



Μηχανικός καθαρισμός του παχέος εντέρου και σηπτικές επιπλοκές: τεκμηριωμένες ενδείξεις έναντι κλινικών πρακτικών

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ΓΕΝΙΚΟ ΝΟΣΟΚΟΜΕΙΟ ΠΕΙΡΑΙΑ
2η ΔΥΠΕ ΠΕΙΡΑΙΩΣ & ΑΙΓΑΙΟΥ

Σύγκρουση συμφερόντων

Δηλώνω ότι δεν έχω καμία σύγκρουση
συμφερόντων

Εισαγωγή - «συνήθης πρακτική»

- Πολλές δεκαετίες ο μηχανικός καθαρισμός του εντέρου (ΜΚΕ) πριν από ορθοκολικά χειρουργεία θεωρείται ένα από τους σημαντικούς παράγοντες **ελάττωσης του κινδύνου εμφάνισης αναστομωτικής διαφυγής** και των επακόλουθων σηπτικών επιπλοκών

Ενδείξεις - «τί ισχύει»

- Πολλές τυχαιοποιημένες μελέτες και μετα-αναλύσεις έχουν πλέον δείξει ότι ο ΜΚΕ **δεν έχει σχετιστεί** με μικρότερα ποσοστά αναστομωτικής διαφυγής και σηπτικών επιπλοκών
- Συνιστούν ότι πρέπει να εγκαταλειφθεί ως πρακτική

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Ενδείξεις - «αλλαγή πρακτικής»

- Ήδη από το 1973 μελέτες έδειξαν ότι ο συνδυασμός του ΜΚΕ με τη χορήγηση αντιβιοτικών per os (**OABP – oral antibiotic bowel preparation**), ελάττωσε το ποσοστό των λοιμώξεων του χειρουργικού πεδίου από το 46% στο 9%.

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Σηπτικές επιπλοκές

- Αναστομωτική διαφυγή
- Περιτονίτιδα
- Ενδοκοιλιακό απόστημα
- Λοιμώξεις χειρουργικής τομής
- Λοιμώξεις από CL. Difficile

Ποια επίπτωση έχει ο μηχανικός καθαρισμός του εντέρου στην εμφάνιση
σηπτικών επιπλοκών

ΜΗΧΑΝΙΚΟΣ ΚΑΘΑΡΙΣΜΟΣ ΤΟΥ ΕΝΤΕΡΟΥ

ORIGINAL ARTICLE

Randomized controlled trial of mechanical bowel preparation for laparoscopy-assisted colectomy

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Abstract

Introduction: The benefit of mechanical bowel preparation (MBP) before open colon surgery has been debated over the last decade. The aim of this randomized controlled trial was to evaluate the effect of MBP on the outcome of patients who underwent elective laparoscopic colectomy.

Methods: Patients who were scheduled to undergo elective laparoscopic colon resection with primary anastomosis were randomly allocated to a preoperative MBP group (either two bottles of sodium phosphate or 2-L polyethylene glycol) or a no-MBP group. Anastomotic leakage and other complications such as surgical-site infection and extra-abdominal complications were recorded postoperatively.

Results: In this study, 122 patients were recruited and randomly allocated to the MBP group ($n = 62$) or the no-MBP group ($n = 60$). Demographic and clinical characteristics were not significantly different between the two groups. The rate of abdominal complications, including anastomotic leak and surgical-site infection, was 16.2% in the MBP group and 18.3% in the no-MBP group ($P = 0.747$). Anastomotic leakage occurred in four patients (6.5%) in the MBP group and in two patients (3.3%) in no-MBP group ($P = 0.680$). About 29% of patients in the MBP group still had either liquid or solid content in the bowel. No significant difference was found between the length of hospital stay in the MBP group and the no-MBP group (9.0 ± 2.9 vs 8.4 ± 1.9 days, $P = 0.180$).

Conclusions: Elective laparoscopic colectomy without MBP is safe and offers acceptable postoperative morbidity.



Laparoscopic colon resection: To prep or not to prep? Analysis of 1535 patients

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Abstract

Background Mechanical bowel preparation (MBP) before elective open colon resection does not reduce the rate of postoperative anastomotic leakage. However, MBP is still routinely used in many countries, and there are very limited data regarding the utility of preoperative MBP in patients undergoing laparoscopic colon resection (LCR). The aim of this study was to challenge the use of MBP before elective LCR.

Methods It is a retrospective analysis of a prospectively collected database. All patients undergoing elective LCR with primary anastomosis and no stoma were included. Preoperative MBP with polyethylene glycol solution was used routinely between April 1992 and December 2004, and then it was abandoned. The early postoperative outcomes in patients who had preoperative MBP (MBP group) and in patients who underwent LCR without preoperative MBP (No-MBP group) were compared.

Results From April 1992 to December 2014, 1535 patients underwent LCR: 706 MBP patients and 829 No-MBP patients. There were no differences in demographic data, indication for surgery and type of procedure performed between MBP and No-MBP group patients. The incidence of anastomotic leakage was similar between the two groups (3.4 vs. 3.6 %, $p = 0.925$). No differences were observed in intra-abdominal abscesses (0.6 vs. 0.8 %, $p = 0.734$), wound infections (0.6 vs. 1.4 %, $p = 0.149$),

infectious extra-abdominal complications (1.8 vs. 3 %, $p = 0.190$), and non-infectious complications (6.1 vs. 6.8 %, $p = 0.672$). The overall reoperation rate was 4.6 % for MBP patients and 5 % for No-MBP patients ($p = 0.813$).

Conclusion The use of preoperative MBP does not seem to be associated with lower incidence of intra-abdominal septic complications after LCR.

Keywords Mechanical bowel preparation · Laparoscopy · Colon · Anastomotic leakage · Morbidity

Mechanical bowel preparation (MBP) before colorectal surgery has been considered for many decades as one of the most important factors to decrease the risk of postoperative anastomotic leakage and infectious complications [1].

Randomized controlled trials (RCTs) [2–13] and meta-analyses [14] have shown that MBP before elective open colon resection does not lead to lower rates of postoperative anastomotic leakages and septic complications, suggesting that it should be omitted. However, preoperative MBP is still routinely used in many countries [15–19].

To date, it is not clear whether the results reported after open colon surgery can be extrapolated to LCR [20]. Data regarding the effects of preoperative MBP in patients undergoing elective laparoscopic colon resection (LCR) are very limited. Only a few and small underpowered

The Impact of Bowel Preparation on the Severity of Anastomotic Leak in Colon Cancer Patients

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Background and Objectives: The routine use of preoperative bowel preparation (BP) is heavily debated in the colorectal surgery literature. To date, no study has investigated the effect preoperative BP has on patients with an established anastomotic leak. We therefore seek to compare the severity of patient morbidity and mortality in patients with a known anastomotic leak based on type of preoperative BP using the Targeted Colectomy American College of Surgeons National Surgery Quality Improvement Program (ACS-NSQIP).

