

Updates in Bowel Prep for 2022

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Faculty/Presenter Disclosure

- Faculty: Dr. Richard Sultanian
- Relationships with commercial interests:
 - Grants/Research Support: None
 - Speakers Bureau/Honoraria: None
 - Consulting Fees: None
 - Other: Employee at the University of Alberta Hospital



Objectives

1. Review high level insights from the national B-CLEAN series of clinical trials on bowel preparation
 - Low volume vs. high volume split dose bowel prep
 - Same day vs. split dose bowel prep
 - Day before vs. split dose bowel prep
2. Learn an evidence-based approach to failed bowel preparation
3. Gain knowledge of a new bowel preparation product recently available in Canada



Why does a good bowel preparation matter?



Why does a good bowel preparation matter?

- Direct correlation with diagnostic accuracy and therapeutic safety of colonoscopy
- *Adequate bowel preparation is an essential quality indicator for colonoscopy*
- **Inadequate** bowel preparation leads to:
 - Higher complication rate
 - Incomplete colonoscopies
 - Decreased polyp detection (PDR) and adenoma detection rate (ADR)
 - Increased need to repeat/increase in cost



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What are the clinically approved bowel preparation?



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What are the clinically approved bowel preparation?

- FDA Approved Bowel Preps:
 - PEG Based
 - Sodium picosulfate
 - Oral sulfate
- In Alberta approved provincial preparations:
 - PEG 4L (Colyte, Peglyte)
 - Sodium picosulfate (Picosalax)
 - Oral Sulfate (KleanLyte)
 - PEG + bisacodyl (Bi-Peglyte)



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Provincial Standardized Prep Info



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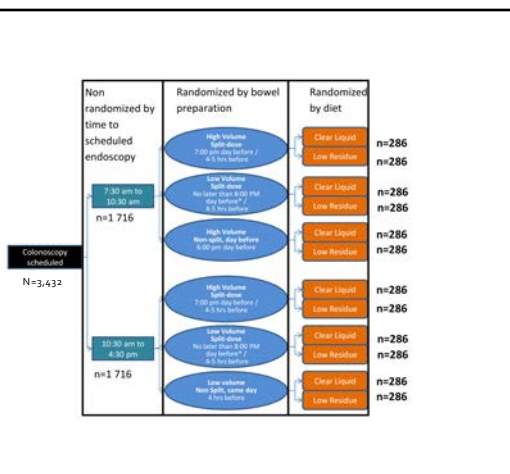
What is the optimal prep?

- Volume?
- Timing?
- Focus on PEG based preparations
- B-CLEAN



B-CLEAN

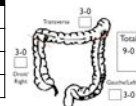
- The **B**owel **C**LEANSing – A **N**ational Initiative (B-CLEAN) was a 10-centre nationwide 12-arm RCT aimed at answering multiple questions related to bowel preparation
 - University of British Columbia (Jennifer Telford)
 - University of Alberta (Richard Sultanian)
 - University of Calgary (Robert Hilsden)
 - University of Manitoba (Harminder Singh)
 - Western University (Michael Sey)
 - Ottawa University (Paul James)
 - McGill University (Alan Barkun) (**Principal Investigator**)
 - Université de Montréal (Daniel von Renteln)
 - Université Laval (Pierre Hallé)
 - Dalhousie University (Ian Epstein)



OUTCOMES: CLEANLINESS

Boston Bowel Prep Scale (BBPS)

Visual description	BBPS score
Entire mucosa of colon segment seen well with no residual staining, small fragments of stool, or opaque liquid	3
Minor amount of residual staining, small fragments of stool and/or opaque liquid, but mucosa of colon segment seen well	2
Portion of mucosa of the colon segment seen, but other areas of the colon segment not well seen because of staining, residual stool, and/or opaque liquid	1
Unprepared colon segment with mucosa not seen because of solid stool that cannot be cleared	0



- High inter (ICC=0.91) and intra-rater (κ=0.78) reliabilities
- Adequate defined as segment scores ≥2 in each segment

Calderwood. Gastrointest Endosc 2010;72:686-98.
Calderwood. Gastrointest Endosc 2014;80:369-76.



