Supplementary Methods

Detailed Search Strategy Overview

A comprehensive literature search was performed across four electronic databases to identify relevant randomized controlled trials evaluating bowel preparation strategies for colorectal surgery. The search covered PubMed, Cochrane Library, Web of Science (WOS), and Scopus. No language restrictions were applied. The searches were completed on

The full search strategy for PubMed is detailed below, while representative keywords were adapted appropriately for other databases. The search targeted terms related to colorectal surgery, bowel preparation, and oral antibiotics. Filters for human studies and randomized controlled trials were applied.

Database-Specific Search Strings and Results

PubMed Search Strategy

#1 "Colorectal Surgery"[MeSH Terms] OR "Colectomy"[Mesh]

#2 colorectal [tiab] OR colon [tiab] OR rectal [tiab] OR proctolog* [tiab] OR proctocolonic [tiab]

#3 surger* [tiab] OR surgical* [tiab] OR resect* [tiab] OR incisi* [tiab] OR excisi* [tiab] OR invasive* [tiab] OR restorati* [tiab] OR operation* [tiab] OR operative* [tiab] OR perioperati* [tiab] OR peri-operati* [tiab] OR "surgery"[Subheading] OR "Surgical Procedures, Operative"[Mesh]

#4 #2 AND #3

#5 #4 OR #1

#6 "Gastrointestinal Agents"[Mesh] OR "Laxatives" [Pharmacological Action] OR "Enema"[Mesh] OR "Cathartics"[Mesh] OR "Laxatives"[Mesh] OR "Antibiotic Prophylaxis"[Mesh] OR "Anti-Bacterial Agents"[Mesh]

#7 antibacterial* [tiab] OR anti bacterial* [tiab] OR antibiotic* [tiab] OR neomycin [tiab] OR metronidazole [tiab] OR ciprofloxacin [tiab] OR colistin [tiab] OR tobramycin [tiab] OR paromomycin [tiab] OR erythromycin [tiab] OR levofloxacin [tiab]

#8 oral [tiab] OR orally [tiab]

#9 #7 AND #8

#10 bowel preparat* [tiab] OR intestine preparat* [tiab] OR colon preparat* [tiab] OR gut preparat* [tiab] OR bowel cleansing [tiab] OR intestine cleansing [tiab] OR colon cleansing [tiab] OR gut cleansing [tiab] OR laxative* [tiab] OR purgative [tiab] OR enema [tiab]

#11 #9 AND #10

#12 #6 OR #11

#13 #5 AND #12

#14 ("randomized controlled trial"[Publication Type] OR "controlled clinical trial"[Publication Type] OR "randomized"[Title/Abstract] OR "placebo"[Title/Abstract] OR "clinical trials as topic"[MeSH Terms:noexp] OR "randomly"[Title/Abstract] OR "trial"[Title]) NOT ("animals"[MeSH Terms] NOT "humans"[MeSH Terms])

#15 #13 AND #14

Search String Used for Other Databases (Cochrane, WOS, Scopus)

A simplified version of the PubMed search string was used for the other databases:

(Colorectal Surgery OR Colectomy OR proctectomy OR colon resection OR rectum resection) AND (antibiotic prophylaxis OR neomycin OR metronidazole OR ciprofloxacin OR colistin OR tobramycin OR paromomycin OR erythromycin OR levofloxacin OR Anti-Bacterial Agents OR anti bacterial OR antibiotic) AND (oral OR orally) AND (bowel cleansing OR intestine cleansing OR colon cleansing OR mechanical bowel preparation OR bowel preparation OR gut cleansing)

Supplementary Table 2: PRISMA 2020 checklist

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			page1
Title	1	Identify the report as a systematic review.	page1
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	page1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	page2
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	page3
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	page3
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	page4
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Page4, supplementary file1
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	page4
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	page4
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	page5
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	page5
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	page5
Effect	1	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis	page5

Section and Topic	Item #	Checklist item	Location where item is reported
measures	2	or presentation of results.	
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	page5
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	page5
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	page5
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	page5
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	page5
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	page5
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	page5
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	page5
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	page6
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	page6
Study characteristics	17	Cite each included study and present its characteristics.	Supplementary2 and page 6

Section and Topic	Item #	Checklist item	Location where item is reported
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	page6
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	page7-10
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	page7-10
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	page7-10
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	page7-10
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	page7-10
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	page7-10
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	page7-10
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	page11-15
	23b	Discuss any limitations of the evidence included in the review.	page11-15
	23c	Discuss any limitations of the review processes used.	page11-15
	23d	Discuss implications of the results for practice, policy, and future research.	page11-15

Section and Topic	Item #	Checklist item	Location where item is reported
OTHER INFORMATION			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	page3
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	page3
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	page3
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	page15
Competing interests	26	Declare any competing interests of review authors.	page15
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	page15

Supplementary Table 3: Study characteristics

study ID	country	center	name of the centers	study period	Population	Surgical approach	Type of surgery	Preparation compared	previous treatment	Mechanical preparation received	Mechanical preparation therapy	Substance for mechanical preparation	Substance for oral preparation	Substance daily dose for oral preparation	timing of administration for oral preparation	Oral preparation therapy	patient co-morbidities
McLeish 1987 (1)	Australia.	multicenters	Seven hospitals were involved under the supervision of the University of Melbourne colorectal group	1987	Mixed benign and Malignant	Open	rectal resections, sigmoid resection, proctocolectomies	MBP, OAB vs OAB	No	One day before surgery			Tinidazole	2000mg	oAB given as a single dose on the day before surgery	Monotherapy	DM
Aeberhard 1981 (2)	Switzerland	monocenter	University of Bern, Inselspital, Switzerland, Birmingham General Hospital, United Kingdom	1981	Malignant	Open	(extended) right/left hemicolectomy, colectomy, sigmoid resection, rectal resections	MBP, OAB vs OAB	No	One day before surgery	A combination of several agents	polyethylene glycol (PEG)	metronidazole, Kamycin	Metro: 600mg,Kamycin: 3000mg	two- or three-day oral antibiotic preparation	A combination of several agents	
Anjum 2017 (3)	Chi	monocenter	General Surgery Department at Jinling Hospital, njing University	2014 - 2016	Mixed benign and Malignant	Both	(extended) right/left hemicolectomy, proctocolectomies, small bowel resection, rectal resections	MBP, OAB vs OAB	No	One day before surgery	Monotherapy	Sodium phosphate	metronidazole , Levofloxacin	Metronidazole: 400 mg, Levo: 200mg	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	A combination of several agents	DM, CVD, IBD, Malignancies, Pancreatitis
Arbab 2024 (4)	Pakistan	monocenter	Surgical Unit II, Bolan Medical Complex Hospital, Quetta	2023 - 2024	Mixed benign and Malignant			MBP vs NBP	No	One day before surgery	Monotherapy	polyethylene glycol (PEG)					

Bartlett 1978 (5)	USA	multic enters	From the Surgical Services of Boston, Hines, Houston, Long Beach, Miami, North Chicago, Sepulveda, Wadsworth, and Wood Veterans Administration Hospitals and the United States Naval Hospital, Great Lakes."	1978	Mixed benign and Malignant			MBP, OAB vs OAB	No	One day before surgery			Neomycin, Erythromycin	3000 gm (each agent)	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	A combination of several agents	
Besany 2020 (6)	Spain	multic enters	the Vall d'Hebron University Hospital (Barcelo), Bellvitge University Hospital (Barcelo), the Josep Trueta University Hospital (Giro), Lucus Augusti Hospital (Lugo), and the Cruces University Hospital (Bilbao).	2015 - 2017	Mixed benign and Malignant	Both	(extended) right/left hemicolectomy, colectomy, segment resection	OAB vs NBP	No				Ciprofloxacin, metronidazole	Cipro: 1500mg Metro: 750mg	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combination of several agents	CVD, COPD, CKD
Bertani 2011 (7)	USA	monoc enter	general surgery department at the European Institute of Oncology, Milan.	2007 - 2010 ,	Malignant	Both	(extended) right/left hemicolectomy, transverse colectomy, rectal resections	MBP vs NBP	No	One day before surgery	Monotherapy	polyethylene glycol (PEG)					DM
Bucher 2005 (8)	Switzerland	multic enters	Geneva University Hospital, Geneva, Yverdon-Chamblon Hospital, Yverdon	2001 - 2003	Mixed benign and Malignant	Both	sigmoid resection, rectal resections, (extended) right/left	MBP vs NBP	No	One day before surgery	Monotherapy	polyethylene glycol (PEG)					

							hemicolectomy									
Frountzas 2024 (9)	Greece	monocenter	Colorectal Unit, First Propaedeutic Department of Surgery, Hippocration General Hospital, School of Medicine, tio l and Kapodistrian University of Athens,	2018 - 2021	Malignant	Open	(extended) right/left hemicolectomy, transverse colectomy, sigmoid resection, rectal resections	MBP, OAB vs OAB	No	One day before surgery	Monotherapy	Sodium phosphate	metronidazole	Rifaximine: 1200mg Metro:500mg	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combition of several agents	DM, HTN, CAD, CKD, COPD, Heart arrhythmia
Ishida 2001 (10)	Japan	monocenter	Saitama Medical Center, Saitama Medical School	1998 - 2000	Mixed benign and Malignant		colectomy, proctocolectomies, rectal resections, sigmoid resection	MBP, OAB vs OAB	No	One day before surgery	Monotherapy	polyethylene glycol (PEG)	Ka mycin, Erythromycin	Ka mycin: 2000mg erythromycin: 1600mg	two- or three-day oral antibiotic preparation	Combition of several agents	DM, CKD, Liver dz, CAD, HTN, Heart arrhythmia
Jung 2007 (11)	Sweden	multicenters	All Swedish colorectal units (20 centers) and one German unit were invited to participate in this trial, but the exact mes of the centers were not explicitly mentioned.	January 1999 - March 2005	Mixed benign and Malignant	Open	(extended) right/left hemicolectomy	MBP vs NBP	No		Combition of several agents, Enema	polyethylene glycol (PEG), sodium phosphate					DM
Koskenvuo 2019 (12)	Finland	multicenters	The trial was done in four Finnish hospitals: two university hospitals (Helsinki University Hospital and Oulu University	Between March 17, 2016, and Aug 20, 2018	Mixed benign and Malignant	Both	(extended) right/left hemicolectomy, transverse colectomy, sigmoid resection, rectal resections	MBP, OAB vs NBP	Neoadjuvant	One day before surgery	Monotherapy	polyethylene glycol (PEG)	Neomycin, metronidazole	2 g of neomycin orally at 7 pm and 2 g of metronidazole orally at 11 pm in the evening the	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combition of several agents	DM, CAD, CHF, HTN, COPD, CKD, Liver dz

			hospital) and two community (central) hospitals (Central Finland Central Hospital and Seinäjoki Central Hospital).										day before the surgery.			
Koskenvuo 2024 (13)	Finland	multicenters	3 large university hospitals in Finland (Helsinki University Hospital, Turku University Hospital, and Tampere University Hospital) that serve over 70% of the Finnish population	Between March 18, 2020, and October 10, 2022	Mixed benign and Malignant	Both	rectal resections	MBP, OAB vs OAB	Neoadjuvant	One day before surgery	Monotherapy	polyethylene glycol (PEG)	Neomycin, metronidazole	1 g of neomycin and 1 g of metronidazole orally at 3 PM and 11 PM on the day before surgery	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combition of several agents	Liver dz, DM, CAD, CHF, HTN, COPD, CKD, Anemia
Lei 2023 (14)	China	monocenter	Department of Gastrointestinal Surgery, The Third Affiliated Hospital, Sun Yat-sen University, Guangzhou, People's Republic of China	Between 1 February 2019 and 18 October 2022	Malignant	Laproscopic	(extended) right/left hemicolectomy, rectal resections, proctocolectomies, transverse colectomy, sigmoid resection	MBP, OAB vs OAB	No	One day before surgery	Monotherapy	polyethylene glycol (PEG)	metronidazole, streptomycin	A combination of streptomycin 1 g and metronidazole 0.2 g every 6 h, three times	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combition of several agents	DM, HTN, COPD, CAD
Matheson 1978(15)	England	multicenters	The study was conducted at three Birmingham hospitals with eleven surgical units participating.	1977 - 1978	Mixed benign and Malignant	Open	(extended) right/left hemicolectomy	MBP, OAB vs OAB	No	2 days program	Monotherapy, Enema	magnesium preparations	metronidazole, Neomycin	Neomycin 1 g 8-hourly and metronidazole 200 mg 8-hourly	Both	Combition of several agents	

