

NATIONAL INSTITUTE FOR CLINICAL EXCELLENCE**Health Technology Appraisal****Laparoscopic surgery for the treatment of colorectal cancer
(Review of Technology Appraisal Guidance No. 17)****Scope****Appraisal objective**

To review and update as necessary guidance to the NHS in England and Wales on the clinical and cost effectiveness of laparoscopic surgery for the treatment of colorectal cancer which was issued in December 2000.¹

The original guidance will remain in place unless and until any new guidance has been issued. The review will consider whether any new evidence that has become available justifies a change to the original guidance.

Background:

Colorectal cancer is a malignant neoplasm arising from the lining (mucosa) of the large intestine (colon and rectum).

In 2001, there were 27,529 new cases of colorectal cancer diagnosed in England (we were not able to locate the figures for Wales). Colorectal cancer is the third most common cancer in the UK after breast and lung cancer, with an annual incidence of 60.2 cases per 100,000 and an estimated prevalence of 77,000. The lifetime risk of developing colorectal cancer is 1 in 18 for men and 1 in 20 for women. Colorectal cancer predominantly affects older people and over half of all deaths from colorectal cancer occur in people older than 75 years of age.

Surgery is the only curative treatment for colorectal cancer with between 70 and 90% of patients considered suitable for surgical intervention at diagnosis. During surgery the area of the bowel where the tumour is located is removed along with nearby lymph nodes. The choice of surgical technique depends on whether surgery is carried out electively or as an emergency, the location of the tumour in the bowel, and its distance from the anal sphincter.

Surgical resection of colon cancer may involve removal of the entire colon (total colectomy), or part of the colon (right hemicolectomy, left hemicolectomy, or sigmoid colectomy) depending on the location of the tumour.

Tumours of the upper and mid rectum are removed by anterior resection. Tumours of the lower rectum are removed either by low anterior resection or by abdomino-perineal resection. The latter includes the removal of the rectum and anus so that a permanent colostomy is required. Total mesorectal excision (TME) involves the removal of the rectum and the surrounding fatty tissue known

¹ Guidance on the use of laparoscopic surgery for colorectal cancer (Technology Appraisal No.17, December 2000). National Institute for Clinical Excellence

as the mesorectum which contains the draining lymph nodes. When an anastomosis (a joining of the open ends of the remaining bowel) is performed close to the anal verge it is common to perform a temporary colostomy to reduce the serious consequences of an anastomotic leak.

The technology

Laparoscopic techniques vary in the proportion of the procedure that is performed laparoscopically. Since colectomy involves the removal of part of the bowel it is not possible for the entire procedure to be undertaken laparoscopically. In most cases the entire dissection is performed laparoscopically with the specimen of bowel being removed through an enlarged laparoscopic incision. The size of the incision is determined by the size of the specimen to be removed. Sometimes the incision is enlarged to complete the dissection before removal of the specimen, this may be referred to as laparoscopically assisted colectomy. However the difference between laparoscopic and laparoscopically assisted colectomy is subtle and either approach has the advantage of a smaller incision. Hand port-assisted colectomy refers to a procedure in which the surgeon's hand is used along with laparoscopic equipment to perform the dissection.

Intervention(s)	Laparoscopic surgical techniques including <ul style="list-style-type: none"> • Laparoscopic (or laparoscopically assisted) colectomy • Hand port-assisted laparoscopic colectomy <p>If appropriate comparison will be made between the different methods of laparoscopic surgery.</p>
Population(s)	People with surgically resectable colorectal cancer
Current standard comparators	Open colectomy

Outcomes	<p>Relevant outcomes measures include:</p> <ul style="list-style-type: none"> • Overall survival • Disease-free survival • Time to tumour recurrence • The incidence of port site / wound site metastasis • Lymph node retrieval • Completeness of resection / margins of tumour clearance • Operation duration • Blood-loss and use of blood products • Length of hospital stay • Post operative and long-term pain • Time to return to usual activities • Incidence of short term complications (such as anastomotic leaks, wound infection and abdominal wound breakdown, small bowel obstruction) • Incidence of long-term complications (such as incisional hernia) • Health-related quality of life
Economic analysis	<p>Ideally, the cost effectiveness of this intervention should be expressed in terms of incremental cost per quality-adjusted life year.</p> <p>The time horizon for the economic evaluation should be sufficiently long as to include long-term outcomes including the possibility of post-operative complications.</p> <p>Costs will be considered from a NHS and Personal Social Services perspective.</p>
Other considerations	<p>If the evidence allows, the influence of “Enhanced Recovery Programmes” on recovery times and length of hospital stay will be considered.</p> <p>The population should be stratified according to the location of the tumour.</p>

<p>Related NICE recommendations</p>	<p>In progress</p> <p>Technology appraisal: Review of the clinical and cost effectiveness of irinotecan, oxaliplatin and raltitrexed for the treatment of advanced colorectal cancer. Expected date of issue Review August 2005.</p> <p>Technology appraisal: The clinical and cost effectiveness of oxaliplatin and capecitabine for the adjuvant treatment of colorectal cancer. Expected date of issue May 2006</p> <p>Technology appraisal: The clinical and cost effectiveness of irinotecan as adjuvant therapy in colorectal cancer. Expected date of issue January 2007.</p> <p>Technology appraisal: The clinical and cost effectiveness of bevacizumab and cetuximab for the treatment of advanced colorectal cancer. Expected date of issue September 2007</p> <p>Guidance on the use of capecitabine and tegafur with uracil for metastatic colorectal cancer. Technology Appraisal 61. Issued May 2003.</p> <p>Guidance on Cancer Services. Improving Outcomes in Colorectal Cancer. Expected date of issue June 2004.</p>
<p>Current NICE guidance</p>	<p>1.1 For colorectal cancer, open rather than laparoscopic resection should be the preferred surgical procedure.</p> <p>1.2 Laparoscopic surgery should only be undertaken for colorectal cancer as part of a randomised controlled clinical trial.</p>