

top
ten

in gastroenterologia

10^a EDIZIONE

8 e 9 MARZO 2019

BERGAMO

HOTEL EXCELSIOR SAN MARCO
Piazza della Repubblica, 6

Responsabile Scientifico: Fabio Pace

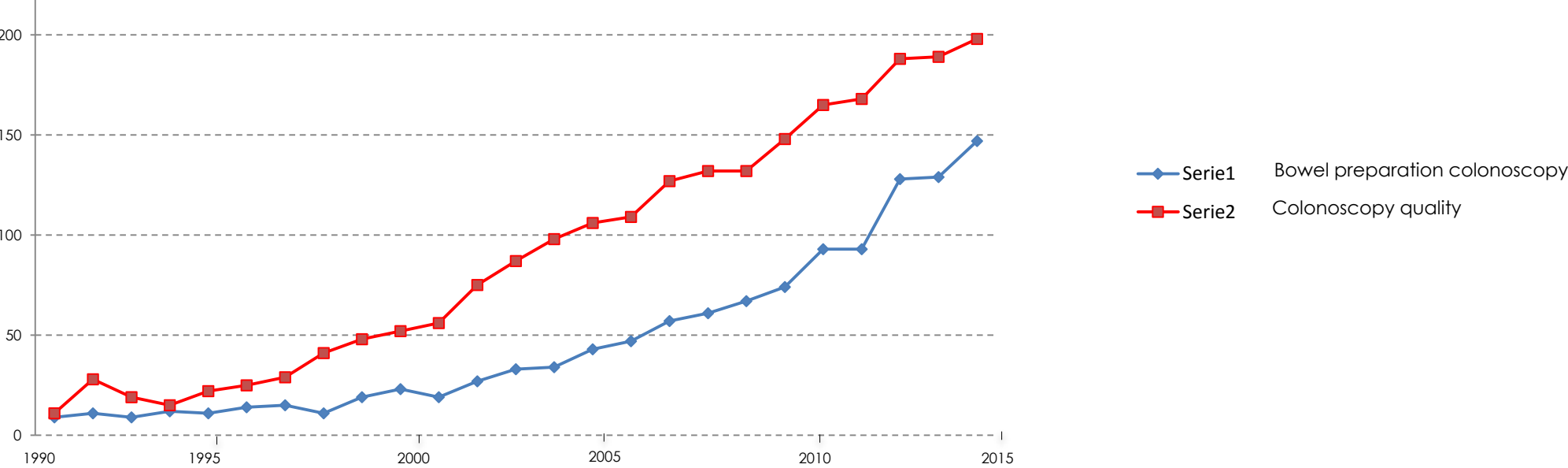
Come preparare al meglio il paziente per la colonscopia

Franco Radaelli

UOC Gastroenterologia
Ospedale Valduce, Como

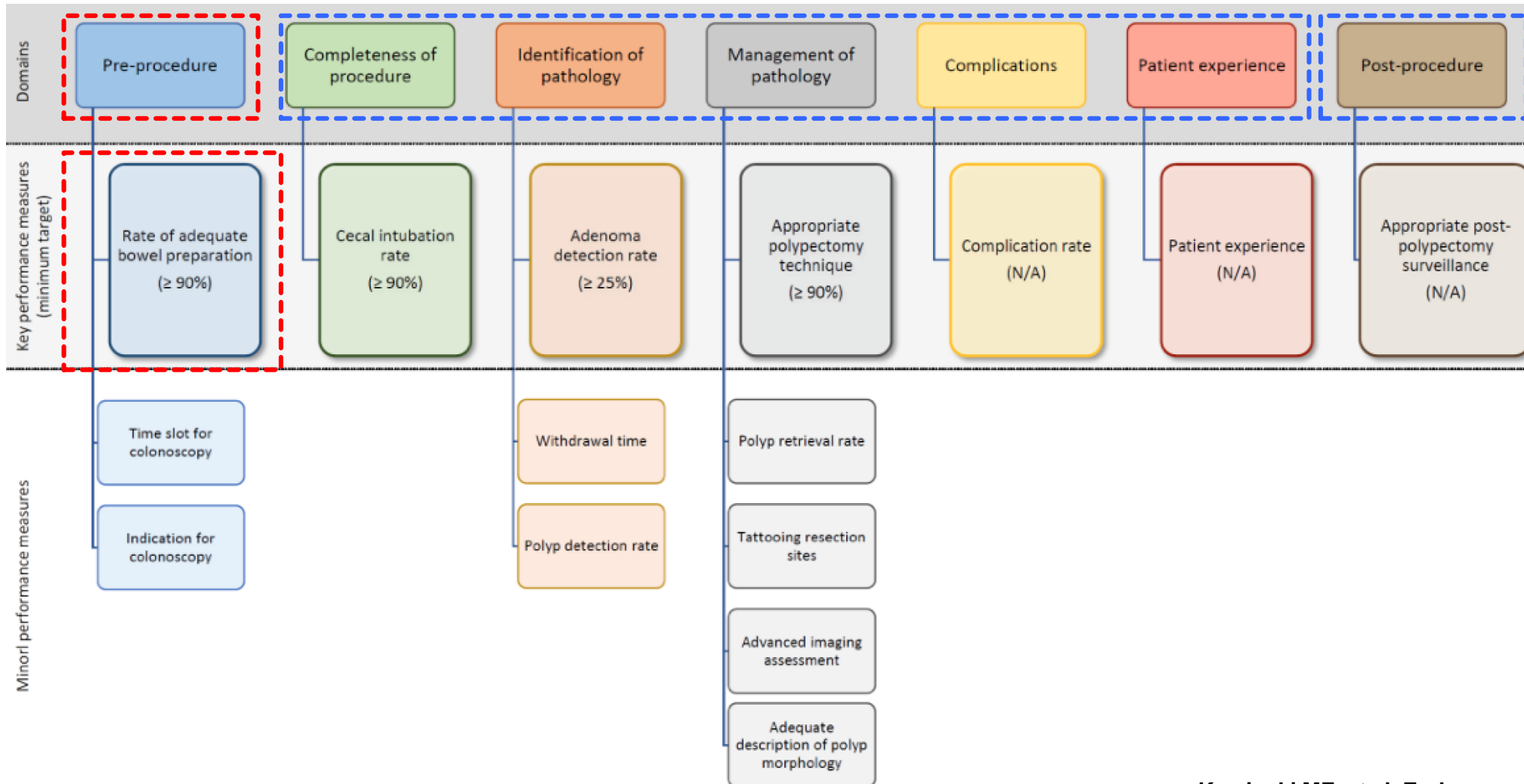
Bowel Prep *and* Quality colonoscopy

PubMed 1990 – 2015:



no high-quality bowel prep = no high-quality colonoscopy

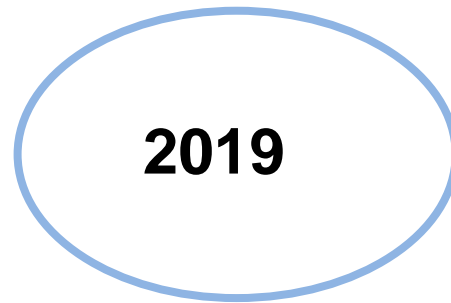
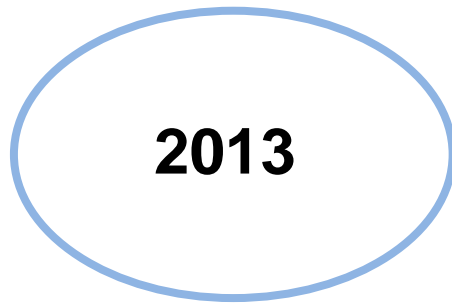
ESGE Colonoscopy key performance domains



