Quality of life after laparoscopic and open colorectal surgery: a systematic review

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CRD summary
This review concluded that there were no clinically relevant differences in postoperative quality of life between laparoscopic and open colorectal surgery. This review was carried out using robust methodology. The authors’ conclusions appear to be based on the evidence and are likely to be reliable.

Authors' objectives
To investigate quality of life in patients after laparoscopic or open colorectal surgery.

Searching
Published trials in any language were identified through a search of PubMed, Cochrane Central Register of Controlled Trials (CENTRAL) and EMBASE from January 1980 to April 2010. Handsearching was undertaken. Search terms were reported.

Study selection
Randomised controlled trials (RCTs) of laparoscopic compared with open colorectal surgery in patients with malignant or benign disease were eligible for inclusion. Studies were required to contain comparative data on quality of life using a validated quality of life assessment instrument.

Six trials reported on patients with colon or colorectal cancer and three reported on patients with diverticulitis, Crohn’s disease and ulcerative colitis or familial adenomatous polyposis. Eight different quality of life measures were used in the included studies: European Organisation for Research and Treatment of Cancer (EORTC-C30, EORTC-C38), Short Form (SF)-36, Gastrointestinal quality of life index (GIQLI), EuroQoL (EQ)-5D, Quality of life index (QLI), Symptom Distress Scale (SDS) and Global Quality of Life. Follow-up ranged from two days to 6.7 years.

Two reviewers independently selected studies for inclusion. Disagreements were resolved through discussion with a third reviewer.

Assessment of study quality
Methodological quality was assessed by two independent reviewers using the Cochrane Collaboration risk of bias tool to investigate randomisation, allocation concealment, blinding, intention to treat, withdrawals and drop-outs.

Data extraction
Two independent reviewers used standard data extraction forms to extract data on primary and secondary end points, instruments, timing and results of the quality of life measures.

Methods of synthesis
The studies were combined using a narrative synthesis supported by tables.

Results of the review
Nine trials reported in 13 articles were included in the review. There were 2,263 participants: 1,257 had laparoscopic surgery and 1,006 had open surgery. Study quality was good. The highest area of potential bias was blinding of participants (in one out of nine studies) and blinding of study personnel (no studies).

There were no differences in postoperative quality of life following laparoscopic or open colorectal surgery in seven RCTs on short-term (one to 12 weeks) and long-term (three months to 6.7 years) follow-up.

Five RCTs found significant differences in quality of life in favour of laparoscopic surgery. However, the observed differences were found in subscales of the included quality of life tools at few and different timing intervals that ranged...
from one week to two years after surgery and only one of the studies reported adequate blinding of outcome assessors.

**Authors' conclusions**
There were no clinically relevant differences in postoperative quality of life between laparoscopic and open colorectal surgery.

**CRD commentary**
This review addressed a clear question supported by appropriate inclusion criteria. Relevant databases were searched without language restrictions. Publication bias was not considered in the report. Suitable methods to minimise risk of reviewer error and bias were reported for study selection, validity assessment and data extraction. The decision to present included studies narratively and not to pool studies in a meta-analysis was appropriate given the heterogeneity between studies. The number of data sets included in the review was unclear (the text stated nine trials in 13 articles and the table appeared to describe 12 different trials). The authors recognised some of the methodological difficulties with the review, specifically heterogeneity among studies. This review was carried out using robust methodology.

The authors’ conclusions appear to be based on the evidence and are likely to be reliable.

**Implications of the review for practice and research**
**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that randomised controlled trials that compared open and laparoscopic surgery were needed and should be well designed, sufficiently powered and focus on quality of life, in particular in the week following surgery where most differences were likely to occur.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.