MITROFANOFF PROCEDURE (CREATION of a CATHETERISABLE URINARY STOMA)

Information about your procedure from
The British Association of Urological Surgeons (BAUS)

This leaflet contains evidence-based information about your proposed urological procedure. We have consulted specialist surgeons during its preparation, so that it represents best practice in UK urology. You should use it in addition to any advice already given to you.

To view this leaflet online, scan the QR code (right) or type the short URL below it into your web browser.

http://rb.gy/pa7bd

KEY POINTS

- The Mitrofanoff procedure creates a channel between your bladder and the skin of your abdominal wall (tummy)
- You can pass a small tube (catheter) through the channel to empty your bladder
- The channel should not leak urine and avoids the need for a permanent bag
- It is often performed with either enterocystoplasty (enlargement of the bladder with a bowel patch) or radical cystectomy with a neobladder (new bladder) made from bowel
- A Mitrofanoff channel is prone to technical problems (e.g. leaking of urine or narrowing) which often requires revision surgery

What does this procedure involve?

Creating a channel between the skin of your abdominal wall (tummy) and your bladder. This means you can pass a small catheter (tube) through the channel to drain out the urine. It is done when the urethra (waterpipe) cannot be used to drain urine out of the bladder.

It is usually only done as part of another procedure, in particular:

- when enlarging your bladder with a bowel patch (enterocystoplasty);
- when a neobladder (new bladder) has been fashioned from bowel after removal of your bladder for cancer.

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What are the alternatives?

- Intermittent self-catheterisation in men - or in women
- Urostomy – diverting your urine straight on to the surface of your abdomen (tummy) so that it drains into a bag

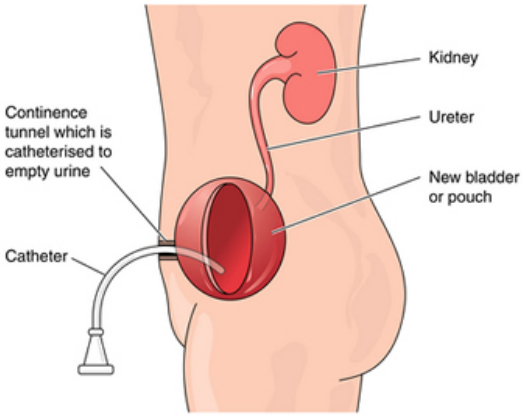
What happens on the day of the procedure?

You will be seen by the surgeon and the anaesthetist who will go through the plans for your operation with you.

We may provide you with a pair of TED stockings to wear, and we may give you an injection to thin your blood. These help to prevent blood clots from developing and passing into your lungs. Your medical team will decide whether you need to continue these after you go home.

Details of the procedure

- we normally carry out the procedure under a general anaesthetic (i.e. with you asleep)
- we usually give you an injection of antibiotics before the procedure, after you have been checked for any allergies
- we make a cut in the lower part of your abdomen
- we create a channel (called a *Mitrofanoff* channel) from your appendix, a short segment of bowel or a combination of both (pictured)



- we join one end to your bladder by creating a valve which stops urine draining out continuously
- we join the Mitrofanoff channel to the skin either at your umbilicus (belly button) or on the lower part of your abdominal wall
- we close your abdominal incision with stitches or clips
- we use absorbable stitches to anchor the channel to your skin that normally disappear after two to three weeks
- we leave a small, soft catheter in the Mitrofanoff channel to allow it to heal completely
- we also leave a catheter in your urethra (waterpipe) or in your abdomen, or both, to drain your urine; these will stay in place for two to three weeks

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- you should expect to be in hospital for 10 to 14 days

Following major abdominal surgery, some urology units have introduced Enhanced Recovery Pathways. These actually start before you are admitted to hospital. After your surgery, they are designed to speed your recovery, shorten your time in hospital and reduce your risk of re-admission.

We will encourage you to get up and about as soon as possible. This reduces the risk of blood clots in your legs and helps your bowel to start working again. You will sit out in a chair shortly after the procedure and be shown deep breathing/leg exercises. We will encourage you to start drinking and eating as soon as possible.

Are there any after-effects?

The possible after-effects and your risk of getting them are shown below. Some are self-limiting or reversible, but others are not. We have not listed very rare after-effects (occurring in less than 1 in 250 patients) individually. The impact of these after-effects can vary a lot from patient to patient; you should ask your surgeon's advice about the risks and their impact on you as an individual:

After-effect	Risk
The Mitrofanoff channel narrows requiring either a catheter to be left in for two weeks or further surgery to correct the problem	 Between 1 in 2 & 1 in 10 patients
The Mitrofanoff channel leaks urine requiring further surgery to correct it	 1 in 10 patients (10%)
Chronic (long-term) pain	 1 in 10 to 1 in 20 patients
Wound infection requiring antibiotics or drainage of any retained infection	 Between 1 in 10 & 1 in 50 patients
Late scarring and narrowing of the Mitrofanoff channel requiring further surgery to re-fashion it	 Between 1 in 10 & 1 in 50 patients

