

Holmium laser prostatectomy

Interventional procedures guidance

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www.nice.org.uk/guidance/ipg17

This guidance should be read in conjunction with CG97.

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 'Sources of evidence'.
- 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.

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 'Sources of evidence'.
- 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.

3 Further information

Sources of evidence

The evidence considered by the Interventional Procedures Advisory Committee is described in the [interventional procedure overview of holmium laser prostatectomy](#).

Information for patients

NICE has produced [information for patients and carers on this procedure](#). It explains the nature of the procedure and the guidance issued by NICE, and has been written with patient consent in mind.

4 Other NICE recommendations on holmium laser prostatectomy

Further recommendations have been made as part of the clinical guideline on lower urinary tract symptoms published in May 2010, as follows:

- If offering surgery for managing voiding lower urinary tract symptoms (LUTS) presumed secondary to benign prostatic enlargement (BPE), offer monopolar or bipolar transurethral resection of the prostate (TURP), monopolar transurethral vaporisation of the prostate (TUVP) or holmium laser enucleation of the prostate (HoLEP). Perform HoLEP at a centre specialising in the technique, or with mentorship arrangements in place.

Clinical and cost-effectiveness evidence was reviewed in the development of this guideline which has led to this more specific recommendation. More information about this guideline is available in [NICE's guideline on lower urinary tract symptoms in men on the NICE website](#).

The IP guidance on holmium laser prostatectomy remains current, and should be read in conjunction with the clinical guideline.

Update information

Minor changes since publication

January 2012: minor maintenance.

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Endorsing organisation

This guidance has been endorsed by [Healthcare Improvement Scotland](#).