

Holmium laser prostatectomy

1 Guidance

- 1.1 Current evidence on the safety and efficacy of holmium laser prostatectomy appears adequate to support the use of the procedure, provided that normal arrangements are in place for consent, audit and clinical governance.
- 1.2 Clinicians undertaking this procedure require specialist training. The British Association of Urological Surgeons has agreed to produce training standards.

2 The procedure

2.1 Indications

- 2.1.1 Benign prostatic obstruction (BPO) is due to a non-malignant enlargement of the prostate. It is a common cause of bladder outlet obstruction and lower urinary tract symptoms in men over 40 years of age. Holmium laser prostatectomy is used to treat BPO. The procedure is used both for resection and enucleation of prostatic tissue.
- 2.1.2 BPO can be managed medically or surgically. The standard surgical treatment of BPO is transurethral resection of the prostate (TURP). However, relatively high morbidity associated with TURP has led to the development of a range of minimally invasive techniques, some of which use thermal energy. One such minimally invasive technique is the use of a holmium:yttrium–aluminium–garnet (YAG) laser.

2.2 Outline of the procedure

- 2.2.1 Holmium laser resection of the prostate uses the holmium laser and is performed with a modified continuous flow resectoscope that has a circular fibre guide in the tip of the scope. An end-firing laser fibre is used as a precise cutting instrument to resect large pieces of prostate. The laser is then used to cut the resected tissue into smaller pieces before their removal.
- 2.2.2 A further evolution of the procedure is holmium laser enucleation of the prostate, in which the intact prostatic lobes are removed with the holmium laser and then passed into the bladder where they are cut into smaller pieces before removal.

2.3 Efficacy

- 2.3.1 The studies reviewed showed that holmium laser prostatectomy is at least as effective as TURP at improving bladder neck obstruction, symptom scores and quality of life. Duration of catheterisation and hospital stay were reported to be shorter than for TURP. However, the studies were characterised by short follow-up periods and small sample sizes. For more details refer to the sources of evidence below.
- 2.3.2 The Specialist Advisors considered holmium laser prostatectomy to be established practice and preferable in many cases to TURP, requiring a shorter stay in hospital. Some Specialist Advisors were concerned about the completeness of evacuation of debris from the bladder after the procedure.

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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.

2.4 Safety

- 2.4.1 The studies revealed no significant differences in safety between holmium laser prostatectomy and TURP. Blood loss was reported to be lower with holmium laser prostatectomy than with TURP. For more details refer to the sources of evidence below.
- 2.4.2 Specialist Advisors had few concerns about the safety of holmium laser prostatectomy, although one expressed concern about damage to the bladder. The Specialist Advisors also noted that there was less blood loss with this procedure than with TURP.

Andrew Dillon
Chief Executive
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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/IPG017publicinfoenglish and in English and Welsh from www.nice.org.uk/IPG017publicinfowelsh.

Sources of evidence

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

Interventional procedure overview of holmium laser prostatectomy, October 2002.

Available from: www.nice.org.uk/ip138overview

Ordering information

Copies of this guidance can be obtained from the NHS Response Line by telephoning 0870 1555 455 and quoting reference: N0342. *Information for the Public* can be obtained by quoting reference number N0343 for the English version and N0344 for a version in English and Welsh.

The distribution list for this guidance is available on the NICE website at URL www.nice.org.uk/IPG017distributionlist

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