Methods: All elective colon cancer operations performed with primary anastomosis were identified within the targeted colectomy database from 2012 to 2013. Patients who experienced a postoperative anastomotic leak were identified and stratified based on preoperative BP. Variables that had an association with mechanical BP at $P < 0.10$ were included in a multivariate logistic regression model to determine if BP was independently associated with postoperative morbidity and mortality.

Results: A total of 6,297 patients underwent elective colon resection with primary anastomosis for colon cancer. Two hundred and nineteen (3.5%) patients experienced an anastomotic leak. Thirty-day wound morbidity and mortality was not worse in patients who underwent preoperative BP.

Conclusions: BP is not associated with worse patients outcomes in those patients with an established anastomotic leak following elective colon research with primary anastomosis.

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Mechanical bowel preparation for elective colorectal surgery

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Main results For the comparison mechanical bowel preparation (Group A) versus no mechanical bowel preparation (Group B) results were: (1) **anastomotic leakage for low anterior resection**: 8.8% (38/431) of Group A, compared with 10.3% (43/415) of Group B; Peto OR 0.88 [0.55, 1.40]. (2) **Anastomotic leakage for colonic surgery**: 3.0% (47/1559) of Group A, compared with 3.5% (56/1588) of Group B; Peto OR 0.85 [0.58, 1.26]. (3) **Overall anastomotic leakage**: 4.4% (101/2275) of Group A, compared with 4.5% (103/2258) of Group B; Peto OR 0.99 [0.74, 1.31]. (4) **Wound infection**: 9.6% (223/2305) of Group A, compared with 8.5% (196/2290) of Group B; Peto OR 1.16

[0.95, 1.42]. Sensitivity analyses did not produce any differences in overall results. For the comparison mechanical bowel preparation (A) versus **rectal enema** (B) results were: (1) **anastomotic leakage after rectal surgery**: 7.4% (8/107) of Group A, compared with 7.9% (7/88) of Group B; Peto OR 0.93 [0.34, 2.52]. (2) **Anastomotic leakage after colonic surgery**: 4.0% (11/269) of Group A, compared with 2.0% (6/299) of Group B; Peto OR 2.15 [0.79, 5.84]. (3) **Overall anastomotic leakage**: 4.4% (27/601) of Group A, compared with 3.4% (21/609) of Group B; Peto OR 1.32 [0.74, 2.36]. (4) **Wound infection**: 9.9% (60/601) of Group A, compared with 8.0% (49/609) of Group B; Peto OR 1.26 [0.85, 1.88].

Authors' conclusions There is no statistically significant evidence that patients benefit from mechanical bowel preparation, nor the use of rectal enemas. Further research on patients having elective rectal surgery, below the peritoneal reflection, in whom bowel continuity is restored, and studies with patients having laparoscopic surgery are still warranted.

Mechanical Bowel Preparation (MBP) Prior to Elective Colorectal Resections in Crohn's Disease Patients

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Background: Studies addressing the role of mechanical bowel preparation (MBP) in Crohn's disease (CD) patients are lacking.

Methods: Consecutive elective colorectal resections for CD have been included in the present analysis. Exclusion criteria were small bowel resections not including colon, urgent surgeries, surgeries for cancer, and abdominoperineal resections for perianal disease. MBP was performed routinely between 1992 and 2004, omitted between 2005 and 2015, and reintroduced in 2016. Intraabdominal septic complications (IASC) were anastomotic leakage, intraabdominal abscess, intestinal fistula, and peritonitis.

Results: Overall, 680 bowel resections for CD have been performed between 1992 and 2017. After exclusion of the abovementioned patients, 549 patients were included in the present analysis. The IASC rate was 12% in patients undergoing surgery after MBP as opposed to 24% when MBP was omitted ($P < 0.001$). By the multivariate analysis, preoperative MBP significantly reduced the risk of IASC (Hazard ratio 0.45; 95% CI, 0.23 – 0.86; $P = 0.016$). Preoperative weight loss (HR 2.0; 95% CI, 1.1 – 3.6; $P = 0.024$), penetrating disease (HR 2.6; 95% CI, 1.3 – 5.4; $P = 0.01$), and stapled as opposed to hand-sewn ileocolic anastomosis (HR 3.3; 95% CI, 1.4 – 7.7; $P = 0.006$) were associated with an increased risk of IASC. The positive impact of MBP was strongest on anastomotic complication rate in patients undergoing ileocolic resections for penetrating disease (11% vs 36%, $P < 0.001$).

Conclusion: Preoperative MBP should be strongly considered before colorectal surgery in patients with CD, especially in patients undergoing ileocolic resections for penetrating disease.

Ενδείξεις δείχνουν ότι είναι η καλύτερη μέθοδος αποφυγής των σηπτικών επιπλοκών που σχετίζονται με την ορθοκολική χειρουργική.

ΣΥΝΔΥΑΣΜΟΣ ΑΝΤΙΒΙΟΤΙΚΩΝ ΚΑΙ ΜΗΧΑΝΙΚΟΥ ΚΑΘΑΡΙΣΜΟΥ ΤΟΥ ΕΝΤΕΡΟΥ

Combined Preoperative Mechanical Bowel Preparation With Oral Antibiotics Significantly Reduces Surgical Site Infection, Anastomotic Leak, and Ileus After Colorectal Surgery

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(Ann Surg 2015;262:416–425)

Results: Of 8442 patients, 2296 (27.2%) had no-prep, 3822 (45.3%) MBP+/ABX–, and 2324 (27.5%) MBP+/ABX+. Baseline characteristics were similar; however, there were marginally more patients with prior sepsis, ascites, steroid use, bleeding disorders, and disseminated cancer in no-prep. MBP with or without antibiotics was associated with reduced ileus [MBP+/ABX+: odds ratio (OR) = 0.57, 95% confidence interval (CI): 0.48–0.68; MBP+/ABX–: OR = 0.78, 95% CI: 0.68–0.91] and SSI [MBP+/ABX+: OR = 0.39, 95% CI: 0.32–0.48; MBP+/ABX–: OR = 0.80, 95% CI: 0.69–0.93] versus no-prep. MBP+/ABX+ was also associated with lower anastomotic leak rate than no-prep [OR = 0.45 (95% CI: 0.32–0.64)]. On multivariable analysis, MBP with antibiotics, but not without, was independently associated with reduced anastomotic leak (OR = 0.57, 95% CI: 0.35–0.94), SSI (OR = 0.40, 95% CI: 0.31–0.53), and postoperative ileus (OR = 0.71, 95% CI: 0.56–0.90).

Conclusions: These data clarify the near 50-year debate whether bowel preparation improves outcomes after colorectal resection. MBP with oral antibiotics reduces by nearly half, SSI, anastomotic leak, and ileus, the most common and troublesome complications after colorectal surgery.

