

Laparoscopic live donor simple nephrectomy

1 Guidance

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

2 The procedure

2.1 Indications

- 2.1.1 Kidneys from live donors are considered more likely to be successful in treating end-stage renal disease than those from cadaver donors.
- 2.1.2 The standard technique for retrieving kidneys from live donors is by open surgery. The aim of laparoscopic nephrectomy is to reduce donor morbidity and make the process more appealing to potential donors. It can be performed via a transperitoneal or retroperitoneal approach. The transperitoneal approach is preferred because it allows more laparoscopic working space, it makes it easier to remove the kidney and the incision is less painful.

2.2 Outline of the procedure

- 2.2.1 The procedure involves the insertion of laparoscopic instruments through the abdominal wall via small incisions, insufflation of carbon dioxide and removal of a kidney.

2.3 Efficacy

- 2.3.1 One systematic review and several non-randomised comparative studies were identified. The systematic review found no statistically significant difference between the laparoscopic and open procedures for graft function, graft survival and recipient survival, although there was a lack of long-term follow-up data. One study found recipient acute rejection in the first month to be 30% (33/110) for the laparoscopic procedure and 31% (15/48) for the open procedure. Donor hospital stay was generally shorter for the laparoscopic procedure; means ranged from 1.3 to 3.2 days for the laparoscopic procedure and 4.1 to 4.4 days for the open procedure. Laparoscopic donors generally returned to work earlier than donors undergoing the open procedure; means ranged from 2.1 to 3.9 weeks for the laparoscopic procedure and 4.1 to 7.4 weeks for the open procedure. For more details, refer to the sources of evidence (see below).
- 2.3.2 The Specialist Advisors did not raise any concerns regarding the efficacy of this procedure.

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This guidance is written in the following context:

This guidance represents the view of the Institute which was arrived at after careful consideration of the available evidence. Health professionals are expected to take it fully into account when exercising their clinical judgement. This guidance does not, however, override the individual responsibility of health professionals to make appropriate decisions in the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

2.4 Safety

2.4.1 The risks of laparoscopic live donor simple nephrectomy appeared similar to those of open live donor nephrectomy. In a systematic review, donor complication rates were reported to be between 0% (0/20) and 35% (23/65) for open procedures, and between 5% (1/19) and 20% (6/30) for laparoscopic procedures; some studies did not report their open nephrectomy results for comparison. Recipient complications also appeared to be similar for both open and laparoscopic procedures, but these were reported even less often than the donor complications. In a systematic review, recipient ureteric complication rates were reported to be 3–6% for open procedures and 3–10% for laparoscopic procedures. For more details, refer to the sources of evidence (see below).

2.4.2 The Specialist Advisors considered the main safety concerns to be bleeding, injury to nearby organs and conversion to open surgery.

Andrew Dillon
Chief Executive
May 2004

Information for the Public

The Institute has produced information describing its guidance on this procedure for patients, carers and those with a wider interest in healthcare. It explains the nature of the procedure and the decision made, and has been written with patient consent in mind. This information is available, in English and Welsh, from www.nice.org.uk/IPG057publicinfo.

Sources of evidence

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

Interventional procedure overview of laparoscopic live donor simple nephrectomy, November 2002.

Available from: www.nice.org.uk/ip056overview

Ordering information

Copies of this guidance can be obtained from the NHS Response Line by telephoning 0870 1555 455 and quoting reference number N0568. *Information for the Public* can be obtained by quoting reference number N0569 for the English version and N0570 for a version in English and Welsh.

The distribution list for this guidance is available on the NICE website at URL www.nice.org.uk/IPG057distributionlist

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