NICE National Institute for Health and Care Excellence

NICE guidance

Laparoscopic pyeloplasty

HealthTech guidance
Published: 24 March 2004

www.nice.org.uk/guidance/htg22

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.

Contents

This guidance replaces IPG46.

1 Recommendations

1.1 Current evidence on the safety and efficacy of laparoscopic pyeloplasty appears adequate to support the use of this procedure, provided that the normal arrangements are in place for consent, audit and clinical governance.

1.2 Clinicians undertaking this procedure should have adequate training before performing the technique. The British Association of Urological Surgeons has agreed to produce standards for training.

2 The procedure

2.1 Indications

2.1.1 Pelviureteric junction (PUJ) obstruction occurs when the connection between the renal pelvis and the ureter is narrow or tight. When this occurs, urine passing from the kidney to the ureter cannot drain easily and accumulates, causing enlargement of the renal pelvis (hydronephrosis).

2.1.2 The standard intervention for PUJ obstruction is open pyeloplasty. There are several different ways to approach the kidney to perform this operation. These include a flank incision, a subcostal incision, a transabdominal approach, or an incision in the back.

2.2 Outline of the procedure

2.2.1 The purpose of the procedure is to refashion the narrowed portion of the PUJ and attach it to the ureter in a way that allows easy drainage of urine through the ureter. This procedure has the same goal as open pyeloplasty but uses the laparoscopic approach. Laparoscopy involves making three or four small incisions through which the operation is carried out. A stent may be inserted after the operation, which is later removed.

2.3 Efficacy

2.3.1 No randomised studies were identified. One of the non-randomised, comparative studies looking at laparoscopic pyeloplasty versus open pyeloplasty found that 41 out of 42 patients (98%) who had the laparoscopic procedure had no obstruction at follow-up, compared with 33 out of 35 patients (94%) who had the open procedure. Of the 42 patients treated laparoscopically, 26 (62%) were pain-free and 12 (29%) had a significant reduction in flank pain postoperatively. Of the 35 patients who had the open procedure, 21 (60%) were pain-free and 11 (31%) had

a significant reduction in flank pain postoperatively. For more details, see the overview.

2.3.2 The Specialist Advisors expressed no concerns about the efficacy of this procedure. One Advisor, however, commented on the lack of randomised comparisons of open versus laparoscopic procedures, and a scarcity of long-term follow-up data.

2.4 Safety

2.4.1 Few complications were reported in the studies identified. In some comparative studies obstruction after stent removal, stent migration and pyelonephritis were reported as occasional complications, however these complications were reported at similar levels in patients having open surgery. For more details, see the overview.

2.4.2 One Specialist Advisor considered the risks of this procedure to be similar to those expected with conventional open surgery: infection, failure to correct obstruction and bleeding. This Advisor also noted that the usual safety issues associated with laparoscopic surgery applied, as well as the effects of a prolonged procedure, and the need to convert to open surgery.

2.5 Other comments

2.5.1 It was noted that the procedure can be lengthy.

3 Further information

Sources of evidence

The evidence considered by the committee is in the overview.

Information for patients

NICE has produced information for the public 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 46 has been migrated to HealthTech guidance 22. The recommendations and accompanying content remain unchanged.

ISBN: 978-1-4731-8731-3

Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.