



Continent Urinary Diversion eg Mitrofanoff

This leaflet gives information about what to expect before, during and after an operation to form a continent urinary diversion.

This surgery avoids the need to wear a urostomy pouch over the stoma to collect the urine. Instead a small stoma is created and a catheter is passed into a reservoir (or the natural bladder) to drain the urine. The person having the operation must be highly motivated to accept this procedure. Good dexterity is required and a firm commitment to take care of the reservoir. As there is no other way of draining the reservoir a catheter must be passed at regular intervals, usually four hourly.

Paul Mitrofanoff developed a continent urinary stoma mechanism in 1980. A urinary reservoir is fashioned from bowel, or the person's own bladder may be used as the reservoir. A channel is fashioned from the appendix, ureter or ileum. The diversion is continent because of the valve arrangement, which prevents urinary leakage. The channel connects the reservoir to the abdominal surface. A small catheterisable stoma is placed in a cosmetically suitable site. It is important that the person is able to see the stoma in order to insert the catheter easily.

Pre-operative care

This is major surgery and investigations such as blood tests, chest x-ray, electrocardiograph and a kidney scan or an x-ray may be performed. You will be admitted the day before surgery and if a new reservoir has to be fashioned out of bowel the surgeon may request some bowel preparation to clean out the bowel before surgery.

Post-operative care

After the operation you may spend a short time in intensive care, but in many units patients usually go straight back to their wards. When you wake up, you will be aware of a number of tubes attached to your body. Do not be alarmed as they are all part of the treatment. It may be a good idea to warn your visitors of this beforehand.

You will be given fluids through a drip, either in your neck or arm. You may also have a method of pain control, which is usually a button to press. This releases medication into your body to ease any pain you may experience and make you more comfortable. In some centres a Specialist Nurse will monitor your pain control and adjust it as necessary. You usually have a drain from your abdomen, to get rid of excess fluid from the operation site. A large drainage tube will drain the new reservoir. The reservoir will be irrigated several times a day to prevent any blockage of the tubes. Two fine tubes (known as “stents”) will also be inserted alongside this tube. These will be removed after about ten days.

Some surgeons allow small amounts to eat or drink the day following surgery. The amount will be increased once your bowel starts working again.

The Physiotherapist will also visit you to show you how to perform deep breathing exercises and leg exercises to prevent any complications.

You are usually allowed to sit in a chair the day after your operation and then gradually mobilise more each day. It is very important that you move around as much as possible, to prevent complications such as blood clots. You will probably be given injections to thin your blood whilst you are in hospital. These also help to prevent blood clots from forming.

It is important to drink plenty of fluids. You may not feel like eating much at first, but nutrition is very important for wound healing and regaining your strength.

You have had a major operation and consequently will experience some discomfort and weakness and also feel very tired. However, you will gradually feel the improvement in your body.

Care of your new reservoir

You will be shown how to irrigate (wash out) your reservoir before you go home. You will be allowed home for a few weeks with the drainage tube still stitched into your reservoir. It must be irrigated once or twice a day, depending on how much debris is removed. A Community Nurse will offer support and advice at home.

When you return to hospital, the tube will be removed and you will be shown how to drain the reservoir with a catheter. The procedure must be performed as cleanly as possible to avoid any infections. If a new reservoir has been created, a long “male” catheter must be used, to make sure it goes to the bottom of the reservoir. If the natural bladder is being used, a “female” length catheter would be adequate for drainage. If it is not drained completely you may be prone to urine infections or stone formation. If the reservoir has been constructed from bowel, mucus will be produced. Regular washouts may be recommended to flush out the mucus. Initially you will have to drain the reservoir at very frequent intervals, starting with two hourly, whilst the new reservoir stretches to its capacity. Usually the reservoir is drained at 3-4 hourly intervals. Once full capacity is reached, it may be possible to go 6-7 hours overnight.

Catheters with special lubricated coatings for easier insertion are used once only and then discarded. Your Specialist Nurse will show you the different types of catheter available.