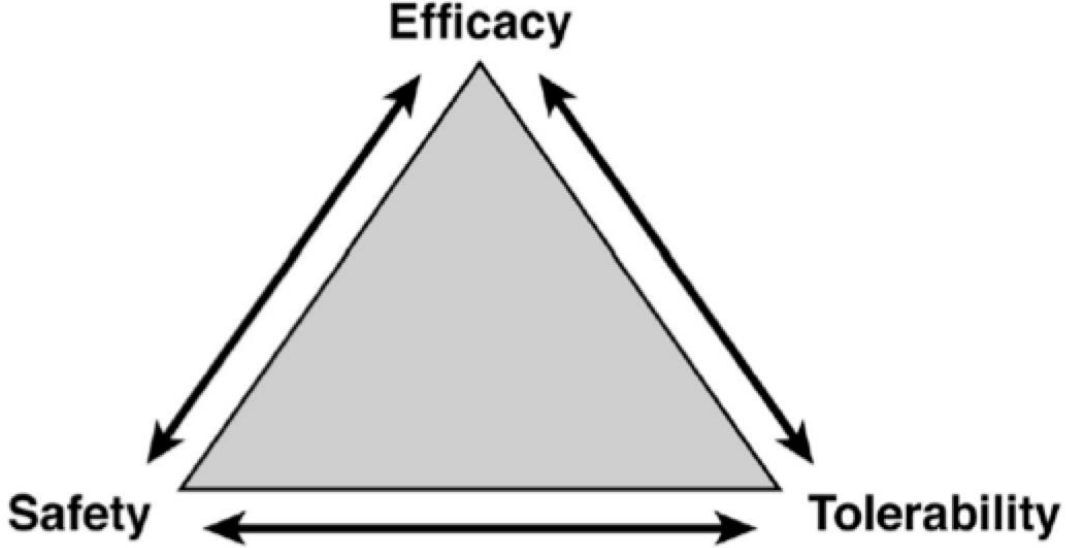


**European Society of
Gastrointestinal Endoscopy**

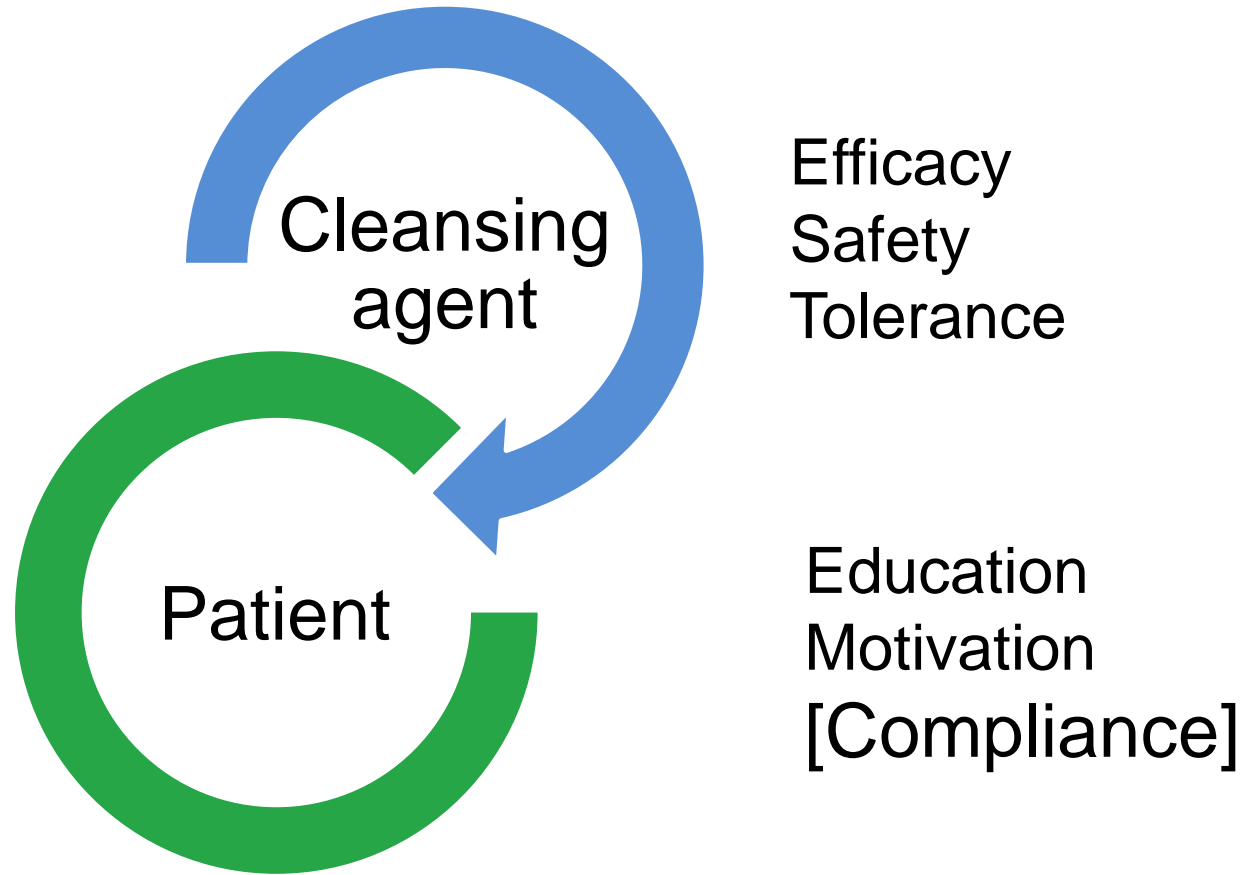
Bowel preparation for colonoscopy: European Society of Gastrointestinal Endoscopy (ESGE) Guideline



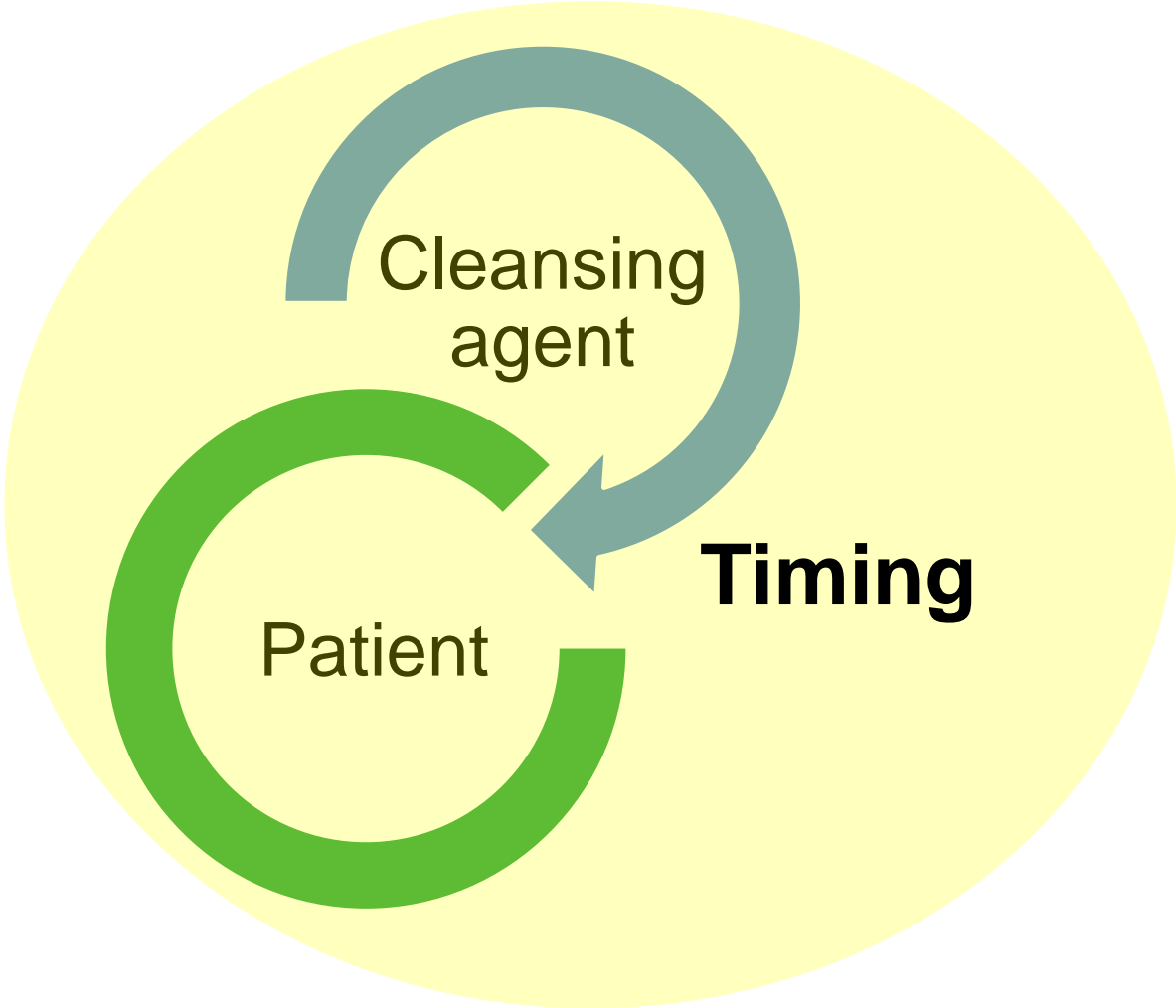
Effectiveness of bowel preparation:



Effectiveness of bowel preparation:



Effectiveness of bowel preparation:





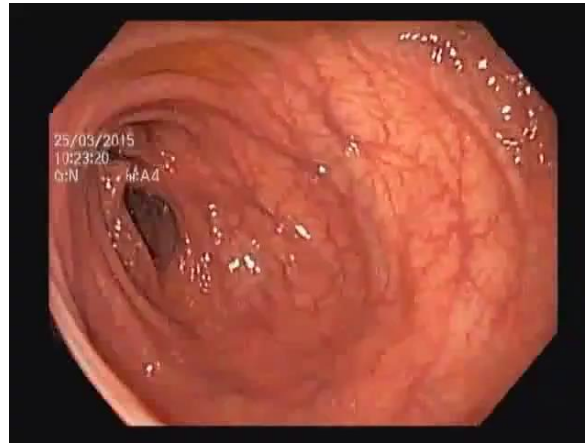
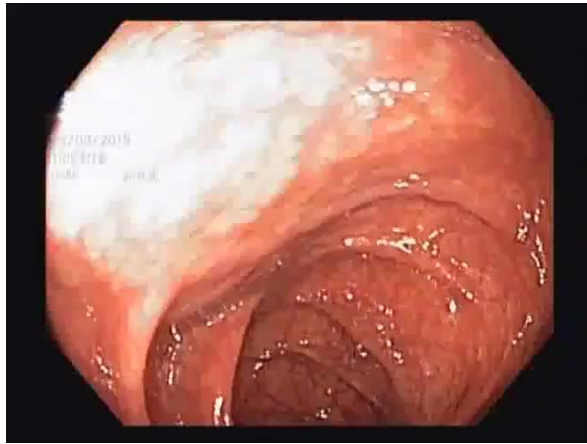
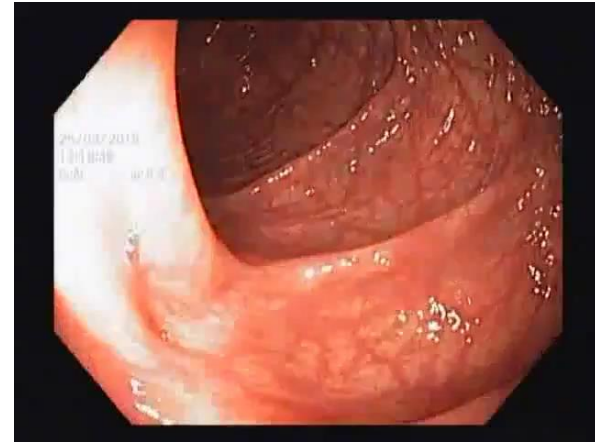
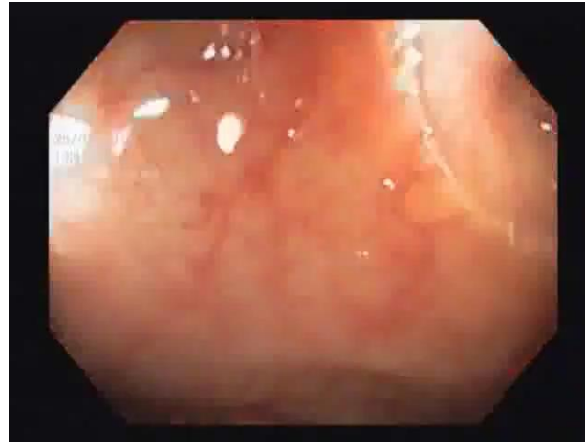
**European Society of
Gastrointestinal Endoscopy**

Bowel preparation for colonoscopy: European Society of Gastrointestinal Endoscopy (ESGE) Guideline

2019 Updating (*in press*)

ESGE recommends split dosing for elective colonoscopy. For patients undergoing afternoon colonoscopy, a same day regimen in an acceptable alternative
(**Strong** recommendation, **high** quality evidence)

ESGE recommends to take the last dose of bowel prep within 5 hours of colonoscopy and to complete it at least 2 hours before the start of the procedure
(Strong recommendation, moderate quality evidence)