Benefits of Bowel Preparation Beyond Surgical Site Infection

A Retrospective Study

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Ann Surg. 2016 Dec;264(6):1051-1057.

Results: The cohort included 19,686 patients. Of these 5060 (25.7%) patients did not receive any form of bowel preparation, 8020 (40.7%) received MBP only, 641 (3.3%) received OABP only, and 5965 (30.3%) received MBP plus OABP. Patients who received MBP plus OABP had a lower incidence of superficial SSI, deep SSI, organ space SSI, any SSI, anastomotic leak, postoperative ileus, sepsis, readmission, and reoperation compared with patients who received neither (all $P < 0.01$). The reduction in SSI incidence was associated with a reduction in wound dehiscence, anastomotic leak, pneumonia, prolonged requirement of mechanical ventilator, sepsis, septic shock, readmission, and reoperation.

Conclusions: Combined MBP plus OABP before elective colectomy was associated with reduced SSI, which ultimately was associated with a reduction in non-SSI-related complications.

Combined Mechanical and Oral Antibiotic Bowel Preparation Reduces Incisional Surgical Site Infection and Anastomotic Leak Rates After Elective Colorectal Resection

An Analysis of Colectomy-Targeted ACS NSQIP

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(*Ann Surg* 2015;262:331-337)

Results: A total of 4999 patients were included for this study [1494 received (29.9%) combined mechanical and OAP, 2322 (46.5%) received mechanical preparation only, 91 (1.8%) received OAP only, and 1092 (21.8%) received no preoperative preparation]. Compared to patients receiving no preoperative preparation, patients who received combined preparation demonstrated a lower 30-day incidence of postoperative incisional surgical site infection (3.2% vs 9.0%, $P < 0.001$), anastomotic leakage (2.8% vs 5.7%, $P = 0.001$), and procedure-related hospital readmission (5.5% vs 8.0%, $P = 0.03$). The outcomes of patients who received either mechanical or OAP alone did not differ significantly from those who received no preparation.

Conclusions: Combined bowel preparation with mechanical cleansing and oral antibiotics results in a significantly lower incidence of incisional surgical site infection, anastomotic leakage, and hospital readmission when compared to no preoperative bowel preparation.



Preoperative oral antibiotic bowel preparation in elective resectional colorectal surgery reduces rates of surgical site infections: a single-centre experience with a cost-effectiveness analysis

INTRODUCTION Surgical site infections cause considerable postoperative morbidity and mortality. The aim of this study was to determine the effect on surgical site infection rates following introduction of a departmental oral antibiotic bowel preparation protocol.

METHODS A prospective single-centre study was performed for elective colorectal resections between May 2016–April 2018; with a control group with mechanical bowel preparation and treatment group with oral antibiotic bowel preparation (neomycin and metronidazole) and mechanical bowel preparation. The primary outcome of surgical site infection and secondary outcomes of anastomotic leak, length of stay and mortality rate were analysed using Fisher's exact test and independent samples *t*-tests. A cost-effectiveness analysis was also performed.

RESULTS A total of 311 patients were included; 156 in the mechanical bowel preparation group and 155 in the mechanical bowel preparation plus oral antibiotic bowel preparation group. The study included 180 (57.9%) men and 131 (42.1%) women with a mean age of 68 years. There was a **significant reduction in surgical site infection rates** (mechanical bowel preparation 16.0% vs mechanical bowel preparation plus oral antibiotic bowel preparation 4.5%; $P = 0.001$) **and mean length of stay** (mechanical bowel preparation 10.2 days vs mechanical bowel preparation plus oral antibiotic bowel preparation 8.2 days; $P = 0.012$). There was also **a reduction in anastomotic leak and mortality rates**. Subgroup analyses demonstrated significantly **reduced surgical site infection rates in laparoscopic resections** ($P = 0.008$). There was an estimated **cost saving** of £239.13 per patient and £37,065 for our institution over a one-year period.

CONCLUSION Oral antibiotic bowel preparation is a feasible and cost-effective intervention shown to significantly reduce the rates of surgical site infection and length of stay in elective colorectal surgery.

Association of mechanical bowel preparation with oral antibiotics and anastomotic leak following left sided colorectal resection: an international, multi-centre, prospective audit

The 2017 European Society of Coloproctology (ESCP) collaborating group

European Society of Coloproctology (ESCP) Cohort Studies Committee, Department of Colorectal Surgery, University of Birmingham, Birmingham, UK

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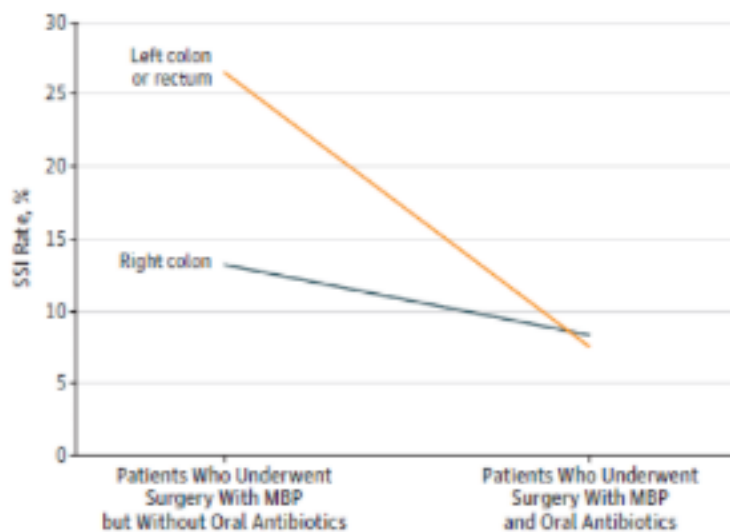
- 3676 ασθενείς (347 κέντρα, 47 χώρες)
- 16,8% (MBP+ABx) – 52,9% (MBP) – 29,9% NBP
- Anastomotic leakage:
 - **6,1% (MBP+ABx)**
 - 9,2% (MBP)
 - 8,7% (NBP)

with leak were more likely to be male, have undergone a low or middle rectal anastomosis, neoadjuvant therapy, a handsewn anastomosis, a defunctioning ileostomy, or had a planned admission to critical care from theatre.

