

# Inferior vena cava filter placement

Radiology

## What is the aim of this leaflet?

The aim of this leaflet is to explain the procedure for patients undergoing an Inferior Vena Cava Filter Placement. This leaflet is not meant to replace informed discussion between you and your doctor, but can act as a starting point for outlining risks and benefits.

## What is an IVC filter?

An IVC filter is a small metal device which is 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.

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 minimises the risk of a large PE by trapping a clot before it reaches the lungs.

## Why do you need an IVC filter?

The usual treatment for DVT and PE is drug treatment to thin the blood. This is usually with warfarin. 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 even though they do not have a DVT or PE at that time.

## Who has made the decision?

The choice about which treatment is best for you will be made together with your doctor. This will be based on the risks and benefits of the treatment and your individual circumstances.

## Who will do the procedure?

An Interventional radiologist will perform the procedure. They have special expertise in interpreting the images and using imaging to guide catheters and wires to aid diagnosis and treatment.

**The prevention of infection is a major priority in all healthcare and everyone has a part to play.**

- Please decontaminate your hands frequently for 20 seconds using soap and water or alcohol gel if available
- If you have symptoms of diarrhoea and/or vomiting, cough or other respiratory symptoms, a temperature or any loss of taste or smell please do not visit the hospital or any other care facility and seek advice from 111
- Keep the environment clean and tidy
- Let's work together to keep infections out of our hospitals and care homes.

## Consent

We must seek your consent for any procedure or treatment beforehand. Written consent will be obtained from yourself by a doctor to give permission to have the procedure done. Your doctor will explain the risks, benefits and alternatives where relevant before you sign the consent. A referral will be made and your appointment will be arranged. If you are unsure about any aspect of the procedure or treatment proposed please do not hesitate to ask for more information.

## What are the potential risks of having an IVC filter?

Serious complications are uncommon, but a number have been described.

- Damage to the blood vessel. This could result in surgery or a different procedure. If this is accompanied by excessive bleeding, a blood transfusion may be necessary
- Blockage of the Inferior Vena Cava
- Pulmonary embolism despite filter in place
- Bruising or bleeding at the puncture site
- The procedure is performed under sterile conditions and although rare, there is a chance of infection. If this does happen, antibiotics will be prescribed by your referring doctor or GP
- The filter can migrate which may require a further procedure to reposition the IVC filter. This is extremely rare
- Unable to retrieve/remove 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
- Death as a result of the procedure is very rare
- **Radiation:** This procedure involves exposure to radiation. For most patients' the risk of causing cancer from this exposure is less than 1 in 1000. It may be more than this if your procedure is complex or depending on factors such as body type, height and weight. The requesting doctor and the doctor that will be performing your examination feel that the benefit of having the test or treatment outweighs the risk from the exposure to radiation. If you have further questions about the risk of exposure to radiation, please talk to your doctor during consent.

**Please contact the X-ray Department as soon as you receive this appointment if you think you may be pregnant.**

- **Contrast agent:** The "dye" that may be used to show up the blood vessels can have side effects for a minority of patients
  - 3 in 100 patients experience nausea and hot flushes
  - 4 in 10,000 may have more serious effects including breathing difficulties
- If a side effect does occur the doctors, nurses and radiographers are trained to deal with it.

## What are the benefits of having an IVC filter?

- To prevent clots from travelling to the lungs
- To keep the risk low when you are asked to stop blood thinners especially for surgery.

## Are there any alternative treatments and what if I decide not to have it done?

There are no alternative treatments to this procedure. The radiologist will discuss the consequences of not having the procedure.

## 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 (a medication used to numb an area of the body to reduce pain). You will be asked to prepare for the following:-

- You can eat and drink as normal unless a doctor or nurse has specifically said otherwise
- 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 procedure.

If you are taking the following medication and the doctor hasn't discussed them during consent please contact the X-ray department when you receive this information:

- Acenocoumarol, Apixaban, Aspirin, Bivalirudin, Dabigatran, Dalteparin, Danaparoid, Dipyridamole, Edoxaban, Enoxoparin (clexane) Fondaparinux, Heparin, Phenindione, Tinzaparin, Warfarin.

## Where will the procedure take place?

The procedure will take place in the angiography suite; this is located within the Radiology department. This is similar to an operating theatre in which specialised X-ray equipment has been installed. If you are on a different ward, the angiography suite will liaise with your ward nurse and porters to arrange transport to your procedure.

## What happens during the procedure?

You may be asked to change into a hospital gown. You will be asked to lay on your back on the x-ray table for the procedure. Observations of your heart rate and blood pressure will be taken during and after the procedure. This is routine. A team of nurses and radiographers will assist the radiologist during the procedure. An interventional radiologist uses an ultrasound probe and X-rays to allow accurate access to the Inferior Vena Cava (IVC) through a minute incision.