OUTCOMES: TOLERABILITY

- Willingness to repeat preparation
- % of bowel preparation consumed
- Validated Bowel Preparation Tolerability Questionnaire¹



1. Lawrence. Dig Dis Sci 2013;28:916-35.

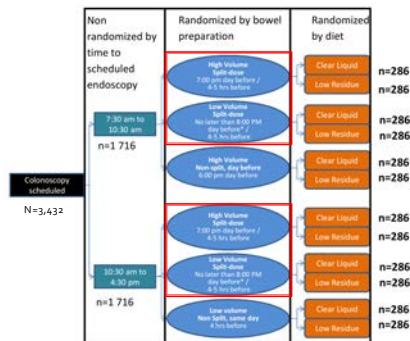
PATIENT CHARACTERISTICS

	All patients N=3473
Age	56.3 ± 13.3
Female	53.2%
BMI	27.6 ± 14.4
Help required for preparation directive	1.0%
Known IBD	7.3%
Received colonoscopy in the past	58.1%
Previous failed colonoscopy	4.0%
Narcotic use in the last 24 hours	3.3%
Chronic laxative use or known medication induced constipation	9.5%
Functional constipation*	9.8%
Indication	
Non screening	37.8%
Screening	37.4%
Surveillance	24.8%

*Table 1¹ for entire trial population but patient characteristics for the cohort that defines each group comparison are comparable



HIGH VS. LOW VOLUME SPLIT DOSE



HIGH VS. LOW VOLUME SPLIT DOSE

- 2,314 patients randomized to:
 - 1,157 to high volume split dose
 - 2L PEG night before
 - 2L PEG morning of procedure
 - 1,157 to low volume split dose
 - 15 mg bisacodyl 2 PM day before
 - 1L PEG night before
 - 1L PEG morning of procedure



*All boxing references courtesy of Dr. M. Sey!

EFFICACY

Variable	PegLyte		p-value
	Split-dose High-volume N=1,157	Split-dose Low-volume N=1,157	
Primary outcome			
Adequate* no. (%)	956 (90.1%)	936 (88.1%)	0.02
BBPS total score-mean (SD)	7.37 ± 1.66	7.35 ± 1.78	<0.01
BBPS score right mean (SD)	2.37 ± 0.64	2.31 ± 0.66	0.02
BBPS score transverse mean (SD)	2.51 ± 0.61	2.44 ± 0.66	0.01
BBPS score left mean (SD)	2.48 ± 0.63	2.37 ± 0.72	<0.01
Adequate ≥5-no. (%)	1030 (94.9%)	985 (92.7%)	0.02
Adequate ≥7-no. (%)	706 (66.4%)	663 (62.4%)	0.03

Barkun. Clin Gastroenterol Hepatol 2021;Online ahead of print

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Adequate ≥7-no. (%)	706 (66.4%)	663 (62.4%)	0.03

