NICE National Institute for Health and Care Excellence

NICE guidance

Laparoscopic retroperitoneal lymph node dissection for testicular cancer

HealthTech guidance

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www.nice.org.uk/guidance/htg102

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 IPG158.

1 Recommendations

1.1 Current evidence on the efficacy of laparoscopic retroperitoneal lymph node dissection is limited and there are safety concerns about the procedure. It should therefore not be used without special arrangements for consent and for audit or research.

1.2 Clinicians wishing to undertake laparoscopic retroperitoneal lymph node dissection for testicular cancer should take the following actions.

- Inform the clinical governance leads in their Trusts.
- Ensure that patients understand the potential serious complications associated with this procedure and provide them with clear written information. In addition, use of NICE's information for the public is recommended.
- Audit and review clinical outcomes of all patients having laparoscopic retroperitoneal lymph node dissection for testicular cancer.

1.3 This procedure is technically demanding and should only be performed in units with experience in open and laparoscopic techniques, and in the context of a multidisciplinary team.

1.4 Publication of safety and efficacy outcomes will be useful. NICE may review the procedure on publication of further evidence.

2 The procedure

2.1 Indications

2.1.1 Patients with testicular cancer who have had the cancerous testicle removed may require resection of lymph nodes, depending on the type and extent of disease as defined by imaging and blood markers.

2.1.2 The standard method for retroperitoneal lymph node dissection is an open procedure through an additional incision. A modification to the standard approach is nerve-sparing retroperitoneal lymph node dissection, in which the lumbar postganglionic nerves are identified and preserved in order to preserve antegrade ejaculation. A laparoscopic approach has the theoretical advantages of reduced morbidity and shorter recovery time.

2.2 Outline of the procedure

2.2.1 The lymph nodes and lymph tissue that drains the testicle are removed laparoscopically, through small incisions in the abdomen. The number of nodes removed can vary from fewer than ten to over 50, and the limits of excision are defined by a predetermined template.

2.3 Efficacy

2.3.1 No local cancer recurrence was reported in a case series of 20 patients followed up for 10 months. In another case series, contralateral retroperitoneal recurrence was reported in 2% (1 out of 65) of patients with stage I cancer at 45 months, but no relapse was recorded among 47 patients with stage II disease at 35 months. In another case series, 97% (179 out of 185) of patients were relapse-free at 54 to 58 months' follow-up.

2.3.2 In a comparative trial, the mean postoperative hospital stay was 4 days for

patients who had had the laparoscopic procedure. Patients who had had open surgery stayed in hospital for mean 10.6 days.

2.3.3 In an historically controlled study, the mean operative times for the first 14 patients undergoing laparoscopic retroperitoneal lymph node dissection were 9.3 hours for right-sided tumours and 5.8 hours for left-sided tumours. For the next 15 patients, the operating times were 5.9 and 4.0 hours, respectively, which were similar to the 4.3 and 4.1 hours taken for the open procedure (30 patients). In other case series, the mean operative times for the laparoscopic procedure were 3.7 to 6.0 hours; they varied according to operator experience and stage of the cancers.

2.3.4 The rate of conversion to open surgery in case series ranged from 3% (5 out of 185) to 10% (2 out of 20). For more details, refer to the overview.

2.3.5 The Specialist Advisors noted that there is some controversy about whether the procedure should be used for diagnosis in early-stage cancer.

2.4 Safety

2.4.1 In an historically controlled study, major bleeding occurred during the procedure in 3% (1 out of 29) of patients, and during 13% (4 out of 30) of open retroperitoneal lymph node dissections. In case series, intraoperative haemorrhage occurred in 5% (1 out of 20) to 18% (9 out of 49) of patients with stage I and stage II disease, respectively.

2.4.2 Retrograde ejaculation was reported in 0% (0 out of 29, and 0 out of 20) to 2% (3 out of 185) of patients following laparoscopic retroperitoneal lymph node dissection. In the controlled study and case series, the incidence of lymphocele was 4% (3 out of 76) to 9% (16 out of 185): in most cases, this was minor and asymptomatic.

2.4.3 Other complications reported across the studies included: pressure sores in 14% (2 out of 14) of patients; gonadal vessel injury in 10% (2 out of 20); subcutaneous lymphoedema in 7% (1 out of 15); chylous ascites in 5% (9 out of 185; no cases were reported following the introduction of a new dietary regimen); injury to the

inferior mesenteric artery in 5% (1 out of 20); renal artery or colon injury in 1% (2 out of 185); and transient irritation of the genitofemoral nerve in 1% (1 out of 76). For more details, refer to the overview.

2.4.4 The Specialist Advisors noted that the theoretical adverse events included vascular injury, bowel perforation, incomplete resection, haemorrhage, and local or port-site recurrence. They also noted that there may be increased risks when dissecting large nodal masses that encircle the aorta or vena cava.

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 158 has been migrated to HealthTech guidance 102. The recommendations and accompanying content remain unchanged.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.