Split vs. day-before regimens for bowel prep: meta-analysis of RCTs

Martel M, Gastroenterology 2015

1. Adequate bowel cleansing

Bowel cleanliness	Numbers of trials ^a	ITT patients	OR (95% CI) or WMD (95% CI)	Heterogeneity P value	I ²	P value Eggers	P value Beggs
Split-dose vs day-before							
Split-dose of any product vs day-before of any product	32	8199	2.51 (1.86–3.39)	<.01	84.8%	.51	.33
PEG split-dose vs PEG day-before	10	2923	2.60 (1.46–4.63)	<.01	88.3%	.11	.27
NaP split-dose vs NaP day-before	4	1018	9.34 (2.12–41.11)	<.01	87.7%	.73	.32
PICO split-dose vs PICO day-before	1	250	3.54 (1.95–6.45)	-	-	-	-

2. Willingness to repeat the same prep:

14 trials (4377 pts)

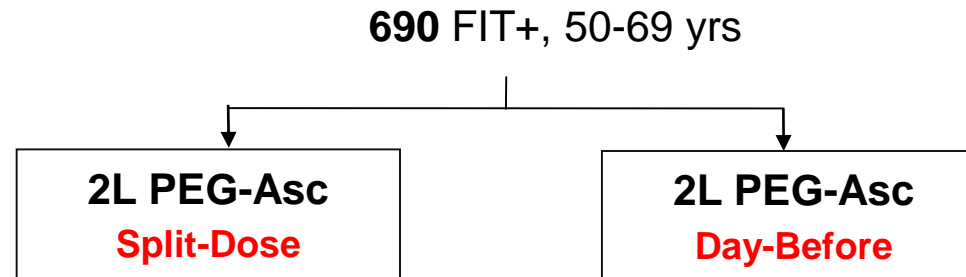
Split dose vs. any regimen: = OR 1.90 (95% CI 1.05-3.46)

Split-dose preparation in screening colonoscopies increases ADR

Gut. 2016; 66(2):270-77

Multicenter RCT, Italy

- 690 FIT+ve screening subject
- 2L PEG-Asc (Moviprep®) **Split-Dose** vs. **Day-Before**
- **Primary study end-point: ADR**



ADR [Primary End-point]	53.0%	40.9%	RR 1.22 [1.03-1.46]	NNT= 9
Advanced- ADR	26.4%	20.0%	RR 1.35 [1.06-1.33]	NNT= 16

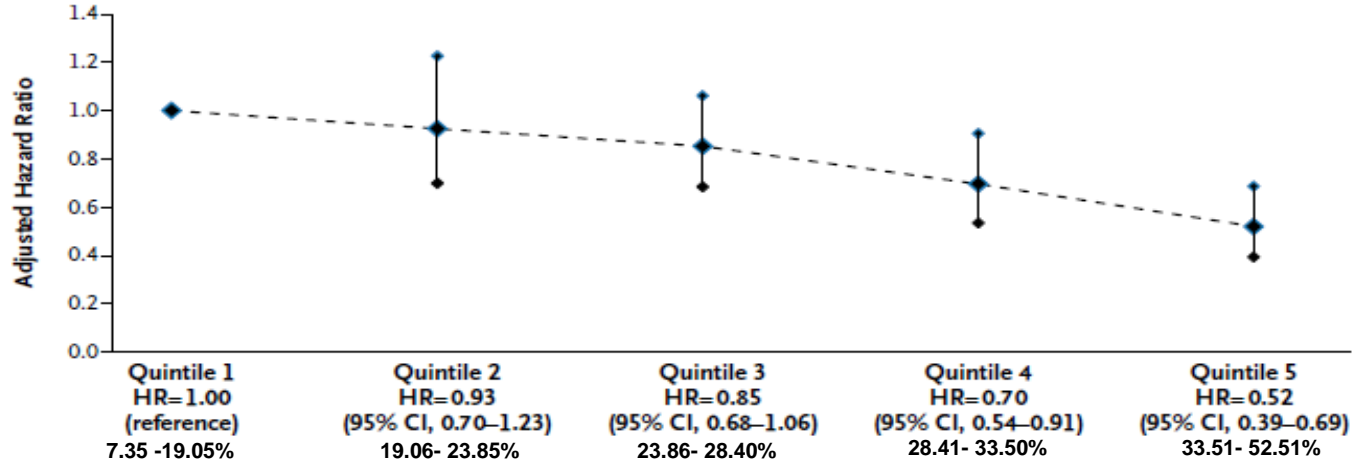
ADR variation and risk of Interval Cancer:

Corley DA et al. , N Engl J Med 2014; 370: 1298-803

314,872 colonoscopies

136 endoscopists (ADR 7.3% - 55.5%)

712 interval cancers (6 months – 10 years)

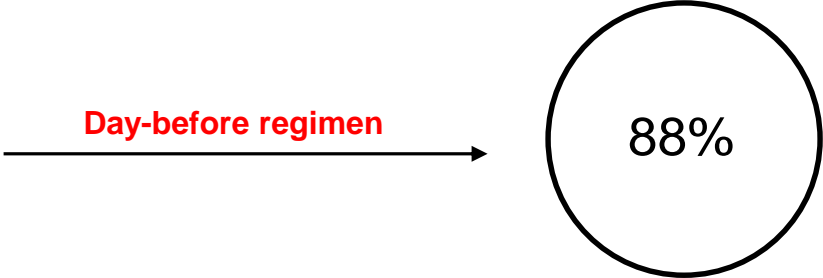


Each 1% ADR increase = 3% decrease in cancer risk

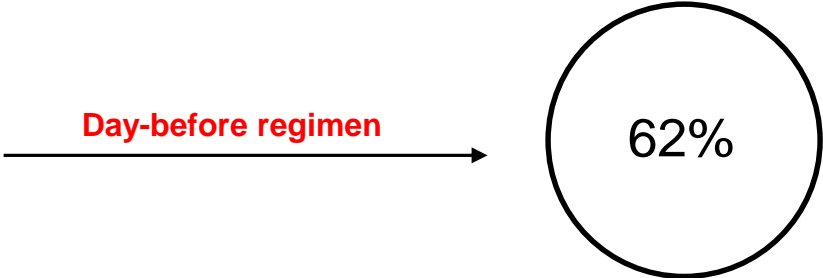
+13% ADR = 50% reduction of IC risk

Split dose uptake in the *real-world*:

18 Endoscopy centers, Italy
2811 Colonoscopies
Hassan C, Clin Gastroenterol Hepatol 2012

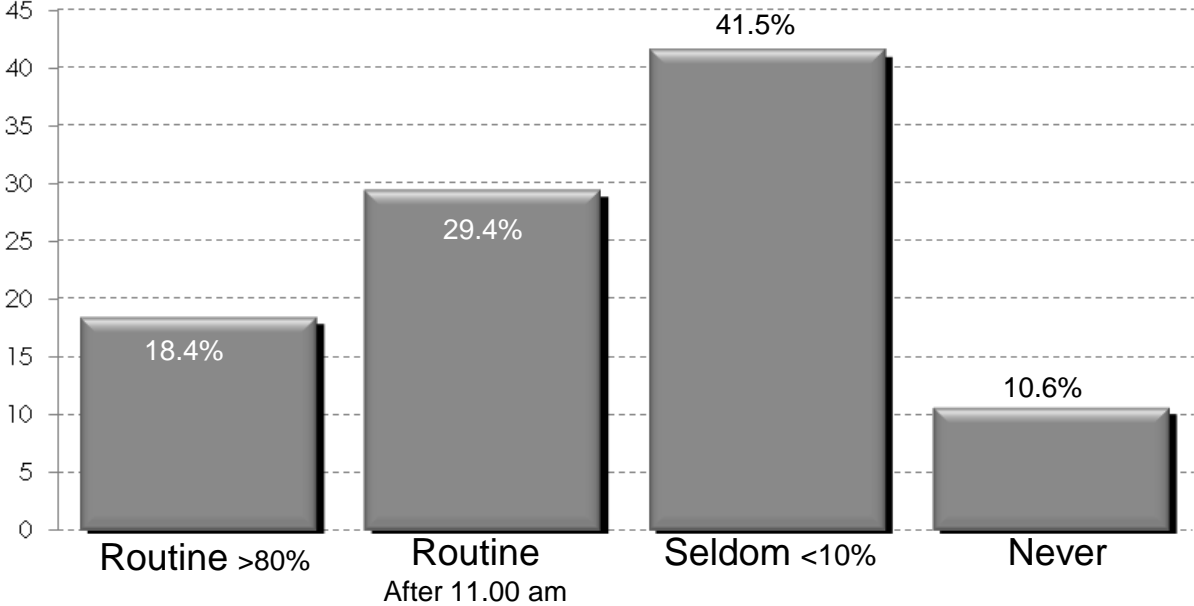


Cedars- Sinai, LA - US
70 endoscopists
4399 colonoscopies
Gu P, Am J Gastroenterol 2019



Split dose uptake in the *real-world*:

2014 Survey
284 Italian endoscopy centers



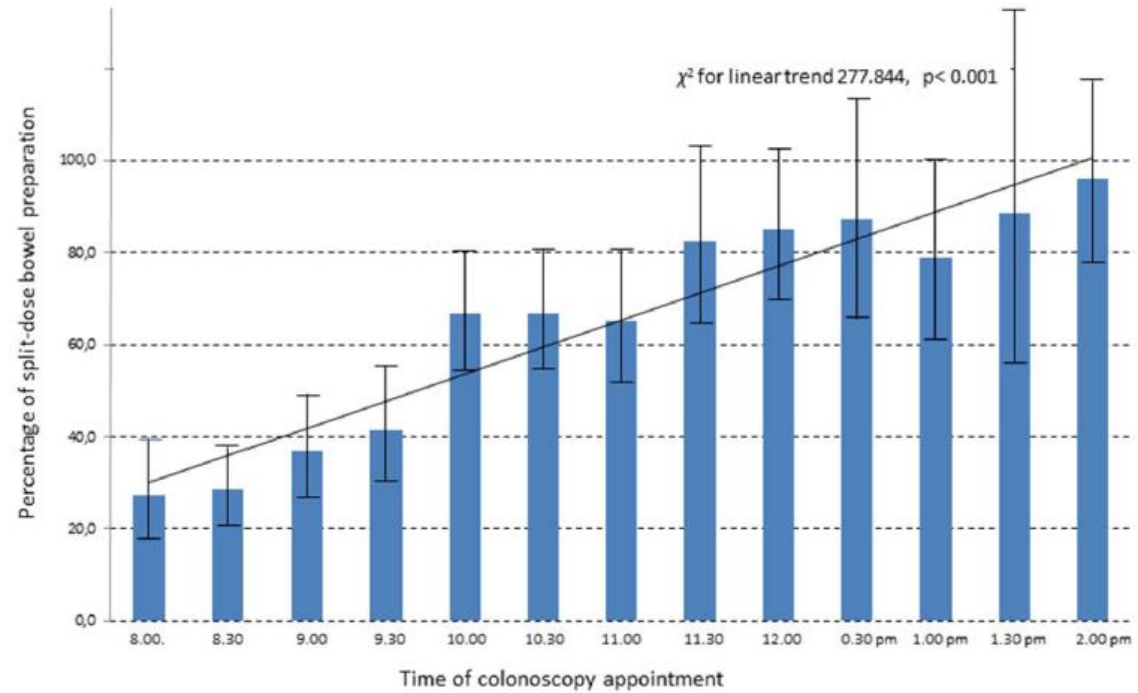
Barriers against split-dose adoption for bowel prep

Gut 2017; 66(8):1428-1433

- 1.447 patients
- 8 AM-2 PM colonoscopies
- 4L-PEG
- Written instructions
(split dose 3L+1L, day-before regimen)

Before vs. after 10AM:
33.4 % vs. 78.2% (P<0.01)

Split dose regimen uptake according to the time of colonoscopy appointment:



How to overcome barriers against split dosing?