Association of the Addition of Oral Antibiotics to Mechanical Bowel Preparation for Left Colon and Rectal Cancer Resections With Reduction of Surgical Site Infections

JAMA Surgery Published online October 18, 2017

Characteristic	Patients, No. (%)		P Value
	No OA (n = 49)	OA + MBP (n = 40)	
Surgical site infection ^a	13 (27)	3 (8)	.03
Superficial	4 (8)	3 (8)	.99
Deep	1 (2)	0	.99
Organ space	9 (18)	0	.004
Anastomotic leak	5 (10)	0	.06



Μήπως τελικά η χορήγηση μόνο του αντιβιοτικού χωρίς μηχανικό καθαρισμό έχει το ίδιο αποτέλεσμα;

MONO ANTIBIOTIKA

Is There a Role for Oral Antibiotic Preparation Alone Before Colorectal Surgery? ACS-NSQIP Analysis by Coarsened Exact Matching

RESULTS: A total of 40,446 patients were analyzed: 13,219 (32.7%), 13,935 (34.5%), and 1572 (3.9%) in the no-preparation, mechanical bowel preparation alone, and oral antibiotic preparation alone groups, and 11,720 (29.0%) in the combined preparation group. After matching, 9800, 1461, and 8819 patients

ctum 2017; 60: 729-737

CONCLUSIONS: Oral antibiotic preparation alone significantly reduced surgical site infection, anastomotic leak, postoperative ileus, and major morbidity after elective colorectal surgery. A combined regimen of oral antibiotics and mechanical bowel preparation offered no superiority when compared with oral antibiotics alone

but not mortality (OR, 0.52; 95% CI, 0.08-1.18), whereas a regimen of combined oral antibiotics and mechanical bowel preparation was protective for all 5 major outcomes. When directly compared with oral antibiotic preparation alone, the combined regimen was not associated with any difference in any of the 5 postoperative outcomes.

Η χορήγηση αντιβιοτικών από του στόματος μήπως αυξάνει τη συχνότητα λοιμώξεων από *clostridium difficile*;

ΛΟΙΜΩΞΗ ΑΠΟ CL. DIFFICILE

ORIGINAL ARTICLE



Effect of Inclusion of Oral Antibiotics with Mechanical Bowel Preparation on the Risk of Clostridium Difficile Infection After Colectomy

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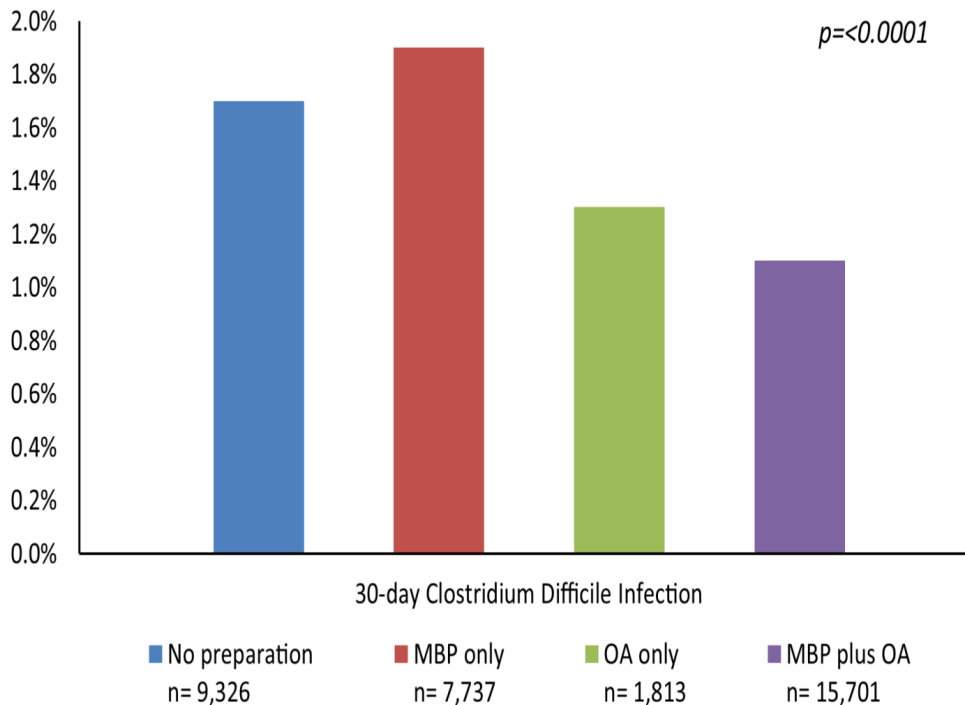
Abstract

Background/Purpose While the use of oral antibiotic (OA) for bowel preparation is gaining popularity, it is unknown whether it increases the risk of *Clostridium difficile* infection (CDI). This study aimed to evaluate the impact of OA on the development of CDI after colectomy.

Methods Patients who underwent colectomy from the ACS-NSQIP data (2015 and 2016) were included. Patients who received OA as bowel preparation were compared to those who did not with respect to demographics, comorbidities, primary diagnosis, procedure type and approach, and 30-day postoperative complications. Multivariable analysis was performed to characterize the association between OA and CD infection after colectomy. A sub-group analysis was also conducted for patients who did not develop any postoperative infectious complication.

Results Of 36,374 included patients, 18,177 (50%) received OA and 527 (1.4%) developed CDI for the whole cohort. OA group had more younger, functionally independent and obese patients with lower American Society of Anesthesiologists and wound class. Smoking, diabetes, hypertension, dyspnea or ventilator-dependence, congestive heart failure, disseminated cancer, bleeding disorder, and perioperative transfusion were significantly higher for non-OA group. Mechanical bowel preparation, minimally invasive surgery, conversion to open and operative duration ≥ 180 min were more prevalent in the OA group. The OA group had significantly reduced occurrence of CDI; superficial, deep, and organ space infections; wound disruption; anastomotic leak; reoperation; and infections including sepsis, septic shock, pneumonia, and urinary tract infection. On multivariable analysis, OA reduced the odds for CDI after colectomy (OR = 0.6, 95% CI = [0.5–0.8]). For patients who did not develop infectious postoperative complications, OA was associated with lower risk of CDI (OR = 0.7, CI = [0.5–0.9]). While complications, reoperation, and readmission rates were the same, postoperative ileus and hospital stay were significantly lower for those who developed CDI after receiving OA when compared to non-OA.

Conclusion The use of OA as bowel preparation may reduce, rather than increase, the risk of 30-day CDI after colectomy. This effect may partly be due to the other recovery advantages associated with oral antibiotics. These data further support current data recommending the use of oral antibiotics for bowel preparation before colectomy.