Statistically significant but perhaps not clinically meaningful

Barkun. Clin Gastroenterol Hepatol 2021;Online ahead of print

TOLERABILITY

Variable	PegLyte		p-value
	Split-dose High-volume N=1,157	Split-dose Low-volume N=1,157	
Willingness to repeat the preparation	802 (68.9%)	821 (70.9%)	<0.01
Tolerance (scale of 1-10) mean ± SD	7.2 ± 2.3	8.1 ± 1.9	<0.01
Symptoms			
Unpleasant taste	433 (41.3%)	425 (39.6%)	0.50
Excessive thirst	309 (30.4%)	292 (4.7%)	0.02
Nausea	275 (26.6%)	277 (24.2%)	<0.01
Vomiting	82 (5.9%)	32 (2.9%)	<0.01
Bloating	218 (20.8%)	141 (13.3%)	<0.01
Abdominal pain - Cramp	113 (10.8%)	91 (8.5%)	0.08
Headache	157 (14.9%)	129 (12.1%)	0.06
Dizziness	44 (3.9%)	36 (3.4%)	0.53
Sleep disturbance	164 (15.7%)	124 (11.6%)	<0.01
Perianal irritation	187 (17.9%)	109 (10.3%)	<0.01
Chills	333 (32.7%)	191 (17.9%)	<0.01
Compliance			
100% compliance	781 (72.9%)	921 (86.4%)	<0.01
80% compliance	938 (87.6%)	1046 (95.4%)	<0.01
60% compliance	961 (89.8%)	1056 (97.3%)	<0.01

TAKE HOME MESSAGE

- Split dose low volume PEG (BiPegLyte™) has comparable clinical efficacy to high volume split dose PEG (PegLyte™) but is much better tolerated
- Consider PegLyte™ or BiPegLyte™ as 1st line bowel preps



SPLIT DOSE VS. SAME DAY PREP



SPLIT DOSE VS. SAME DAY PREP

- 1,750 subjects randomized to:
 - 583 to same day bowel prep
 - 15 mg bisacodyl 2 PM day before
 - 2L PEG morning of procedure
 - 585 to low volume split dose
 - 15 mg bisacodyl 2 PM day before
 - 1L PEG night before
 - 1L PEG morning of procedure
 - 582 to high volume split dose
 - 2L PEG night before
 - 2L PEG morning of procedure



EFFICACY

Variable	"Same day prep"		P value	"Split dose 4L PEG"		P value	"Split dose BiPegLyte"		P value	"Split dose 4L PEG or BiPegLyte"		P value
	Low-volume same-day	High-volume split-dose		Low-volume split-dose	High-volume split-dose		Combined high-flow-volume split-dose					
Primary outcome												
Adequate* no. (%)	478 (90.5%)	495 (92.2%)	0.34	474 (87.9%)	0.17		969 (90.1%)	0.76				
BBPS total score, mean (SD)	7.50 ± 1.70	7.44 ± 1.59	0.52	7.11 ± 1.78	<0.01		7.27 ± 1.69	0.01				
BBPS score right, mean (SD)	2.45 ± 0.64	2.39 ± 0.62	0.12	2.30 ± 0.66	<0.01		2.34 ± 0.64	<0.01				
BBPS score transverse, mean (SD)	2.56 ± 0.62	2.53 ± 0.60	0.51	2.43 ± 0.66	<0.01		2.48 ± 0.61	0.02				
BBPS score left, mean (SD)	2.47 ± 0.68	2.52 ± 0.60	0.30	2.37 ± 0.70	<0.01		2.44 ± 0.66	0.36				
Adequate ≥5, no. (%)	499 (94.5%)	517 (96.3%)	0.17	500 (92.8%)	0.24		1,017 (94.5%)	0.99				
Adequate ≥7, no. (%)	379 (71.8%)	361 (67.2%)	0.11	337 (62.5%)	<0.01		698 (64.9%)	<0.01				

BBPS, Boston Bowel Preparation Scale.

*Defined as a BBPS cutoff of ≥6 with all segment scores ≥2.

Barkun, Am J Gastroenterol 2020;115:2068-76.