Education

Endoscopists
PCPs
Pharmacists

Organization

8:00 – 10:00 EGDS
8:00 – 10:00 Inpatients

Motivation Communication



Getting Ready for Your Colonoscopy

One and Done

Let's do this once and let's do it right!

Inside you will find:

- How to prepare for your colonoscopy
- Information about your colonoscopy
- Answers to commonly asked questions

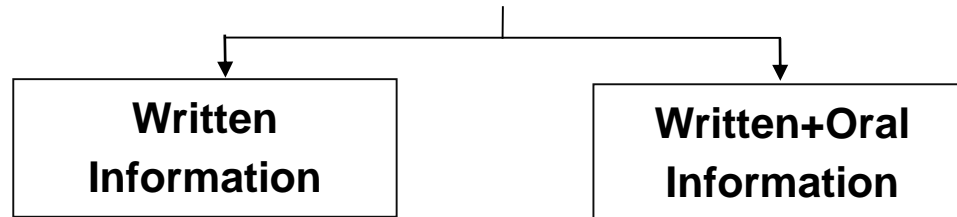
Educational strategies for colonoscopy bowel prep overcome barriers against split-dosing: A randomized controlled trial

Andrealli A et al., UEG Journal 2018

United European Gastroenterology Journal
2018, Vol. 6(2) 283-289
© Author(s) 2017
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/2050640617717157
journals.sagepub.com/home/ueg

286 FIT+, 50-69 yrs, low-volume prep

Early morning colonoscopies (8:00-10:00)



**Split dose uptake
[Primary End-point]**

79.7%

87.4% (p=NS)

BBP \geq 2 in each segment

95.6%

95.1% (p=NS)

PREPARAZIONE INTESTINALE PER LA COLONSCOPIA con MOVIPREP®

Gentile Signore/a lei è stata programmata una colonoscopia.

Una ottima pulizia dell'intestino è cruciale per il successo dell'esame. Se il suo intestino non è adeguatamente pulito:

- l'esame è meno accurato e vi è il rischio di non identificare eventuali anomalie
- l'esame risulta più lungo e complesso
- esiste la possibilità di dover ripetere la procedura e la preparazione in breve tempo

E' quindi molto importante che Lei segua i consigli qui di seguito riportati:

SUGGERIMENTI PER LA DIETA

Nel 3 giorni prima della colonoscopia, si consiglia una dieta povera di fibre, evitando di consumare verdura, legumi e prodotti integrali (è permessa l'assunzione di pane, pasta, carne, pesce, formaggi, uova, frutta in modica quantità). E' inoltre importante evitare tutti gli alimenti che contengono semi (es. pomodori, uva, Kiwi, etc...)

E' importante assumere almeno 1.5 - 2 litri di acqua al giorno.

Il giorno precedente l'esame, seguire il seguente programma:

- COLAZIONE STANDARD: normale (sono permessi: caffè, tè, latte, yogurt, fette biscottate, biscotti, marmellata, miele)
- PRANZO LEGGERO: dieta a basso contenuto di fibre (sono permessi brodo, pastina, pasta o riso in bianco, petto di pollo o pesce bianco, Yogurt)
- CENA con solo LIQUIDI: dieta idrica con liquidi "chiaro" (brodo vegetale, tè zuccherato, camomilla, tisane)

Il giorno dell'esame, stare a DIGIUNO: non è permessa la colazione; è possibile l'assunzione di liquidi "chiaro" fino a due ore prima dell'ora di programmazione dell'esame

COME ASSUMERE IL PURGANTE

È stato dimostrato che l'assunzione della preparazione in DOSI FRAZIONATE (ovvero parte del prodotto di preparazione la sera prima dell'esame e la restante il mattino del giorno stesso dell'esame) è molto vantaggiosa rispetto all'assunzione dell'intero prodotto di preparazione il giorno precedente l'esame.

Perché scegliere la modalità di assunzione a dosi frazionate:

- Completare la preparazione il giorno stesso dell'esame facilita la pulizia del colon e meglio tollera la preparazione, diminuendo i carichi intestinali che si sono accumulati nell'intestino durante la notte.
- È meglio tollerata, in quanto l'intero volume della soluzione lassativa viene assunto in due giorni differenti. Inoltre con questa modalità di preparazione, l'assunzione del lassativo inizia la sera del giorno precedente l'esame, senza interferire con attività lavorative.
- Il rischio di dover riprogrammare l'esame si ripete tutta la preparazione o di anticipare un eventuale esame di controllo a causa di una preparazione inadeguata è non ottimale è molto ridotta.
- Questa modalità può risultare, per procedure programmate nella prima ore del mattino, la necessità di alzarsi molto presto per assumere la seconda dose di lassativo. Per questo questo stato non basta come ad un'incriminazione, bensì come ad un'attività molto utile per l'efficacia del suo esame e molto importante per la sua salute.

La possibilità che l'assunzione di purgante al mattino possa comportare la necessità di fermarsi per evacuare durante il viaggio verso l'ospedale è molto rara (3% dei pazienti) e può comunque captare anche nei soggetti che assumono.

Segua pertanto le seguenti istruzioni per l'assunzione del purgante:

Ogni confezione di **MOVIPREP®** contiene 2 buste A e 2 buste B.

Trasferire il contenuto di una busta A ed una busta B in un recipiente. Aggiungere 1 Litro di ACQUA fresca. Mescolare fino ad ottenere una soluzione quasi limpida.

La SERA prima dell'esame (ore 20 circa, dopo la cena): assumi 1 Litro di MOVIPREP® in circa 1 ora e ½ (un bicchiere ogni 15 minuti).
A seguire, bevi almeno ½ Litro di liquidi chiari (es. acqua, tè, camomilla)

La MATTINA del giorno dell'esame (3-4 ore prima dell'ora programmata) (vedi tabella sotto), assumi il secondo Litro di MOVIPREP® in circa 1-2 ore.
A seguire, bevi almeno ½ Litro di liquidi chiari (es. acqua, tè, camomilla)

Interrompa la assunzione di liquidi 2 ore prima della esecuzione dell'esame

Orario esame:	Assunzione MOVIPREP® + liquidi
ore 8.00	ore 5.00
ore 9.00	ore 6.00
ore 10.00	ore 7.00
ore 11.00 e dopo	ore 8.00 e dopo

I VANTAGGI DELLA ASSUNZIONE A DOSI FRAZIONATE:

- Migliora la pulizia dell'intestino e rende l'esame più veloce, efficace ed affidabile, riducendo il rischio di doverlo ripetere
- Riduce il rischio di dovere ripetere l'esame o di riprogrammare eventuali nuovi esami di controllo in tempi più ravvicinati
- E' più comoda e meglio tollerata, in quanto consente di assumere la bevanda in due momenti separati, alla sera prima dell'esame ed al mattino dell'esame
- L'assunzione inizia la sera prima dell'esame e consente pertanto di svolgere la propria attività lavorativa regolarmente nel giorno che precede l'esame



**European Society of
Gastrointestinal Endoscopy**

Bowel preparation for colonoscopy: European Society of Gastrointestinal Endoscopy (ESGE) Guideline

2019 Updating (*in press*)

ESGE recommends verbal and written information for bowel preparation, plus enhanced instruction*

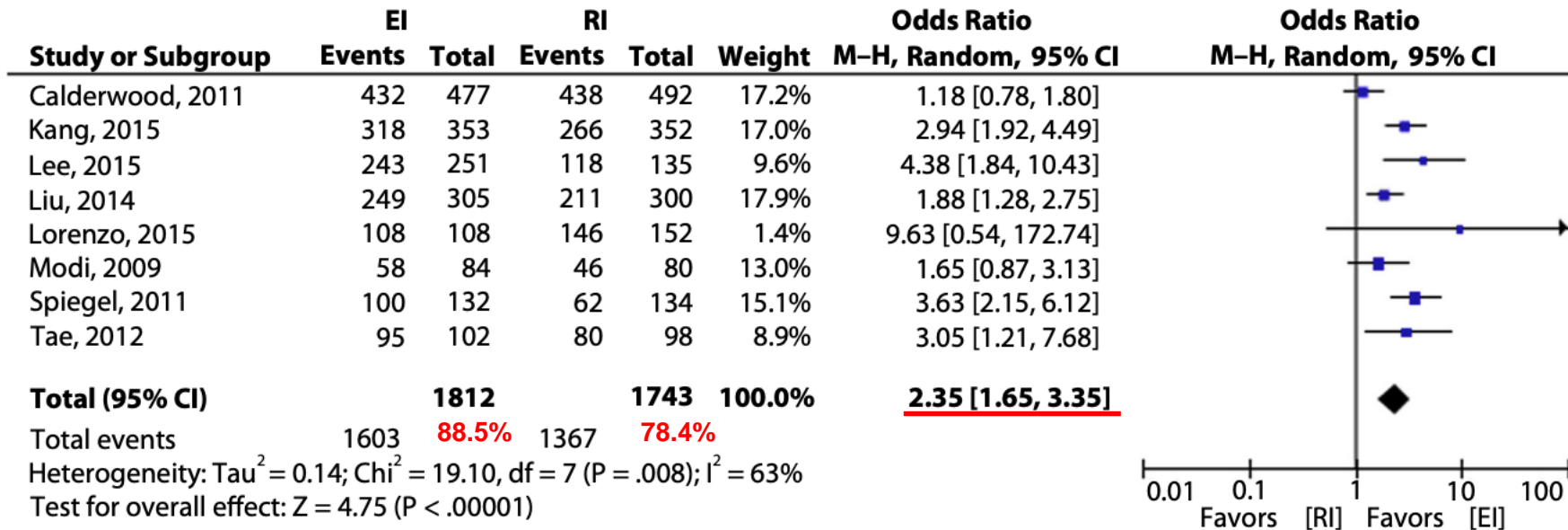
(Strong recommendation, moderate quality evidence)

* phone call, telephone SMS, cartoon visual aid, newly designed booklet, smartphone apps, social media app

Enhanced instructions improve the quality of bowel prep: Meta-analysis of RCTs

Guo X et al. *Gastrointest Endosc* 2017; 85: 90-97.

