

# Laparoscopic retroperitoneal lymph node dissection for testicular cancer

Interventional procedures guidance

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[nice.org.uk/guidance/ipg158](https://www.nice.org.uk/guidance/ipg158)

## 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. However, 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.

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.

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.

## 1 Guidance

- 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 the Institute'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. The Institute may review the procedure upon 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% (1/65) 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% (179/185) of patients were relapse-free at 54–58 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 3.7–6.0 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% (5/185) to 10% (2/20). For more details, refer to the Sources of evidence.
- 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% (1/29) of patients, and during 13% (4/30) of open retroperitoneal lymph node dissections. In case series, intraoperative haemorrhage occurred in 5% (1/20) to 18% (9/49) of patients with stage I and stage II disease, respectively.

- 2.4.2 Retrograde ejaculation was reported in 0% (0/29 and 0/20) to 2% (3/185) of patients following laparoscopic retroperitoneal lymph node dissection. In the controlled study and case series, the incidence of lymphocele was 4% (3/76) to 9% (16/185); in most cases this was minor and asymptomatic.
- 2.4.3 Other complications reported across the studies included: pressure sores in 14% (2/14) of patients; gonadal vessel injury in 10% (2/20); subcutaneous lymphoedema in 7% (1/15); chylous ascites in 5% (9/185) (no cases were reported following the introduction of a new dietary regimen); injury to the inferior mesenteric artery in 5% (1/20); renal artery or colon injury in 1% (2/185); and transient irritation of the genitofemoral nerve in 1% (1/76). For more details, refer to the Sources of evidence.
- 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.

Andrew Dillon  
Chief Executive  
March 2006

### 3 Further information

#### *Information for patients*

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

#### *Sources of evidence*

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

['Interventional procedure overview of laparoscopic retroperitoneal lymph node dissection for testicular cancer'](#), May 2005.

## 4 Changes since publication

The guidance was considered for reassessment in March 2009 and it was concluded that NICE will not be updating this guidance at this stage. However, if you believe there is new evidence which should warrant a review of our guidance, please [contact us](#).

20 January 2012: minor maintenance.

## 5 About this guidance

NICE interventional procedure guidance makes recommendations on the safety and efficacy of the procedure. It does not cover whether or not the NHS should fund a procedure. Funding decisions are taken by local NHS bodies after considering the clinical effectiveness of the procedure and whether it represents value for money for the NHS. It is for healthcare professionals and people using the NHS in England, Wales, Scotland and Northern Ireland, and is endorsed by Healthcare Improvement Scotland for implementation by NHSScotland.

This guidance was developed using the NICE [interventional procedure guidance](#) process.

We have produced a [summary of this guidance for patients and carers](#). Information about the evidence it is based on is also [available](#).

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Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way which would be inconsistent with compliance with those duties.

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## *Endorsing organisation*

This guidance has been endorsed by Healthcare Improvement Scotland.