EFFICACY

Variable	"Split dose 4L PEG"		P value	"Split dose BiPegLyte"		P value	"Split dose 4L PEG or BiPegLyte"		P value
	Low-volume same-day	High-volume split-dose		Low-volume split-dose	High-volume split-dose		Combined high-flow-volume split-dose		
Primary outcome									
Adequate ^a no. (%)	478 (90.5%)	495 (92.2%)	0.34	474 (87.9%)	0.17	969 (90.1%)	0.76		
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BBPS score right, mean (SD)	2.45 ± 0.64	2.39 ± 0.62	0.12	2.30 ± 0.66	<0.01	2.34 ± 0.64	<0.01		
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BBPS score transverse, mean (SD)	2.56 ± 0.62	2.53 ± 0.60	0.51	2.43 ± 0.66	<0.01	2.48 ± 0.61	0.02		
BBPS score left, mean (SD)	2.47 ± 0.68	2.52 ± 0.60	0.30	2.37 ± 0.70	<0.01	2.44 ± 0.66	0.36		
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BBPS total score, mean (SD)	7.50 ± 1.70	7.44 ± 1.59	0.52	7.11 ± 1.78	<0.01	7.27 ± 1.69	0.01		
BBPS score right, mean (SD)	2.45 ± 0.64	2.39 ± 0.62	0.12	2.30 ± 0.66	<0.01	2.34 ± 0.64	<0.01		
BBPS score transverse, mean (SD)	2.56 ± 0.62	2.53 ± 0.60	0.51	2.43 ± 0.66	<0.01	2.48 ± 0.61	0.02		
BBPS score left, mean (SD)	2.47 ± 0.68	2.52 ± 0.60	0.30	2.37 ± 0.70	<0.01	2.44 ± 0.66	0.36		
Adequate ≥5, no. (%)	499 (94.5%)	517 (96.3%)	0.17	500 (92.8%)	0.24	1,017 (94.5%)	0.99		
Adequate ≥7, no. (%)	379 (71.8%)	361 (67.2%)	0.11	337 (62.5%)	<0.01	698 (64.9%)	<0.01		


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^aDefined as a BBPS cutoff of ≥6 with all segment scores ≥2.

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TOLERABILITY

Variable	"Same day prep"		P value	"Low-volume split-dose"		P value	"High-volume split-dose"		P value
	Low-volume same-day	High-volume split-dose		Low-volume split-dose	High-volume split-dose				
Adverse events	402 (76.7%)	412 (76.7%)	<0.01	402 (76.7%)	412 (76.7%)	<0.01	402 (76.7%)	412 (76.7%)	<0.01
Diarrhea	8.1 ± 3.9	7.8 ± 2.3	<0.01	8.2 ± 3.9	6.65	7.7 ± 2.3	<0.01		
Abdominal pain	100 (19.1%)	103 (19.5%)	0.91	100 (19.1%)	103 (19.5%)	0.91	100 (19.1%)	103 (19.5%)	0.91
Excessive flat	39 (7.4%)	32 (6.0%)	0.23	32 (6.0%)	32 (6.0%)	0.98	39 (7.4%)	32 (6.0%)	0.23
Nausea	34 (6.5%)	22 (4.1%)	0.10	34 (6.5%)	22 (4.1%)	0.06	34 (6.5%)	22 (4.1%)	0.06
Bloating	21 (4.0%)	22 (4.1%)	0.38	21 (4.0%)	22 (4.1%)	0.22	21 (4.0%)	22 (4.1%)	0.38
Feeling	31 (5.9%)	30 (5.6%)	0.91	31 (5.9%)	30 (5.6%)	0.94	31 (5.9%)	30 (5.6%)	0.91
Abdominal pain - cramp	48 (9.1%)	58 (10.9%)	0.32	48 (9.1%)	57 (10.7%)	0.48	48 (9.1%)	57 (10.7%)	0.48
Headache	39 (7.4%)	37 (6.9%)	0.62	39 (7.4%)	37 (6.9%)	0.94	39 (7.4%)	37 (6.9%)	0.62
Dizziness	8 (1.5%)	2 (0.4%)	0.02	8 (1.5%)	2 (0.4%)	<0.01	8 (1.5%)	2 (0.4%)	0.02
Sleep disturbance	47 (8.9%)	43 (8.1%)	0.16	47 (8.9%)	43 (8.1%)	0.99	47 (8.9%)	43 (8.1%)	0.16
Pruritus/itching	87 (16.5%)	100 (18.9%)	0.29	87 (16.5%)	100 (18.9%)	<0.01	87 (16.5%)	100 (18.9%)	0.29
Other	120 (22.8%)	107 (20.1%)	<0.01	120 (22.8%)	107 (20.1%)	0.02	120 (22.8%)	107 (20.1%)	0.02
Compliance									
Patients took the assigned preparation	532 (98.2%)	539 (98.2%)	0.96	532 (98.2%)	539 (98.2%)	0.91	532 (98.2%)	539 (98.2%)	0.96
Patients requested the assigned diet	532 (98.2%)	532 (98.2%)	0.22	532 (98.2%)	532 (98.2%)	0.22	532 (98.2%)	532 (98.2%)	0.22
100% compliance ^b	472 (87.7%)	392 (73.8%)	<0.01	466 (86.3%)	349 (65.2%)	<0.01	472 (87.7%)	392 (73.8%)	<0.01
80% compliance	499 (92.8%)	471 (88.3%)	0.03	493 (92.8%)	453 (84.6%)	0.03	499 (92.8%)	471 (88.3%)	0.03
60% compliance	502 (93.8%)	488 (91.7%)	0.08	502 (93.8%)	465 (86.9%)	0.02	502 (93.8%)	488 (91.7%)	0.08
75% compliance	521 (96.4%)	504 (93.7%)	0.02	543 (97.2%)	465 (86.9%)	0.02	521 (96.4%)	504 (93.7%)	0.02
Time to the end of the last dose to tolerance ^c	3.8 ± 2.6	4.5 ± 2.2	<0.01	3.6 ± 2.3	4.8 ± 2.2	<0.01	3.8 ± 2.6	4.5 ± 2.2	<0.01



