

Holmium laser prostatectomy

HealthTech guidance

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www.nice.org.uk/guidance/htg5

Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account, and specifically any special arrangements relating to the introduction of new interventional procedures. The guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the [Yellow Card Scheme](#).

Commissioners and/or providers have a responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties. Providers should ensure that governance structures are in place to review, authorise and monitor the introduction of new devices and procedures.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should [assess and reduce the environmental impact of implementing NICE recommendations wherever possible](#).

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This guidance replaces IPG17.

This guidance should be read in conjunction with CG97.

1 Recommendations

- 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 overview for this guidance.

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 the overview for this guidance.

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 committee is in the [overview for this guidance](#).

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.

Update information

Minor changes since publication

January 2026: Interventional procedures guidance 17 has been migrated to HealthTech guidance 5. The recommendations and accompanying content remain unchanged.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.