Mulder 2020(16)	Germany	multic enters	Six Dutch hospitals	From April 2017 thro ugh Augu st 2018	Mixed benig n and Malig nant	Bot h	(extended) right/left hemicolectom y, sigmoid resection, rectal resections	OAB vs NBP	No				tobramycin, colistin	OAP was a solution of tobramycin (16 mg/mL) and colistin sulphate (20 mg/mL) that was taken four times daily during the three days before surgery. Each dose was 5 mL	two- or three-day oral antibiotic preparation	Combi tion of several agents	
Olki 2023 (17)	Russia	monoc enter	N.N. Petrov tio l Medical Research Center of Oncology, St. Petersburg, the Russian Federation	2021 - 2022	Malig nant		rectal resections	MBP, OAB vs OAB	Neoadj uvant	One day before surgery	Monothera py	Electrolyte solution based on macrogol	Rifaximin		two- or three-day oral antibiotic preparation	Monother apy	
Panton 1985(18)	Canada			Betw een Janu ary 1982 and Augu st 1983	Mixed benig n and Malig nant	Ope n	proctocolecto mies	MBP vs NBP		3 days program	Monothera py	Whole-Gut lavage regimen	Methimaz ole and tobramyci n				DM
Ram 2005(19)	Israel	monoc enter	Division of General Surgery at the Rabin Medical Center, Tel Aviv, Israel	1999 - 2002	Mixed benig n and Malig nant	Bot h	(extended) right/left hemicolectom y, sigmoid resection, transverse colectomy, rectal resections	MBP, OAB vs OAB	No	One day before surgery	Combi tion of several agents	sodium picosulphate		No data			

Rybakov. 2021(20)	Russia	monoc enter	Ryzhikh tio l Medical Research Center of Coloproctology	2017 - 2018	Malig nant	Bot h	rectal resections	MBP, OAB vs OAB	No	One day before surgery	Monothera py	polyethylene glycol (PEG)	Erythromy cin, metronida zole	500, 500 mg	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combi tion of several agents	DM
Sadahiro 2014(21)	Japan	monoc enter		2008 - 2011	Malig nant	Bot h		MBP, OAB vs OAB	No	2 days program	Combi tion of several agents	polyethylene glycol (PEG), sodium picosulphate	metronida zole , Ka mycin	0.5 g ka mycin 0.5g metronidazol e	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combi tion of several agents	
suzuki 2019 (22)	Japan	monoc enter	Tokai University Hospital	2014 - 2017	Malig nant	Bot h	elective resection	MBP, OAB vs OAB	No	2 days program	Combi tion of several agents	polyethylene glycol (PEG), pEG + sodium, sodium picosulphate	metronida zole , Ka mycin	Three doses of ka mycin sulfate 0.5 g and metronidazol e 0.5 g	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combi tion of several agents	DM
Wolff 1988(23)	United States (specifica lly, Rocheste r, Minnesot a)	monoc enter	Mayo Clinic (Rochester, Minn)-affiliated hospitals, including Methodist Hospital and Saint Marys Hospital	1983 - 1987	Malig nant	Bot h	elective resection		No	One day before surgery, 2 2-day program	Enema	sodium picosulphate, polyethylene glycol (PEG)	Neomycin , Erythromy cin	Standard Regimen (given orally) 2 Days Before: Neomycin 4g (1g at 9 am, 1 pm, 5 pm, 9 pm); Tetracycline or erythromycin base 1g (250mg at 9 am, 1 pm, 5 pm, 9 pm). 1 Day Before: Neomycin 6g (1.5g at 10 am, 1 pm, 5	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combi tion of several agents	DM

													pm, 9 pm); Tetracycline or erythromycin base 1g (250mg at 10 am, 1 pm, 5 pm, 9 pm). Lavage Regimen (given orally, after lavage completion): Neomycin 4g (2g at 7 pm and 2g at 11 pm); Metronidazole 4g (2g at 7 pm and 2g at 11 pm). | |			
Žukauskaitė 2024 (24)	Lithuania	monocenter	tio l Cancer Institute	April to November 2021	Malignant	Both	elective resection, colorectal	MBP vs OAB	No	One day before surgery	Enema	macrogol (4 litres of macrogol 4000 (73.69 mg/1; Fortrans®) administered the afternoon before surgery)				DM
Arezzo 2021(25)	Italy	multicenter	Four government-funded hospitals in Italy, including two university hospitals (Torino University Hospital and Cagliari University Hospital) and two community hospitals	July 2019 to June 2020	Malignant	Laparoscopic	rectal resections, colectomy	MBP, OAB vs OAB			Monotherapy	polyethylene glycol (PEG)	Neomycin, Bacitracin	25000 UI and 2500 UI	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combition of several agents	

			(Montichiari Hospital, Brescia, and Santissima Trinità Hospital, Cagliari), are all members of the Italian Society for Endoscopic Surgery (SICE).													
Espin Basany 2005(26)	Spain	monoc enter	Hospital Vall d'Hebron, Autonomous University of Barcelona, Barcelona, Spain.		Mixed benig n and Malig nant	Bot h	rectal resections, colectomy	MBP, OAB vs OAB		One day before surgery	Monothera py	sodium picosulphate	metronida zole , Ka mycin, Neomycin	1 g each	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combi tion of several agents	
Hata 2016(27)	Japan	multic enter	Multicenter study conducted in Japan as part of the JMTO PREV 07-01 trial, involving multiple institutions. Based on author affiliations, at least six centers participated, including Kyoto University Hospital, Kyoto Medical Center, Kyoto Katsura Hospital, Osaka Red Cross Hospital, Saga University Hospital, and Yokohama City University.	Nove mber 2007 to Dece mber 2012	Malig nant	Lapr osco pic	rectal resections, colectomy	MBP, OAB vs OAB		One day before surgery	Combi tion of several agents	sodium picosulphate, magnesium preparations	metronida zole , Ka mycin, Neomycin	1 g and 750 mg	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combi tion of several agents	
Horie 2007(28)	Japan	monoc enter	Department of Gastroenterologi cal Surgery,	April 2002 to	Malig nant	Ope n	rectal resections, colectomy	MBP, OAB		One day before surgery	Monothera py	polyethylene glycol (PEG)	Ka mycin	1500 mg/day	two- or three-day oral antibiotic preparation	Combi tion of	

			Dokkyo Medical University, Mibu, Tochigi, Japan	Dece mber 2006				vs OAB							several agents	
Ikeda 2016(29)	Japan	monoc enter	Department of Gastroenterological Surgery, Cancer Institute Hospital of the Japanese Foundation for Cancer Research, Tokyo, Japan	June 2013 to April 2014	Malig nant	Lapr osco pic	rectal resections, colectomy	MBP, OAB vs OAB		One day before surgery	Combi tion of several agents	magnesium preparations, sodium picosulphate	metronida zole , Ka mycin, Neomycin	750 mg and 1000 mg	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combi tion of several agents	
Kobayas hi 2007(30)	Japan	multic enter	The study was conducted across 10 surgical centers in Japan, primarily led by Mie University Graduate School of Medicine (Tsu, Mie, Japan).	May 2001 to Dece mber 2004	Malig nant		rectal resections, colectomy	MBP, OAB vs OAB		One day before surgery	Monothera py	polyethylene glycol (PEG)	Ka mycin, Neomycin , Erythromy cin	1000 mg and 400 mg	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combi tion of several agents	
Lau 1988(31)	Hong Kong	monoc enter	Government Surgical Unit, Queen Mary Hospital, Pokfulam Road, Hong Kong	May 1981 to June 1987	Malig nant	Ope n	rectal resections, colectomy	MBP, OAB vs OAB		2 days program	Combi tion of several agents, Enema	sodium picosulphate, magnesium preparations	Ka mycin, Neomycin , Erythromy cin	1000 mg each	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combi tion of several agents	
Lewis 2002(32)	Canada	monoc enter	Queen Elizabeth Hospital, Montreal (affiliated with McGill University)	1992 - 1995	Mixed benig n and Malig nant		colectomy, rectal resections	MBP, OAB vs OAB		One day before surgery	Monothera py, Enema	Sodium phosphate	metronida zole , Ka mycin, Neomycin	2 g each	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combi tion of several agents	
Oshima 2013(33)	Japan	monoc enter	Hyogo College of Medicine, Nishinomiya-shi, Hyogo, Japan	July 2006 to April 2009	Benig n	Ope n		MBP, OAB vs OAB		One day before surgery	Monothera py	magnesium preparations	metronida zole , Ka mycin, Neomycin	500 mg each	oAB was administered after the mechanical preparation of the bowel in two or three single doses	Combi tion of several agents	

														on the day before surgery		
Papp 2021(34)	Hungary	multicenter	4 Hungarian hospitals: Uzsoki Hospital (Budapest), University of Pécs Clinical Centre, Petz Aladár Teaching Hospital (Győr), and National Institute of Oncology (Budapest).	November 2016 to June 2018	Mixed benign and Malignant	Both	colectomy, rectal resections	MBP, OAB vs OAB		One day before surgery	Monotherapy, Enema	Castor oil	metronidazole , Kamycin, Neomycin	500 mg and 1000 mg	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combition of several agents	
Takesue 2000(35)	Japan	multicenter	Five Japanese hospitals: Hiroshima University School of Medicine, Hiroshima General Hospital, Hiroshima Memorial Hospital, Matsuda Hospital, and Miyoshi Central Hospital.	April 1997 to November 1997	Malignant	Open	colectomy, rectal resections	MBP, OAB vs OAB		One day before surgery	Monotherapy	polyethylene glycol (PEG)	metronidazole, Neomycin , Ka mycin	500 mg each	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	Combition of several agents	
Uchino 2019(36)	Japan	monocenter	Hyogo College of Medicine, Nishinomiya, Japan (Department of Inflammatory Bowel Disease and Division of Infection Control and Prevention).	March 2014 to February 2017	Benign	Open	colectomy, rectal resections	MBP, OAB vs OAB		One day before surgery	A combination of several agents	sodium picosulphate, magnesium preparations	Metronidazole, Kamycin, Neomycin	500 mg each	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	A combination of several agents	

Zmora 2003(37)	Israel	multic enter	Two Israeli hospitals: Sheba Medical Center (Tel Aviv) and Rambam Medical Center (Haifa).	July 1997 to July 2000			colectomy	MBP, OAB vs OAB		One day before surgery	Monothera py, Enema	polyethylene glycol (PEG)	Neomycin, Erythromy cin		oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	A combinati on of several agents	
Lazorthe s 1982(38)	France	monoc enter	Hôpital Purpan (Service de Chirurgie Générale et Digestive) in Toulouse, France	Janu ary 1979 to Marc h 1980			rectal resections, colectomy	MBP, OAB vs OAB		2 days program	Monothera py, Enema	magnesium preparations	metronida zole, Ka mycin	1000 mg and 250 mg	oAB was administered after the mechanical preparation of the bowel in two or three single doses on the day before surgery	A combinati on of several agents	

Supplementary Table 4: Study characteristics follow

	Total sample size	Number of Patients				Age(mean)				Gender M: F			
study ID		MBP, OAB	MBP	OAB	NBP	MBP, OAB	MBP	OAB	NBP	MBP, OAB	MBP	OAB	NBP
McLeish 1987 (1)	177	90	87			64	63			51/39	51/36		
Aeberhard 1981 (2)	72	35	39			65	66			16/19	21/16		
Anjum 2017 (3)	184	91	93			46.3	45.2			61/34	59/36		
Arbab 2024 (4)	132		66		66		50.56		49.32		36/30		39/27
Bartlett 1978 (5)	116	56	60										
Besany 2020 (6)	536			267	269			70	71			142/125	152/117
Bertani 2011 (7)	229		114		115		57		60.7		65/49		60/55
Bucher 2005 (8)	153		78		75	75	63		63		47/31		34/41
Frountzas 2024 (9)	205	100	105										
Ishida 2001 (10)	143	72	71			62	58.33			47/25	42/29		
Jung 2007 (11)	1505		686		657		69		69		306 / 380		317 /340
Koskenvuo 2019 (12)	417	196			200	68.63			69.10	105: 91			96 / 104
Koskenvuo 2024 (13)	610	277	288			69	68.33			158/ 119	190/ 98		
Lei 2023 (14)	309	157	152			62	61			102/ 55	95/ 57		
Matheson 1978(15)	120	51	59			64.7	63.2			35/ 23	35/ 24		
Mulder 2020(16)	78			39	39			66.67	67.67			28/ 11	25/ 14
Olki 2023 (17)	98	51	47			60.47	60.91			24/ 27	25/ 22		
Panton 1985(18)	121		67		54								