Adequate bowel prep: Enhanced vs. Regular Instructions:



Enhancing bowel preparation instructions: Is the bang worth the buck,* or are we stuck with the muck?



In 2014, the U.S. Multi-Society Task Force on Colorectal Cancer Screening recommended that the adequacy of bowel preparation should be measured routinely during colonoscopy and that at least 85% of examinations should have a preparation adequate to permit recommendation of a screening or surveillance interval consistent with published guidelines.¹ The Task Force went on to suggest that any time the adequacy rate falls below 85%, a quality improvement initiative should be undertaken. This raises the question of how to improve bowel preparation quality when this quality benchmark is not met.

In this month's issue of *Gastrointestinal Endoscopy*, Guo et al² present a meta-analysis of 8 randomized controlled trials examining the ability of enhanced patient instructions to improve the quality of bowel preparation. The primary endpoint of this well-performed meta-analysis was quality of bowel preparation, measured as adequate versus inadequate, with varying scales used to rate bowel preparation across the included studies. Secondary outcomes included cecal intubation rate, withdrawal time, polyp detection rate, and patient's willingness to repeat the bowel preparation process. The study concluded that enhanced instructions improve bowel preparation quality compared with routine (or what the authors call "regular") instructions.

The conclusion of this study certainly has face validity. No one can argue that, at least to some extent, more is probably better when it comes to helping patients understand and comply with the complex (and often feared) bowel preparation process.^{3,4} Bowel preparation instructions could fall on a spectrum between providing only a prescription and minimal directions to hiring a personal coach to accompany the patient through the preparation process. Given limited resources, however, the question we should ask is this: which method of enhanced instruction is going to give us the most bang for our buck? Furthermore, as this meta-analysis makes clear, not every included randomized trial demonstrated a benefit from enhanced instructions.

For a better understanding of the findings, it may be helpful to look more closely at the variations in baseline

bowel preparation quality (the control group receiving routine instructions) and the magnitude of improvement by enhanced instructions in each of the studies included in this meta-analysis (Table 1).

The studies included in this meta-analysis varied in both the type of regular versus enhanced instructions and the baseline adequate bowel preparation rate. Although not all studies concluded that their methods of enhancing instructions resulted in improvements in bowel preparation adequacy, it is notable that those with a lower baseline rate of adequacy had the most dramatic benefit from the

There are some concrete suggestions that practices can take if they find their patients' bowel preparation adequacy rates falling below the suggested 85% benchmark. First, changing to split-dosing of the bowel purgative is an absolute must in 2016.

intervention and were more likely to have seen improvement when supplementing their standard instructions.

There also may be a "ceiling effect" whereby simple enhancements, such as the inclusion of visual aids, additional verbal instruction, and booklets, fail to bring adequacy rates beyond the low 90% range. In fact, it seems unlikely that there is a simple magic bullet that can guarantee very high rates of adequacy. One recent publication described the experience of a multimodality intervention to improve bowel preparation adequacy.⁵ In this case, adequacy rates went from 91% to 96%, but only after standardization of bowel preparation instructions across all referring sites, conversion to split-dose preparations, the hiring of 2 patient navigators, and provision of feedback to referring practices. No single step caused a jump in adequacy rate. Rather, there was an incremental benefit from each of these interventions as they were initiated sequentially over several months.

Additionally, one needs to closely examine the definition of "adequate" in the studies included in this meta-analysis before assuming that all improvements in bowel preparation scores are meaningful. For example, 3 studies

There are some concrete suggestions that practices can take if they find their patients' bowel preparation adequacy rates falling below the suggested 85% benchmark. First, changing to split-dosing of the bowel purgative is an absolute must in 2016.



**European Society of
Gastrointestinal Endoscopy**

Bowel preparation for colonoscopy: European Society of Gastrointestinal Endoscopy (ESGE) Guideline

2019 Updating (*in press*)

ESGE recommends a split or same-day regimen of the **high or low-volume** PEG or non-PEG based agents for routine bowel preparation.

In patients at risk for hydro-electrolyte disturbances, the choice of laxative should be clinically driven

(Strong recommendation, moderate quality evidence)

2L-PEG + Ascorbate	Moviprep®
2L PEG + Bisacodyl + Simethicone	LovoIDyl-LovoEsse®
2L PEG + Citrate + Simethicone	Clensia®
1L PEG + Ascorbate (high conc.)	Plenvu®

Magnesium citrate + sodium picosulphate (MCSP)	Citrafleet®, Picoprep®
Oral Sulphate Solution (OSS, trisulfate)	Izinova®



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Bowel preparation for colonoscopy: European Society of Gastrointestinal Endoscopy (ESGE) Guideline

2019 Updating (*in press*)

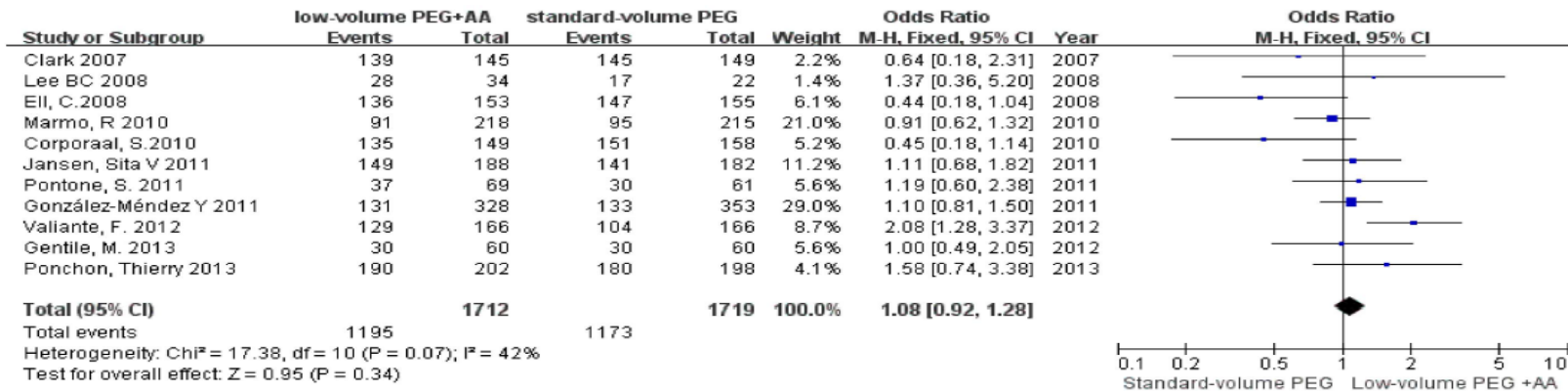
ESGE advises against the routine use of oral sodium phosphate because of safety concerns

(Strong recommendation, low quality evidence)

4L PEG vs. Low-volume PEG plus Ascorbate: meta-analysis of RCTs

Xie Q et al. PLOSone 2016

Efficacy of bowel prep:



Patient compliance:

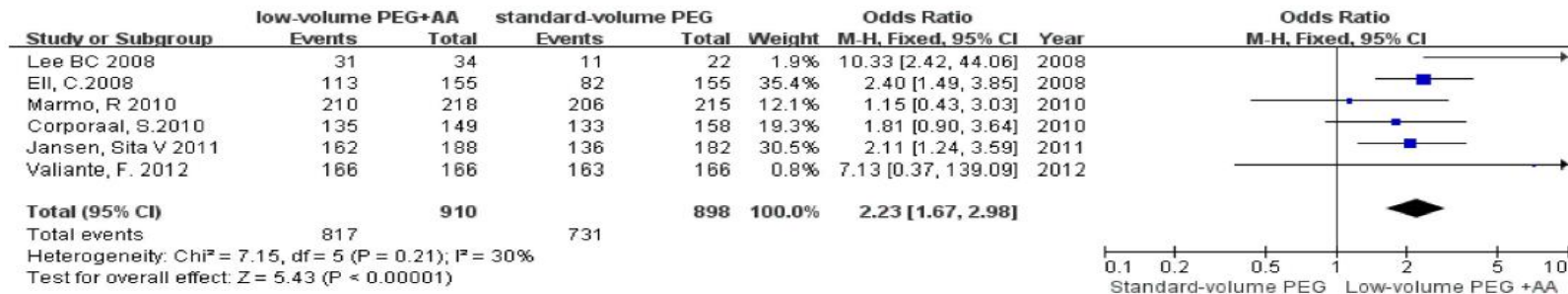


Figure 3. Forest plot depicting better compliance with low-volume PEG plus ascorbic acid than with standard-volume PEG as bowel preparations for colonoscopy.

