PENILE STRAIGHTENING BY PLICATION OR PLAQUE INCISION AND GRAFTING

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/Penile straightening.pdf

Key Points

- Penile curvature which is mild and does not cause difficulty with sex does not need a penile straightening procedure
- If your erections are good, the type of operation you need depends on the amount of curvature you have
- Plication is best suited to bends of less than 60°; it has less impact on erection and sensation, but will shorten your penis
- Plaque incision & grafting is best suited to bends of more than 60°; it has more impact on erection and sensation, but produces less shortening
- The aim of any procedure is to get a functionally-straight penis (with less than 20° curvature)
- No penile straightening procedure can return your penis to its normal, pre-curvature state

What does this procedure involve?

Correcting curvature of the penis during erection. This may involve shortening the longer side of the penis (plication), or lengthening the shorter side by cutting into a plaque and using a graft to fill the gap (plaque incision and grafting).

The choice of procedure depends on:

- the degree of penile curvature;
- any other shape change to your penis (e.g. “hour-glass” indentation);

- your total penile length; and
- the quality of your erections.

Penile curvature may occur for many reasons but, if your curvature is due to Peyronie's disease, straightening should only be done when the condition is in the chronic, stable phase.

You must be aware that any straightening operation will try to correct the curvature of your penis, but will not be able to make your penis exactly the same as it was before the curvature developed.

What are the alternatives?

- **No treatment** – if the degree of curvature is mild and does not affect the ability to penetrate, surgery is not needed. If the principal issue is poor erectile function, oral medication with a PDE-5 inhibitor may be all that is required
- **Vacuum erection or traction devices** – regular use of these devices may produce some penile straightening, together with some penile lengthening
- **Collagenase injections** – may allow some straightening of the penis without penile shortening. On average, the curvature correction is 18°. This is not, as yet, widely available on the NHS
- **Implantation of penile prostheses** – if you have a significant curvature and PDE-5 inhibitors have not worked, implantation of penile prostheses may be the most appropriate treatment

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.

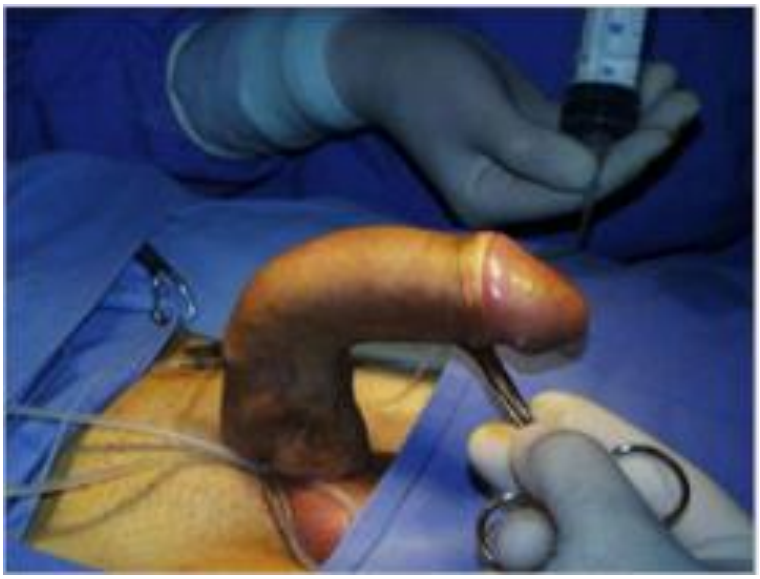
An anaesthetist will see you to discuss the options of a general anaesthetic or spinal anaesthetic. The anaesthetist will also discuss pain relief after the procedure with you.

We usually 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

Plication is normally used for patients with good erectile function, and curvatures of less than 60°. In men with good erections and a curvature of more than 60°, plaque incision and grafting is usually more appropriate.

- we normally give you a general anaesthetic with local anaesthetic nerve blocks in the penis for post-operative pain relief
- you may be given an injection of antibiotics before the procedure, after you have been checked carefully for any allergies
- we perform an artificial erection test on the operating table to confirm your curvature and to measure the angle (pictured)



- we usually make a cut just behind the head of your penis and roll the skin back (this is called "de-gloving")
- we correct the curvature by one of the methods below:
    - **plication** – bunching up the longer side opposite the plaque. There are many different techniques but the most commonly used is **Nesbit's procedure**. In this, stitches are used to bunch up the erectile tissue and you mat be able to feel the site of plication under the skin of your penis after the operation; or
    - **plaque incision & grafting** – cutting into the plaque to release the scarred area and using a graft patch to fill the gap. Vein grafts were used originally (**Lue procedure**) but most urologists now use pre-packaged grafts. To incise the plaques, we need to dissect the nerves on top of your penis (for upward bends) or your urethra (for downward bends) off the erectile tissues; we replace them when grafting has been completed.

- we roll back the skin and close the wound using dissolvable stitches which normally disappear with two to three weeks
- if your foreskin appears tight, you may need to have a circumcision at the same time
- we usually put a catheter in your bladder through your urethra (waterpipe)
- we may put a firm dressing around to penis to limit any bruising and swelling
- the plication procedure takes between one and two hours; plaque incision and grafting may take three hours
- you can expect to be discharged after 48 to 72 hours

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.

The after-effects vary according to the type of procedure performed:

After-effect	Risk
1. Plication operations (e.g. Nesbit's procedure)	
Shortening of your penis (1 cm for every 15° curvature that is corrected)	 Almost all patients
You may have a residual curvature less than 20° but this should result in a "functionally straight" penis	 Almost all patients
Temporary swelling and bruising of the penis and scrotum lasting several days	 Almost all patients
Circumcision is required as part of the procedure	 In 1 in 4 patients (25%)

Erectile dysfunction (impotence)	 In 1 in 20 patients (5%)
Nerve injury with temporary or permanent numbness of the penis	 In 1 in 20 patients (5%)
Dissatisfaction with the cosmetic or functional result	 Between 1 in 10 & 1 in 50 patients
Recurrence of curvature at a later date	 Between 1 in 10 & 1 in 50 patients
Significant bleeding or infection needing further treatment	 Between 1 in 10 & 1 in 50 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)
2. Plaque incision & grafting operations (e.g. Lue procedure)	
You may have a residual curvature less than 20° but this should result in a "functionally straight" penis	 Almost all patients
Temporary swelling and bruising of the penis and scrotum lasting several days	 Almost all patients
Circumcision is required as part of the procedure	 In 1 in 4 patients (25%)
Erectile dysfunction	 In 1 in 4 patients (25%)

Nerve injury with temporary or permanent numbness of the penis		In 1 in 4 patients (25%)
Shortening of your penis		In 1 in 5 patients (20%)
Dissatisfaction with the cosmetic or functional result		Between 1 in 10 & 1 in 50 patients
Recurrence of curvature at a later date		Between 1 in 10 & 1 in 50 patients
Significant bleeding or infection needing further treatment		Between 1 in 10 & 1 in 50 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)

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
- you may be discharged with a catheter in your bladder
- if you do have a catheter, we will show you how to manage it at home
- you will be given advice about your recovery at home

- your stitches will usually disappear after two to three weeks, but may occasionally take longer
- 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
- a follow-up appointment will be made for you to have your dressings and your catheter (if present) to be removed
- you may get normal erections in the days after the procedure
- you must avoid all sexual activity (intercourse & masturbation) for six weeks after the procedure
- you may be advised to use a vacuum erection assistance device to help with penile stretching after the procedure

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 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.