Ram 2005(19)	329	164		165		68.17		68.11		99/65		102/63	
Rybakov. 2021(20)	116	57	59			63.33	64.33			24/33	31/28		
Sadahiro 2014(21)	194	99	95			67	66			56/43	51/44		
suzuki 2019 (22)	254	127		125		69		70		66 / 61		68 /59	
Wolff 1988(23)	593	300	293										
Žukauskaitė 2024 (24)	40		20	20									
Arezzo 2021(25)	50	26	24			69	68			18/8	15/9		
Espin Basany 2005(26)	200	100	100			66.8	69			33/67	62/38		
Hata 2016(27)	579	289	290			67	67.5			153/136	175/115		
Horie 2007(28)	91	46	45			69	64.7			25/21	29/16		
Ikeda 2016(29)	439	223	216			62.7	60.1			122/101	122/94		
Kobayashi 2007(30)	484	242	242			67.9	69.1			154/88	137/105		
Lau 1988(31)	132	65	67			62.3	63.5			37/28	38/29		
Lewis 2002(32)	213	108	105			68.8	71.4			53/56	43/63		
Oshima 2013(33)	195	97	98			41.8	40.6			55/42	57/41		
Papp 2021(34)	529	253	276			66.1	66.5			152/101	130/146		
Takesue 2000(35)	83	38	45			65	68			25/13	29/16		
Uchino 2019(36)	185	91	94							69/22	77/17		
Zmora 2003(37)	380	187	193			68	68			103/84	94/99		
Lazorthes 1982(38)	60	30	30			64.8	65.4			20/10	14/16		

Supplementary Table 1. Certainty of evidence for each outcome. Table 1.A

for UTI

Comparison	Within_Study_Bias	Reporting_Bias	Indirectness	Imprecision	Heterogeneity	Incoherence	Overall_Confidence	Reason_for_downgrade
Combined:MBP	No concerns	Some concerns	No concerns	Major concerns	Major concerns	No concerns	Very low	Reporting bias, Imprecision, Heterogeneity
MBP:NBP	No concerns	Some concerns	No concerns	Major concerns	Major concerns	No concerns	Very low	Reporting bias, Imprecision, Heterogeneity
MBP:OAB	No concerns	Some concerns	No concerns	Major concerns	Major concerns	No concerns	Very low	Reporting bias, Imprecision, Heterogeneity
Combined:NBP	No concerns	Some concerns	No concerns	Major concerns	Major concerns	No concerns	Very low	Reporting bias, Imprecision, Heterogeneity
Combined:OAB	No concerns	Some concerns	No concerns	Major concerns	Major concerns	No concerns	Very low	Reporting bias, Imprecision, Heterogeneity
NBP:OAB	No concerns	Some concerns	No concerns	Major concerns	Major concerns	No concerns	Very low	Reporting bias, Imprecision, Heterogeneity

Table 1.B for Sepsis

Comparison	Within_Study_Bias	Reporting_Bias	Indirectness	Imprecision	Heterogeneity	Incoherence	Overall_Confidence	Reason_for_downgrade
Combined:MBP	No concerns	Some concerns	No concerns	Some concerns	No concerns	No concerns	Moderate	Reporting bias, Imprecision

Table 1.C for Mortality

Comparison	Within_Study_Bias	Reporting_Bias	Indirectness	Imprecision	Heterogeneity	Incoherence	Overall_Confidence
Combined:MBP	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	High
MBP:OAB	No concerns	No concerns	No concerns	Major concerns	No concerns	No concerns	Low
MBP:NBP	Some concerns	No concerns	No concerns	Major concerns	No concerns	No concerns	Low
Combined:OAB	No concerns	No concerns	No concerns	Major concerns	No concerns	No concerns	Low
Combined:NBP	No concerns	No concerns	No concerns	Major concerns	No concerns	No concerns	Low
NBP:OAB	No concerns	No concerns	No concerns	Major concerns	No concerns	No concerns	Low

Table1.D for Organspace SSI

Comparison	Within_Study_Bias	Reporting_Bias	Indirectness	Imprecision	Heterogeneity	Incoherence	Overall_Confidence	Reason_for_downgrade
Combined:MBP	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	High	
MBP:OAB	No concerns	No concerns	No concerns	Some concerns	No concerns	No concerns	Moderate	Imprecision
MBP:NBP	Some concerns	No concerns	Some concerns	No concerns	No concerns	No concerns	Moderate	Within-study bias,

								Indirectness
Combined:OAB	Some concerns	No concerns	Some concerns	Major concerns	No concerns	No concerns	Low	Within-study bias, Indirectness, Imprecision
Combined:NBP	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	High	
NBP:OAB	No concerns	No concerns	No concerns	Major concerns	No concerns	No concerns	Low	Imprecision

Table 1.E for Incisional SSI

Comparison	**Within_Study_Bias**	**Reporting_Bias**	**Indirectness**	**Imprecision**	**Heterogeneity**	**Incoherence**	**Overall_Confidence**	**Reason_for_downgrade**
Combined:MBP	No concerns	No concerns	No concerns	No concerns	Major concerns	No concerns	Low	Heterogeneity
MBP:OAB	No concerns	No concerns	No concerns	No concerns	Major concerns	No concerns	Low	Heterogeneity
MBP:NBP	Some concerns	No concerns	Some concerns	No concerns	Major concerns	No concerns	Low	Within-study bias, Indirectness, Heterogeneity
Combined:OAB	Some concerns	No concerns	Some concerns	Major concerns	Major concerns	No concerns	Very low	Within-study bias, Indirectness, Imprecision, Heterogeneity
Combined:NBP	No concerns	No concerns	No concerns	Major concerns	Major concerns	No concerns	Very low	Imprecision, Heterogeneity

NBP:OAB	No concerns	No concerns	No concerns	No concerns	Major concerns	No concerns	Low	Heterogeneity

Table 1.F for Ileus

Comparison	Within_Study_Bias	Reporting_Bias	Indirectness	Imprecision	Heterogeneity	Incoherence	Overall_Confidence	Reason_for_downgrade
Combined:MBP	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	High	
MBP:OAB	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	High	
MBP:NBP	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	High	
Combined:OAB	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	High	
Combined:NBP	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	High	
NBP:OAB	No concerns	No concerns	No concerns	No concerns	No concerns	No concerns	High	

Table 1.G for LOS

Comparison	Within_Study_Bias	Reporting_Bias	Indirectness	Imprecision	Heterogeneity	Incoherence	Overall_Confidence	Reason_for_downgrade
Combined:MBP	No concerns	Some concerns	No concerns	Major concerns	No concerns	No concerns	Low	Reporting bias, Imprecision

Table 1.H for Anastomotic leak

Comparison	Within_Study_Bias	Reporting_Bias	Indirectness	Imprecision	Heterogeneity	Incoherence	Overall_Confidence	Reason_for_downgrade
Combined:MB	No concerns	No concerns	No concerns	No concerns	Some concerns	No concerns	Moderate	Heterogeneity

P								
MBP:OAB	No concerns	No concerns	No concerns	No concerns	Some concerns	No concerns	Moderate	Heterogeneity
MBP:NBP	Some concerns	No concerns	Some concerns	No concerns	Some concerns	No concerns	Low	Within-study bias, Indirectness, Heterogeneity
Combined:OAB	No concerns	No concerns	No concerns	No concerns	Some concerns	No concerns	Moderate	Heterogeneity
Combined:NBP	No concerns	No concerns	No concerns	No concerns	Some concerns	No concerns	Moderate	Heterogeneity
NBP:OAB	No concerns	No concerns	Some concerns	No concerns	Some concerns	No concerns	Moderate	Indirectness, Heterogeneity

Table 1.I for C1,C2

Comparison	**Within_Study_Bias**	**Reporting_Bias**	**Indirectness**	**Imprecision**	**Heterogeneity**	**Incoherence**	**Overall_Confidence**	**Reason_for_downgrade**
MBP:OAB	No concerns	Some concerns	Some concerns	No concerns	No concerns	No concerns	Moderate	Reporting bias, Indirectness
Combined:MBP	No concerns	Some concerns	No concerns	No concerns	No concerns	No concerns	Moderate	Reporting bias
MBP:NBP	No concerns	Some concerns	Some concerns	No concerns	No concerns	No concerns	Moderate	Reporting bias, Indirectness
Combined:OAB	No concerns	Some concerns	No concerns	No concerns	No concerns	No concerns	Moderate	Reporting bias
NBP:OAB	No concerns	Some concerns	No concerns	No concerns	No concerns	No concerns	Moderate	Reporting bias

Combined:NBP	No concerns	Some concerns	No concerns	No concerns	No concerns	No concerns	Moderate	Reporting bias