Split (2LPEG-Asc vs. 2LPEG-CS + Bisacodyl vs. 4L PEG). A non-inferiority trial in population-based screening programs in Italy

Zorzi M et al, Endoscopy 2016

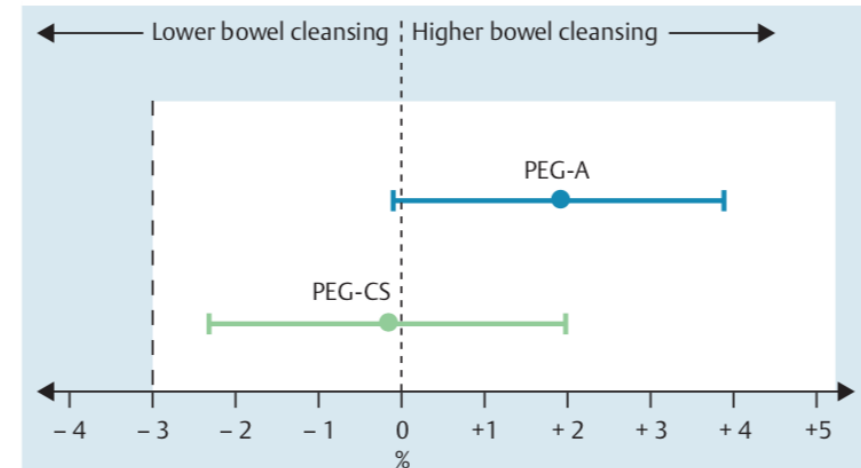
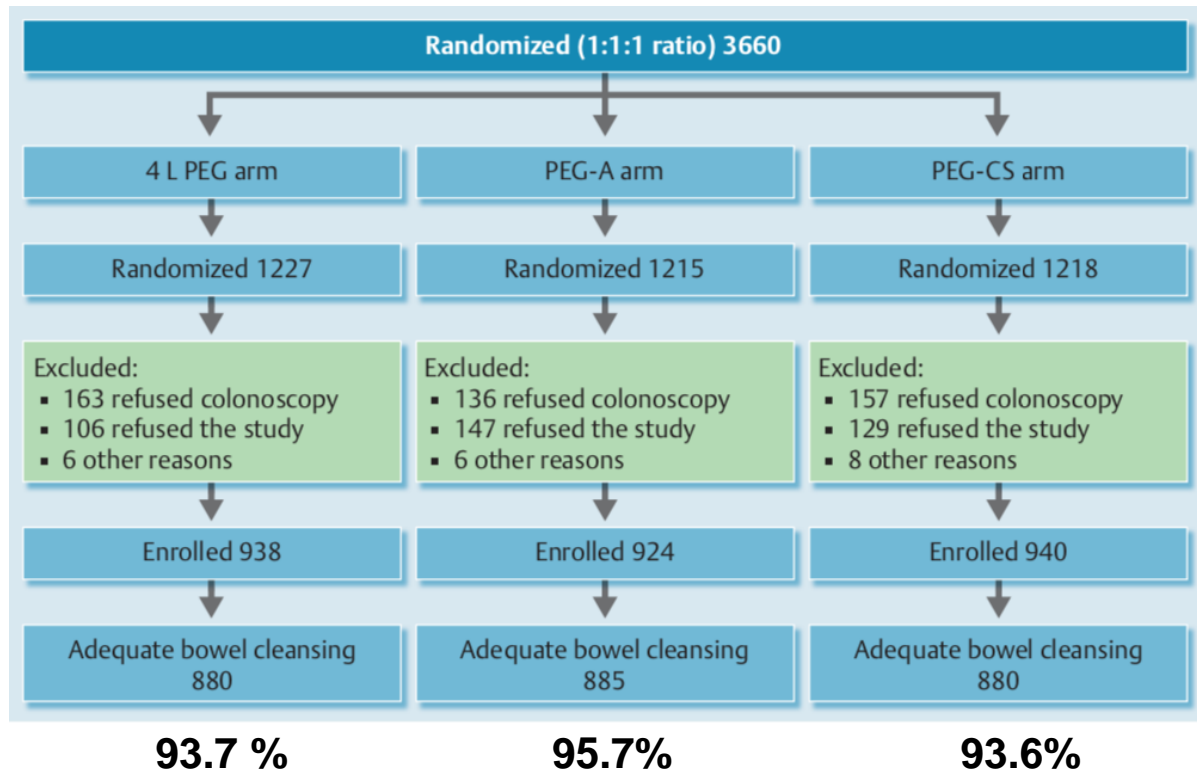


Fig. 2 Difference in proportions of adequate bowel cleansing between PEG-A and PEG-CS vs. 4L PEG, with 95% confidence intervals and the noninferiority margin (intention-to-treat population). Grey dashed line at $\Delta = -3\%$ indicates noninferiority margin; light grey-tinted region to the right of $\Delta = -3\%$ indicates values for which PEG-A and PEG-CS would be considered noninferior to 4L PEG. PEG, polyethylene glycol; PEG-A, PEG plus ascorbate; PEG-CS, PEG with citrate and simethicone plus bisacodyl.

The new PEG-based bowel preps: PEG+Citrate+Simethicone (Clensia®)

[Endosc Int Open](#). 2018 Aug;6(8):E907-E913. doi: 10.1055/a-0624-2266. Epub 2018 Aug 1.

Efficacy and safety of a new low-volume PEG with citrate and simethicone bowel preparation for colonoscopy (Clensia): a multicenter randomized observer-blind clinical trial vs. a low-volume PEG with ascorbic acid (PEG-ASC).

[Kump P](#)¹, [Hassan C](#)², [Spada C](#)^{3,4}, [Brownstone E](#)⁵, [Datz C](#)⁶, [Haefner M](#)⁷, [Renner F](#)⁸, [Schoefl R](#)⁹, [Schreiber F](#)¹.

[Dig Liver Dis](#). 2017 Jun;49(6):651-656. doi: 10.1016/j.dld.2017.01.167. Epub 2017 Feb 3.


Evaluation of Clensia® , a new low-volume PEG bowel preparation in colonoscopy: Multicentre randomized controlled trial versus 4L PEG.

[Spada C](#)¹, [Cesaro P](#)², [Bazzoli F](#)³, [Saracco GM](#)⁴, [Cipolletta L](#)⁵, [Buri L](#)⁶, [Crosta C](#)⁷, [Petruzzello L](#)², [Ceroni L](#)³, [Fuccio L](#)³, [Giordanino C](#)⁴, [Elia C](#)⁴, [Rotondano G](#)⁵, [Bianco MA](#)⁵, [Simeth C](#)⁶, [Consalvo D](#)⁶, [De Roberto G](#)⁷, [Fiori G](#)⁷, [Campanale M](#)², [Costamagna G](#)⁸.


The new PEG-based bowel preps: 1L PEG+ASC (Plenvu®)

Asymmetrical active ingredients distribution

2L PEG+ASC

 **Dose 1:** Volume: 1 Litre


PEG3350: 100.0g
Sodium ascorbate: 5.9g
Ascorbic acid: 4.7g

 **Dose 2:** Volume: 1 Litre


PEG3350: 100.0g
Sodium ascorbate:
5.9g
Ascorbic acid: 4.7g

+ 1 Litre clear fluid

1L PEG + ASC

 **Dose 1:** Volume: 500mL

PEG3350: 100.0g
Sodium Sulfate: 9g

 **Dose 2:** Volume: 500mL

PEG3350: 40.0g
Sodium ascorbate: 48.1g
Ascorbic acid: 7.5g

+ 1 Litre clear fluid

NER1006 Phase 3 registrative studies: MORA-NOCT-DAYB Design and endpoints

MORA Study - "Colon cleansing efficacy and safety with 1 L **NER1006** versus 2 L polyethylene glycol + ascorbate: a randomized phase 3 trial" .
Bisschops R et al. 2018 Endoscopy

NOCT Study - "Novel 1 L polyethylene glycol-based bowel preparation **NER1006** for overall and right-sided colon cleansing: a randomized controlled phase 3 trial versus trisulfate" .
DeMicco et al., 2018 Gastrointest Endoscopy

DAYB Study - "Colon cleansing efficacy and safety with 1 L **NER1006** versus sodium picosulfate with magnesium citrate: a randomized phase 3 trial."
Schreiber S et al. 2018 Endoscopy

- RCTs, phase III, Multicenter
 - Single blinded – Score by *central readers*/ colonoscopist (HCS, BBPS)
 - Non-inferiority (superiority)
 - Lab-tests (screening, colonoscopy, day+2, day+7)
 - mFAS (ITT), PP analysis
-
- Primary Endpoints – Central Readers
 - % patients with successful bowel cleansing (HCS grade A or B)
 - % patients with excellent + good cleansing in the ascending colon (HCS 3 or 4)

1L PEG + Asc phase 3 studies: Timing and mode of administration

 **MORA**

1L PEG + Asc
(Same day)
n=275

1) 5:00
2) 7:00

1L PEG + Asc
(Split dose)
n=275

1) 18:00
2) 6:00

2L PEG+ASC
(Split dose)
n=272

1) 18:00
2) 6:00

 **NOCT**

1L PEG + Asc
(Split dose)
n=250

1) 18:00
2) 6:00

TRISULFATE
(Split dose)
n=251

1) 18:00
2) 6:00

 **DAYB**

1L PEG + Asc
(Day-before)
n=276

1°) 18:00
2°) 20:00

SP+MC
(Day-before)
n=280

1°) 8:00
2°) 14:00

Pre-colonoscopy Day

Colonoscopy Day

1L PEG + Asc phase 3 studies: Efficacy end-point

► **Table 1** Summary of efficacy primary end points in NER1006 Phase 3 trials.

	MORA (N2D)	MORA (N1D)	DAYB	NOCT
Study product, regimen	NER1006, split	NER1006, same day	NER1006, day before	NER1006, split
Comparator, regimen	PEG 2L + Asc, split	PEG 2L + Asc, split	SP + MC, day before	Trisulfate, split
Primary end points				
▪ Successful overall colon cleansing, HCS A + B (ITT)	noninferior*	noninferior*	noninferior*	noninferior*
▪ Successful overall colon cleansing, HCS A + B (PP)	superior**	noninferior*	superior**	noninferior*
▪ High-quality cleaning in the right colon, HCS score 3 + 4 (ITT)	superior**	superior**	noninferior*	noninferior*
▪ High-quality cleaning in the right colon, HCS score 3 + 4 (PP)	superior**	superior**	superior**	noninferior*

HCS, Harefield Cleansing Scale; ITT, intention-to-treat analysis; N2D, 2-day evening/morning split-dose regimen; N1D, 1-day morning-only regimen; PEG, polyethylene glycol; PP, per-protocol analysis; SP + MC, sodium picosulfate + magnesium citrate.

* Noninferiority demonstrated.

** Superiority demonstrated.

1L PEG + Asc phase 3 studies: Efficacy end-point

► **Table 1** Summary of efficacy primary end points in NER1006 Phase 3 trials.

	MORA (N2D)	MORA (N1D)	DAYB	NOCT
Study product, regimen	NER1006, split	NER1006, same day	NER1006, day before	NER1006, split
Comparator, regimen	PEG 2L + Asc, split	PEG 2L + Asc, split	SP + MC, day before	Trisulfate, split
Primary end points	62.0% vs. 53.8%			
▪ Successful overall colon cleansing, HCS A + B (ITT)	noninferior*	noninferior*	noninferior*	noninferior*
▪ Successful overall colon cleansing, HCS A + B (PP)	superior** 97.3%	noninferior* 92.7%	superior**	noninferior*
▪ High-quality cleaning in the right colon, HCS score 3 + 4 (ITT)	superior**	superior**	noninferior*	noninferior*
▪ High-quality cleaning in the right colon, HCS score 3 + 4 (PP)	superior**	superior**	superior**	noninferior*

HCS, Harefield Cleansing Scale; ITT, intention-to-treat analysis; N2D, 2-day evening/morning split-dose regimen; N1D, 1-day morning-only regimen; PEG, polyethylene glycol; PP, per-protocol analysis; SP + MC, sodium picosulfate + magnesium citrate.