TOLERABILITY

"Same day prep"

Variable	Low volume split dose	High volume split dose	P-value	Low volume split dose	High volume split dose	P-value
Mean length of hospital stay (days)	4.5 (1.9)	4.5 (2.3)	>0.05	4.5 (1.9)	4.5 (2.3)	>0.05
Mean length of stay (days) - Patient > 48h	8.5 (3.9)	8.5 (4.3)	>0.05	8.5 (3.9)	8.5 (4.3)	>0.05
Complications						
Unplanned return	159 (29.9%)	223 (42.0%)	<0.05	159 (29.9%)	223 (42.0%)	<0.05
Emergency bleed	30 (7.4%)	50 (9.4%)	0.23	30 (7.4%)	50 (9.4%)	0.24
Nausea	54 (10.2%)	72 (13.5%)	0.30	54 (10.2%)	72 (13.5%)	0.36
Vomiting	21 (4.0%)	27 (5.1%)	0.36	21 (4.0%)	27 (5.1%)	0.31
Swelling	33 (6.3%)	50 (9.4%)	<0.05	33 (6.3%)	50 (9.4%)	<0.05
Abdominal pain - severe	48 (9.1%)	58 (10.9%)	0.32	48 (9.1%)	58 (10.9%)	0.48
Headache	39 (7.4%)	57 (10.7%)	0.02	39 (7.4%)	57 (10.7%)	0.08
Dizziness	8 (1.5%)	20 (3.8%)	0.02	8 (1.5%)	20 (3.8%)	<0.05
Sleep disturbance	47 (9.0%)	63 (11.8%)	0.15	47 (9.0%)	63 (11.8%)	0.36
Perianal irritation	87 (16.5%)	100 (18.6%)	0.29	87 (16.5%)	100 (18.6%)	0.11
Diarrhea	185 (35.0%)	267 (50.0%)	<0.05	185 (35.0%)	267 (50.0%)	0.02
Complications						
Patient took the assigned preparation	532 (98.2%)	539 (98.2%)	0.96	532 (98.2%)	539 (98.2%)	0.33
Patient received the assigned diet	522 (97.8%)	525 (97.6%)	0.26	522 (97.8%)	525 (97.6%)	0.73
90% compliance	479 (90.2%)	475 (88.3%)	<0.05	479 (90.2%)	475 (88.3%)	0.46
80% compliance	460 (86.8%)	475 (88.3%)	0.01	460 (86.8%)	475 (88.3%)	0.66
70% compliance	363 (68.5%)	408 (75.7%)	0.06	363 (68.5%)	408 (75.7%)	0.08
60% compliance	216 (40.8%)	248 (45.9%)	0.02	216 (40.8%)	248 (45.9%)	0.02
Time to the end of the last dose to commencing	3.8 (2.0)	4.5 (2.3)	<0.05	3.8 (2.0)	4.5 (2.3)	<0.05



