

# Nephrostomy / Biliary Drainage

## Risks and benefits of the procedure

### Benefits

- The nephrostomy/biliary drainage will relieve your symptoms such as pain, fever or chills.
- By relieving the obstruction, the renal/liver function is restored.
- Before this procedure was developed, patients with blocked ureters / bile ducts had to undergo surgery. In certain instances, surgery is not possible and this is the only means of treatment.

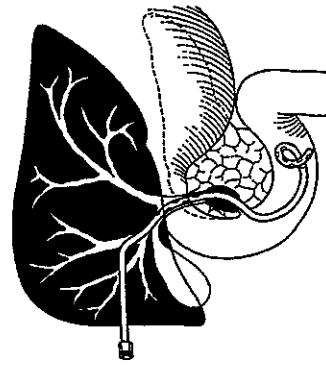
### Risks

*The risks are generally extremely low as these procedures are minimally invasive and performed under strict image guidance and with sterile techniques. Nevertheless, as in any procedure in medicine, there are risks involved. These include:*

- Pain or discomfort at the needle insertion site.
- Bleeding at the site, internal bleeding, injury to a blood vessel.
- Because a foreign body (drainage catheter or stent) is being placed into your body, there is the risk of developing an infection. The development of any infection may result in the need for intravenous antibiotics.
- Risks associated with the x-ray contrast material include an allergic reaction and reduced kidney function.
- There may be other unpredictable risks including death.

### Alternative

There may be other procedures that can be performed to further evaluate or manage your kidney / bile duct condition. If you are unsure about having this procedure, along with a possible stricture dilation, stent placement, tissue sampling, or stone removal, please discuss these other alternatives with your physician.



For further information, please consult your doctor or call our staff for assistance.

Service is available at:

Radiology Department, Gleneagles Hospital  
6A Napier Road, Singapore 258500  
Tel: (65) 6470 5740/1 Fax: (65) 6470 5749

Radiology Department, Mount Elizabeth Hospital  
3 Mount Elizabeth, Level 2, Singapore 228510  
Tel: (65) 6731 2100 Fax: (65) 6732 3368

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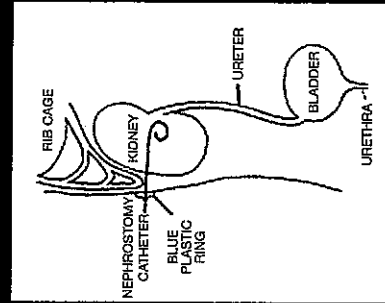
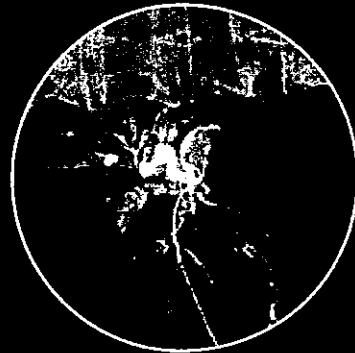
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## What is a Nephrostomy / Biliary Drainage?

Nephrostomy / Biliary Drainage is a procedure in which a catheter is placed through your skin and into your kidney / bile duct to drain your urine / bile. X-ray imaging (fluoroscopy) is used to help guide the catheter into exactly the right place to drain your urine / bile. Nephrostomy / Biliary drainage is performed instead of surgery.



### Preparation

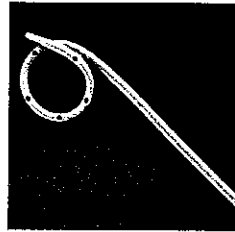
- If you are an outpatient, you need to come to the hospital at least 2 hours before your appointment for admission.
- Do not eat for at least seven (7) hours before the procedure. You may drink clear fluids.
- You may continue with your current prescribed medicine. If you are a diabetic, your insulin dose for the day of the procedure may be modified.
- If you are taking a blood thinner, you must tell your doctor when the appointment is made so that it can be stopped at least 3-5 days prior to the procedure.
- Bring all your medications with you.
- Blood tests have to be done close to the day of the procedure.
- On the day of the procedure, an intravenous line will be placed into one of your veins. This line will be used to give you antibiotics (to prevent infections), other medicines and fluids during the procedure. Pain medication if necessary will be given through your IV.

### Procedure

- The skin is cleaned in the area where the needle is to be introduced.
- A local anaesthetic is injected in the surrounding area to numb the skin and deeper tissues in the area where the catheter will be placed.
- A fine needle is inserted through your skin and into your kidney/liver.
- Following insertion, the needle will be inserted into the urine/bile drainage system under fluoroscopy or ultrasound guidance. The position of the needle will then be confirmed by the injection of x-ray contrast material: (x-ray dye) and/or removal of fluid. X-ray images of your kidney / bile duct will then be taken. It may be necessary to make more than one pass of the needle in order to enter the kidney / bile duct. A guide wire is placed further into the kidney / bile duct.
- Depending on your condition, a drainage tube may be placed, a tissue sample taken, a stone removed, or a blockage of the kidney / bile duct opened with a balloon catheter or stent placement.
- If a drainage tube (this is about the same size as an IV tubing or a bit smaller) is placed it will be inserted through the skin and secured in place. The tube will be connected to a drainage bag and your urine / bile will drain out of your body into the bag.



Nephrostomy catheter



Biliary catheter

- If an area of blockage is discovered, an attempt to open the blockage may be performed with a balloon catheter. This involves the insertion of a special tube, which has a tiny deflated balloon. The balloon is positioned at the site of the blockage and is then inflated. Following this procedure, if there still is not enough urine/bile flow through the area of blockage, a plastic or metal tube (stent) may be placed at the site. The stent will improve the urine /bile flow.
- If a tissue sample is to be taken or a stone removed, either of these procedures can be performed through the needle access already created in your urinary/biliary system.
- The procedure will take about an hour or two.

### After the Procedure

- You will be transported back to your hospital room and the nursing staff will observe to make sure you are alright.
- The drainage catheter, if inserted, and depending on the reason for its insertion, may differ in the period that it remains. You will need to discuss with your doctor how long yours is required to be present. The main problem that can occur with the catheter is infection. Please note the instructions on the care of your nephrostomy / biliary catheter.
- You may eat and drink after the procedure

### Care of your nephrostomy / biliary catheter

- Infection can occur in two ways. They are skin infection and kidney/biliary infection which occurs when the catheter is blocked.
- To minimise skin infection,
  - Keep the skin around your catheter dry. You can take showers, but cover the area with plastic wrap. If the area gets wet, dry the skin completely after your shower.
  - Keep the skin around the catheter clean. Clean the area every day with cotton swab that has been moistened with peroxide. Always wash your hands before cleaning the catheter site.
  - Keep the skin around the catheter covered. Change the dressing if it gets wet.
- Skin infection can be recognized by redness, soreness and swelling of the skin around the catheter.
- To minimize kidney /bile duct infection,
  - For the biliary catheter, flush with sterile saline as recommended, usually once a day.
  - If the nephrostomy / biliary catheter drains urine /bile into an external drainage bag, rinse the bag out with water everyday.
  - Keep your appointments to have your catheter changed every 2-3 months. Changing the catheter helps to prevent catheter blockage.

Catheter blockage can be recognized by pain and leakage of urine /bile around the catheter onto your skin and catheter dressing. Signs of infection include pain, fever and chills.