

- Watch for signs of infection around the catheter. These may include fever, redness, pain or pus from the insertion site. Contact your doctor immediately if you observe any of these signs. If an infection is diagnosed early, it can often be treated with antibiotics.
- You may feel some coolness or numbness in the hand with the fistula. These sensations usually go away in a few days. However if the sensations are severe or do not disappear, tell your doctor as the fistula may be causing too much blood to flow away from your hand, a condition doctors call a "steal" syndrome.
- You should perform hand exercises to grow and strengthen your fistula after the pain from the surgery decreases. However, avoid lifting more than 7 kg or other activities that can stress the access area.
- Avoid tight clothing or lying on the top of your access arm while you sleep as these can slow the blood flow through the fistula and raise the risk of clotting.
- Do not let any blood pressure measurements or blood to be drawn from your access arm.
- Feel the thrill or vibration of the blood through your access several times a day. If the flow stops or feels different, contact your doctor immediately.
- Do not use any creams or lotions over the site of the fistula or graft.

### Peritoneal Dialysis

Peritoneal dialysis access will allow you to safely use your abdominal cavity for dialysis. A small, soft plastic tube (catheter) is inserted by a doctor into your abdominal cavity. The catheter is about 1/4 inch in diameter and is usually placed 1 inch below and to the side of the belly button.

Approximately 2 - 4 inches of the catheter will remain outside the body. Your doctor or nurse will discuss with you how they want you to care for your exit site. How soon this catheter can be used will depend upon the type of the catheter that was used, your doctor and your condition.

## Contact information

### Diagnostic Vascular Laboratory

Main Building 1, Level 3

**Opening Hours:** 8.30 am - 6.00 pm (Mondays - Fridays)  
Closed on Saturdays, Sundays & Public Holidays

### For appointments, please contact

Tel: (65) 6772 2002  
Email: [appointment@nuh.com.sg](mailto:appointment@nuh.com.sg)

### For International Patients And Visitors

The International Patients Liaison Centre (IPLC) is a one-stop service centre to support all the medical needs of our foreign patients

Tel : (65) 6779 2777 (24-Hours Helpline)  
Fax : (65) 6777 8065  
Website : [www.nuh.com.sg/iplc.html](http://www.nuh.com.sg/iplc.html)



### National University Hospital

5 Lower Kent Ridge Road, Singapore 119074  
Tel: 6779 5555 Fax: 6779 5678 Website: [www.nuh.com.sg](http://www.nuh.com.sg)

## Location



## Free Shuttle Bus Service

Free Shuttle Bus Service from Dover MRT Station to NUH

**Operation hours :** 8.00 am – 8.30 pm (Mondays – Fridays)  
8.00 am – 2.00 pm (Saturdays)  
Not available on Sundays and Public Holidays

**Dover/NUH passenger pickup/ drop off point**

1. Dover MRT Station (opposite Singapore Polytechnic)
2. Main Building, Lobby Entrance (near roundabout)
3. Kent Ridge Wing, Level 3, South Entrance

For more information on Shuttle Bus schedule, log on to [www.nuh.com.sg](http://www.nuh.com.sg)

Information in this brochure is given as a guide only and does not replace medical advice from your doctor. Please seek the advice of your doctor if you have any questions related to the surgery, your health or medical condition.

Information is correct at time of printing (June 2011) and subject to revision without notice.

## Dialysis Access



## Renal Replacement Therapy (Dialysis)

If you have kidney disease, you may need dialysis, which your kidney doctor will inform you about. The dialysis can be either peritoneal (water) or hemodialysis (blood).

In hemodialysis, an access point is needed to have a safe way to perform dialysis. This access can be temporary or permanent.

If hemodialysis is needed right away, a catheter tube may be used. This catheter will be placed by a doctor into a large vein, either in the neck (jugular vein), behind the collar bone (subclavian vein) or in the groin (femoral vein). This temporary access can be used immediately and may be used until a permanent access is available. Some of the catheters are designed to be tunneled under the skin to increase comfort and reduce complications. These catheters are used if access is needed for more than 3 weeks. Complications of the catheter can include: clogging, infection or a narrowing of vessels in which they are placed.

Permanent dialysis access for your hemodialysis can be obtained by creating an Arteriovenous Fistula (AVF) or Arteriovenous Graft (AVG).