Supplement Figure 13. Network Plot of Treatment Comparisons

Figure 13.A Network Plot of Treatment Comparisons for Mortality

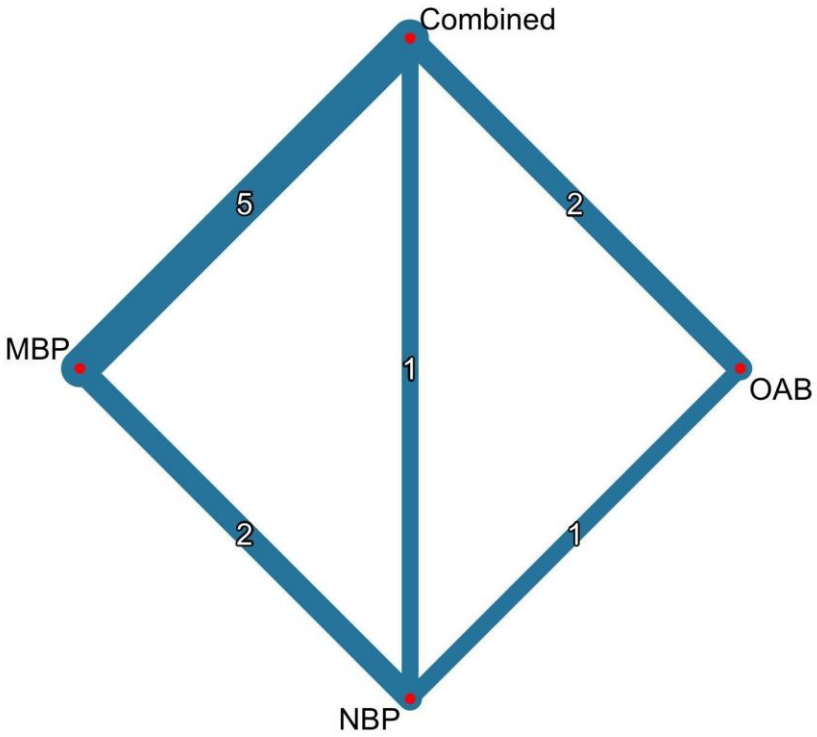


Figure 13.B Network Plot of Treatment Comparisons for Organspace SSI

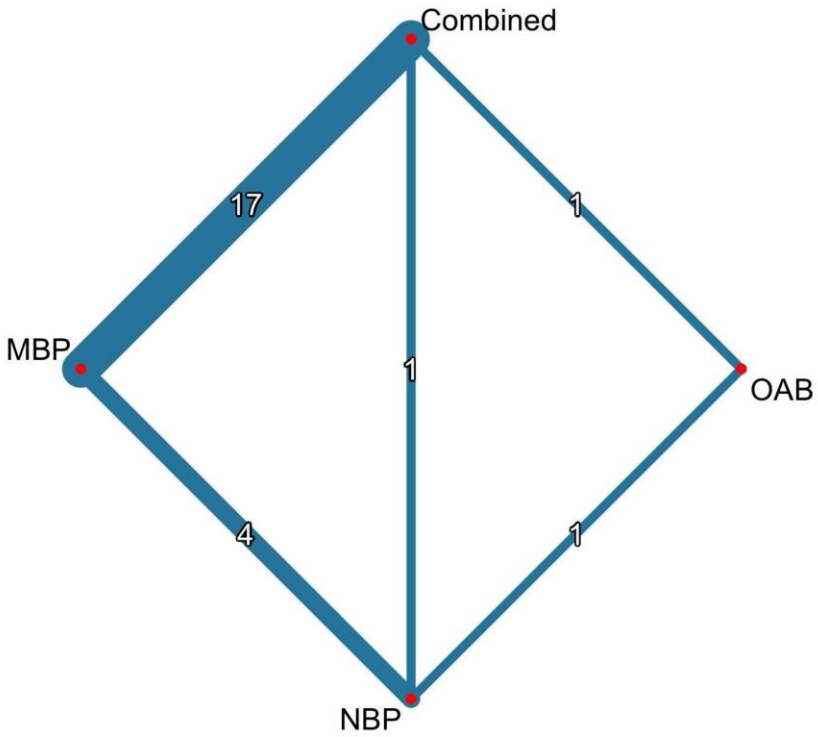


Figure 13.C Network Plot of Treatment Comparisons for UTI

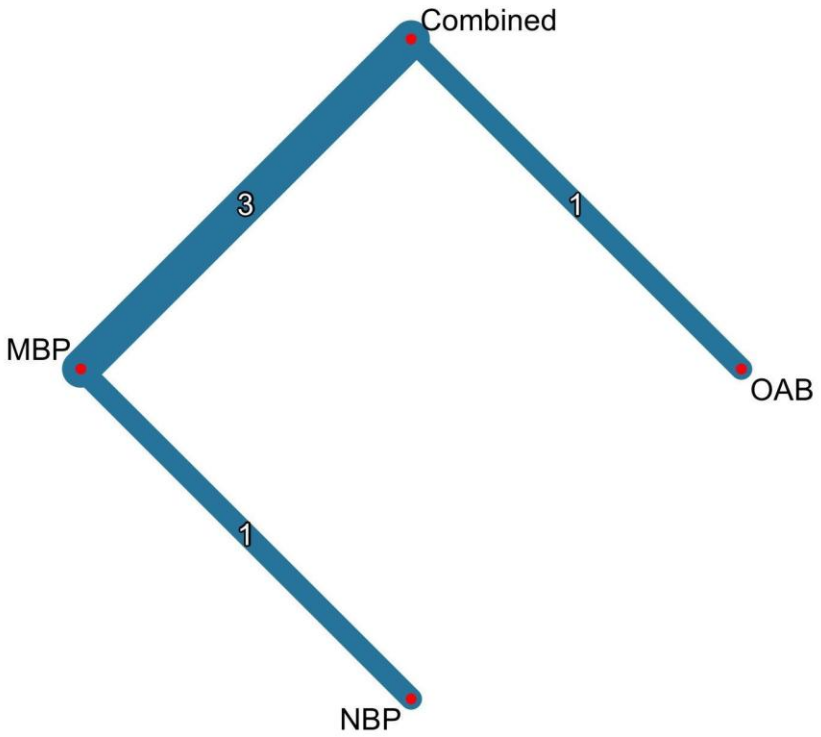


Figure 13.D Network Plot of Treatment Comparisons for LOS



Figure 13.E Network Plot of Treatment Comparisons for Incisional SSI

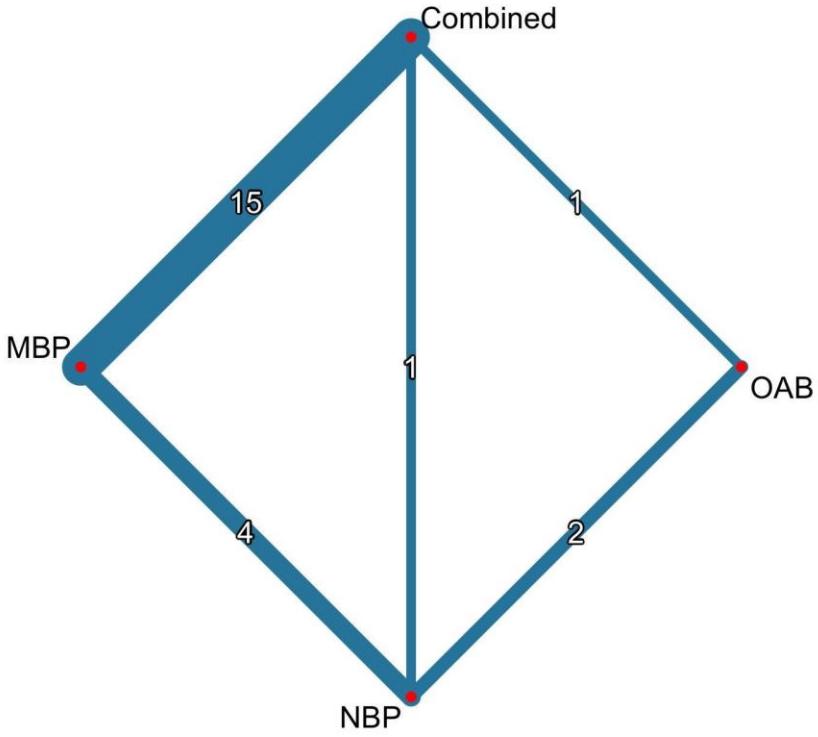


Figure 13.F Network Plot of Treatment Comparisons for Ileus

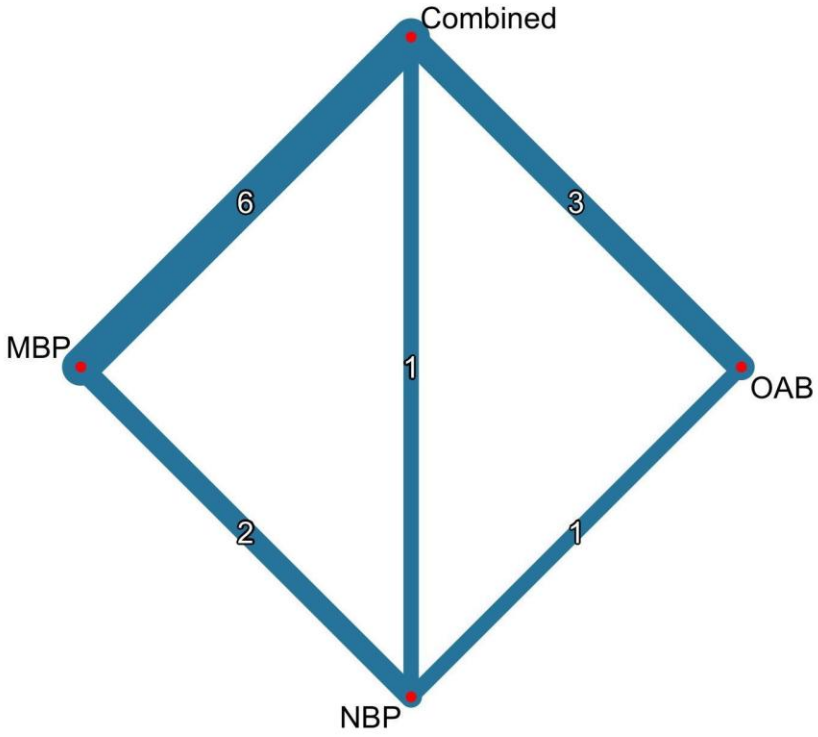


Figure 13.G Network Plot of Treatment Comparisons for Anastomotic leak

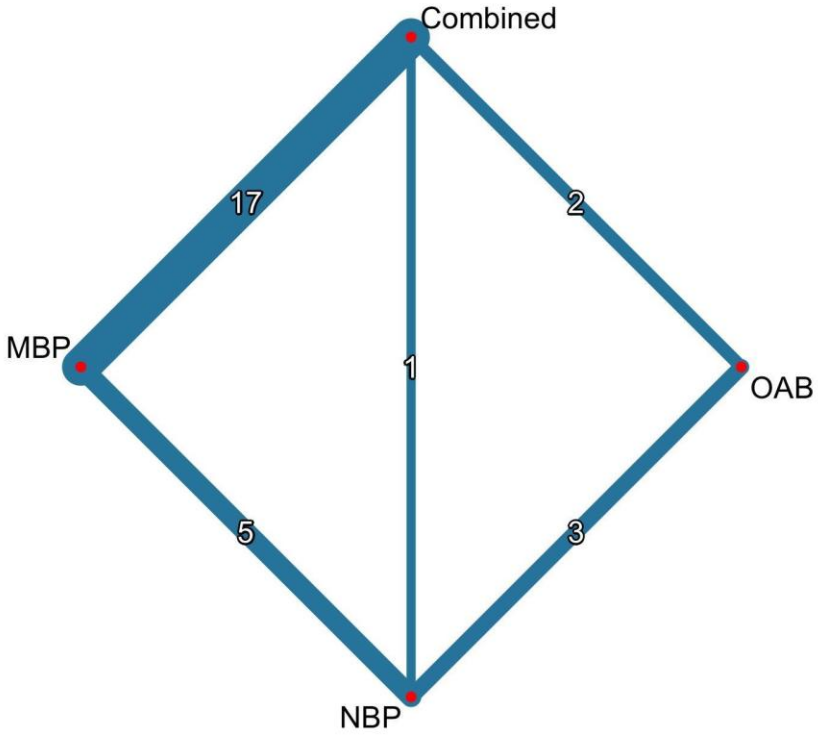


Figure 13.H Network Plot of Treatment Comparisons for C1, C2

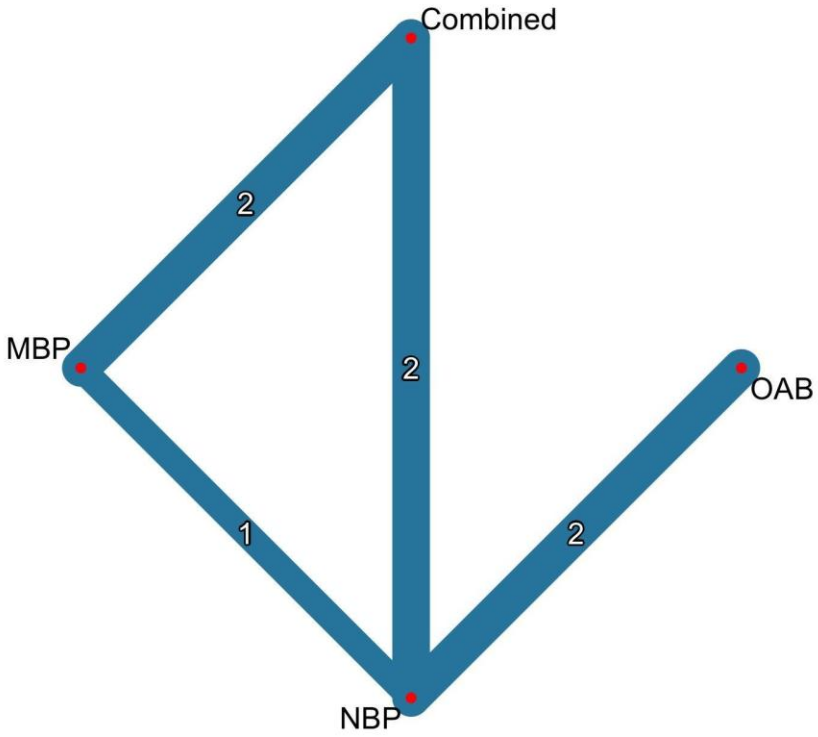


Figure 13.I Network Plot of Treatment Comparisons for Sepsis



