Continent urinary diversion

A continent urinary diversion is an alternative way of collecting and storing your urine after your bladder has been removed.

During this operation the surgeon will create a reservoir to collect urine and a channel to carry the urine to the outside of your body. The channel will be attached to a stoma in your abdomen. The process uses valves so that the urine should not leak out of the stoma. You will be able to empty your urinary reservoir using a catheter.

You may hear this operation described as the Mitrofanoff procedure.

The creation of the reservoir, the channel and the stoma take place during the same operation as the removal of your bladder, making this long and complex surgery.
What the surgery entails

After removing your bladder, the surgeon will make a pouch or urinary reservoir out of a piece of your bowel.

They will create a channel using your appendix or a piece of bowel or ureter and attach this to the reservoir. Where the channel joins the reservoir, they will make a valve. This valve will close as the reservoir fills with urine. This should stop urine from leaking out into the channel.

The channel is then joined to a stoma in your abdomen, so that you will be able to release the urine from the reservoir, using a catheter.
Recovery - continent diversion

In hospital

After your operation, you will need to stay in hospital for around two weeks so that our doctors and nurses can carefully monitor your recovery.

Our highly experienced team of nursing staff and physiotherapists will help you to get out of bed and start moving as early as possible. This will reduce the risk of blood clots forming in your legs and lungs and will also help prevent chest infections. It will also encourage your bowel to start working, which normally takes a few days.

You will have a catheter in the channel, as well as additional catheters directly into your reservoir. This is to help you heal internally. The catheter in the channel will remain in place for around three weeks. It will need to be irrigated regularly to clear it. Your community nurse will help with this.

Going home

When you leave hospital, you will be given a discharge summary which gives important information about your inpatient stay and operation. If you need to call your GP or go to another hospital for any reason in the first few weeks after your discharge, you should take this summary with you so that the doctor can see details of your treatment.

The results of any biopsies taken during your surgery will be available after around ten days and will be discussed in detail by the multi-disciplinary team before any decisions on further treatment are made. We will let you and your GP know the results after the MDT has met to discuss your care.

After the operation, you will feel like you don’t have much energy, and will need help with lots of the daily activities which you normally take for granted. This is to be expected after major surgery; you will gradually find things easier to do as you recover over time.

As your stoma is made from bowel tissue, it will produce thick white mucus which will collect in your bag along with the urine. The amount of mucus which the stoma produces will gradually become less over time.

On an agreed date, you will return to hospital so that we can remove the catheter. Our specialist nurses will show you how to insert a catheter so that you can empty your urinary reservoir yourself.
You should be able to drive six weeks after surgery but a full recovery will take between three to six months.

**Check up**

Around six weeks after your operation, you will need to come back to Addenbrooke’s to have a scan to make sure that the reservoir and diversion are working as they should. We will also check on your progress and discuss the results of your surgery. If you do need any further treatment, we will also be able to make appointments for you.
Side effects

Most patients don’t suffer any side effects following this procedure. However, you should make sure you are aware of the complications which could occur so that you can ask for extra medical help if you start to feel unwell.

You should contact your doctor immediately if you develop a fever or vomiting, especially is you also have unexpected pain in your abdomen. If you have difficulty inserting the catheter into the Mitrofanoff channel, your specialist nurse will be able to help.

Common side effects

You have around a one in ten chance of developing one of these side effects, which can be corrected with further surgery.

Common side effects include:

- the cancer has not been cured
- you may find it difficult to clear your bowel in the first few weeks after your operation (this may continue in the long term for five to 10% of patients)
- your fertility is likely to be affected
  - for women:
    - discomfort or difficulty having sex
    - menopause may occur if the ovaries have been removed
  - for men:
    - a high risk of impotence (lack of erections)
    - one in three chance of unsuspected prostate cancer being found
- the channel may become narrowed
- the channel may leak

Occasional side effects

There is between a one in ten and one in 50 chance that you may develop one of these side effects, which can be corrected with further surgery.

Occasional side effects include:

- the catheter placed after surgery may fall out
- the skin or bowel from which the channel has been made may die
Rare side effects

You have a less than one in 50 chance of developing one of these side effects.

Rare side effects include:

- anaesthetic or cardiovascular problems which may need intensive
- scarring of the bowel
Living with a continent diversion

Most people who have a continent urinary diversion are able to return to a normal life. However the first few months after surgery can be very difficult. You will need to learn how to empty the urinary reservoir completely in a clean safe manner. In addition, you will have had major surgery and will be dealing with changes affecting, for instance you sex life and ability to have children.

Although it is daunting at first, you will become used to using a catheter to drain the uri from the reservoir. It is very important that you drain the reservoir completely. It is also important that you drink plenty of fluids. If urine is left after you catheterise or if you do not take in enough fluids, it may make you prone to urine infections or lead to the formation of stones.

For the first weeks, the reservoir will not hold as much urine as a normal adult bladder. This means that you will need to drain it more frequently, as often as every two hours. As the reservoir stretches over time, this will improve, but you should never go for more than six hours without catheterising.

Your specialist nurse will advise you about how to obtain supplies of catheters and other equipment like wipes, disposal bags and dressings to protect your stoma from friction with your clothes.

It is not unusual to feel quite depressed in the weeks immediately after surgery. It's important to know that there many lines of support open to you to help you overcome the difficulties you may experience. These include:

- your specialist nurse
- buddies - other patients who have been through the same experiences