

Inferior Vena Cava (IVC) Filter Placement

INTRODUCTION

In an inferior vena cava filter placement procedure, interventional radiologists use image guidance to place a filter in the inferior vena cava (IVC), the large vein in the abdomen that returns blood from the lower body to the heart.

Blood clots that develop in the veins of the leg or pelvis, a condition called deep vein thrombosis (DVT), occasionally break up and large pieces of the clot can travel to the lungs. An IVC filter traps large clot fragments and prevents them from traveling through the vena cava vein to the heart and lungs, where they could cause severe complications or even death.

PROCEDURE

Placement of an IVC filter involves the insertion of a plastic intravenous tube (catheter) into a vein in either your groin or your neck. Some numbing medicine will be injected in the skin over the vein before the catheter is inserted. Intravenous medications may also be given to you to make you more comfortable and relaxed. This is known as conscious sedation.

Once the catheter has been placed into the vein, it will be advanced through the blood vessels and into the IVC. During this time, x-ray contrast material (x-ray dye) will be injected through the catheter and x-ray pictures taken. You may be asked to hold your breath for several seconds as these pictures are taken. During the injection of x-ray contrast material, you may experience a warm feeling or a strange taste in your mouth. Both of these sensations are temporary and will go away soon. A series of x-ray pictures will be obtained of the IVC. Once the catheter is placed into the IVC, the filter will be inserted through the catheter.

During the placement procedure, positioning of the filter will be monitored with x-ray pictures. At the completion of the procedure the catheter will be removed and pressure will be applied to the insertion site until the bleeding has stopped. To help prevent bleeding, it will be very important for you to lie flat in bed without moving your arm or leg for up to four hours.

RISKS

Risks associated with the procedure include pain or discomfort at the catheter insertion site, bleeding at the site, injury to a blood vessel, and infection which may result in an infection of the blood stream. It is possible that the IVC will become blocked after the placement of the filter. Blockage of the IVC is a gradual process and usually does not cause any symptoms. You will develop veins around the blocked area and these veins will allow blood flow from your lower body. However, this results in the risk of a clot passing through these veins, bypassing the filter, and reaching your lungs. It is also possible that, after placement, the filter may shift in position. If your femoral vein (located in your groin) was used for the procedure, there is the possibility that the vein may become blocked. This may result in leg swelling and may require intravenous blood thinners or the use of blood clot dissolving drugs given into the IVC. Even with an IVC filter, it is possible to experience a recurrent pulmonary embolism due to clot material passing through the small openings in the filter. Risks associated with the x-ray contrast material include an allergic reaction and reduced kidney function. The medications used for the conscious sedation are associated with the risks of aspiration (inhaling food or liquid into your lungs) or respiratory depression. In addition to these potential risks associated with the procedure, the x-ray contrast material, and the conscious sedation medications, there may be other unpredictable risks including death.

ALTERNATIVES

There may be other methods to treat your deep vein thrombosis and/or pulmonary embolism, including medical management and surgery. If you are unsure about undergoing placement of an IVC filter, please discuss these other alternatives with your physician.