* Noninferiority demonstrated.

** Superiority demonstrated.

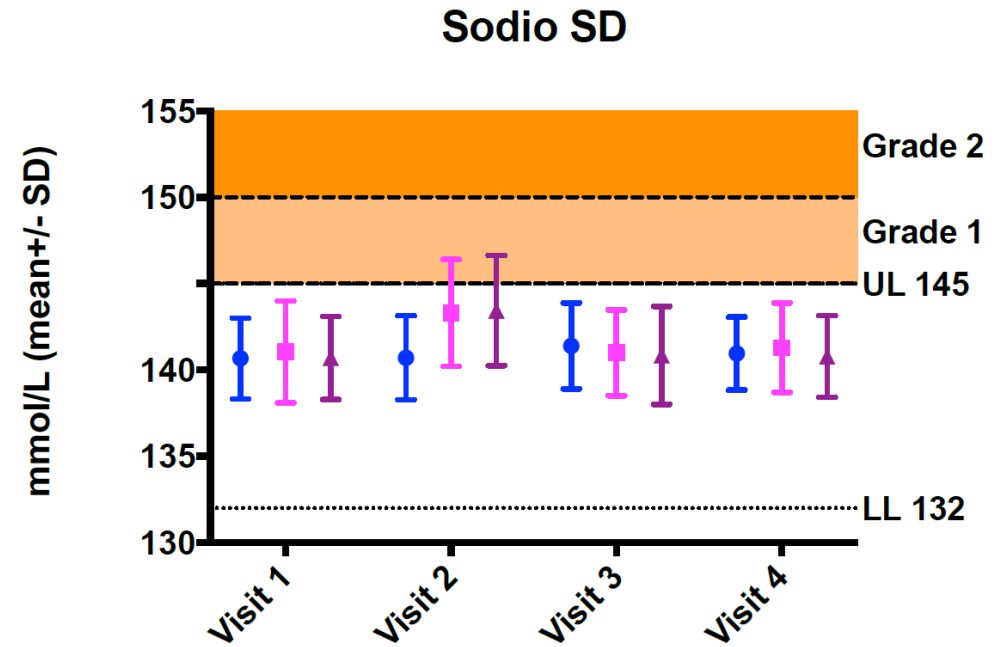
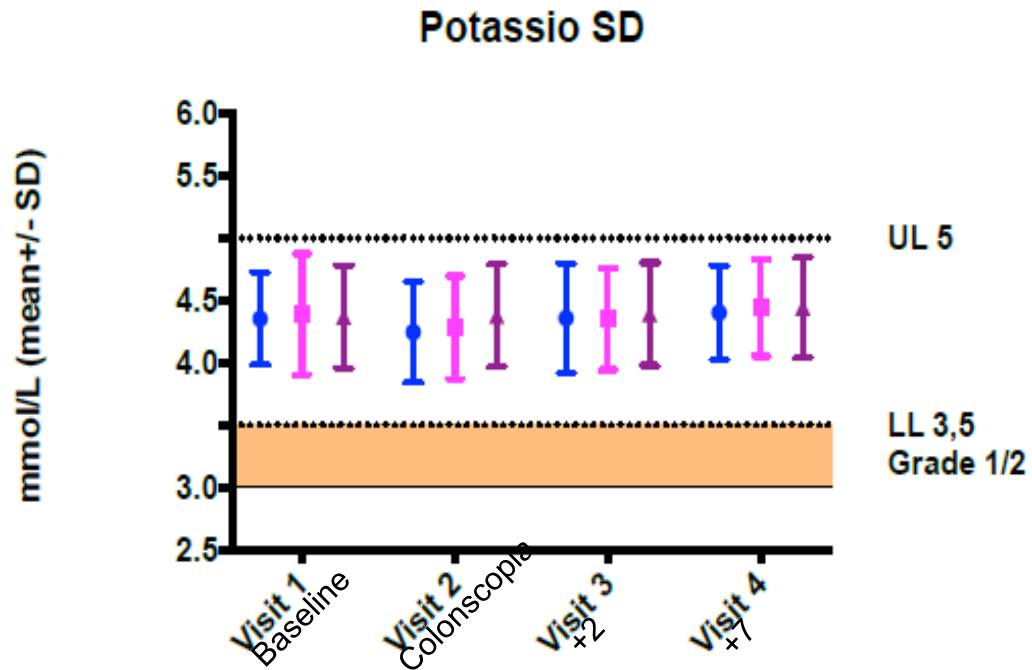


Only split (same day)!!

The paradox of the novel 1 L polyethylene glycol bowel preparation: efficacy, not tolerability, is the great new!

Referring to Bisschops R et al. p. 60–72 and Schreiber S et al. p. 73–84

MORA: Transient and non clinically significant modifications in the lab tests

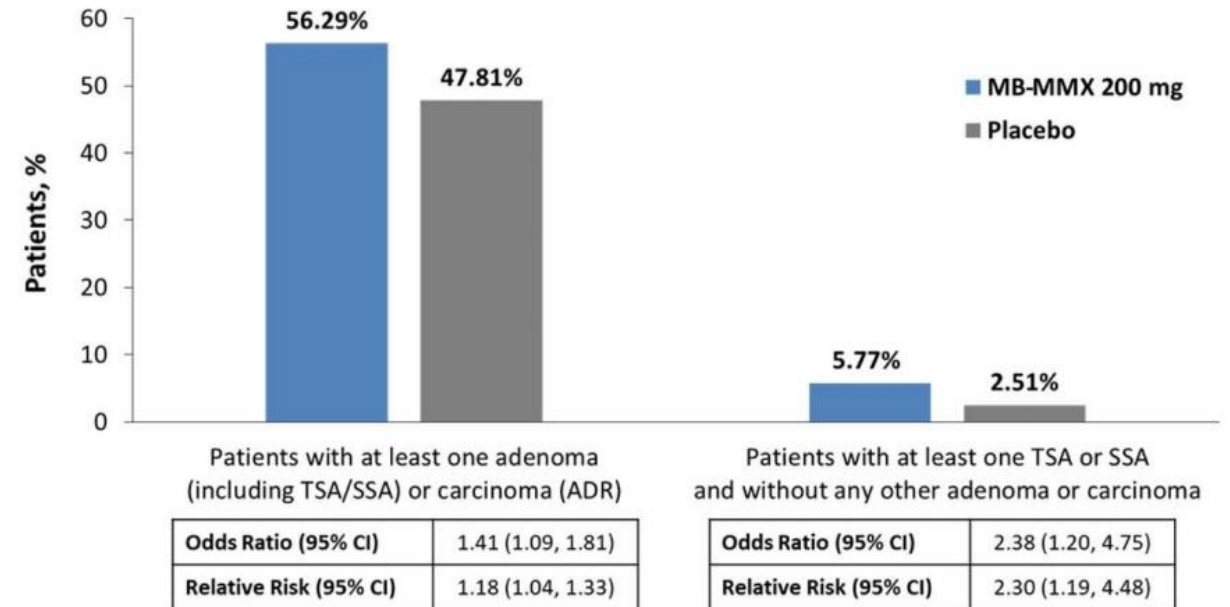
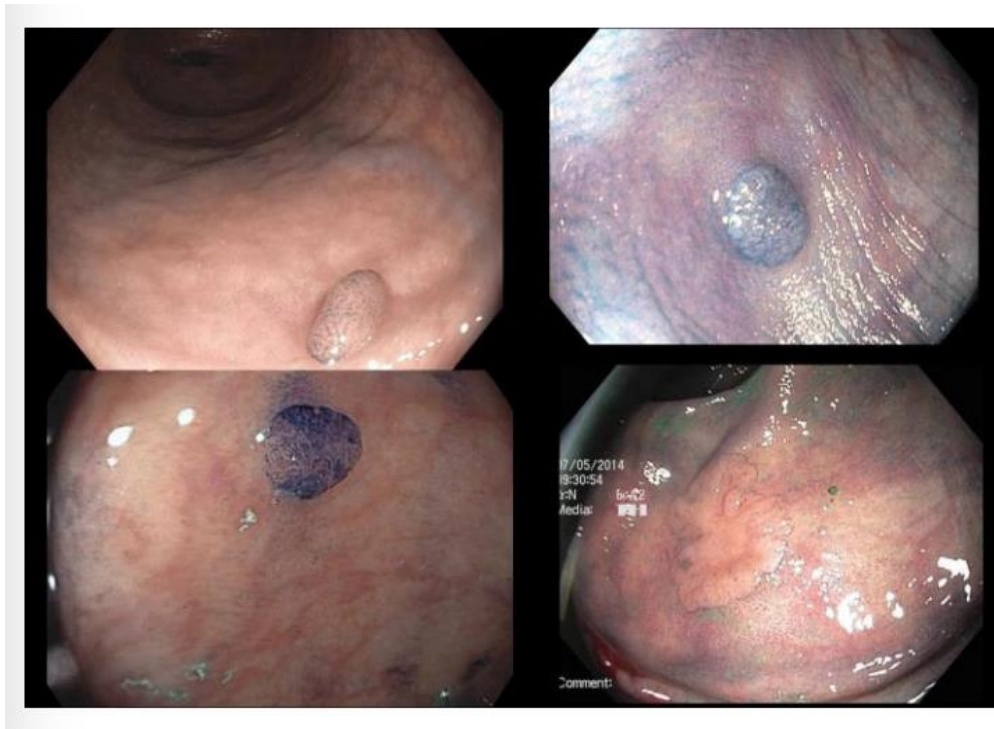


Recommend water intake to minimize hypernatremia

Bowel prep for chromo-endoscopy?