MBP: Mechanical bowel preparation

OA: Oral antibiotic

*n= 1,797 (4.9%) were not illustrated - had missing data on MBP

**p-value represents the significance of the difference in CDI comparing the various methods of bowel preparation.

Τί γίνεται στην Ελλάδα

ΚΛΙΝΙΚΗ ΠΡΑΚΤΙΚΗ

Live statistics

- Πόσοι χρησιμοποιείτε προετοιμασία του εντέρου;
- Πόσοι χρησιμοποιείτε προεγχειρητικά αντιβιοτικά από του στόματος;
- Πόσοι χρησιμοποιείτε αντιβιοτικά ενδοφλέβια;

Προσωπική έρευνα

- 35 φίλους χειρουργούς από όλη την Ελλάδα
- Survey monkey

The screenshot shows the SurveyMonkey interface. At the top is a green navigation bar with links for Dashboard, My Surveys, and Plans & Pricing. On the right of this bar are buttons for 'UPGRADE' and 'CREATE SURVEY'. Below the navigation bar is a notification bar that says 'Notify others when new results come in for this survey. [Notify others now »](#)'. The main content area has a title 'Μηχανικός Καθαρισμός του Εντέρου'. Below the title is a progress bar with steps: SUMMARY (highlighted), DESIGN SURVEY, PREVIEW & SCORE, COLLECT RESPONSES, ANALYZE RESULTS, and PRESENT RESULTS. The main content is divided into two columns: 'Survey Design' and 'Responses and Status'. The 'Survey Design' column shows the survey title and creation date. The 'Responses and Status' column shows 'TOTAL RESPONSES' as 35, 'OVERALL SURVEY STATUS' as CLOSED, and 'RESPONSE ALERTS' with a 'Manage Alerts' link. An 'ANALYZE RESULTS' button is located at the top right of the 'Responses and Status' column.

Dashboard My Surveys Plans & Pricing [UPGRADE](#) [CREATE SURVEY](#)

Notify others when new results come in for this survey. [Notify others now »](#)

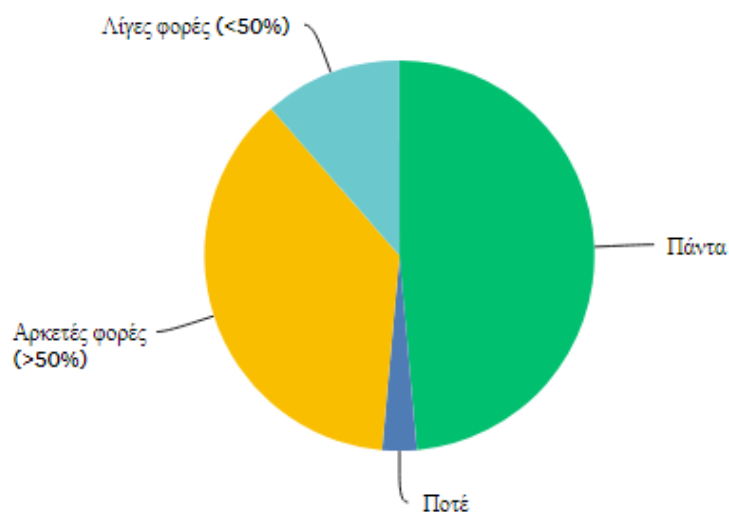
Μηχανικός Καθαρισμός του Εντέρου

[SUMMARY](#) → [DESIGN SURVEY](#) → [PREVIEW & SCORE](#) → [COLLECT RESPONSES](#) → [ANALYZE RESULTS](#) → [PRESENT RESULTS](#)

Survey Design	Responses and Status		
<p>Μηχανικός Καθαρισμός του Εντέρου</p> <p>Created on 11/12/2018</p>	<p>TOTAL RESPONSES</p> <p>35</p>	<p>OVERALL SURVEY STATUS</p> <p>CLOSED</p>	<p>ANALYZE RESULTS</p> <p>RESPONSE ALERTS ⓘ</p> <p>You get them, others do not.</p> <p>Manage Alerts</p>

Στις προγραμματισμένες επεμβάσεις του παχέος εντέρου χρησιμοποιείτε τον κλασικό μηχανικό καθαρισμό του εντέρου

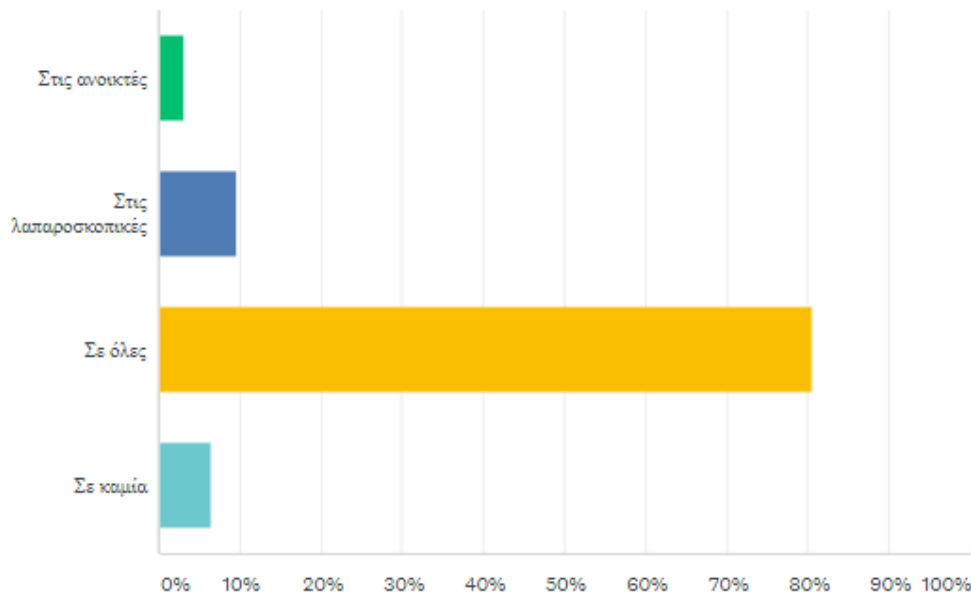
Answered: 35 Skipped: 0



ANSWER CHOICES	RESPONSES	
▼ Πάντα	48.57%	17
▼ Ποτέ	2.86%	1
▼ Αρκετές φορές (>50%)	37.14%	13
▼ Λίγες φορές (<50%)	11.43%	4
TOTAL		35

Σε ποιές ορθοκολικές επεμβάσεις προετοιμάζετε το έντερο;

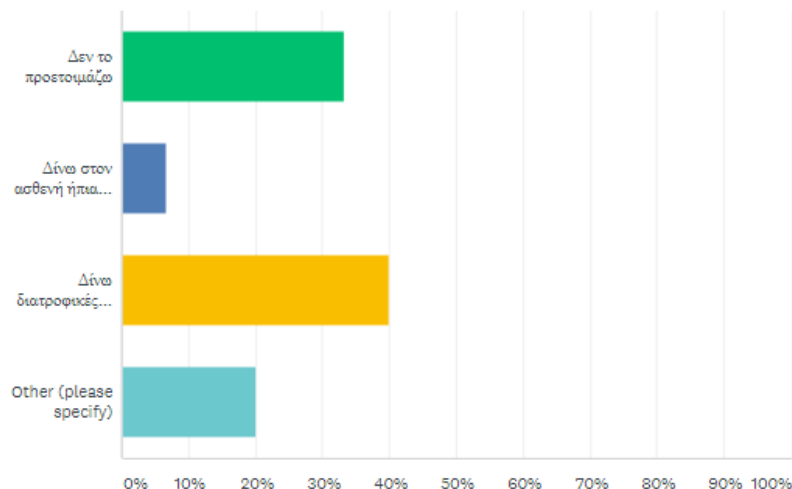
Answered: 31 Skipped: 4



ANSWER CHOICES	RESPONSES	
▼ Στις ανοικτές	3.23%	1
▼ Στις λαπαροσκοπικές	9.68%	3
▼ Σε όλες	80.65%	25
▼ Σε καμία	6.45%	2
TOTAL		31