A high fluid intake is necessary, at least two litres daily, to prevent urine infection and stone formation. The stoma may produce a little mucus and if required a small dressing may be placed over the stoma site to absorb the mucus. A dressing may also prevent friction from your clothes. The dressings are available on prescription. You may obtain them from your local pharmacy or a delivery company, who will provide you with free wipes and disposal bags. Some also provide a suitable container to keep spare catheters in when you are out and about.

Recovery period

You will still feel very weak when you return home, but each day you should feel stronger. Do not take to your bed! Exercise is very important in helping to regain your stamina and strength. Your body will tell you when you need to rest. However, an afternoon nap is recommended. Try to get out in the fresh air for a while and increase the distance walked each day.



NOTE

Cranberry in any form must not be taken if you are on Warfarin.

Nutrition

Your appetite may be slow to return after surgery and nutritional supplements may be recommended. A normal healthy diet is recommended to assist you in regaining your strength. You must drink at least 2 litres daily, 3 litres in hot weather. This should be mainly water.

As part of the bowel has been operated on to create the reservoir, bowel function may be disturbed initially. With a high fluid intake and plenty of fresh fruit and vegetables, your bowel actions should soon become regular. If they don't, you should inform your Consultant.



NOTE This information has been written as a guide to what may happen when continent urinary pouch surgery is performed. Remember that procedures differ in various urology units.

Important points to remember

- Empty your new reservoir at the recommended intervals
- Drink plenty of fluids – at least 2–3 litres daily
- A Medic-Alert pendant or bracelet is advised, especially if you intend to travel abroad.



Follow up

Your Consultant will make arrangements for your check-ups. These will be more frequent initially, but then usually once a year. A blood test will be taken to check your kidney function and every few years a kidney scan or x-ray may be requested.

Renal (kidney) function

Annually

- Blood test to monitor serum biochemistry including bicarbonate and chlorides, blood count and eGFR (estimation of Glomerular Filtration Rate, a test to monitor kidney function)
- Blood pressure
- Renal ultrasound (kidney scan)

Some of these tests may have to be repeated more regularly than once a year.

Pouch function

- If you are unable to insert your catheter to drain your pouch you must telephone your GP to arrange urgent transfer to hospital for attention.
- If you do then manage to insert the catheter and drain your pouch, leave the catheter in place to attend hospital, as the tract may require dilation.
- If you are having problems with leakage from your pouch, the special valve may not be working properly. Your GP will refer you back to your Consultant as the valve may require revising.

NOTE This information is for advisory purposes only and any problems should be discussed with a healthcare professional. Research references are available on www.urostomyassociation.org.uk or by contacting the National Office – tel: 01386 430140 or email: info@urostomyassociation.org.uk

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UTI (Urinary Tract Infection)

- Routine urine samples are not necessary as bacteria are often present in the pouch. They can be prevented from multiplying by drinking plenty of fluids and regular drainage and pouch washouts.
- If your urine becomes cloudy and offensive smelling and you have flu-like symptoms with pain in your kidney area and abdomen, it is probably due to a urinary tract infection. Contact your GP and collect a urine specimen from your pouch using a sterile catheter. If your reservoir is not your original bladder, you need to ensure that a note is put with the specimen saying that it is from a continent diversion. The specimen will be analysed to determine the bacteria causing the infection, so that appropriate antibiotics are prescribed.
- Recurrent urinary tract infections may be caused by incomplete emptying of the pouch, due to blockage of the catheter by excessive mucus.
- Calculi (stones) in the pouch may also be responsible. Your GP may refer you back to your Consultant for further investigations, if infections persist.

Discharge

- If your continent pouch was formed from bowel, the bladder may not have been removed. Secretions can build up in the redundant bladder. As a result you may have a urethral or penile discharge. If this becomes offensive and you develop abdominal pain, contact your GP as an infection may be present. If possible, a specimen should be obtained.
- Antibiotics may be prescribed. Regular washouts of the redundant bladder may be recommended.