Urology department

Percutaneous insertion of a nephrostomy tube

What is the evidence base for this information?
This leaflet includes advice from consensus panels, the British Association of Urological Surgeons, the Department of Health and evidence based sources; it is, therefore, a reflection of best practice in the UK. It is intended to supplement any advice you may already have been given by your urologist or nurse specialist as well as the surgical team at Addenbrooke’s. Alternative treatments are outlined below and can be discussed in more detail with your urologist or specialist nurse.

What does the procedure involve?
A nephrostomy tube is a tube which is placed through the back to drain the kidney. It is usually placed because the kidney is blocked. This is typically inserted under local anaesthetic using ultrasound and/or x-ray guidance in the radiology (x-ray) department. The procedure involves insertion of a small tube into the kidney (usually under local anaesthetic) which then allows urine to drain from the kidney into a collecting bag outside the body.

What are the alternatives to this procedure?
No treatment (observation only) or insertion of an internal stent under general anaesthetic.

What should I expect before the procedure?
You will usually be admitted on the day of your surgery unless the tube insertion is being performed during an emergency admission.

If your admission is not an emergency, you may receive an appointment for pre assessment, approximately 14 days before your admission, to assess your general fitness, to screen for the carriage of MRSA and to perform some baseline investigations. After admission, you will be seen by members of the medical team which may include the consultant, junior urology doctors and your named nurse.

You will be asked not to eat for four hours before surgery but can drink up to the time of the procedure and immediately before the procedure; you will be given an injection of antibiotics to prevent infection.

If you have any allergies, you must let your doctor know. If you have previously reacted to intravenous contrast medium (the dye used for kidney x-rays and CT scan), you must tell your doctor about this.

Please be sure to inform your urologist in advance of your surgery if you have any of the following:

- an artificial heart valve
- a coronary artery stent

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• a heart pacemaker or defibrillator
• an artificial joint
• an artificial blood vessel graft
• a neurosurgical shunt
• any other implanted foreign body
• If you are taking a prescription for warfarin, aspirin, rivaroxaban, dabigatran, apixaban, edoxaban or clopidogrel, ticagrelor or blood thinning medication – you should ensure that the urology staff are aware of this well in advance of your admission
• a previous or current MRSA infection
• high risk of variant CJD (if you have received a corneal transplant, a neurosurgical dural transplant or previous injections of human derived growth hormone)

What happens during the procedure?
You will lie on an x-ray table, generally flat on your stomach, or nearly flat. You may need to have a needle put into a vein in your arm as the radiologist may give you some intravenous painkillers.

The procedure will be performed by a specially trained doctor called a radiologist.
The radiologist will use either x-rays or ultrasound to decide on the most suitable point for inserting the fine catheter. Your skin will then be anaesthetised with local anaesthetic and a fine needle inserted into the kidney.

Once the radiologist is sure that the needle is in a satisfactory position, a guide wire is placed into the kidney, through the needle, which then enables the plastic catheter to be positioned correctly. The catheter is fixed to the skin of your back and attached to a drainage bag.

The procedure will normally take 30 minutes or so but, occasionally, it may take longer.

What happens immediately after the procedure?
Once you return to the ward, the nurses will perform some routine observations of your pulse, temperature and blood pressure. You will generally stay in bed for a few hours until you feel comfortable.

There may be some ache around the exit point of the tube from the back.

You should avoid making sudden movements, once you are mobile, to ensure that the tube does not get pulled or become displaced.

The tube will be connected to a bag which is usually strapped onto your thigh. The urine drains into this bag, and you will be shown how to empty this bag. If drainage stops, or you have significant pain in the kidney area, then you should let your doctor know, as the tube may be blocked.

The bag needs to be emptied fairly frequently so that it does not become too heavy.

The nurses will monitor your urine output carefully during this period.
Are there any side effects?

Most procedures have a potential for side effects. You should be reassured that, although all these complications are well recognised, the majority of patients do not suffer any problems after a urological procedure.

Please use the check boxes to tick off individual items when you are happy that they have been discussed to your satisfaction:

**Common (greater than one in 10)**
- [x] Minor bleeding from the kidney (visible in the urine drainage bag).
- [x] Short lived discomfort in the kidney and at the insertion site.

