

# Potassium-titanyl-phosphate (KTP) laser vaporisation of the prostate for benign prostatic obstruction

## 1 Guidance

- 1.1 Current evidence on the safety and short-term efficacy of potassium-titanyl-phosphate (KTP) laser vaporisation of the prostate for benign prostatic obstruction appears adequate to support the use of this procedure provided that the normal arrangements are in place for consent, audit and clinical governance. Data on the long-term efficacy of this procedure are limited.
- 1.2 Clinicians undertaking this procedure should have specific training in this technique. The British Association of Urological Surgeons has agreed to produce standards for training.

## 2 The procedure

### 2.1 Indications

- 2.1.1 Benign prostatic obstruction (BPO) is a non-malignant enlargement of the prostate and is a common cause of lower urinary tract symptoms (such as difficulty in passing urine) in men aged older than 40 years.
- 2.1.2 Benign prostatic obstruction can be managed medically or surgically. The standard surgical treatment is transurethral resection of the prostate (TURP). However, relatively high morbidity from this procedure has led to the development of a range of less invasive techniques, some of which utilise endoscopic lasers.

## 2.2 Outline of the procedure

- 2.2.1 This procedure involves the application of high-power (normally 60–80 W) KTP laser energy to the prostatic tissue. Under spinal anaesthesia, a small flexible fibre optic is inserted through a cystoscope into the urethra. Light pulses are then sent through this fibre, vaporising the obstructing prostatic tissue. A urethral catheter may be left in place after the procedure.

## 2.3 Efficacy

- 2.3.1 Two uncontrolled studies reported 12-month results for a total of 46 patients. The mean values for improvement in American Urological Association Symptom Score (AUA score) were 82% and 89%. The mean increases in peak urinary flow rate were 190% and 255%. In another case series of 139 patients, quality of life scores improved significantly ( $p < 0.0001$ ) from a baseline score of 4.3 to 1.0. For more details, refer to the Sources of evidence (see overleaf).
- 2.3.2 The Specialist Advisors noted the importance of training in this procedure. They suggested that efficacy may be related to the experience of the surgeon. One Advisor commented that lack of experience in this procedure could result in inadequate removal of prostatic tissue, leading to the need for further surgery.

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### This guidance is written in the following context:

This guidance represents the view of the Institute which was arrived at after careful consideration of the available evidence. Health professionals are expected to take it fully into account when exercising their clinical judgement. This guidance does not, however, override the individual responsibility of health professionals to make appropriate decisions in the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Interventional procedures guidance is for health professionals and people using the NHS in England, Wales and Scotland.

This guidance is endorsed by NHS QIS for implementation by NHSScotland.

## 2.4 Safety

- 2.4.1 The most commonly reported complications were dysuria (difficult or painful passage of urine) in 7% (4/55) to 27% (6/22) of patients, and haematuria in 4% (2/55) to 10% (1/10) of patients. Other reported complications included retrograde (abnormal) ejaculation, soft bladder-neck contracture, urinary infection and urge incontinence. For more details, refer to the Sources of evidence.
- 2.4.2 The Specialist Advisors listed the potential adverse events as pain, urinary retention, retrograde ejaculation, incontinence and infection. They noted that patients were likely to suffer irritative bladder symptoms in the early postoperative period.

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Chief Executive  
May 2005

## Information for the public

NICE has produced information describing its guidance on this procedure for patients, carers and those with a wider interest in healthcare. It explains the nature of the procedure and the decision made, and has been written with patient consent in mind. This information is available from [www.nice.org.uk/IPG120publicinfo](http://www.nice.org.uk/IPG120publicinfo)

## Sources of evidence

The evidence considered by the Interventional Procedures Advisory Committee is described in the following document.

*Interventional procedure overview of KTP laser vaporisation of the prostate for benign prostatic obstruction*, October 2004

Available from [www.nice.org.uk/ip189overview](http://www.nice.org.uk/ip189overview)

## Ordering information

Copies of this guidance can be obtained from the NHS Response Line by telephoning 0870 1555 455 and quoting reference number N0752. *Information for the public* can be obtained by quoting reference number N0753.

The distribution list for this guidance is available from [www.nice.org.uk/IPG120distributionlist](http://www.nice.org.uk/IPG120distributionlist)

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