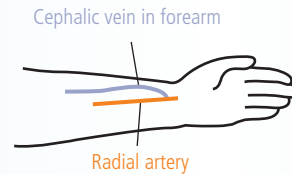
An arteriovenous (AV) fistula is created by surgically joining a vein to an artery in your forearm. The AV fistula is considered the best long term vascular access for hemodialysis because it provides adequate blood for dialysis, lasts a long time and has a lower complication rate than other access types. An AV fistula requires advance planning because a fistula takes time to mature (6 – 8 weeks) after surgery. A vascular surgeon creates an AV fistula usually in the forearm or the upper arm. Connecting the artery to the vein causes more blood to flow into the vein than normal. As a result, the vein grows larger and stronger, making repeated insertions for hemodialysis treatments easier. An ultrasound of your blood rounds help us to decide the best vein to use.

## Native Arteriovenous Fistulas

The different types of fistulas usually created are the Radiocephalic Fistula, Brachiocephalic Fistula and Brachio basilic Fistula.

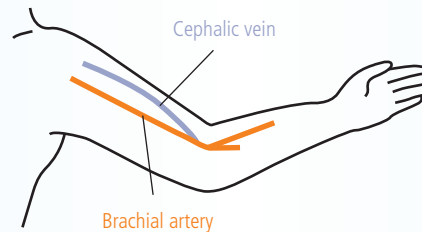
## Radiocephalic Fistula

This is the most common fistula performed. The incision is in the forearm and is usually 3 – 5cm long. The operation is typically done under the local anesthesia and takes about 1 hour. This fistula usually takes about 6 weeks to mature, although depending on the original size of the vein, it may be ready sooner. However, not all of these fistulas are successful (60% - 70% success rate). If it fails, then another fistula has to be created either further up in the same arm or in the other arm.



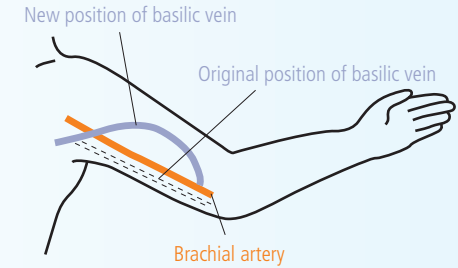
## Brachiocephalic Fistula

This fistula uses a vein at the elbow level. It can also be performed under local anesthesia, although regional or general anesthesia may be used. Usually there is a higher flow of blood in this vein and it takes less time to mature compared to a Radiocephalic Fistula.



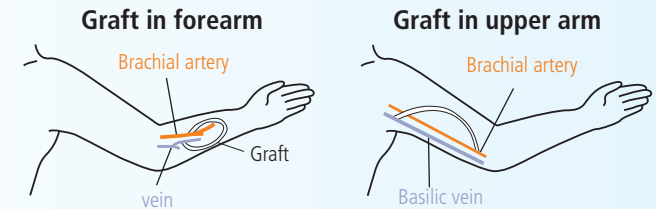
## Brachio basilic Fistula

The Basilic vein used to create this fistula lies deep on the inside of the arm, above the elbow. The vein has to be moved to lie just below skin level in the front of the arm to allow for easy access. The operation to move the vein can be done at the same time as the fistula operation or at a later date after the fistula matures. This operation usually takes about 2 hours and is done under general anesthesia. Depending on your case, this procedure may be done as a single – or two-stage procedure.



## Arteriovenous Graft Fistula

If you have small veins that will not develop properly into a fistula, the vascular surgeon may create an arteriovenous graft by implanting a synthetic tube under the skin in the arm or forearm. The tube becomes the artificial vein that can be used repeatedly for needle placement and blood access during dialysis. Compared to native fistulas, grafts tend to have more problems with clotting or infection and need replacement sooner. However a well-cared for graft can last for several years. These grafts may need revision or angioplasty to prolong their use.



## How can you take care of your catheter?

- Keep the incision dry for at least 10 days after the procedure and do not soak or scrub the incision site.
- It is very important you keep the catheter clean and dry. This means you cannot swim or take showers or baths. You will need to wash up with a washcloth instead.
- Be careful not to pull or tug the catheter, especially while getting dressed or undressed.