Supplement Figure 1. Low Risk Network Plot of Treatment Comparisons

Figure 1.A Low Risk Network Plot of Treatment Comparisons for Mortality

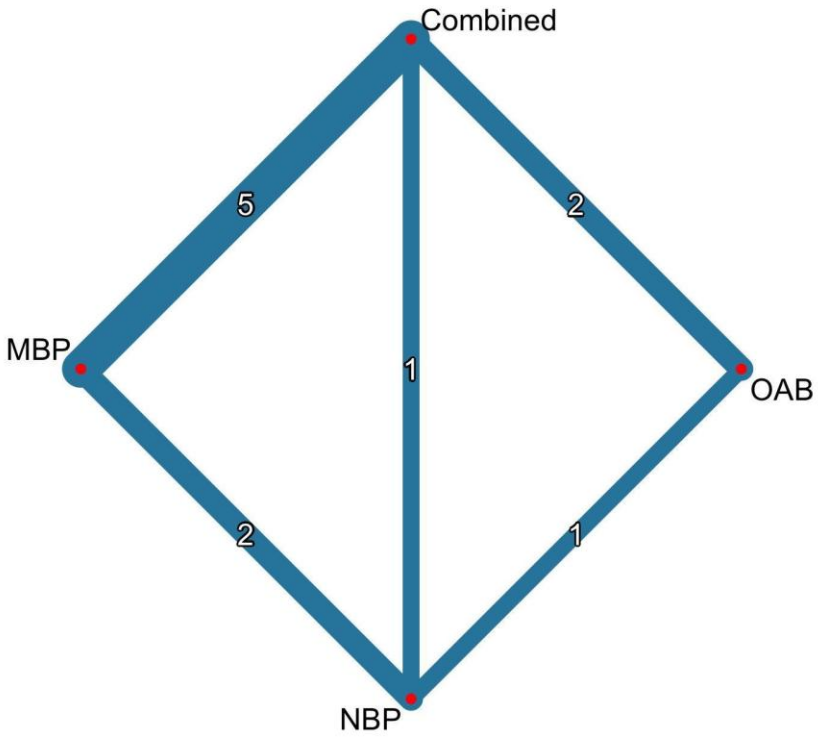


Figure 1.B Low Risk Network Plot of Treatment Comparisons for Organspace SSI

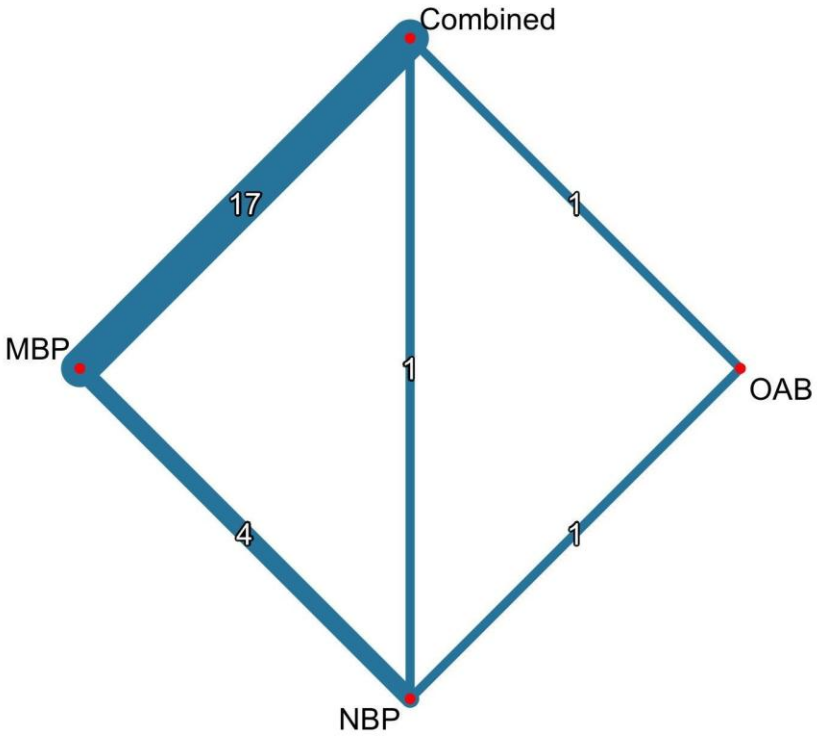


Figure 1.C Low Risk Network Plot of Treatment Comparisons for UTI

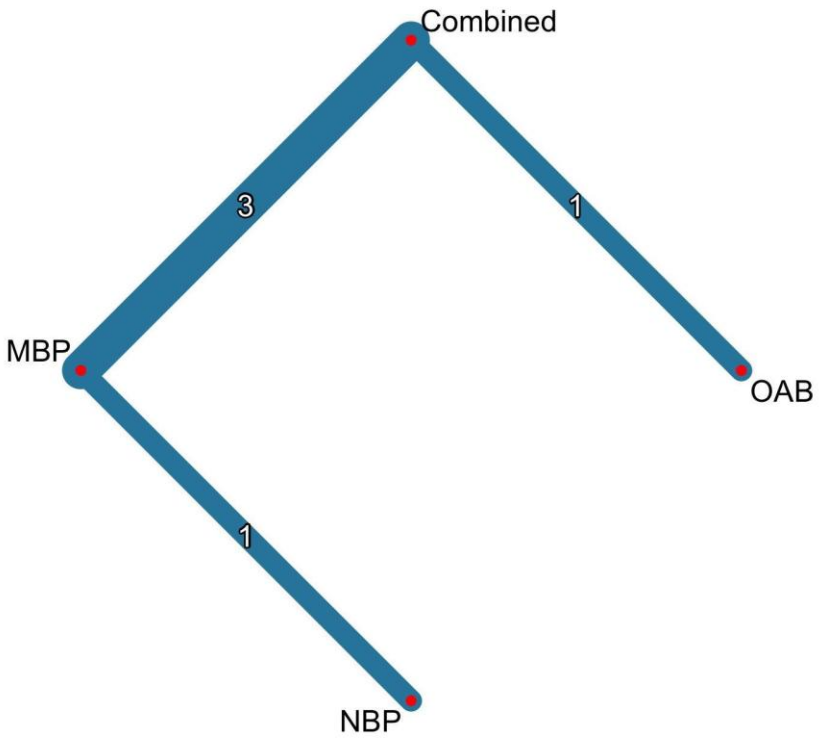


Figure 1.D Low Risk Network Plot of Treatment Comparisons for LOS



Figure 1.E Low Risk Network Plot of Treatment Comparisons for Incisional SSI

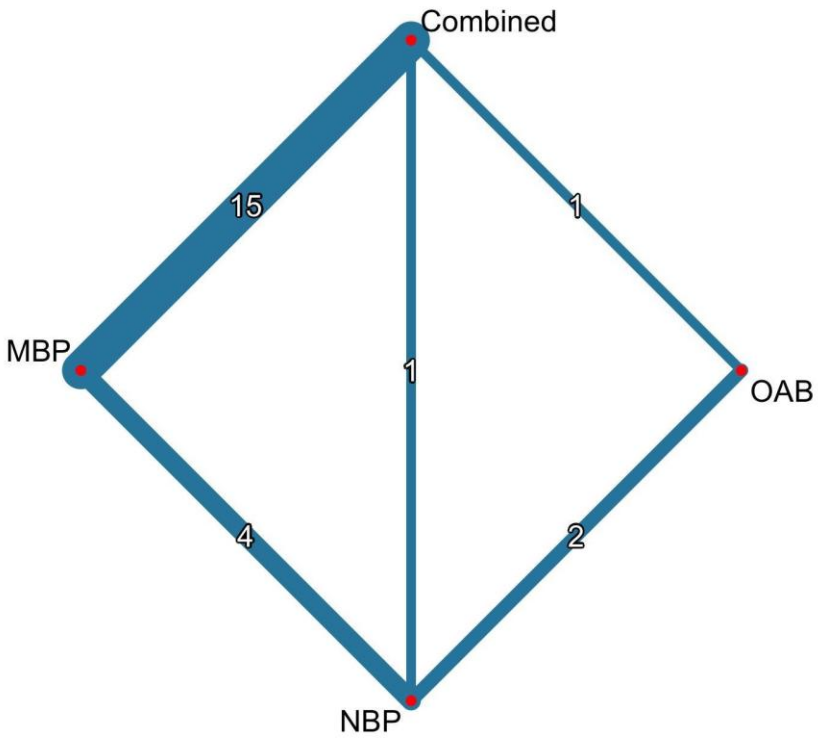


Figure 1.F Low Risk Network Plot of Treatment Comparisons for Ileus

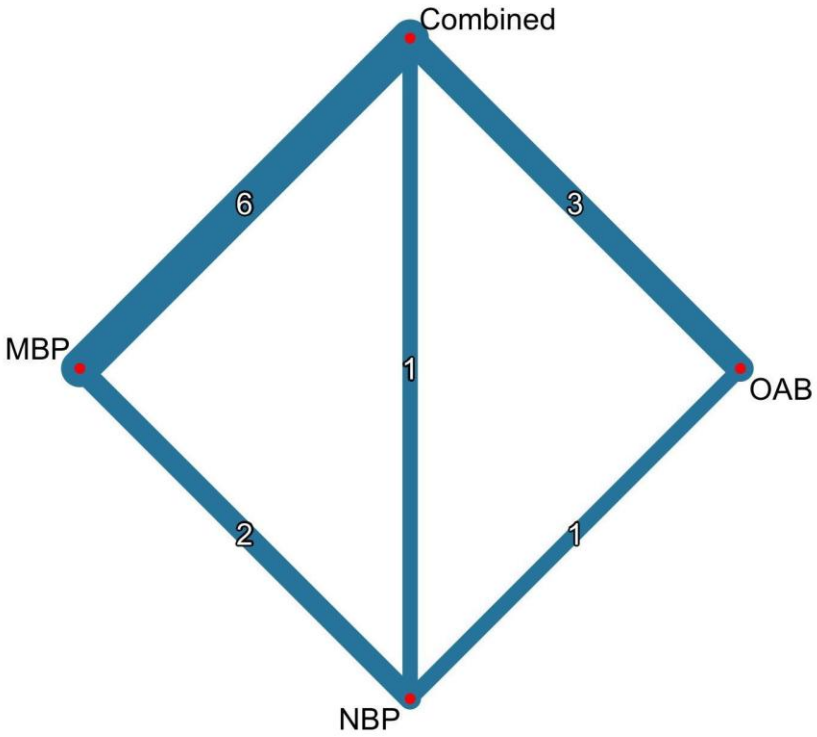


Figure 1.G Low Risk Network Plot of Treatment Comparisons for Anastomotic leak

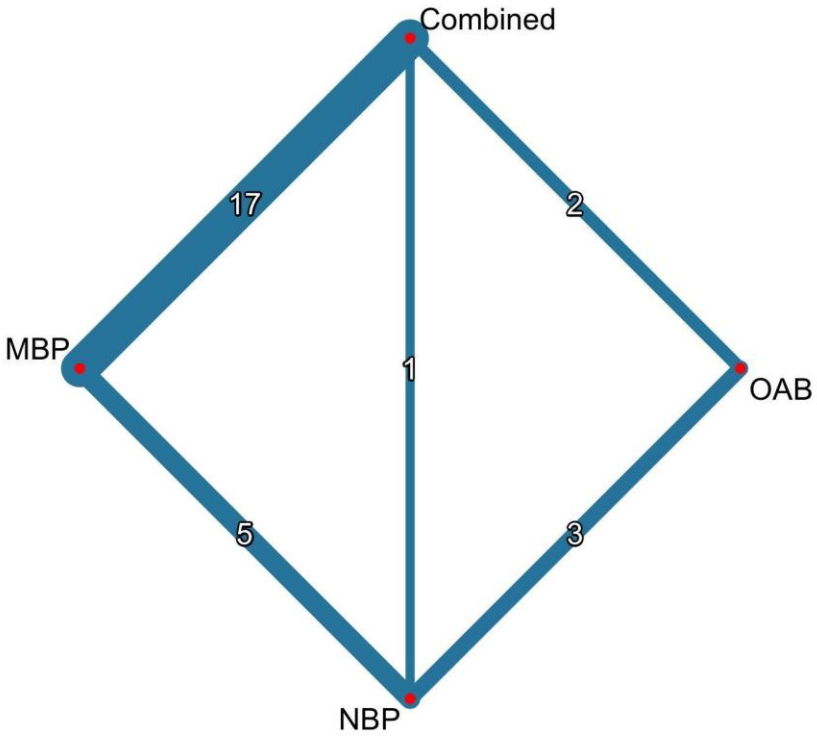


Figure 1.H Low Risk Network Plot of Treatment Comparisons for C1, C2

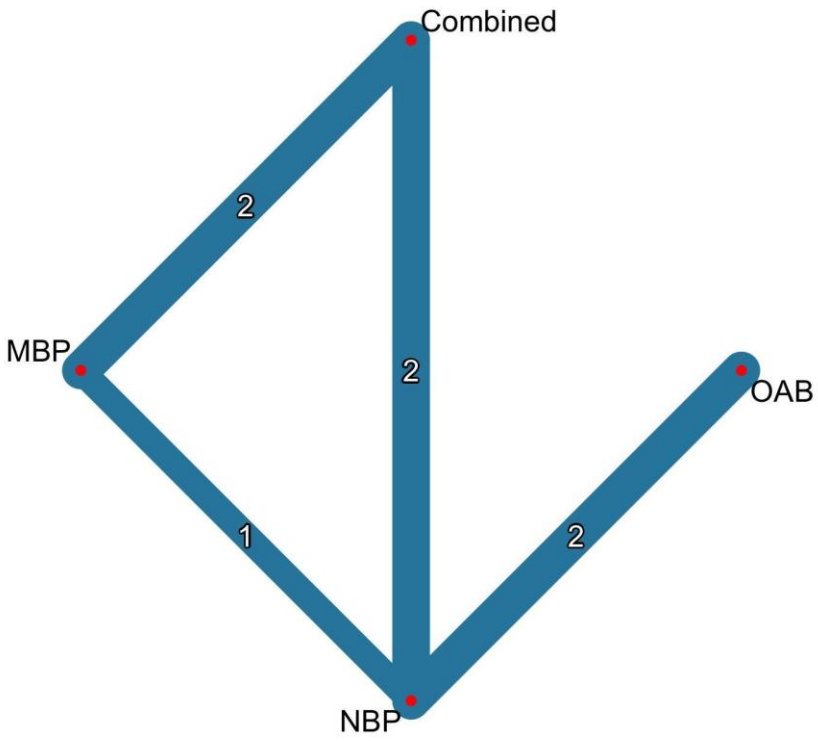
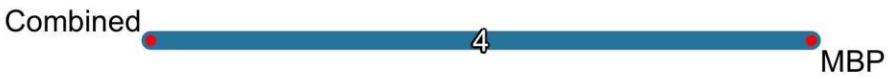


