

Supplementary Figure 1. Search Strategy Used for Systematic Review.

MEDLINE

1. exp Cathartics/
2. Polyethylene Glycols/
3. (cathart\$ or purgat\$ or polyethylene\$ or miralax or golytely or colyte or gavilyte\$ or macrogol\$ or moviprep or peg or magnesium citrate or sodium phos\$ or suprep or prepopik or bisacodyl).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]
4. ((bowel adj3 (prep\$ or clean\$ or lavage)) or (colo\$ adj3 (prep\$ or clean\$ or lavage)) or (intestin\$ adj3 (prep\$ or clean\$ or lavage))).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]
5. (boston bowel prep\$ or BBPS or Ottawa score or aronchick).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]
6. 1 or 2 or 3 or 4 or 5
7. exp Colonoscopy/
8. (Colonosc\$ or endosc\$).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]
9. 7 or 8
10. exp colonic polyps/ or colonic neoplasms/ or colorectal neoplasms/ or rectal neoplasms/ or sigmoid neoplasms/ or cecal neoplasms/ or adenomatous polyps/
11. ((Colo\$ adj3 (polyp\$ or neoplasm\$ or adenoma\$ or cancer\$ or tumor\$ or tumour\$ or carcinoma\$)) or (Rect\$ adj3 (polyp\$ or neoplasm\$ or adenoma\$ or cancer\$ or tumor\$ or tumour\$ or carcinoma\$)) or (Sigmoid adj3 (polyp\$ or neoplasm\$ or adenoma\$ or cancer\$ or tumor\$ or tumour\$ or carcinoma\$)) or (Cec\$ adj3 (polyp\$ or neoplasm\$ or adenoma\$ or cancer\$ or tumor\$ or tumour\$ or carcinoma\$))).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]
12. 10 or 11
13. Adenoma/di [Diagnosis]
14. exp Polyps/di [Diagnosis]
15. ((Adenoma adj3 (detect\$ or preval\$ or presence or rate\$ or diagnos\$ or predict\$)) or (polyp\$ adj3 (detect\$ or preval\$ or presence or rate\$ or diagnos\$ or predict\$)) or (neoplas\$ adj3 (detect\$ or preval\$ or presence or rate\$ or diagnos\$ or predict\$))).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]
16. (ADR or PDR).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]
17. 13 or 14 or 15 or 16
18. 12 or 17
19. 6 and 9 and 18
20. limit 19 to (humans and "all adult (19 plus years)")

Embase

1. exp laxative/
2. exp macrogol derivative/
3. intestine preparation/
4. colon lavage/
5. (cathart\$ or purgat\$ or polyethylene\$ or miralax or golytely or colyte or gavilyte\$ or macrogol\$ or moviprep or peg or magnesium citrate or sodium phos\$ or suprep or prepopik or bisacodyl).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
6. ((bowel adj3 (prep\$ or clean\$ or lavage)) or (colo\$ adj3 (prep\$ or clean\$ or lavage)) or (intestin\$ adj3 (prep\$ or clean\$ or lavage))).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
7. (boston bowel prep\$ or BBPS or Ottawa score or aronchick).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
8. 1 or 2 or 3 or 4 or 5 or 6 or 7
9. exp colonoscopy/
10. (Colonosc\$ or endosc\$).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
11. 9 or 10
12. colon polyp/ or colon tumor/ or colorectal tumor/ or exp rectum tumor/ or exp cecum tumor/ or exp adenomatous polyp/
13. ((Colo\$ adj3 (polyp\$ or neoplasm\$ or adenoma\$ or cancer\$ or tumor\$ or tumour\$ or carcinoma\$)) or (Rect\$ adj3 (polyp\$ or neoplasm\$ or adenoma\$ or cancer\$ or tumor\$ or tumour\$ or carcinoma\$)) or (Sigmoid adj3 (polyp\$ or neoplasm\$ or adenoma\$ or cancer\$ or tumor\$ or tumour\$ or carcinoma\$)) or (Cec\$ adj3 (polyp\$ or neoplasm\$ or adenoma\$ or cancer\$ or tumor\$ or tumour\$ or carcinoma\$))).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
14. 12 or 13
15. ((Adenoma adj3 (detect\$ or preval\$ or presence or rate\$ or diagnos\$ or predict\$)) or (polyp\$ adj3 (detect\$ or preval\$ or presence or rate\$ or diagnos\$ or predict\$)) or (neoplas\$ adj3 (detect\$ or preval\$ or presence or rate\$ or diagnos\$ or predict\$))).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
16. exp adenoma/di [Diagnosis]
17. polyp/di [Diagnosis]
18. (ADR or PDR).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
19. 15 or 16 or 17 or 18
20. 14 or 19
21. 8 and 11 and 20
22. limit 21 to (human and (adult <18 to 64 years> or aged <65+ years>))

Supplementary Figure 2. Quality Assessment Tool.

A) Selection:

1) Representativeness: Truly representative of patients for which ADR is appropriate? *

-Study includes only adults undergoing screening or surveillance colonoscopy: 1

-Study includes patients undergoing colonoscopy for indications other than screening/surveillance: 0

2) Ascertainment of exposure (bowel prep quality definition): *

-A validated, quantitative or ordinal scale was used (BBPS, Ottawa, Aronchick): 1

-A validated, quantitative or ordinal scale was not used: 0

3) Were consecutive patients enrolled? **

-Yes: 1

-No: 0

4) Was there full accounting of all subjects? **

-Yes: 1

-No: 0

B) Comparability

1) Comparability of cohorts on the basis of the design or analysis: *

-study controls for most important confounders (sex, age, withdrawal time): 2

-study controls for other factors but not age, sex and withdrawal time: 1

-study does not control for any factors: 0

C) Outcome

1) Assessment of outcome (ADR): *

-study reports ADR: 1

-study reports PDR: 0

*Adapted from Newcastle-Ottawa Scale

**Adapted from QUADAS-2 Scale

***Questions from NewCastle-Ottawa Scale not applicable to studies of this meta-analysis were not included in this list. These questions included the following:

1) *Selection of the non-exposed cohort.*

- 2) *Demonstration that outcome of interest was not present at start of study.*
- 3) *Was follow-up long enough for outcomes to occur.*
- 4) *Adequacy of follow up of cohorts.*

Supplementary Figure 3. Quality assessment score of studies included in the meta-analysis.

Study	Representativeness of population	Ascertainment of exposure	Consecutive enrollment of patients	Full accounting of all subjects	Comparability	Assessment of outcome	Total score
Adler, 2013	1	0	1	1	2	1	6
Aslanian, 2013	1	1	1	1	0	1	5
Bryant, 2012	0	0	1	1	0	0	2
Chiu, 2011	1	1	1	1	0	1	5
deJonge, 2012	0	0	1	1	1	1	4
Froehlich, 2005	0	0	1	1	0	0	2
Gao, 2013	1	1	0	1	0	0	3
Jover, 2013	1	1	1	1	0	1	5
Perez, 2011	0	0	1	1	0	1	3
Radaelli, 2008	0	0	1	1	1	0	3
Sherer, 2012	0	0	0	1	1	1	3

Quality Assessment tool adapted from Newcastle-Ottawa scale and QUADAS2 as described in Methods and Supplementary Figure 2.