TAKE HOME MESSAGE

- Same day prep is roughly equivalent to low volume split dose and high volume split dose in achieving adequate bowel prep
- Same day prep and high volume split dose may be a bit better at achieving a cleaner colon beyond 'adequate'
- Same day and low volume split dose bowel preps are better tolerated than high volume split dose prep



DAY BEFORE VS. SPLIT DOSE PREP



DAY BEFORE VS. SPLIT DOSE PREP

- 1,726 subjects randomized to:
 - 579 to 'day before' bowel prep
 - 4L PEG night before
 - 572 to low volume split dose
 - 15 mg bisacodyl 2 PM day before
 - 1L PEG night before
 - 1L PEG morning of procedure
 - 575 to high volume split dose
 - 2L PEG night before
 - 2L PEG morning of procedure



EFFICACY

	Day before high-volume N=579	Split-dose high-volume N=575	p-value	Split-dose low-volume N=572	p-value	(High or Low) split-dose N=1147	p-value
BBPS Adequate*	71.8%	89.4%	<0.001	88.2%	<0.001	88.8%	<0.001
Total BBPS	6.3 ± 2.0	7.3 ± 1.7	<0.001	7.3 ± 1.8	<0.001	7.3 ± 1.8	<0.001
Stosale ≥ 7	47.3%	65.5%	<0.001	66.2%	<0.001	63.8%	<0.001
Patient willing to repeat the preparation	59.8%	74.8%	0.107	91.3%	<0.001	74.5%	<0.001
Patient Tolerance (1-10 scale)	7.0 ± 2.3	7.2 ± 2.4	0.106	8.0 ± 1.8	<0.001	7.6 ± 2.1	<0.001

TOLERABILITY

	Day before high-volume N=579	Split-dose high-volume N=575	p-value	Split-dose low-volume N=572	p-value	(High or Low) split-dose N=1147	p-value
BBPS Adequate*	71.8%	89.4%	<0.001	88.2%	<0.001	88.8%	<0.001
Total BBPS	6.3 ± 2.0	7.3 ± 1.7	<0.001	7.3 ± 1.8	<0.001	7.3 ± 1.8	<0.001
Stosale ≥ 7	47.3%	65.5%	<0.001	66.2%	<0.001	63.8%	<0.001
Patient willing to repeat the preparation	59.8%	74.8%	0.107	91.3%	<0.001	74.5%	<0.001
Patient Tolerance (1-10 scale)	7.0 ± 2.3	7.2 ± 2.4	0.106	8.0 ± 1.8	<0.001	7.6 ± 2.1	<0.001

TAKE HOME MESSAGE

- Split dose bowel prep results in a cleaner colon and better patient tolerability
- There is little role for 4L day before bowel prep as a first line agent in routine outpatient colonoscopy

B-CLEAN Conclusion

- Split-dose high-volume PEG (2L+2L) compared to split-dose low-volume PEG (1L+1L) with bisacodyl (15mg)
 - Split-dose high-volume PEG - Independent of time of procedure (AM or PM) or diet (clear liquid or low residue diet)
 - Improved bowel cleansing according to the BBPS
 - Improved cecal intubation
 - Improved polypectomy rates
 - However,
 - Lower patient willingness to repeat the bowel preparation
 - Lower patient tolerance