Figure 1.I Low Risk Network Plot of Treatment Comparisons for Sepsis



Supplement Figure 2. Large Sample Network Plot of Treatment Comparisons

Figure A Large Sample Network Plot of Treatment Comparisons for Mortality

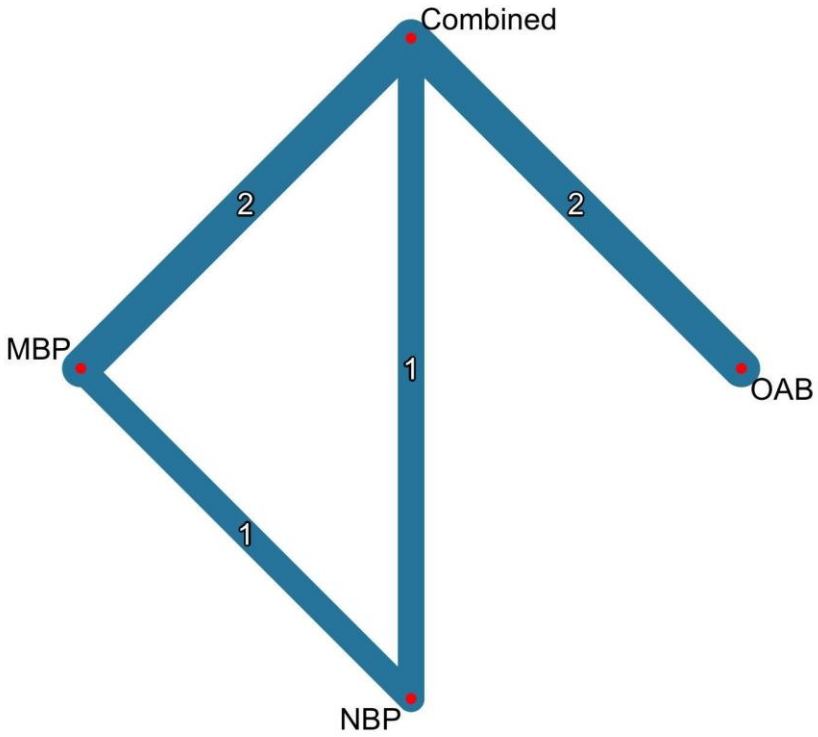


Figure .B Large Sample Network Plot of Treatment Comparisons for Organspace SSI

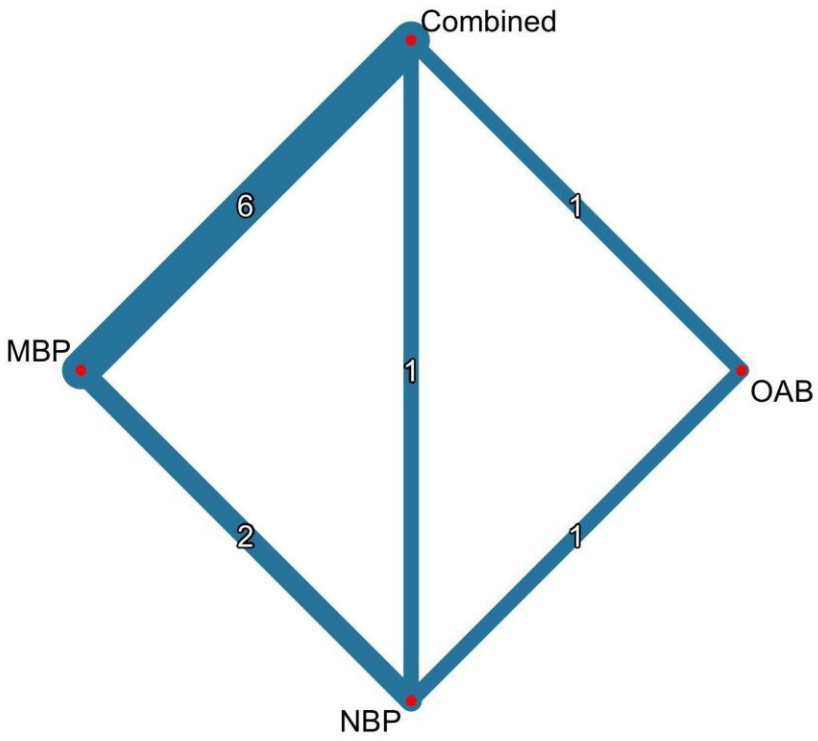


Figure .C Large Sample Network Plot of Treatment Comparisons for UTI

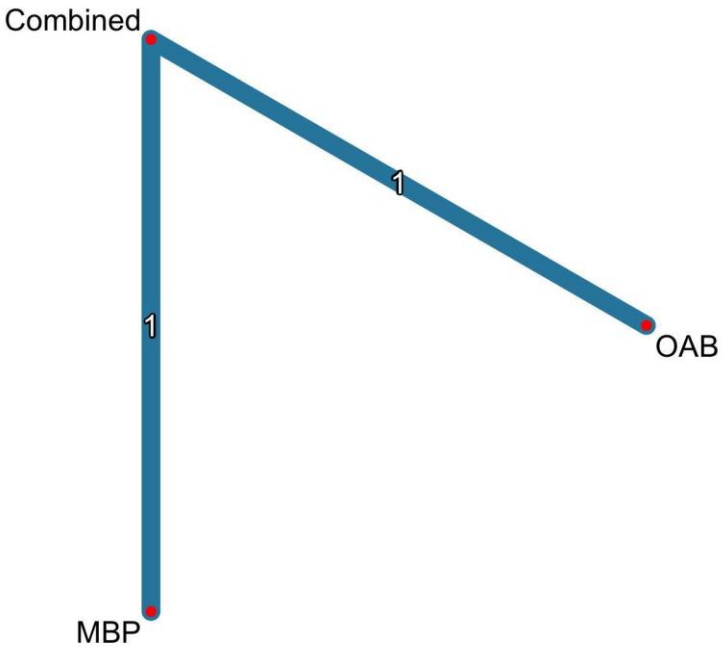


Figure .D Large Sample Network Plot of Treatment Comparisons for LOS



Figure .E Large Sample Network Plot of Treatment Comparisons for Incisional SSI

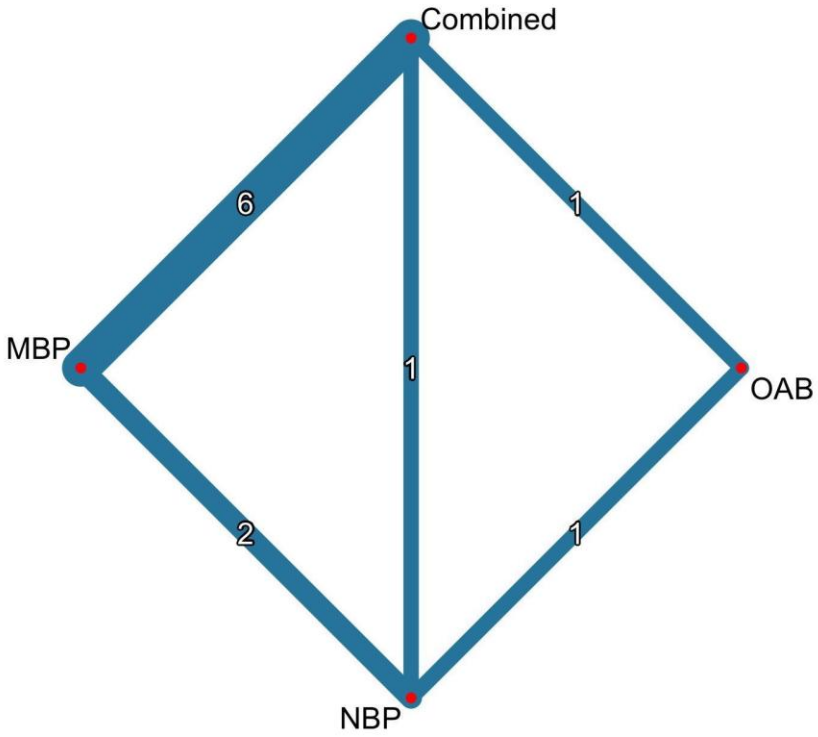


Figure .F Large Sample Network Plot of Treatment Comparisons for Ileus

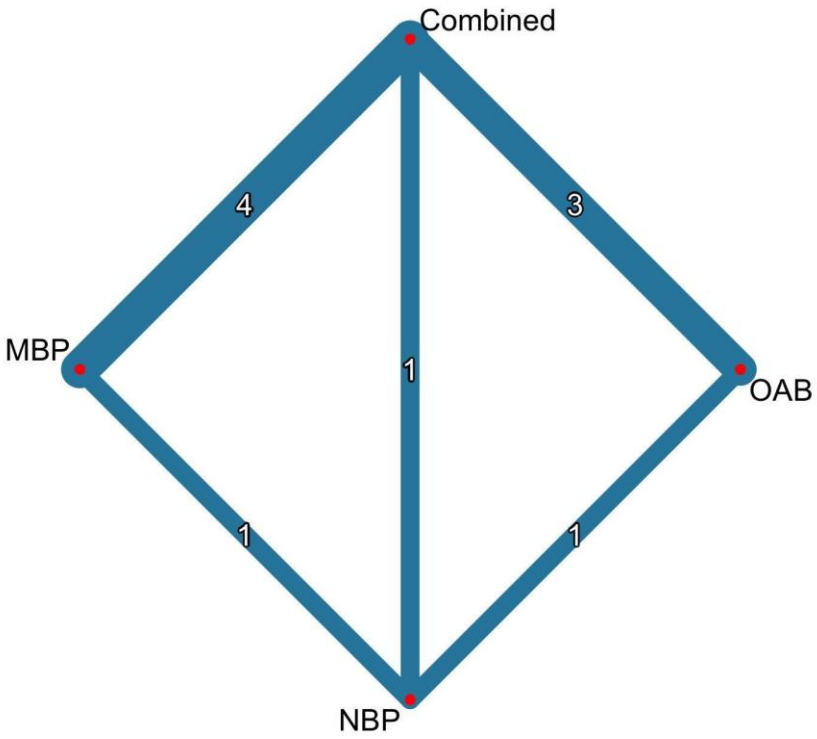


Figure .G Large Sample Network Plot of Treatment Comparisons for Anastomotic leak

