

## Enhanced Recovery After Surgery in Laparoscopic Cholecystectomy – A Systematic Review

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### Abstract

**Background and Aim:** Enhanced Recovery After Surgery (ERAS) is a modern concept that aims to improve the perioperative patient care by implementing an evidence-based, patient-centered team approach. This paper aims to analyze the outcome, variations and limits of the ERAS-protocols used for laparoscopic cholecystectomy.

**Methods:** We performed a systematic review on PubMed, Google Scholar, Web of Science to document the outcomes of applying various ERAS protocols in laparoscopic cholecystectomy (LC). After applying the inclusion and exclusion criteria, 8 papers, totaling 1453 patients that underwent LC, were included in the qualitative analysis. ERAS-protocols applied in those studies include various pre-, intra- and postoperative measures intended to boost the surgical recovery of the patients and shorten their hospital stay, without exposing them to hazardous encounters.

**Results:** Patients undergoing laparoscopic cholecystectomy within an ERAS-specific protocol are proven to have lower levels of postoperative pain, nausea and vomiting, with no statistically significant risk of postoperative complications. The postoperative results show that ERAS-laparoscopic cholecystectomy is a feasible and safe procedure, that may shorten the postoperative recovery after LC.

**Conclusions:** Further studies are needed to establish a consensus regarding the perioperative protocol, before implementing ERAS for LC in clinical routine.

**Key words:** enhanced recovery after surgery (ERAS), laparoscopic cholecystectomy, minimally invasive, postoperative pain, outcomes