SHUNTING PROCEDURES FOR PRIAPISM (PERSISTENT, PAINFUL ERECTIONS)

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 the online version of this leaflet, type the text below into your web browser:
http://www.baus.org.uk/_userfiles/pages/files/Patients/Leaflets/Priapism.pdf

Key Points

- This is an emergency procedure to remove trapped ischaemic (oxygen-starved) blood in the penis which is causing a painful rigid erection lasting more than four hours
- The longer that ischaemic blood is trapped in the penis, the greater the risk of permanent damage and erectile dysfunction (impotence)
- Shunting is used when simpler measures such as aspiration (sucking blood out) or drugs have failed to resolve the ischaemic priapism
- Shunting creates an escape route for trapped blood to return to the normal circulation
- Shunting is normally performed with a biopsy needle (Winter shunt) or a scalpel (T-shunt)

What does this procedure involve?

Removal of blood which is trapped in the penis causing a prolonged, painful, rigid erection.

What are the alternatives?

Ischaemic priapism

If your prolonged erection is rigid and painful (usually caused by drugs taken by mouth or by self-injection of the penis), this is due to ischaemic (oxygen starved) blood trapped in the penis. If this is not drained out, the pain will get worse and the cavernosal muscle in your penis will stop working permanently.

Ideally, we need to drain your penis as soon as possible. If the rigid erection has been there for more than three to four hours, you must attend your nearest Accident & Emergency Department for immediate attention.

Simple measures such as exercising (e.g. running up and down stairs) can divert blood away from the penis. If this fails, we try to aspirate (suck out) the trapped blood from the penis with a needle and syringe. We do this on the ward using a local anaesthetic penile block. If the erection does subside, we inject a drug into the penis to help keep the penis flaccid (floppy).

If aspiration fails, you will need a shunt procedure to help evacuate the oxygen-starved blood.

Non-ischaemic priapism

If the prolonged erection is painless and semi-rigid, this may be due to normally oxygenated blood pumping into the penis too quickly. This type of priapism is usually caused by pelvic injuries.

This is not as urgent as ischaemic priapism, and can be managed using ice packs and pressure in the perineum (behind the testicles). A shunt is not needed for this type of priapism.

If simple measures fail to help, radiological embolisation (blockage) of one or more of the arteries to the penis is usually curative.

What happens on the day of the procedure?

Your urologist (or a member of their team) will briefly review your history and medications, and will discuss the surgery again with you to confirm your consent.

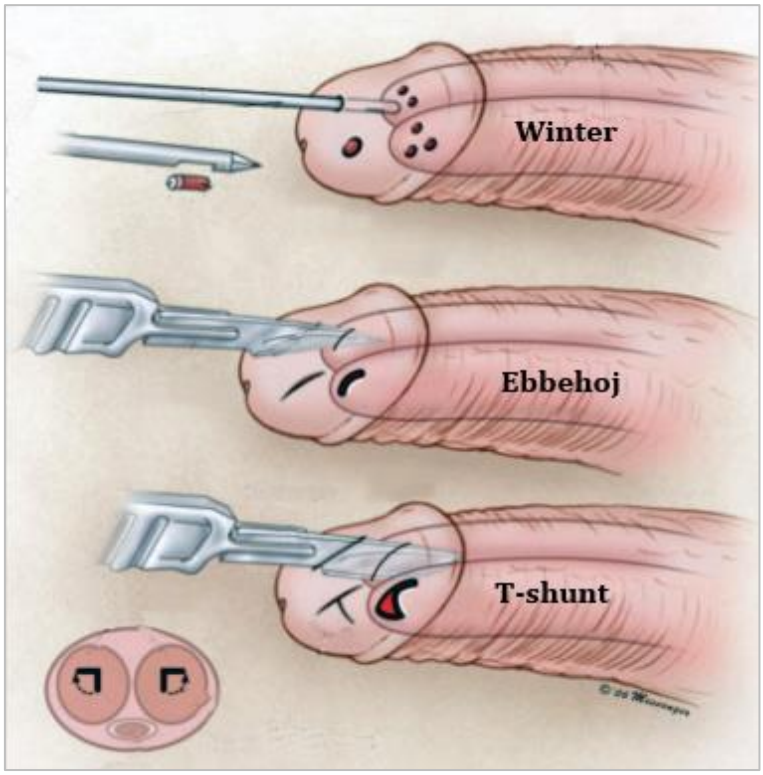
An anaesthetist will see you to discuss the options of a general anaesthetic or spinal anaesthetic. The anaesthetist will also discuss pain relief after the procedure with you.

We may provide you with a pair of TED stockings to wear, and give you a heparin 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 use a full general anaesthetic
- we may give you antibiotics into a vein, after carefully checking for any allergies

- we start by putting one or more large needles through the head of the penis, to remove clotted blood and to create a "shunt" back into the normal circulation via the head of your penis (Winter shunt)
- we then wash out all the clots in your penis until the blood flow freely once again
- if this fails, we use a scalpel through the head of your penis to create a larger "escape hole" for the trapped blood (pictured below, Ebberhøj or T-shunt)



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- we close the cuts in the head of your penis with absorbable sutures which normally disappear within two to three weeks
- we put a dressing around your penis and a catheter in your bladder through your urethra (waterpipe); both are usually removed after 24 hours
- your penis may still be semi-erect after a successful procedure, but it will not be as painful as it was before
- if all these procedures fail to decompress your penis, we may recommend early insertion of penile prostheses to resolve the condition and allow you to get erections
- the procedure can take between 30 minutes and two hours to complete
- you may need to stay in hospital after the procedure to be sure that everything has settled completely

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
Swelling and bruising of the penis which usually lasts a few days	 Almost all patients
Semi-rigid erection which may take up a few weeks to settle completely	 Almost all patients
Recurrence of the priapism	 Between 1 in 2 & 1 in 10 patients
Inability to get erections after the procedure (higher risk in ischaemic priapism which has gone on for more than two days)	 Between 1 in 10 & 1 in 50 patients
Bleeding or infection of the wounds needing a further procedure	 Between 1 in 10 & 1 in 50 patients
Development of scar tissue causing reduced size & girth, or bending on erection (higher risk in priapism lasting longer than two days)	 Between 1 in 10 & 1 in 50 patients
Need for penile prostheses (implants) if the erection cannot be made to subside	 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

What is my risk of a hospital-acquired infection?

Your risk of getting an infection in hospital is approximately 8 in 100 (8%); this includes getting *MRSA* or a *Clostridium difficile* bowel infection. This figure is higher if you are in a "high-risk" group of patients such as patients who have had:

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

What can I expect when I get home?

- you will get some swelling and bruising of the penis which may last several days
- it will take several weeks before your penis feels back to normal
- simple painkillers such as paracetamol are helpful in the first few days of you have discomfort
- any dressing or catheter is usually removed after 24 hours
- you will be given advice about your recovery at home
- 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
- your ability to get erections may be altered after ischaemic (ischaemic) priapism treated by shunting
- if you develop a recurrence of your painful erection, you must return to hospital immediately
- a follow-up appointment will be made for you to discuss further management

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 (warfarin, aspirin, clopidogrel, rivaroxaban or 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 free NHS Smoking Helpline on **0800 169 0 169**.

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.

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.

Disclaimer

We have made every effort to give accurate information but there may still be errors or omissions in this leaflet. BAUS cannot accept responsibility for any loss from action taken (or not taken) as a result of this information.

PLEASE NOTE

The staff at BAUS are not medically trained, and are unable to answer questions about the information provided in this leaflet. If you do have any questions, you should contact your urologist, specialist nurse or GP.