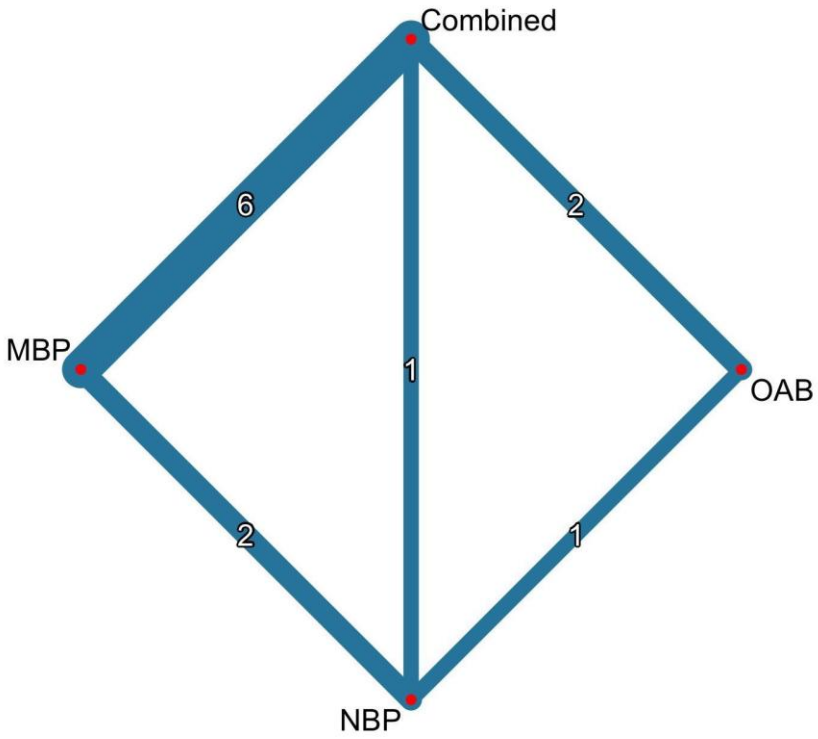
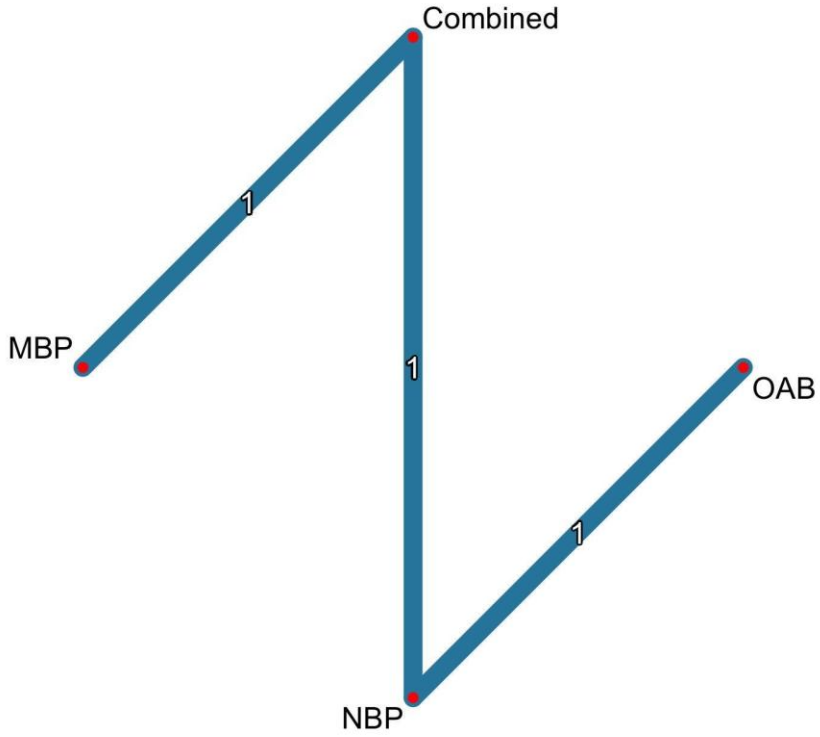


Figure .H Large Sample Network Plot of Treatment Comparisons for C1, C2



Supplement Figure 14. Forest Plot of Treatment Comparisons

Figure .A Forest Plot of Treatment Comparisons for Mortality

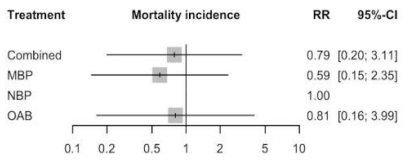


Figure .B Forest Plot of Treatment Comparisons for Organspace SSI

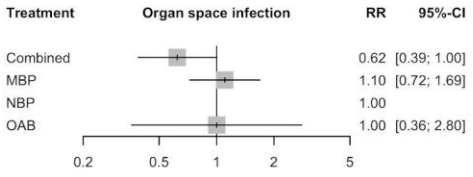


Figure .C Forest Plot of Treatment Comparisons for UTI

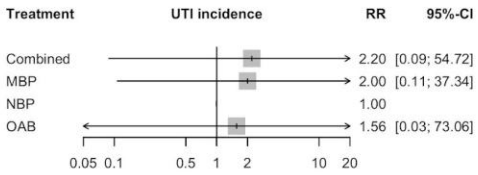


Figure .D Forest Plot of Treatment Comparisons for LOS

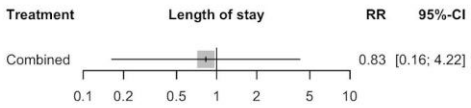


Figure E Forest Plot of Treatment Comparisons for Incisional SSI

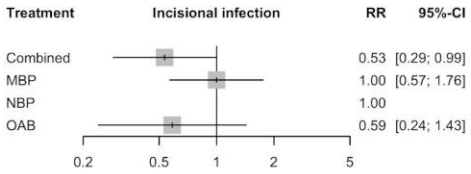


Figure F Forest Plot of Treatment Comparisons for Ileus

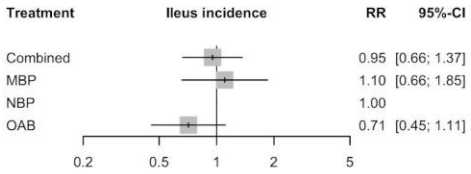


Figure G Forest Plot of Treatment Comparisons for Anastomotic leak

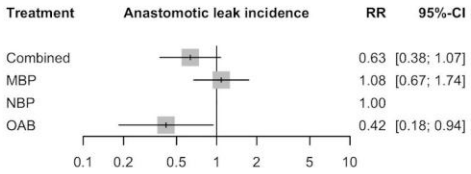


Figure H Forest Plot of Treatment Comparisons for C1, C2

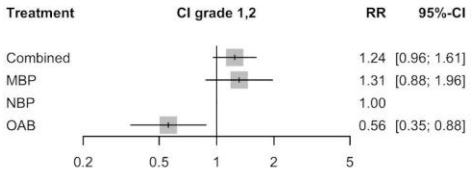
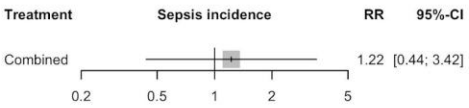


Figure I Forest Plot of Treatment Comparisons for Sepsis


Treatment
Sepsis incidence
RR
95%-CI
Combined
1.22 [0.44; 3.42]
0.2
0.5
1
2
5

Supplement Figure 3. Fixed Forest Plot of Treatment Comparisons

Figure .A Fixed Forest Plot of Treatment Comparisons for Mortality

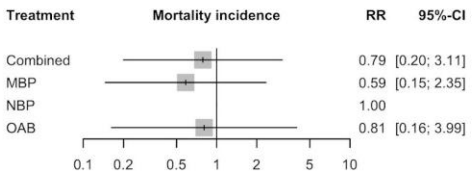


Figure .B Fixed Forest Plot of Treatment Comparisons for Organspace SSI

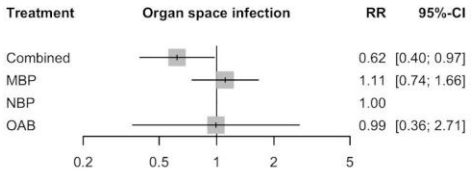


Figure .C Fixed Forest Plot of Treatment Comparisons for UTI

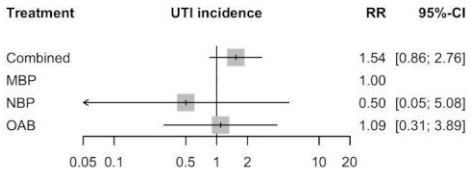


Figure .D Fixed Forest Plot of Treatment Comparisons for LOS

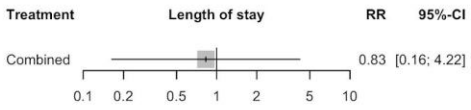


Figure .E Fixed Forest Plot of Treatment Comparisons for Incisional SSI

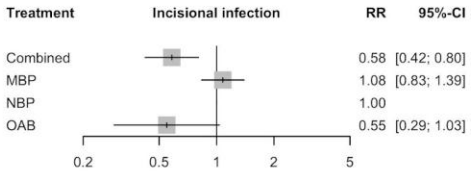


Figure .F Fixed Forest Plot of Treatment Comparisons for Ileus

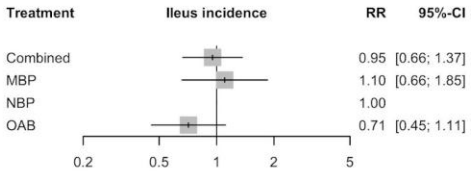


Figure .G Fixed Forest Plot of Treatment Comparisons for Anastomotic leak

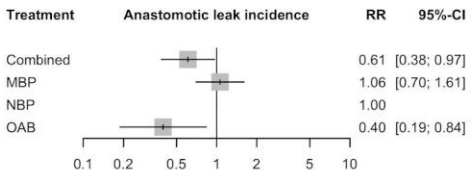


Figure .H Fixed Forest Plot of Treatment Comparisons for C1, C2

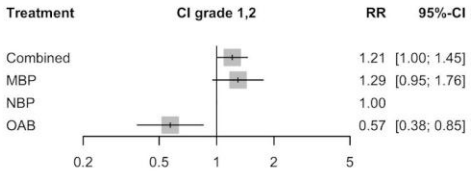
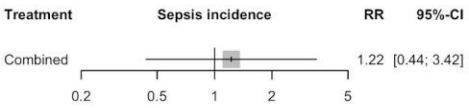


Figure .I Fixed Forest Plot of Treatment Comparisons for Sepsis


Treatment
Sepsis incidence
RR
95%-CI
Combined
1.22 [0.44; 3.42]
0.2
0.5
1
2
5

Supplement Figure 4 Low risk Forest Plot of Treatment Comparisons

Figure .A Low Risk Forest Plot of Treatment Comparisons for Mortality

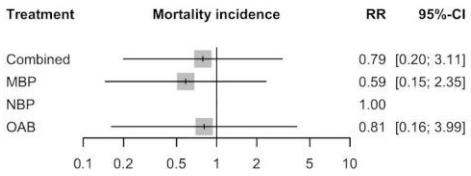


Figure .B Low Risk Forest Plot of Treatment Comparisons for Organspace SSI

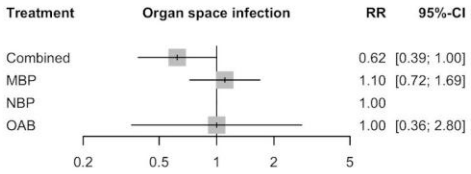


Figure .C Low Risk Forest Plot of Treatment Comparisons for UTI

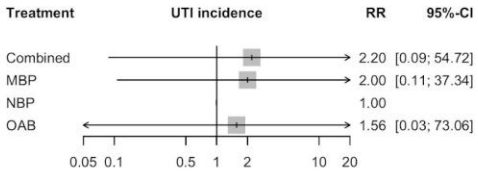


Figure D Low Risk Forest Plot of Treatment Comparisons for LOS

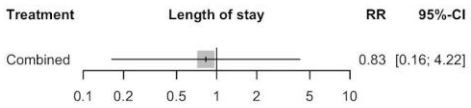


Figure E Low Risk Forest Plot of Treatment Comparisons for Incisional SSI

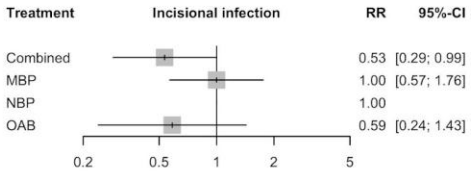


Figure F Low Risk Forest Plot of Treatment Comparisons for Ileus

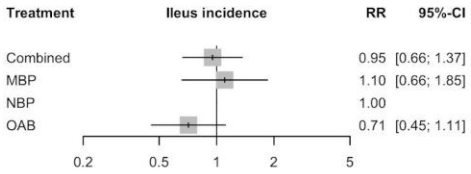


Figure G Low Risk Forest Plot of Treatment Comparisons for Anastomotic leak

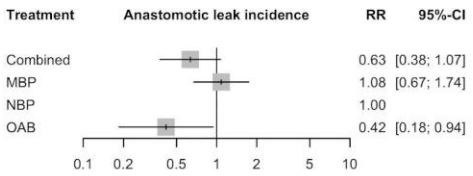


Figure H Low Risk Forest Plot of Treatment Comparisons for C1, C2

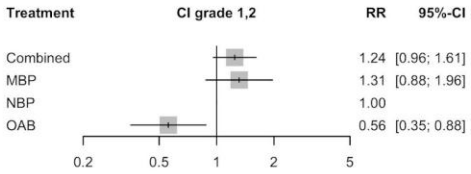
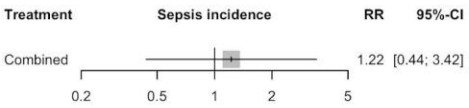