Όταν δεν δίνετε μηχανικό καθαρισμό του εντέρου πώς προετοιμάζετε το έντερο;

Answered: 30 Skipped: 5



ANSWER CHOICES

RESPONSES

▼ Δεν το προετοιμάζω	33.33%	10
▼ Δίνω στον ασθενή ήπια υπακτικά (παραφινέλαιο, duohalac, κλπ) για μια εβδομάδα πριν το χειρουργείο	6.67%	2
▼ Δίνω διατροφικές οδηγίες τύπου υδρικής διαίτας, χαμηλού υπολλείματος	40.00%	12
▼ Other (please specify)	20.00%	6

☐ Δεν προετοιμάζω μόνο στις δεξιές κολεκτομές

11/13/2018 1:28 AM

[View responses](#)

☐ Fleet enema μόνο. Μόνο ΧΠΕ/coloanal + προφυλακτική ειλεοστομία πλήρης προετοιμασία εντέρου

11/12/2018 10:26 PM

[View responses](#)

☐ Σε δεξιά κολεκτομή δύο υψηλοί υποκλυσμοί

11/12/2018 9:45 PM

[View responses](#)

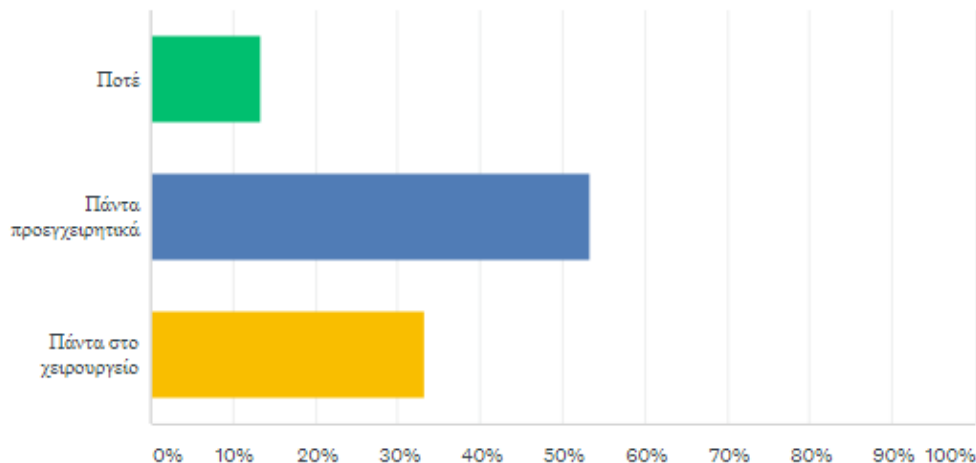
Ποιά από τα παρακάτω θεωρείτε ότι αποτελούν πλεονεκτήματα για τον ασθενή που λαμβάνει μηχανικό καθαρισμό του εντέρου;

ANSWER CHOICES ▼	RESPONSES ▼	
▼ Ευκολότερος χειρισμός του εντερου	10.00%	3
▼ Αποφυγή διασποράς κοπράνων στο χειρουργικό πεδίο	23.33%	7
▼ Μικρότερη πιθανότητα λοίμωξης του χειρουργικού πεδίου (εν τω βαθει & τομή)	20.00%	6
▼ Αποφυγή της διέλευσης κοπράνων από την αναστόμωση άμεσα μετεγχειρητικά	16.67%	5
▼ Αποφυγή πιθανού μετεγχειρητικού ειλεού	0.00%	0
▼ Λιγότερες αναστομωτικές διαφυγές	6.67%	2
▼ Δεν έχει κανένα από τα παραπάνω πλεονεκτήματα	23.33%	7
TOTAL	30	



Στις επεμβάσεις του ορθού καθαρίζετε μηχανικά (με υποκλυσμό) το ορθό προκειμένου να εισάγεται τον κυκλικό αναστομωτήρα σε καθαρό πεδίο;

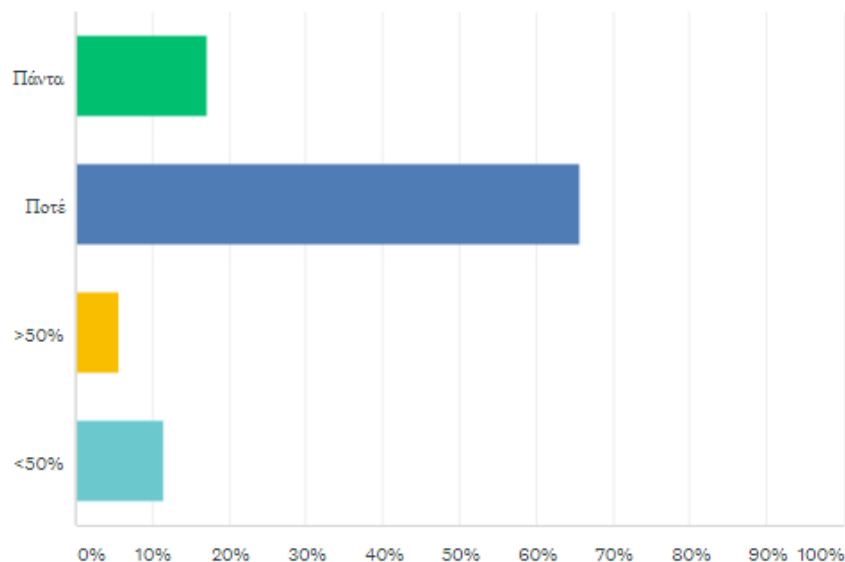
Answered: 30 Skipped: 5



ANSWER CHOICES	RESPONSES	
▼ Ποτέ	13.33%	4
▼ Πάντα προεγχειρητικά	53.33%	16
▼ Πάντα στο χειρουργείο	33.33%	10
TOTAL		30

Πόσο συχνά χρησιμοποιείτε την από του στόματος χορηγούμενη αντιβιοτική αγωγή άσχετα με τη χρήση ή μη μηχανικού καθαρισμού;