Efficacy of Per-oral Methylene Blue Formulation for Screening Colonoscopy

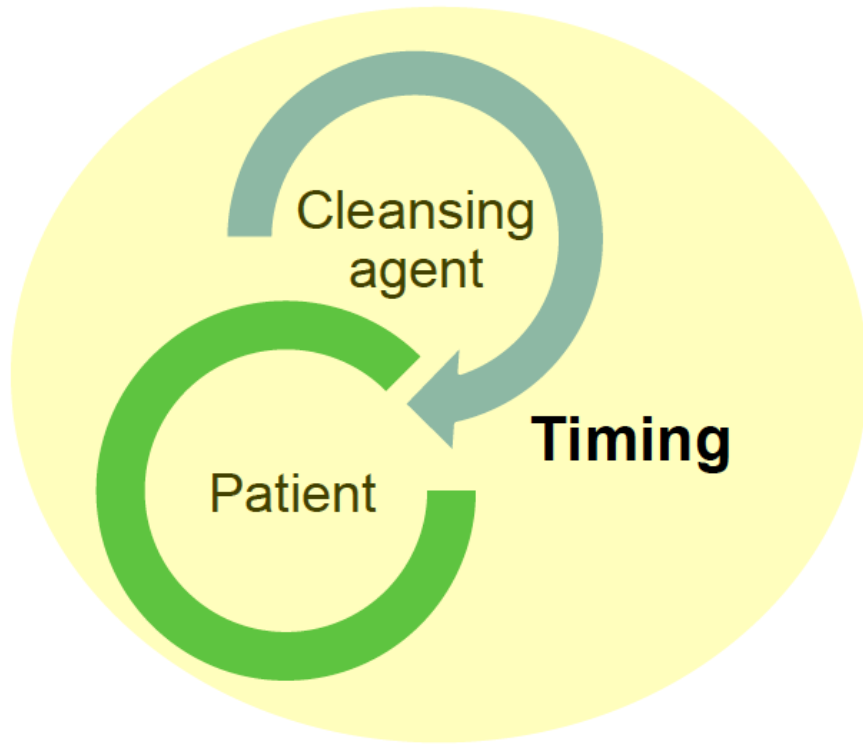
Repici A, Gastroenterology 2019 (in press)



MB-MMX 200 mg. Patients received an oral dose of 8 tablets of 25 mg MB-MMX:
3 tablets (75 mg) after 2 L of bowel preparation
3 tablets (75 mg) after 3 L
2 tablets (50 mg) after all 4 L

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Effectiveness of bowel preparation:



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**European Society of
Gastrointestinal Endoscopy**

Bowel preparation for colonoscopy: European Society of Gastrointestinal Endoscopy (ESGE) Guideline

2018 Updating (*in press*)

***ESGE recommends split dosing for both morning and afternoon colonoscopy
A same day regimen in an acceptable alternative
(Strong recommendation, high quality evidence)***

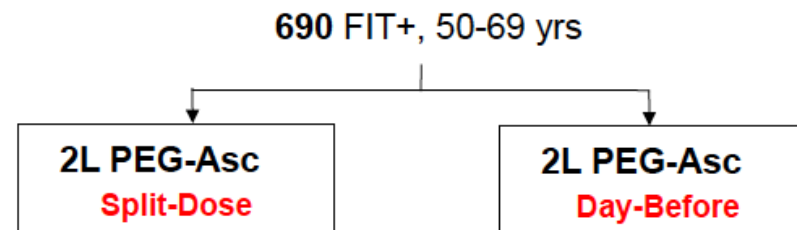
***ESGE recommends to take the last dose of bowel prep within 5 hours of
colonoscopy and to complete it at least 2 hours before the start of the procedure
(Strong recommendation, moderate quality evidence)***

Split-dose preparation in screening colonoscopies increases ADR

Gut. 2016; 66(2):270-77

Multicenter RCT, Italy

- 690 FIT+ve screening subject
- 2L PEG-Asc (Moviprep®) **Split-Dose** vs. **Day-Before**
- Primary study end-point: ADR



ADR [Primary End-point]	53.0%	40.9%	RR 1.22 [1.03-1.46]	NNT= 9
Advanced- ADR	26.4%	20.0%	RR 1.35 [1.06-1.33]	NNT= 16



European Society of
Gastrointestinal Endoscopy

Bowel preparation for colonoscopy: European Society of Gastrointestinal Endoscopy (ESGE) Guideline

2018 Updating (*in press*)

ESGE recommends verbal and written information for bowel preparation, plus enhanced instruction*
(Strong recommendation, moderate quality evidence)

* phone call, telephone SMS, cartoon visual aid, newly designed booklet, smartphone apps, social media app

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**European Society of
Gastrointestinal Endoscopy**

Bowel preparation for colonoscopy: European Society of Gastrointestinal Endoscopy (ESGE) Guideline

2018 Updating (*in press*)

ESGE recommends a split or same-day regimen of the **high or low-volume PEG** or non-PEG based agents for routine bowel preparation.

In patients at risk for hydro-electrolyte disturbances, the choice of laxative should be clinically driven

(Strong recommendation, moderate quality evidence)

2L-PEG + Ascorbate	Moviprep®
2L PEG + Bisacodyl + Simethicone	LovoDyl-LovoEsse®
2L PEG + Citrate + Simethicone	Clensia®
1L PEG + Ascorbate (high conc.)	Plenvu®

Magnesium citrate + sodium picosulphate (MCSP)	Citrafleet®, Picoprep®
Oral Sulphate Solution (OSS, trisulfate)	Izinova®

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**European Society of
Gastrointestinal Endoscopy**

Bowel preparation for colonoscopy: European Society of Gastrointestinal Endoscopy (ESGE) Guideline

2018 Updating (*in press*)

ESGE advises against the routine use of oral sodium phosphate because of safety concerns

(Strong recommendation, low quality evidence)

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NER1006 Phase 3 registrative studies: MORA-NOCT-DAYB Design and endpoints

MORA Study - *"Colon cleansing efficacy and safety with 1 L NER1006 versus 2 L polyethylene glycol + ascorbate: a randomized phase 3 trial"* .
Bisschops R et al. 2018 Endoscopy

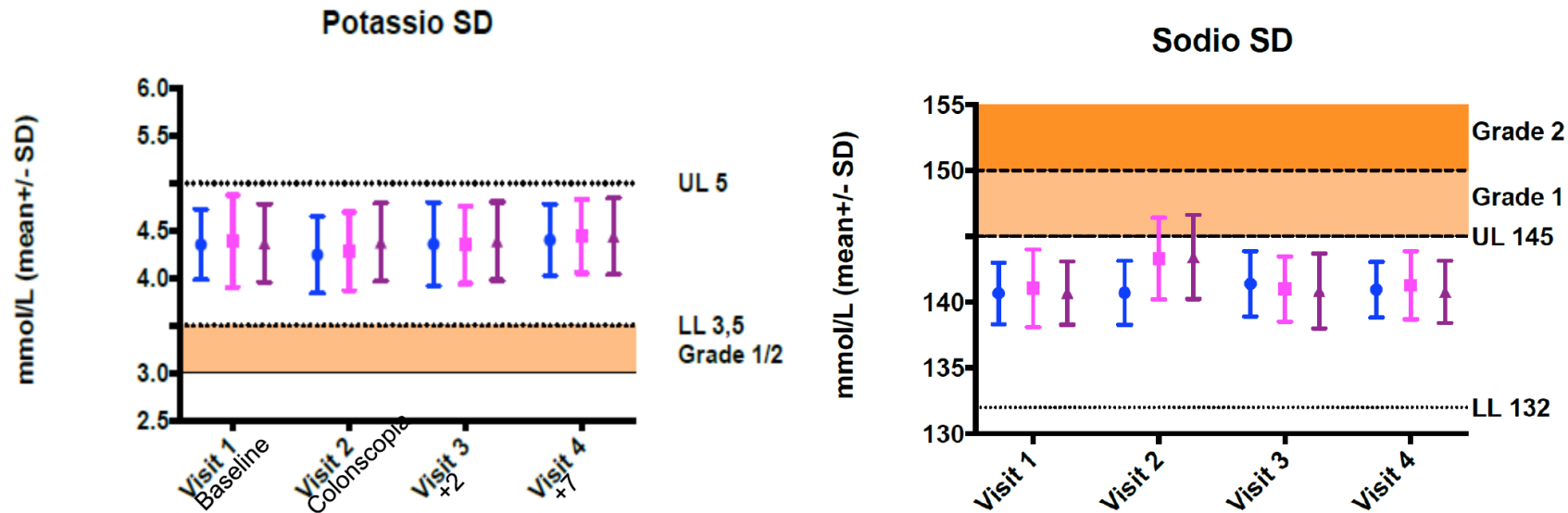
NOCT Study - *"Novel 1 L polyethylene glycol-based bowel preparation NER1006 for overall and right-sided colon cleansing: a randomized controlled phase 3 trial versus trisulfate"* .
DeMicco et al., 2018 Gastrointest Endoscopy

DAYB Study - *"Colon cleansing efficacy and safety with 1 L NER1006 versus sodium picosulfate with magnesium citrate: a randomized phase 3 trial."*
Schreiber S et al. 2018 Endoscopy

- RCTs, phase III, Multicenter
- Single blinded – Score by *central readers/* colonoscopist (HCS, BBPS)
- Non-inferiority (superiority)
- Lab-tests (screening, colonoscopy, day+2, day+7)
- mFAS (ITT), PP analysis

- Primary Endpoints – Central Readers
 - % patients with successful bowel cleansing (HCS grade A or B)
 - % patients with excellent + good cleansing in the ascending colon (HCS 3 or 4)

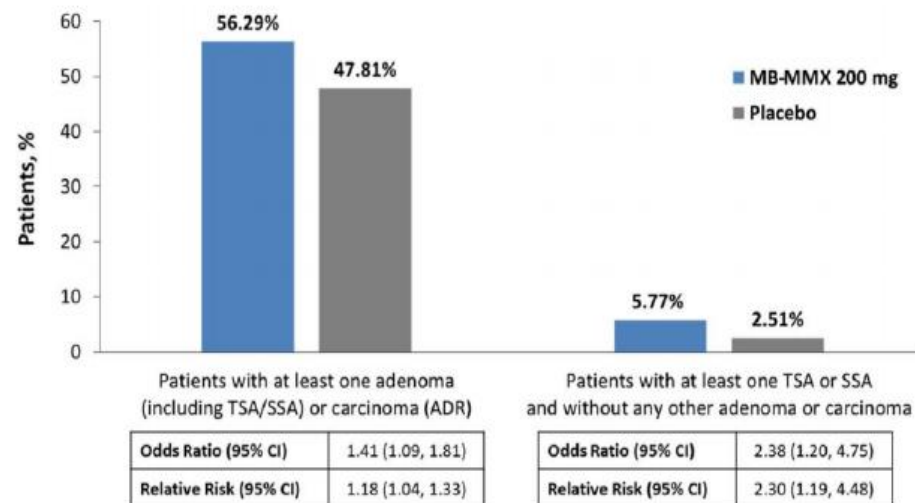
MORA: Transient and non clinically significant modifications in the lab tests



Recommend water intake to minimize hypernatremia

Efficacy of Per-oral Methylene Blue Formulation for Screening Colonoscopy

Repici A, Gastroenterology 2019 (in press)



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