

| Category | Type |
|---|---|
| Mild | Minor rash, redness,<br>Swelling of the skin,<br>Mild nasal congestion, sneezing, runny nose.<br>Mild high blood pressure, nausea,<br>Mild vomiting. |
| Moderate | Generalised redness<br>Marked rash,<br>Itching, and swelling of the skin,<br>Hoarseness or throat tightness,<br>Fainting<br>Swelling of face and throat. |
| Severe | Respiratory arrest<br>Cardiac arrest<br>Fluid on the lung<br>Seizures<br>Cardiogenic shock<br>The risk of death is extremely rare. |

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## Notes

## Finally

The pictures taken during the examination are studied carefully and a detailed report is produced. The results will be sent to the person who referred you for the test. They will discuss the results with you and any treatment you may need.

You may already have an appointment with the team who referred you. If not, please contact them to arrange one to discuss the results of this test.

If you have any further questions, please do not hesitate to call the Radiology department via the number given on your appointment letter.

As this is a teaching hospital there may be students and observers present during your examination as part of their ongoing training. Please let the staff know if you do not wish any students to be present during your attendance.

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