B-CLEAN Conclusion

- **Same-day low-volume PEG (2L) compared split-dose high-volume PEG (2L+2L) and/or split-dose low-volume (1L+1L) PEG with bisacodyl (15mg)**
- **Low volume PEG given the day of the colonoscopy - independent of diet (clear liquid or low residue)**
 - Similar bowel cleanliness compared to split-dose high-volume PEG
 - Better bowel cleanliness compared to split-dose low volume PEG
- **Same-day low-volume PEG**
 - Greater willingness-to-repeat compared to split-dose high-volume PEG
 - No different willingness-to-repeat compared to split-dose low-volume PEG



EDMONTON-ALBERTA-CANADA

B-CLEAN Conclusion

- **Day before high-volume PEG (4L) versus split-dose high-volume PEG (2L+2L) and/or split-dose low-volume PEG (1L+1L) with Bisacodyl (15mg)**
- **Day before high-volume PEG - independent of diet (clear liquid or low residue)**
 - Worse bowel cleanliness compared to split-dose high volume PEG
 - Worse bowel cleanliness compared to split-dose low volume PEG
 - Lower patient willingness to repeat compared to the split-dose low-volume PEG
 - Not significantly different patient willingness to repeat compared to the split-dose high-volume PEG
 - Inferior cecal intubation and polyp detection vs split-dose high-volume PEG



EDMONTON-ALBERTA-CANADA

WHAT ABOUT FAILED BOWEL PREP?



EDMONTON-ALBERTA-CANADA



EDMONTON-ALBERTA-CANADA

WHAT ABOUT FAILED BOWEL PREP?

- The Bowel CLEAnsing: A National Initiative - Repeat Colonoscopy (B-CLEAN(R)) was a 4-centre RCT comparing two regimens for use after an initial failed attempt at bowel preparation
 - University of Alberta (Richard Sultanian)
 - Western University (Michael Sey) (**Principal Investigator**)
 - McGill University (Alan Barkun)
 - Université de Montréal (Daniel von Renteln)



ELIGIBILITY CRITERIA: B-CLEAN(R)

- Inclusion criteria
 - Anyone who failed outpatient on label bowel preparation requiring a repeat colonoscopy
- Exclusion criteria
 - Non-compliance with index bowel preparation
 - Intolerance to PEG based bowel prep
 - Used off-label bowel preparation
 - Inpatient index colonoscopy
 - Increased risk for fluid/electrolyte disturbances
 - History of ischemic colitis



RANDOMIZATION: B-CLEAN(R)

- Regimen A
 - 15 mg bisacodyl at 2 PM the day before colonoscopy
 - 2L PegLyte the night before colonoscopy
 - 2L PegLyte the morning of colonoscopy
- Regimen B
 - 15 mg bisacodyl at 2 PM the day before colonoscopy
 - 4L PegLyte the night before colonoscopy
 - 2L PegLyte the morning of colonoscopy
- Both preceded by a low fiber diet 3 and 2 days before colonoscopy and clear fluids day before and day of the procedure



RANDOMIZATION: B-CLEAN(R)

- Regimen A
 - 15 mg bisacodyl at 2 PM the day before colonoscopy
 - 2L PegLyte the night before colonoscopy = BiPegLyte x 2 boxes - 15 mg bisacodyl
 - 2L PegLyte the morning of colonoscopy OR
= PegLyte 4L + 15 mg bisacodyl
- Regimen B
 - 15 mg bisacodyl at 2 PM the day before colonoscopy
 - 4L PegLyte the night before colonoscopy
 - 2L PegLyte the morning of colonoscopy
- Both preceded by a low fiber diet 3 and 2 days before colonoscopy and clear fluids day before and day of the procedure