Answered: 35 Skipped: 0



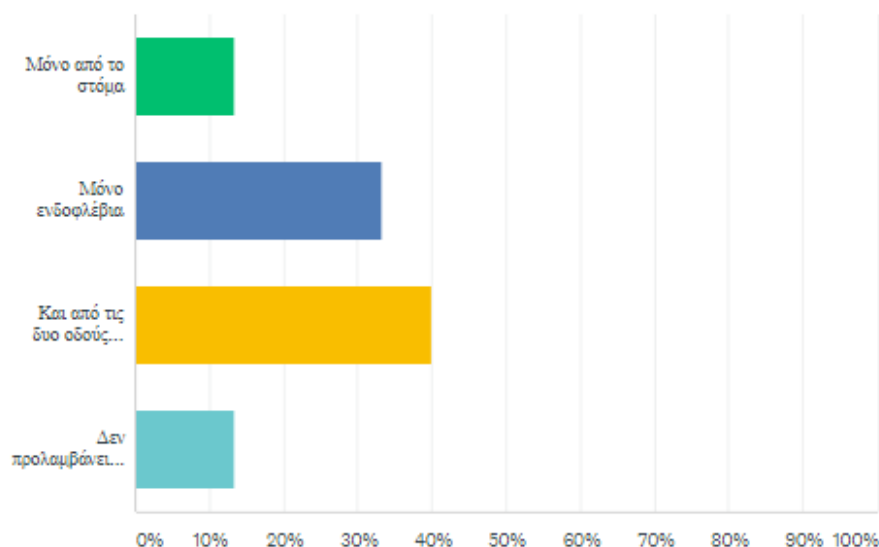
ANSWER CHOICES	RESPONSES	
▼ Πάντα	17.14%	6
▼ Ποτέ	65.71%	23
▼ >50%	5.71%	2
▼ <50%	11.43%	4
TOTAL		35

Ποιά αντιβιοτική αγωγή χορηγείτε από του στόματος;

Αντιβιοτικά per os	n
Μετρονιδαζόλη	7
Μετρονιδαζόλη+Κεφαλοσπορίνη	1
Μετρονιδαζόλη+Κοτριμοξαζόλη	1
Μετρονιδαζόλη+Κινολόνη	1
Μετρονιδαζόλη+Ερυθρομυκίνη	1
Κλαριθρομυκίνη	1
Ερυθρομυκίνη	2
Κεφακλόρη	2
Νεομυκίνη	1

Θεωρείτε ότι η αντιβιοτική αγωγή έχει καλύτερη αποτελεσματικότητα όσον αφορά στις πιθανές σηπτικές επιπλοκές (αναστομωτική διαφυγή, λοίμωξη χειρουργικού πεδίου, κλπ) όταν χορηγείται

Answered: 30 Skipped: 5



ANSWER CHOICES	RESPONSES	
▼ Μόνο από το στόμα	13.33%	4
▼ Μόνο ενδοφλέβια	33.33%	10
▼ Και από τις δυο οδούς χορήγησης	40.00%	12
▼ Δεν προλαμβάνει ποτε	13.33%	4
TOTAL		30

Μηχανικός Καθαρισμός το Εντέρου

**ΤΙ ΓΙΝΕΤΕ ΣΤΙΣ ΑΛΛΕΣ
ΧΩΡΕΣ;**

Ευρώπη

A European survey of bowel preparation in colorectal surgery.

Devane LA¹, Proud D^{1,2}, O'Connell PR^{1,3}, Panis Y⁴.

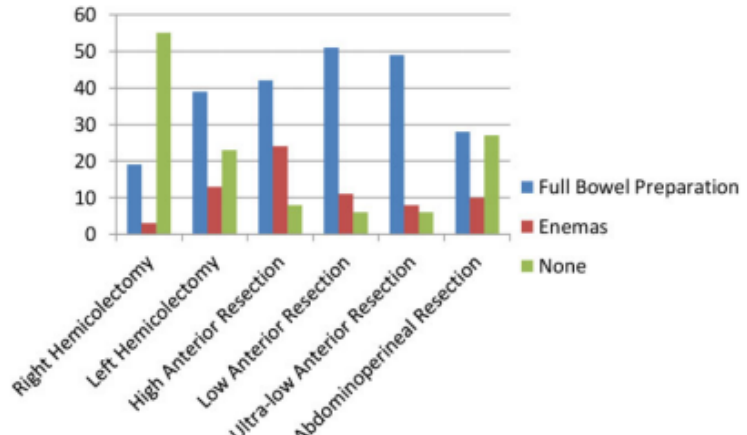
- 426 χειρουργοί από 56 χώρες (μέλη της European Society of Coloproctology)
- **Colonic surgery: 74,9%** (29,6% τακτικά & 45,3% εκλεκτικά: AP κολεκτομές, δημιουργία στομίας, διεγχειρητική κολοσκόπηση)
- **Rectal surgery: 94,6%** (77% τακτικά & 17,6% εκλεκτικά σε δημιουργία στομίας)
- Laparoscopic colorectal operations: **19,7%**
- Δίαιτα: μόνο καθαρά υγρά για 1,4 ημέρες (33%) – χαμηλή σε φυτικές ίνες δίαιτα για 2,7 ημέρες (31%) – συνδυασμός (3%)

Αυστραλία

Evaluating the use of mechanical bowel preparation for elective colorectal resection amongst Australasian surgeons.

Shahab YK¹, Ooi K, Berney CR.

- 31,7% σε τακτική βάση & 57,3% εκλεκτικά
- Κύριοι λόγοι επιλογής MBP
 - Διευκόλυνση του χειρισμού του εντέρου (54,9%)
 - Όταν η επέμβαση απαιτεί τη δημιουργία ειλεοστομίας (40,8%)
 - Προσωπική προτίμηση (33,8%)
- 25,3% στις ΔΕ κολεκτομές, ενώ αυξάνεται στις AP



ΗΠΑ

Trends in preparation for colorectal surgery: survey of the members of the American Society of Colon and Rectal Surgeons.

Zmora O¹, Wexner SD, Hajjar L, Park T, Efron JE, Nogueras JJ, Weiss EG.

- Χρήση MBP >99%
- Αντιβιοτικά per os:
 - 50% θεωρούν ότι είναι αποτελεσματικά
 - 41% αμφιβάλλουν
 - 10% θεωρούν ότι δεν είναι χρήσιμη
- Αντιβιοτικά iv:
 - 11% αμφιβάλλουν για την αποτελεσματικότητά τους
 - > **98%** τα χρησιμοποιούν τακτικά

Παρόλα αυτά **75%**
χρησιμοποιούν τακτικά και
11% εκλεκτικά!!!

Current U.S. Pre-Operative Bowel Preparation Trends: A 2018 Survey of the American Society of Colon and Rectal Surgeons Members

Shannon L McChesney,¹ Matthew D Zelhart,¹ Rebecca L Green,² and Ronald L Nichols¹

¹Department of Surgery, Tulane University, New Orleans, Louisiana.

