Information for patients having and Insertion of a vena cava filter.

What is a vena cava filter?
A vena cava filter is a small metal device about an inch long shaped rather like the spokes of an umbrella. The filter is placed in the vena cava the large vein in the abdomen (tummy) that brings blood back from the legs and pelvis towards the heart. If there are blood clots in the veins in the legs or pelvis these could pass up the vena cava and into the lungs. The filter will trap these blood clots and prevent them entering the lungs and causing problems.

Why do I need a vena cava filter?
Other tests that you have had done have shown that you have clots in the veins in your legs or pelvis and that these have passed upwards into the lungs and are causing significant problems. Generally these problems can be treated effectively with blood thinning drugs called anti-coagulants but in your case it is felt that a further method of dealing with the blood clots is required.

Who will be inserting the vena cava filter?
A specially trained doctor called a radiologist. Radiologists have special expertise in using x-ray equipment and also in interpreting the images produced. They need to look at these images while carrying out the procedure.

Where will the procedure take place?
Generally in the x-ray department in a special "screening" room which is adapted for specialised procedures.

How do I prepare for insertion of a vena cava filter?
You need to be an in-patient in the hospital. You will probably be asked not to eat for four hours beforehand though you may be told it is all right for you to drink some water. You may receive a sedative to relieve anxiety. You will be asked to put on a hospital gown. As the procedure is generally carried out using the big vein in the groin you may be asked to shave the skin around this area.

If you have any allergies you must let your 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.

What actually happens during insertion of a vena cava filter?
You will lie on the x-ray table generally flat on your back. You need to have a needle put into a vein in your arm so that the radiologist can give you a sedative or painkillers. You may also have a monitoring device attached to your chest and finger and may be given oxygen through small tubes in your nose.
The radiologist will keep everything as sterile as possible and may wear a theatre gown and operating gloves. The skin near the point of insertion probably the groin will be cleaned with antiseptic and then most of the rest of your body covered with a theatre towel.

The skin and deeper tissues over the vein will be anaesthetised with local anaes thetic and then a needle will be inserted into the vein. Once the radiologist is satisfied that this is correctly positioned a guide wire is placed through the needle and into the vein. Then the needle is withdrawn and a fine

plastic tube called a catheter is placed over the wire and into the vein. This catheter has the filter attached to it. The radiologist uses the x-ray equipment to make sure that the catheter and the wire are moved into the right position and then the wire is withdrawn and the filter can be released from the catheter and left in place in the vena cava. The catheter will then be removed and the radiologist will press firmly on the skin entry point for several minutes to prevent any bleeding.

Will it hurt?
Some discomfort may be felt in the skin and deeper tissues during injection of t he 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. If the procedure does become uncomfortable for you then they will be able to arrange for you to have some painkillers through the needle in your arm.

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

How long will it take?
Every patient's situation is different and it is not always easy to predict how complex or how straightforward the procedure will be. Generally the procedure will be over in about half an hour but you may be in the x-ray department for about an hour altogether.

What happens afterwards?
You will be taken back to your ward on a trolley. Nurses on the ward 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 from it. You will generally stay in bed for a few hoursuntil you have recovered. You may be allowed home on the same day or kept in hospital overnight.

Are there any risks or complications?
Vena cava filter insertion is a very safe procedure but there are some risks and complications that can arise. There may occasionally be a small bruise called a haematoma around the site where the needle has been inserted and this is quite normal. If this becomes a large bruise then there is the risk of it getting infected and this would then require treatment with antibiotics.

Very rarely some damage can be caused to the vein by the catheter and this may need to be treated by surgery or another radiological procedure. There is a possibility that the filter will actually cause some blockage of the vena cava the large vein that brings food back from the legs to the heart and because of this there may be some swelling of the legs. As with any mechanical device there is also the possibility that the filter will eventually fail to work properly. De spite these possible complications the procedure is normally very safe and is carried out with no significant side effects at all.

What are the benefits?
Insertion of a vena cava filter is considered a very safe procedure designed to prevent the serious complications that can develop from blood clots. There are some slight risks involved and although it is difficult to say exactly how often these occur they are generally minor and do not happen very often.

What are the alternatives?
The consultant in charge of your case and the radiologist inserting the vena cava filter 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 then you can decide against it.