**Occasional (between one in 10 and one in 50)**
- [ ] Leakage of urine around the catheter inside the abdomen.
- [ ] Blockage of the drainage tube.
- [ ] Generalised infection (septicaemia) following insertion.

**Rare (less than one in 50)**
- [ ] Significant bleeding inside the abdomen requiring surgical drainage.
- [ ] Displacement of the drainage tube.
- [ ] Failure to place the tube satisfactorily in the kidney requiring alternative treatment (eg surgical insertion of a drainage tube).
- [ ] Inadvertent damage to adjacent organs (eg stomach, bowel).

What should I expect when I get home?

There may be some ache around the exit point of the tube from the back. Often the skin here looks red, but if it starts to discharge fluid or pus then you need to let your doctor know.

The tube will be connected to a bag which is usually strapped onto your thigh. The urine drains into this bag, and you will be shown how to empty this bag. If drainage stops, or you have significant pain in the kidney area, then you should let your doctor know, as the tube may be blocked.

The drain can also occasionally leak or become dislodged. If this happens, you will need to seek medical advice, and in the appendix on the back of this information sheet are some simple steps which your doctor or nurse can go through to try and correct these problems. If they are unable to do this, then you will need to be seen by the on-call urology team.

When you leave hospital, you will be given a discharge summary of your admission. This holds important information about your inpatient stay and your operation. If, in the first few weeks after your discharge, you need to call your GP for any reason or to attend another hospital, please take this summary with you to allow the doctors to see details of your treatment. This is particularly important if you need to consult another doctor within a few days of your discharge.

Usually the tube is placed as a temporary measure until the cause of the blockage to the kidney can be relieved. How long this will take will depend upon the cause of the blockage, and the kind of surgery you will require.
Keep the skin around the nephrostomy tube clean and, to prevent infection, place a sterile dressing around the site where the tube leaves your skin.

Dressings should be changed at least twice a week, especially if they get wet.

You may shower or bathe 48 hours after the tube has been inserted but try to keep the tube site itself dry. You can protect the skin with plastic wrap during showering or bathing. After 14 days, you may shower without any protection for the tube.

Swimming is not recommended as long as the tube is in place.

What else should I look out for?

If you experience a high temperature, back pain, redness or swelling around the tube, leakage of urine from the drainage site, poor (or absent) drainage, or if the tube falls out, you should contact your doctor immediately. In the appendix on the back of this information sheet are some simple steps which your doctor or nurse can go through to try and correct some of these problems. If they are unable to do this, then you will need to be seen by the on-call urology team.

Are there any other important points?

Any subsequent follow up or treatment will be arranged by your urologist before your discharge.

If your tube needs to be removed at any stage, this must be performed in hospital and you should contact your urologist or specialist nurse.

Appendix: for use by medical and nursing staff.

None of the steps outlined here should be undertaken by patients.

See figures 1 and 2 below.

A: Drain – the plastic tube that exits the patient’s skin.
B: Soft connector – a 25cm clear tube with a small blue tap.
C: Green connector – a short green connector.
D: Catheter bag – the bag into which the fluid drains.
E: Drain fix – the adhesive dressing that holds the drain to the skin.

Most drains are connected as in figure 1 using the soft connector (B) and green connector (C) to connect the drain (A) to the bag (D). Sometimes the drain (A) is connected directly via the green connector (C) to the bag (D) as in figure 2. The method in figure 2 can also be used if the soft connector breaks or leaks. Note there are a few different kinds of drain fix (E).
Patient Information

Percutaneous insertion - nephrostomy tube

Clinical equipment list

Blocked drain
- 20ml syringe
- 20ml sterile saline
- sterile gloves

Leaking drain
- soft connector
- green connector
- catheter bag
- adhesive dressing/drain fix eg Tegaderm
- gauze swabs
- sterile gloves