Local anaesthetic is injected at the procedure site (in the neck or groin). This may sting for a few seconds but will then go numb. The interventional radiologist will place various catheters through the vein. 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. You will not be able to feel the hooks grip the wall of the vein. Contrast is not commonly used for this procedure but may be used if anatomy cannot be seen clearly.

## Will it hurt?

When the local anaesthetic is injected it will sting but this will soon wear off. After this, the procedure is not usually painful. There will be a nurse next to the x-ray table to look after you. Pain relief may be given at the time of the procedure if appropriate. You should discuss this with the doctor doing your procedure on the day.

## How long will it take?

Every patient is different, and it is not always easy to predict; however, expect to be in the procedure room for about one hour.

## What happens afterwards?

- You will return to the Radiology day case unit unless you are an inpatient on a ward in which case you will be taken back to your ward

- The nurse on the unit will take 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 from it
- You will be on bed rest for a couple of hours
- Someone will need to collect you after the procedure or arrange for a taxi to take you home.

## Going home advice

- Observe the puncture site for any bleeding or swelling. If the access site bleeds and cannot be stopped after apply pressure for a reasonable amount of time, contact 111 for advice
- There are no limitations after this procedure
- A follow up appointment will be made and sent to you in the post in the near future
- Driving after surgery: It is your responsibility to make sure you are fit to drive after any surgical procedure. Information can be found on the DVLA website: <https://www.gov.uk/guidance/general-information-assessing-fitness-to-drive>

## 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. You will receive a follow up appointment in the post where you will be able to have this discussion with your doctor.

## Trainees

A Radiology trainee (qualified experienced doctors training in Radiology) or occasionally a student may be present during the examination. If you would prefer them not to attend, please let a member of Radiology staff know.

## How to contact us

If you have any personal access needs, require wheelchair access or wish to speak to a member of staff for further information please contact the interventional radiology department on 01902 307999 ext. 86344 between 08:30am - 04:30pm as the department cannot help with queries outside of these hours.

### **Angiography Suite/Interventional Radiology**

Second floor Radiology A2  
New Cross Hospital  
Wolverhampton  
West Midlands  
WV10 0QP

### **Patient Advice and Liaison Service**

New Cross Hospital  
01902 695362  
Email: [rwh-tr.pals@nhs.net](mailto:rwh-tr.pals@nhs.net)

Information taken from:

British Society of Interventional Radiology

[http://www.bsir.org/static/uploads/resources/BSIR\\_Patient\\_Leaflet\\_\\_Inferior\\_Vena\\_Cava\\_IVC\\_Filter\\_Placement.pdf](http://www.bsir.org/static/uploads/resources/BSIR_Patient_Leaflet__Inferior_Vena_Cava_IVC_Filter_Placement.pdf)

## English

If you need information in another way like easy read or a different language please let us know.

If you need an interpreter or assistance please let us know.

## Lithuanian

Jeigu norėtumėte, kad informacija jums būtų pateikta kitu būdu, pavyzdžiui, supaprastinta forma ar kita kalba, prašome mums apie tai pranešti.

Jeigu jums reikia vertėjo ar kitos pagalbos, prašome mums apie tai pranešti.

## Polish

Jeżeli chcieliby Państwo otrzymać te informacje w innej postaci, na przykład w wersji łatwej do czytania lub w innym języku, prosimy powiedzieć nam o tym.

Prosimy poinformować nas również, jeżeli potrzebowaliby Państwo usługi tłumaczenia ustnego lub innej pomocy.

## Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਹ ਜਾਣਕਾਰੀ ਕਿਸੇ ਹੋਰ ਰੂਪ ਵਿਚ, ਜਿਵੇਂ ਪੜ੍ਹਨ ਵਿਚ ਆਸਾਨ ਰੂਪ ਜਾਂ ਕਿਸੇ ਦੂਜੀ ਭਾਸ਼ਾ ਵਿਚ, ਚਾਹੀਦੀ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

ਜੇ ਤੁਹਾਨੂੰ ਦੁਭਾਸ਼ੀਏ ਦੀ ਜਾਂ ਸਹਾਇਤਾ ਦੀ ਲੋੜ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

## Romanian

Dacă aveți nevoie de informații în alt format, ca de exemplu caractere ușor de citit sau altă limbă, vă rugăm să ne informați.

Dacă aveți nevoie de un interpret sau de asistență, vă rugăm să ne informați.

## Traditional Chinese

如果您需要以其他方式了解信息，如易读或其他语种，请告诉我们。

如果您需要口译人员或帮助，请告诉我们。