²Tulane University School of Medicine, New Orleans, Louisiana.

Surg Infect (Larchmt). 2019 Jul 30.

- 359 μέλη ASCRS συμμετείχαν στην έρευνα
- Από του στόματος αντιβιοτικά: **83,2%**
- Μηχανικό καθαρισμό του εντέρου: **98,6%**
- **Συνδυασμός ΜΚΕ & αντιβιοτικών per os & iv: 79,3%**
- Πιο συχνά per os χορηγούμενα αντιβιοτικά: **νεομυκίνη & μετρονιδαζόλη**
- Πιο συχνό καθαρτικό: **πολυεθυλενογλυκόλη (PEG)**
- Πιο συχνά iv χορηγούμενα αντιβιοτικά: **κεφαζολίνη & μετρονιδαζόλη**

Κατευθυντήριες Οδηγίες

The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Use of Bowel Preparation in Elective Colon and Rectal Surgery

John Migaly, M.D.¹ • Andrea C. Bafford, M.D.² • Todd D. Francone, M.D., M.P.H.³
Wolfgang B. Gaertner, M.D., M.Sc.⁴ • Cagla Eskicioglu, M.D., M.Sc., F.R.C.S.C.⁵
Liliana Bordeianou, M.D., M.P.H.³ Daniel L. Feingold, M.D.⁶ • Scott R. Steele, M.D., M.B.A.⁷

Dis Colon Rectum 2019; 62: 3–8

1. **MBP combined with preoperative oral antibiotics** is typically recommended for elective colorectal resections. **Grade of Recommendation: Strong recommendation based on moderate-quality evidence, 1B.**

In limited studies, bowel preparation does not appear to increase the risk of postcolectomy *C difficile* colitis.

The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Use of Bowel Preparation in Elective Colon and Rectal Surgery

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Dis Colon Rectum 2019; 62: 3–8

2. Preoperative MBP alone, without oral antibiotics, is generally **not recommended** for patients undergoing elective colorectal surgery. Grade of Recommendation: Strong recommendation based on high-quality evidence, 1A.

The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Use of Bowel Preparation in Elective Colon and Rectal Surgery

John Migaly, M.D.¹ • Andrea C. Bafford, M.D.² • Todd D. Francone, M.D., M.P.H.³
Wolfgang B. Gaertner, M.D., M.Sc.⁴ • Cagla Eskicioglu, M.D., M.Sc., F.R.C.S.C.⁵
Liliana Bordeianou, M.D., M.P.H.³ Daniel L. Feingold, M.D.⁶ • Scott R. Steele, M.D., M.B.A.⁷

Dis Colon Rectum 2019; 62: 3–8

-
3. Preoperative oral antibiotics alone, without mechanical preparation, are generally not recommended for patients undergoing elective colorectal surgery. Grade of Recommendation: Weak recommendation based on low-quality evidence, 2C.

The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Use of Bowel Preparation in Elective Colon and Rectal Surgery

John Migaly, M.D.¹ • Andrea C. Bafford, M.D.² • Todd D. Francone, M.D., M.P.H.³

Wolfgang B. Gaertner, M.D., M.Sc.⁴ • Cagla Eskicioglu, M.D., M.Sc., F.R.C.S.C.⁵

Liliana Bordeianou, M.D., M.P.H.³ Daniel L. Feingold, M.D.⁶ • Scott R. Steele, M.D., M.B.A.⁷

Dis Colon Rectum 2019; 62: 3–8

4. Preoperative enemas alone, without MBP and oral antibiotics, are generally not recommended for patients undergoing elective colorectal surgery. Grade of Recommendation: Weak recommendation based on moderate-quality evidence, 2B.

Guidelines for Perioperative Care in Elective Colonic Surgery: Enhanced Recovery After Surgery (ERAS®) Society Recommendations

World J Surg (2013) 37:259–284

DOI 10.1007/s00268-012-1772-0

MBP should not be used routinely in colonic surgery.

Evidence level:

High

Recommendation grade:

Strong

☐ Nonetheless, precisely localising small tumours is more difficult by laparoscopy due to loss of palpation, thus requiring intraoperative colonoscopy with preoperative MBP. However, preoperative tattoo would obviate such a need.

Guidelines for Perioperative Care in Elective Rectal/Pelvic Surgery: Enhanced Recovery After Surgery (ERAS®) Society Recommendations

World J Surg (2013) 37:285–305

DOI 10.1007/s00268-012-1787-6

Summary and recommendation	In general, MBP should not be used in pelvic surgery. However, when a <u>diverting ileostomy is planned</u> , MBP may be necessary (although this needs to be studied further).
Evidence level	Anterior resection: (do not use MBP) High; Total mesorectal excision (TME) with diverting stoma: (use MBP) Low
Recommendation grade	Anterior resection: (do not use MBP) Strong; <i>TME with diverting stoma</i> : (use MBP) Weak

ΠΡΟΒΛΗΜΑΤΙΣΜΟΙ...

Review of The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Use of Bowel Preparation in Elective Colon and Rectal Surgery

Donald E. Fry, MD

JAMA Surgery Published online November 6, 2019

The issue of disruption of the host colonic microbiome and subsequent *Clostridium difficile* infection remains a concern, especially for patients with history of *C difficile* infection, for hospitals with problems of spore transmission to susceptible patients, and for clinicians who insist on sustained use of systemic antibiotics into the postoperative period.

Importantly, the MBP process must be completed before the oral antibiotics are administered, lest the undissolved tablets/capsules are prematurely evacuated before dissolution.

Review of The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Use of Bowel Preparation in Elective Colon and Rectal Surgery

Donald E. Fry, MD

JAMA Surgery Published online November 6, 2019

More efficient and less traumatic MBP methods need to be developed to enhance patient compliance for outpatient preparation and to minimize risks of mucosal injury. Neomycin and erythromycin base are inadequately available in some areas, and alternative antibiotic choices need to be developed. Probiotic/prebiotic strategies may be needed to restore the normal microbiome of the colon following elective colorectal resection.

Συμπεράσματα

- Η διεθνής βιβλιογραφία ενισχύει τη σύσταση για συνδυασμένη προετοιμασία του εντέρου (μηχανική & *per os* + *in* αντιβιοτικά)
 - Λιγότερες λοιμώξεις χειρουργικού πεδίου
 - Λιγότερες διαφυγές και σηπτικά επακόλουθα
 - Ευκολότερος χειρισμός του εντέρου (ειδικά λαπαροσκοπικά)
 - Διευκολύνεται η ενδοσκόπηση (προεγχειρητική σήμανση & διεγχειρητική εντόπιση μικρών όγκων)
 - Οπωσδήποτε όταν δημιουργείται στομία



Ευχαριστώ για τη προσοχή σας !!

Μαρίνα Ζέας, Πειραιάς