

**NATIONAL INSTITUTE FOR HEALTH AND CARE
EXCELLENCE**

Interventional procedures consultation document

**Transurethral water jet ablation for lower
urinary tract symptoms caused by benign
prostatic hyperplasia**

Benign prostatic hyperplasia is a non-cancerous enlargement of the prostate. It can block or narrow the tube (urethra) that urine passes through to leave the body, causing urination problems. During this procedure, a high-speed jet of water is injected into the prostate using a special probe that is passed up the urethra. This destroys some of the prostate tissue, making it smaller.

The National Institute for Health and Care Excellence (NICE) is looking at transurethral water jet ablation for lower urinary tract symptoms caused by benign prostatic hyperplasia. NICE's interventional procedures advisory committee has considered the evidence and the views of specialist advisers, who are consultants with knowledge of the procedure.

The committee has made draft recommendations and we now want to hear your views. The committee particularly welcomes:

- comments on the draft recommendations
- information about factual inaccuracies
- additional relevant evidence, with references if possible.

This is not our final guidance on this procedure. The recommendations may change after this consultation.

After consultation ends:

- The committee will meet again to consider the original evidence and its draft recommendations in the light of the consultation comments.
- The committee will prepare a second draft, which will be the basis for NICE's guidance on using the procedure in the NHS.

For further details, see the [Interventional Procedures Programme process guide](#).

Through our guidance, we are committed to promoting race and disability equality, equality between men and women, and to eliminating all forms of discrimination. One of the ways we do this is by trying to involve as wide a range of people and interest groups as possible in developing our interventional procedures guidance. In particular, we encourage people and organisations from groups who might not normally comment on our guidance to do so.

To help us promote equality through our guidance, please consider the following question:

Are there any issues that require special attention in light of NICE's duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations between people with a characteristic protected by the equalities legislation and others?

Please note that we reserve the right to summarise and edit comments received during consultations or not to publish them at all if in the reasonable opinion of NICE, there are a lot of comments, or if publishing the comments would be unlawful or otherwise inappropriate.

Closing date for comments: 21 June 2018

Target date for publication of guidance: September 2018

1 Draft recommendations

1.1 The evidence on transurethral water jet ablation for lower urinary tract symptoms caused by benign prostatic hyperplasia raises no major safety concerns. The evidence on efficacy is limited in quantity. Therefore, this procedure should only be used with special arrangements for clinical governance, consent, and audit or research.

1.2 Clinicians wishing to do transurethral water jet ablation for lower urinary tract symptoms caused by benign prostatic hyperplasia should:

- Inform the clinical governance leads in their NHS trusts.

- Ensure that patients understand the uncertainty about the procedure's efficacy and provide them with clear written information to support [shared decision-making](#). In addition, the use of NICE's [information for the public](#) *[[URL to be added at publication]]* is recommended.
- Audit and review clinical outcomes of all patients having transurethral water jet ablation for lower urinary tract symptoms caused by benign prostatic hyperplasia. NICE has identified relevant audit criteria and is developing an audit tool (which is for use at local discretion), which will be available when the guidance is published.

1.3 The procedure should only be done by clinicians who have been trained in the technique.

1.4 NICE encourages further research into transurethral water jet ablation for lower urinary tract symptoms caused by benign prostatic hyperplasia and may update the guidance on publication of further evidence. Further research should report long-term follow-up and include reintervention rates.

2 The condition, current treatments and procedure

The condition

2.1 Benign prostatic hyperplasia is a common condition that affects older men. Stromal and epithelial cells increase in number, causing the prostate to get bigger. It often happens in the periurethral region of the prostate, with large discrete nodules compressing the urethra. Symptoms include hesitancy during urination, interrupted

or decreased urine stream (volume and flow rate), nocturia, incomplete voiding and urinary retention.

Current treatments

2.2 Mild symptoms are usually managed conservatively. Drugs may also be used, such as alpha blockers and 5-alpha-reductase inhibitors. If other treatments have not worked, then surgical options include transurethral resection of the prostate (TURP), transurethral vaporisation of the prostate, holmium laser enucleation of the prostate or prostatectomy (see NICE's clinical guidance on [lower urinary tract symptoms in men](#)). Insertion of prostatic urethral lift implants and prostate artery embolisation have been introduced more recently as alternative treatments for lower urinary tract symptoms secondary to benign prostatic hyperplasia. Potential complications of surgical procedures include bleeding, infection, strictures, incontinence and sexual dysfunction.

The procedure

2.3 Transurethral water ablation for benign prostatic hyperplasia uses a specialised system that combines image guidance and robotics for the targeted heat-free removal of prostate tissue. The procedure is usually done with the patient under general or spinal anaesthesia. Transrectal ultrasound is used throughout the procedure. A special handpiece with an integrated cystoscope and ablation probe is inserted through the urethra and into the bladder. Positioning is confirmed by using visual markers on a computer screen, and the surgeon is able to plan the depth and angle of resection using the system software. Once the surgical mapping is complete, a high-speed jet of saline is delivered to the prostate at various flow rates,

according to the depth of penetration needed. The ablated tissue is aspirated through ports in the handpiece and can be used for histological analysis. Haemostasis can be achieved by cautery or by inflating a Foley balloon catheter inside the prostatic cavity. The average resection time is typically about 3 to 5 minutes. After the procedure, a 3-way Foley catheter is placed under traction and continuous bladder irrigation is started. Traction is removed a few hours after the procedure and irrigation is progressively decreased. The catheter is removed before the patient is discharged from hospital, usually the day after the procedure.

- 2.4 The possible advantages of the procedure include a reduction in resection time compared with other endoscopic methods, and the potential to preserve sexual function. The procedure is heat-free, which removes the risk of complications arising from thermal injury.

3 Committee considerations

The evidence

- 3.1 To inform the committee, NICE did a rapid review of the published literature on the efficacy and safety of this procedure. This comprised a comprehensive literature search and detailed review of the evidence from 4 sources, which was discussed by the committee. The evidence included 1 randomised controlled trial and 3 case series, and is presented in table 2 of the [interventional procedures overview](#). Other relevant literature is in the appendix of the overview.
- 3.2 The specialist advisers and the committee considered the key efficacy outcomes to be: improvement in lower urinary tract

symptoms and quality of life, improved urinary flow rate and preservation of sexual function.

- 3.3 The specialist advisers and the committee considered the key safety outcomes to be: bleeding, incontinence, injury to adjacent organs.

Committee comments

- 3.4 It is possible to collect tissue for histological analysis during this procedure.
- 3.5 The committee noted that in the 1 randomised trial included in the evidence review, patients who had this procedure were more likely to preserve their existing sexual function compared with patients who had transurethral resection of the prostate.

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Chairman, interventional procedures advisory committee

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