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Leakage of bowel contents or urine from the stitch lines on your bowel and bladder requiring further surgery		Between 1 in 10 & 1 in 50 patients
Significant bleeding requiring further surgery		Between 1 in 10 & 1 in 50 patients
The catheter in the Mitrofanoff channel falls out requiring a further procedure to replace it or re-fashion the channel		Between 1 in 50 & 1 in 250 patients
Anaesthetic or cardiovascular problems possibly requiring intensive care (including chest infection, pulmonary embolus, stroke, deep vein thrombosis, heart attack and death)		Between 1 in 50 & 1 in 250 patients (your anaesthetist can estimate your individual risk)

PLEASE NOTE

The after-effects listed above only apply to the Mitrofanoff procedure. For details of other after-effects, please see the information leaflets for the primary procedure of which it is a part:

Enterocystoplasty, Cystectomy with a neobladder in men or Cystectomy with a neobladder in women

What is my risk of a hospital-acquired infection?

Your risk of getting an infection in hospital is between 4 & 6%; this includes getting *MRSA* or a *Clostridium difficile* bowel infection. Individual hospitals may have different rates, and the medical staff can tell you the risk for your hospital. You have a higher risk if you have had:

- long-term drainage tubes (e.g. catheters);
- bladder removal;
- long hospital stays; or
- multiple hospital admissions.

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What can I expect when I get home?

- you must leave the catheter through your Mitrofanoff channel in place, even if it is not draining urine
- you will usually be discharged with one or two catheters in your bladder
- your surgical team may instruct you to flush the catheters to keep them draining well
- you should check daily that your catheters are draining normally
- if they block with mucus plugs, they must be flushed out and unblocked as soon as possible
- we will arrange for your stitches or clips to be removed seven to 10 days after the procedure
- a follow-up appointment will be made for you to have your catheter(s) removed after two to three weeks; we often do a cystogram (a dye X-ray of your bladder) before removing your catheter(s) to make sure everthing has healed
- you may see blood in your urine for up to a month after the procedure
- women may see some vaginal discharge over the same period of time
- you will need at least six weeks off work, longer if your job is physically strenuous
- you should not have sexual intercourse for four weeks
- you should avoid straining or heavy lifting for six weeks
- you will be given a copy of your discharge summary and a copy will also be sent to your GP
- any antibiotics or other tablets you may need will be arranged & dispensed from the hospital pharmacy

Once everything has healed completely, we will remove the catheter in your Mitrofanoff channel and teach you how to pass a similar catheter in and out to empty your bladder/neobladder. If you have any difficulty with this at home, you should contact your named urology nurse or the urology ward.

General information about surgical procedures

Before your procedure

Please tell a member of the medical team if you have:

- an implanted foreign body (stent, joint replacement, pacemaker, heart valve, blood vessel graft);
- a regular prescription for a blood thinning agent (e.g. warfarin,

aspirin, clopidogrel, rivaroxaban, dabigatran);
- a present or previous MRSA infection; or
- a high risk of variant-CJD (e.g. if you have had a corneal transplant, a neurosurgical dural transplant or human growth hormone treatment).

Questions you may wish to ask

If you wish to learn more about what will happen, you can find a list of suggested questions called "Having An Operation" on the website of the Royal College of Surgeons of England. You may also wish to ask your surgeon for his/her personal results and experience with this procedure.

Before you go home

We will tell you how the procedure went and you should:

- make sure you understand what has been done;
- ask the surgeon if everything went as planned;
- let the staff know if you have any discomfort;
- ask what you can (and cannot) do at home;
- make sure you know what happens next; and
- ask when you can return to normal activities.

We will give you advice about what to look out for when you get home. Your surgeon or nurse will also give you details of who to contact, and how to contact them, in the event of problems.

Smoking and surgery

Ideally, we would prefer you to stop smoking before any procedure. Smoking can worsen some urological conditions and makes complications more likely after surgery. For advice on stopping, you can:

- contact your GP;
- access your local NHS Smoking Help Online; or
- ring the Smoke-Free National Helpline on **0300 123 1044**.

Driving after surgery

It is your responsibility to make sure you are fit to drive after any surgical procedure. You only need to contact the DVLA if your ability to drive is likely to be affected for more than three months. If it is, you should check with your insurance company before driving again.

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What should I do with this information?

Thank you for taking the trouble to read this information. Please let your urologist (or specialist nurse) know if you would like to have a copy for your own records. If you wish, the medical or nursing staff can also arrange to file a copy in your hospital notes.

What sources have we used to prepare this leaflet?

This leaflet uses information from consensus panels and other evidence-based sources including:

- the Department of Health (England);
- the Cochrane Collaboration; and
- the National Institute for Health and Care Excellence (NICE).

It also follows style guidelines from:

- the Royal National Institute for Blind People (RNIB);
- the Information Standard;
- the Patient Information Forum; and
- the Plain English Campaign.

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