



Bladder and Bowel Community

Factsheet: Urinary Diversion

What is the Urinary System?

The urinary system consists of the kidneys, the ureters, the bladder and the urethra. The kidneys are responsible for filtering the waste products from the blood resulting in the production of urine. The urine then passes from the kidneys, down the ureters, to the bladder.

The bladder has two main functions, to store urine and then expel it. The bladder is made of a smooth muscle which is controlled by the automatic nervous system. A muscle called the sphincter muscle which is at the base of the bladder and wrapped around the urethra, prevents leakage of urine when tightened. To empty the bladder the sphincter muscle relaxes, the bladder contracts and urine passes out of the bladder, through the urethra and then leaves the body.

What is urinary diversion?

If your bladder is removed during a radical cystectomy, an alternative way of passing urine out of your body will need to be found, this is called a urinary diversion.

There are a number of different urinary diversion treatment options, which are described below. In some cases, you may be able to make a choice based on your personal preferences.

What are the types of urinary diversion?

Urinary diversions are sometimes divided into three types, continent, non-continent and neo bladder.

Continent urinary diversion - Is a similar sort of operation to a urostomy, except that you will not be required to use a stoma appliance or bag. A section of your bowel will be used to create an internal pouch that is used to store your urine. The internal pouch will then be connected to your ureters at one end, and to a stoma which will be fashioned externally on the abdominal wall at the other end. You can empty the pouch by inserting a catheter (a thin, flexible tube) into the stoma and use it to drain away the urine. Most people need to empty their pouch about four to five times a day. The Mitrofanoff pouch is one type of continent diversion.

Non-continent - A urostomy or ileal conduit is the most common type of non-continent urinary diversion operation. During the operation, the surgeon will make a hole in your abdominal wall. This hole is known as a urinary stoma. An ileal conduit is formed by detaching the ureters from your bladder and joining them onto a short length of the small bowel (ileum). One end of this length of ileum is sealed off and the other is brought to the surface, pulled through the hole in your abdomen - slightly protruding, to form the urinary stoma. This system allows urine to drain directly from your kidneys, down the conduit and out into an external collecting system called a stoma appliance or bag which you wear on your abdomen over the stoma.

Urine will drain out of this stoma continually. Generally, your stoma will be pink and moist (like the inside of your mouth) and a little swollen after your operation. This will reduce over a period of between six to eight weeks but may take a little longer. There are no nerves in your stoma so there will not be any sensation when you touch it. Everyone's stoma is different in shape and size, but is roughly the size of a 50p. A flat, adhesive water-proof pouch called an ostomy bag is then connected to the skin

around the stoma to collect the urine, which continuously drains into the bag. This pouch will then be regularly changed 2-3 times a week. The pouch will act like an external bladder and store urine until you empty the pouch which may be every 2-3 hourly in the daytime depending on how much you drink. It is especially important to drink plenty of fluids [1 ½ to 2l per day]. At night times a night drainage bag may be used to connect to your pouch for extra capacity and reduce disturbed nights

Neo Bladder - In some cases, a continent urinary diversion may involve creating a "new bladder", known as a neobladder. This can be done by removing a section of your bowel and reconstructing it into a balloon-like sac, before connecting it to your urethra at one end and your ureters at the other end. This neobladder sits in the same place as your "normal" bladder which may have been removed totally or partially. Due to the loss of normal nerve function, around 20%-30% of people with a neobladder will experience some episodes of incontinence (the involuntary passing of urine), which usually occur during the day and night when they are sleeping. Continence during the day should return over a period of 4 – 6 months. It sometimes takes up to a year to gain continence at night. It may be useful to empty your neobladder at set times each day, and then once more before you go to sleep. In some cases intermittent self-catheterisation is necessary to maintain continence and ensure the neobladder is emptying completely.

Urinary diversion complications

Problems with urinary diversions do occur and may include:

- Alterations in fluid and/or salt balance
- Difficulties in inserting the tube into the stoma
- Problems with the skin growing over the stoma and general complications that might occur as a result of the abdominal operation
- Bowel obstruction, urine leakage and bowel leakage.
- Urine infections
- Mucus build up which may lead to formation of stones
- Skin soreness around stoma
- For neobladder - Sexual dysfunction for both men and women if surgery was for bladder cancer

In general, however, urinary diversions are very successful and most patients are able to get back into normal everyday activities and lifestyle. However the first few months after surgery can be very difficult.

Living with a urinary diversion

If you have been given a continent urinary diversion you will need to learn how to use a catheter to empty the urinary reservoir completely in a clean safe manner. You will initially be shown how to do this by your specialist nurse after your operation. Although it is daunting at first, you will become used to using a catheter after time. It is very important that you drain the urine completely each time you self-catheterise. 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. Aim to drink at least 1.5-2 litres of fluids a day, and try to avoid fizzy drinks and alcohol.

For the first weeks after the operation, 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.

If you have been given a non-continent urinary diversion the stoma therapist will advise you on suitable stoma appliances and give you instruction on how to care for the stoma. The stoma bag can be a one or two piece system. In a two piece collecting system the base plate (flange) and bag come as separate components. The base plate fits around the stoma and sticks onto your abdomen. The bag is then clipped on to the base plate. Some patients prefer a one piece system

where the bag and base plate come already attached to each other. Urine collects in the stoma bag on your abdomen and you can empty it out via a tap at the bottom of the bag.

Your specialist nurse will also 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.

Further Help

If you are concerned about your urinary diversion and it is starting to affect your day to day life make an appointment to see your doctor.

The Bladder and Bowel Community provides information and support for people with bladder and bowel issues. We publish a wide range of user friendly booklets and factsheets.

For more information please call us on 01926 357220, email help@bladderandbowel.org or write to us at The Bladder and Bowel Community, 7 The Court, Holywell Business Park, Northfield Road, Southam, CV47 0FS.

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