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## Quality of life and patient satisfaction with enhanced recovery protocols

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### CRD summary

This review found no evidence that enhanced recovery after surgery protocols for patients who underwent colorectal surgery had an adverse affect on health-related quality of life or patient satisfaction compared with conventional surgery. The authors' conclusions broadly reflect the evidence presented, but the limitations of the evidence suggest that the conclusions should be regarded as provisional.

### Authors' objectives

To compare the effects of enhanced recovery after surgery (ERAS) protocols and conventional surgery on health-related quality of life (HRQoL) and patient satisfaction with treatment in patients undergoing colorectal surgery.

### Searching

PubMed, EMBASE and unspecified Cochrane Collaboration databases were searched from 1990 to February 2009. Search terms were reported. The search was limited to publications in English. Reference lists of relevant articles and the authors' personal files were screened to identify further relevant studies.

### Study selection

Studies were eligible if they compared HRQoL or patient satisfaction between patients who underwent colorectal surgery using ERAS or conventional surgery. HRQoL could be measured overall or expressed as an associated dimension such as pain, emotional state, daily activities and fatigue. Studies that focused solely on early postoperative pain were excluded.

The included studies used a variety of methods to measure HRQoL and its components. Most studies measured HRQoL from zero to six days and seven to 10 days after surgery and all studies except one did so at 30 days. Participants underwent a variety of surgical procedures for cancer and non-malignant disease. Details of the ERAS protocols used were not reported.

All abstracts retrieved by the searches were reviewed by one author and those that obviously did not meet the inclusion criteria were discarded. Remaining abstracts were reviewed independently by two authors. Any disagreements about inclusion were resolved by reading the full article or by arbitration by a third author.

### Assessment of study quality

Validity was assessed using the five-point Jadad scale for assessment of random sequence generation, allocation concealment and blinding.

Two authors independently assessed validity.

### Data extraction

Two authors independently extracted data on differences in outcomes between groups using a standardised spreadsheet.

### Methods of synthesis

A narrative synthesis by type of outcome (quality of life and patient satisfaction) was presented. Differences between studies were discussed in the text and were evident from tables.

### Results of the review

Nine studies reported on quality of life: four randomised controlled trials (RCTs) (168 participants) and five non-randomised controlled trials (438 participants). Scores on the Jadad scale ranged from zero to 2 out of 5. HRQoL was a primary outcome only for two of the non-randomised studies. One non-randomised study reported on patient satisfaction (number of participants not reported).

In the first week after surgery, five studies (three RCTs) examined fatigue. The RCTs found no significant differences and the non-randomised studies reported improved fatigue scores with ERAS. Six studies (four RCTs) reported on pain and two (one randomised) found significantly increased pain in the conventional surgery group and one RCT found significantly increased pain in the ERAS group.

At two to three weeks after surgery, pain (five studies) and multidimensional HRQoL measures (two studies) showed no differences between ERAS treated and conventionally treated patients. Increased fatigue after conventional surgery was reported in two non-randomised studies. Limitations in activities of daily living after conventional surgery were reported in one non-randomised study. Three studies reported no significant difference in fatigue.

Beyond 30 days after surgery, there were no differences in HRQoL. The one study that reported on patient satisfaction showed no differences between groups 30 days after surgery.

### **Authors' conclusions**

There was no evidence that ERAS protocols had an adverse affect on HRQoL or patient satisfaction and some aspects of HRQoL may have been improved by ERAS compared with conventional surgery.

### **CRD commentary**

The review question and inclusion criteria were generally clear. The authors searched a range of relevant sources. The search was limited to studies in English, so some relevant studies may have been missed. Publication bias was not assessed and the risk of this bias in the review was uncertain.

Initial study selection was done by a single reviewer, so there was a risk of reviewer errors and bias at this stage. Appropriate methods were used to minimise errors and bias in other review processes.

Validity of the included studies was assessed using a standard checklist. The authors distinguished between evidence from RCTs and non-randomised studies in the synthesis. It was unclear whether the included non-randomised studies were experimental or observational, but all were at high risk of bias. Most of the included studies had HRQoL as a secondary outcome and the studies may have been too small to detect any differences. A narrative synthesis was appropriate in view of the heterogeneity of outcome measures in the included studies. Heterogeneity in interventions was difficult to assess as no details of the ERAS or conventional protocols were reported.

The authors' conclusions broadly reflect the evidence presented, but the limitations of the evidence suggest that the conclusions should be regarded as provisional. The authors' recommendations for further research seem appropriate.

### **Implications of the review for practice and research**

Practice: The authors did not state any implications for practice.

Research: The authors stated that further studies needed sufficient statistical power to detect differences between groups. Studies should use validated multidimensional HRQoL measures, measure outcomes frequently soon after discharge and clearly document the components of the ERAS protocol.

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