Blocked drain
If the drain has stopped draining it may be blocked or dislodged.
- Ensure that the blue tap on the soft connector is open (parallel to the drain tube) and not closed (at right angles to the drain tube).
- Check that tubing is not twisted or kinked.
- Using a sterile technique flush 10-20ml of sterile saline into the drain and aspirate, either via the blue tap (B) on the soft connector or directly into the drain (A).
- If you are unable to flush or aspirate the drain contact the on-call urology team for further advice.
Leaking drain
- If the drain is leaking, first establish where the problem is by removing the external dressings and inspecting the drain tubing and connections. If you do not have a spare drain fix, try not to remove it unless it is dirty or it is no longer sticking to the patient.
- If fluid is leaking around the tube (A) at the skin entry site, attempt flushing as for a blocked drain above. If this does not solve the problem contact the on-call urology team.
- If the drain tube (A) exiting the skin is leaking or broken contact the on-call urology team.
- If the soft connector (B), green connector (C) or urine bag (D) is leaking or missing simply replace with a new one, connecting as in figure 1 above.
- If a soft connector is not available, the catheter bag can be attached directly to the drain using the green connector (see figure 2 above).

Replacement of long term drains
Please note that long term nephrostomy should be routinely changed every three months to prevent complications.

Driving after surgery
It is your responsibility to ensure that you are fit to drive following your surgery. You do not normally need to notify the DVLA unless you have a medical condition that will last for longer than three months after your surgery and may affect your ability to drive. You should, however, check with your insurance company before returning to driving. Your doctors will be happy to provide you with advice on request.

Privacy & dignity
Same sex bays and bathrooms are offered in all wards except critical care and theatre recovery areas where the use of high tech equipment and/or specialist one to one care is required.

Hair removal before an operation
For most operations, you do not need to have the hair around the site of the operation removed. However, sometimes the healthcare team need to see or reach your skin and if this is necessary they will use an electric hair clipper with a single-use disposable head, on the day of the surgery. Please do not shave the hair yourself or use a razor to remove hair, as this can increase the risk of infection. Your healthcare team will be happy to discuss this with you.

References
NICE clinical guideline No 74: Surgical site infection (October 2008); Department of Health: High Impact Intervention No 4: Care bundle to preventing surgical site infection (August 2007)
Is there any research being carried out in this field at Addenbrooke’s Hospital?

There is no specific research in this area at the moment but all operative procedures performed in the department are subject to rigorous audit at a monthly audit and clinical governance meeting.

Who can I contact for more help or information?

Oncology nurses

Uro-oncology nurse specialist
01223 586748

Bladder cancer nurse practitioner (haematuria, chemotherapy and BCG)
01223 274608

Prostate cancer nurse practitioner
01223 274608 or 216897 or bleep 154-548

Surgical care practitioner
01223 348590 or 256157 or bleep 154-351

Non-oncology nurses

Urology nurse practitioner (incontinence, urodynamics, catheter patients)
01223 274608 or 586748 or bleep 157-237

Urology nurse practitioner (stoma care)
01223 349800

Urology nurse practitioner (stone disease)
01223 349800 or bleep 152-879

Patient advice and liaison service (PALS)
Telephone: +44 (0)1223 216756
PatientLine: *801 (from patient bedside telephones only)
email: pals@addenbrookes.nhs.uk
Mail: PALS, Box No 53
Addenbrooke’s Hospital
Hills Road, Cambridge, CB2 2QQ

Chaplaincy and multi faith community
Telephone: +44 (0)1223 217769
email: chaplaincy@addenbrookes.nhs.uk
Mail: The Chaplaincy, Box No 105
Addenbrooke’s Hospital
Hills Road, Cambridge, CB2 2QQ

MINICOM System (‘type’ system for the hard of hearing)
Telephone: +44 (0)1223 217589
What should I do with this leaflet?

Thank you for taking the trouble to read this patient information leaflet. If you wish to sign it and retain a copy for your own records, please do so below.

If you would like a copy of this leaflet to be filed in your hospital records for future reference, please let your urologist or specialist nurse know. If you do, however, decide to proceed with the scheduled procedure, you will be asked to sign a separate consent form which will be filed in your hospital notes and you will, in addition, be provided with a copy of the form if you wish.

I have read this patient information leaflet and I accept the information it provides.

Signature……………………………………Date……………………………

We are now a smoke-free site: smoking will not be allowed anywhere on the hospital site. For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

Other formats:

If you would like this information in another language or audio, please contact Interpreting services on telephone: 01223 348043, or email: interpreting@addenbrookes.nhs.uk
For Large Print information please contact the patient information team: patient.information@addenbrookes.nhs.uk

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