EFFICACY

	PEG 2+2L+bisacodyl (n = 97)	PEG 4+2L+ bisacodyl (n = 99)	RR (95% CI)	P value
Adequate preparation, n (%)				
EBSPS definition	83 (81.2)	78 (87.6)	0.96 (0.87-1.06)	.44
USAMSTF definition	82 (81.1)	76 (85.4)	0.94 (0.85-1.04)	.24
EBSPS, median (IQR)				
Total score	7 (6-9)	7 (6-9)	-	.95
Right colon	2 (2-3)	2 (2-3)	-	.33
Transverse colon	2 (2-3)	2 (2-3)	-	.51
Left colon	2 (2-3)	3 (2-3)	-	.55
Detection rates, n (%)				
Adenoma	34 (37.4)	28 (31.5)	0.84 (0.56-1.26)	.41
Advanced adenoma	17 (18.7)	10 (11.2)	0.79 (0.55-1.13)	.19
Sessile serrated lesion	8 (8.6)	5 (5.6)	0.64 (0.22-1.88)	.41
Polyp	53 (58.2)	49 (55.1)	0.94 (0.73-1.22)	.66
Adenoma/colonoscopy	0.99 (1.88)	0.64 (1.15)	-	.13
Polyp/colonoscopy	1.54 (2.29)	1.25 (1.92)	-	.36
Cecal intubation, n (%)	87 (96.7)	82 (92.1)	0.95 (0.89-1.02)	.19

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TOLERABILITY

	PEG 2+2L+ bisacodyl (n = 97)	PEG 4+2L+ bisacodyl (n = 99)	P value
Adherence to diet, n (%)			
Low fiber diet portion	78 (80.3)	73 (84.3)	.76
Clear fluid diet portion	85 (86.6)	87 (88.9)	.32
Adherence to guidelines, n (%)			
PEG, 100% adherent	76 (84.2)	62 (71.7)	.02
PEG, 80% adherent	79 (81.5)	66 (75.7)	.21
Dietal adherence			
Diet + purgative, 100%	67 (61.7)	53 (68.9)	.09
Diet + purgative, 80%	71 (66.6)	57 (71.7)	.08
PEG tolerance, median (IQR)	4 (3-6)	4 (3-6)	<.0001
Tolerability components,* median (IQR)			
Crampiness	2 (0-3)	2 (1-4)	.07
Excessive flat	0 (0-2)	0 (0-1)	.35
Nausea	0 (0-2)	0 (0-2)	.54
Bloating	0 (0-2)	0 (0-2)	.38
Abdominal cramps	0 (0-2)	0 (0-2)	.92
Headache	1 (0-2)	0 (0-2)	.11
Dizziness	0 (0-2)	0 (0-2)	.85
Stool intolerance	0 (0-2)	0 (0-2)	.68
Chills	0 (0-2)	1 (0-2)	.73
Appetite, tolerability score	4 (3-5)	4 (3-5)	.38
Tolerability visual analogue scale,** median (IQR)	7 (6-9)	8 (6-9)	.38
Facial occurrence	11 (13.3)	12 (14.3)	.83
Willingness to repeat bowel preparation	82 (81.7)	83 (88.3)	<.0001
NS	9 (9.8)	21 (21.2)	



TAKE HOME MESSAGE

- In patients who fail first line bowel preparation:
 - Assess adherence
 - If non-adherence, provide education/alternate preparation
 - Assess tolerance
 - If PEG intolerant, switch to sodium picosulfate based (Pico-Salax® or Purgodan™) or oral sulfate solution (KleanLyte™) based bowel preparation
 - If sodium picosulfate intolerant, switch to low volume PEG (BiPegLyte®) or oral sulfate solution (KleanLyte™) based bowel preparation
 - If adherent and tolerant, use:
 - Low fiber diet 3 and 2 days before procedure and clear fluids day before and day of procedure
 - 15 mg bisacodyl at 2 PM day before colonoscopy
 - 2L PegLyte between 8-10 PM night before colonoscopy
 - 2L PegLyte started 4-6 hours before colonoscopy and consumed over 2 hours

*Do not take antacids within 1 hour of bisacodyl

**Patients with contraindications to PEG, bisacodyl, or colonoscopy were excluded from the trial



Questions?

