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Reference 5

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### **MECHANICAL BOWEL PREPARATION FOR ELECTIVE COLORECTAL SURGERY: A META-ANALYSIS**

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**HYPOTHESIS:** There is little scientific evidence to support the routine practice of mechanical bowel preparation (MBP) before elective colorectal surgery in order to minimize the risk of postoperative septic complications.

**DATA SOURCES:** Trials were retrieved using a MEDLINE search followed by a manual search of the bibliographic information in select articles. Languages were restricted to English, French, Spanish, Italian, and German. There was no date restriction.

**STUDY SELECTION:** Only prospective randomized clinical trials (RCTs) evaluating MBP vs. no MBP before elective colorectal surgery were included.

**DATA EXTRACTION:** Outcomes evaluated were anastomotic leakage, intra-abdominal infection, wound infection, reoperation, and general and extra-abdominal morbidity and mortality rates. Data were extracted by 2 independent observers.

**DATA SYNTHESIS:** Seven RCTs were retrieved. The total number of patients in these RCTs was 1297 (642 who had received MBP and 655 who had not). Among all the RCTs reviewed, anastomotic leak was significantly more frequent in the MBP group, 5.6% (36/642), compared with the no-MBP group, 2.8% (18/655) (odds ratio, 1.84;  $P = .03$ ). Intra-abdominal infection (3.7% for the MBP group vs. 2.0% for the no-MBP group), wound infection (7.5% for the MBP group vs. 5.5% for the no-MBP group), and reoperation (5.2% for the MBP group vs. 2.2% for the no-MBP group) rates were nonstatistically significantly higher in the MBP group. General morbidity and mortality rates were slightly higher in the MBP group.

**CONCLUSIONS:** There is no evidence to support the use of MBP in patients undergoing elective colorectal surgery. Available data tend to suggest that MBP could be harmful with respect to the incidence of anastomotic leak and does not reduce the incidence of septic complications.