Figure I Low Risk Forest Plot of Treatment Comparisons for Sepsis


Treatment
Sepsis incidence
RR
95%-CI
Combined
1.22 [0.44; 3.42]
0.2
0.5
1
2
5

Supplement Figure 5. Large Sample Forest Plot of Treatment Comparisons

Figure 5.A Large Sample Forest Plot of Treatment Comparisons for Mortality

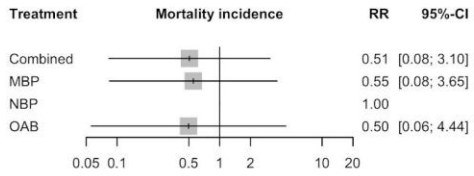


Figure B Large Sample Forest Plot of Treatment Comparisons for Organspace SSI

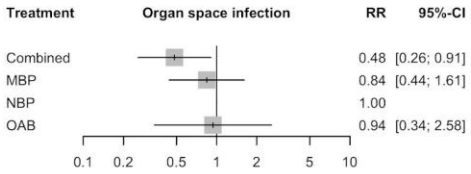


Figure C Large Sample Forest Plot of Treatment Comparisons for UTI

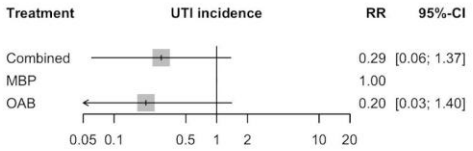


Figure D Large Sample Forest Plot of Treatment Comparisons for LOS

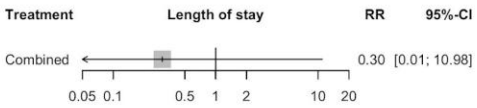


Figure E Large Sample Forest Plot of Treatment Comparisons for Incisional SSI

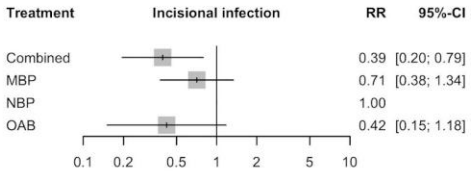


Figure F Large Sample Forest Plot of Treatment Comparisons for Ileus

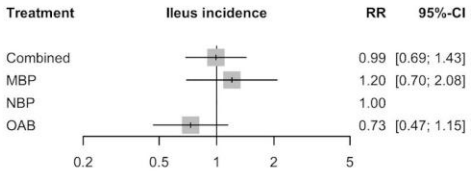


Figure G Large Sample Forest Plot of Treatment Comparisons for Anastomotic leak

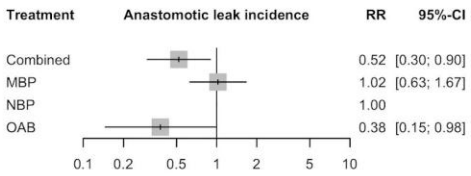
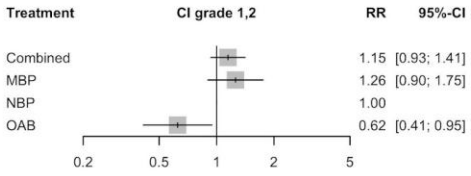


Figure H Large Sample Forest Plot of Treatment Comparisons for C1, C2


Treatment
CI grade 1,2
RR
95%-CI
Combined
MBP
NBP
OAB
1.15 [0.93; 1.41]
1.26 [0.90; 1.75]
1.00
0.62 [0.41; 0.95]
0.2
0.5
1
2
5

Supplement Figure 9 Funnel Plot of Treatment Comparisons

Figure A Funnel Plot of Treatment Comparisons for Mortality

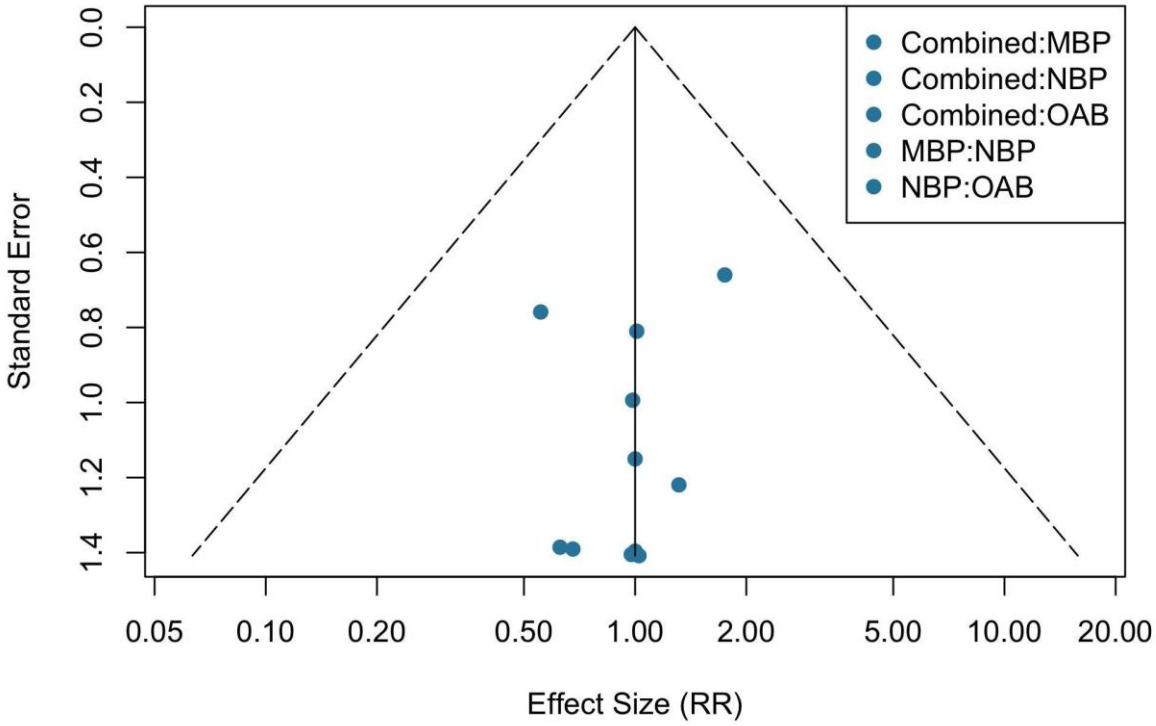


Figure B Funnel Plot of Treatment Comparisons for Organspace SSI

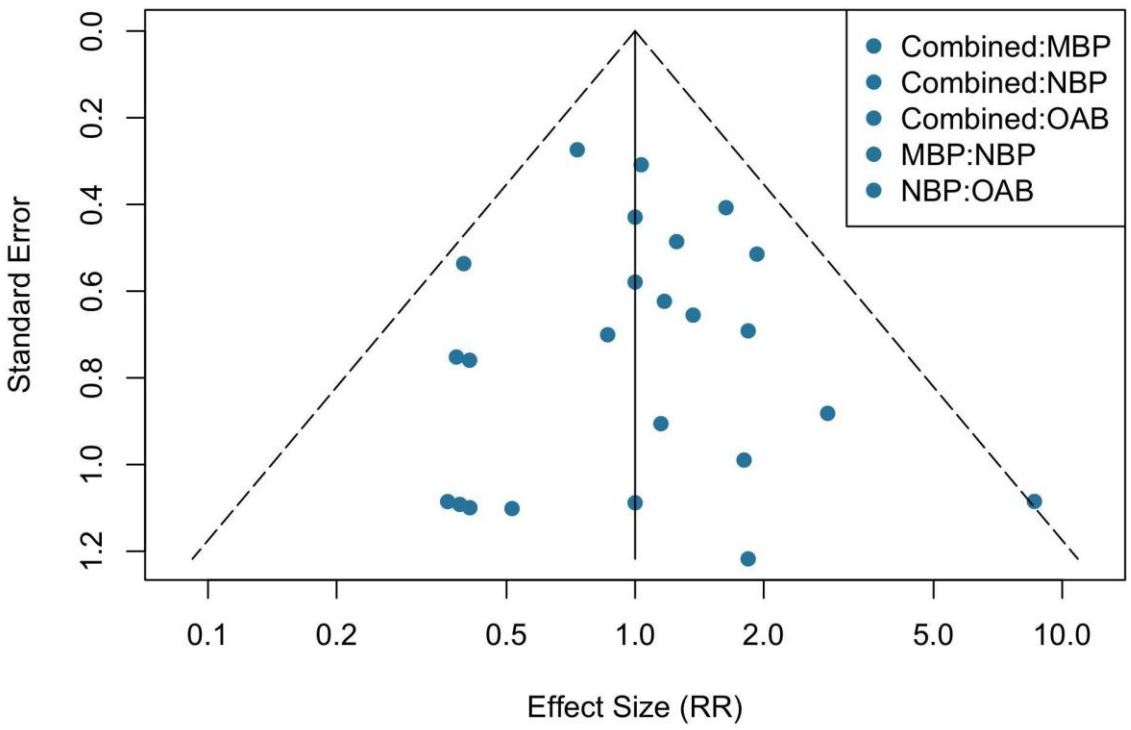


Figure C Funnel Plot of Treatment Comparisons for UTI

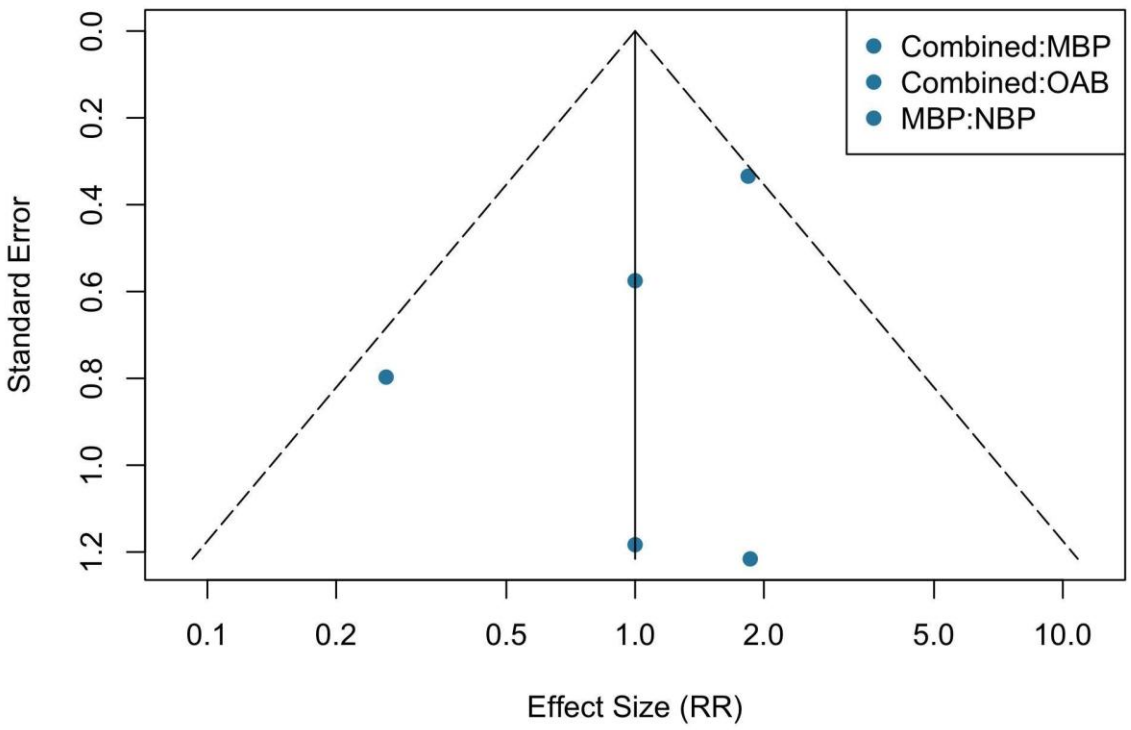


Figure D Funnel Plot of Treatment Comparisons for LOS

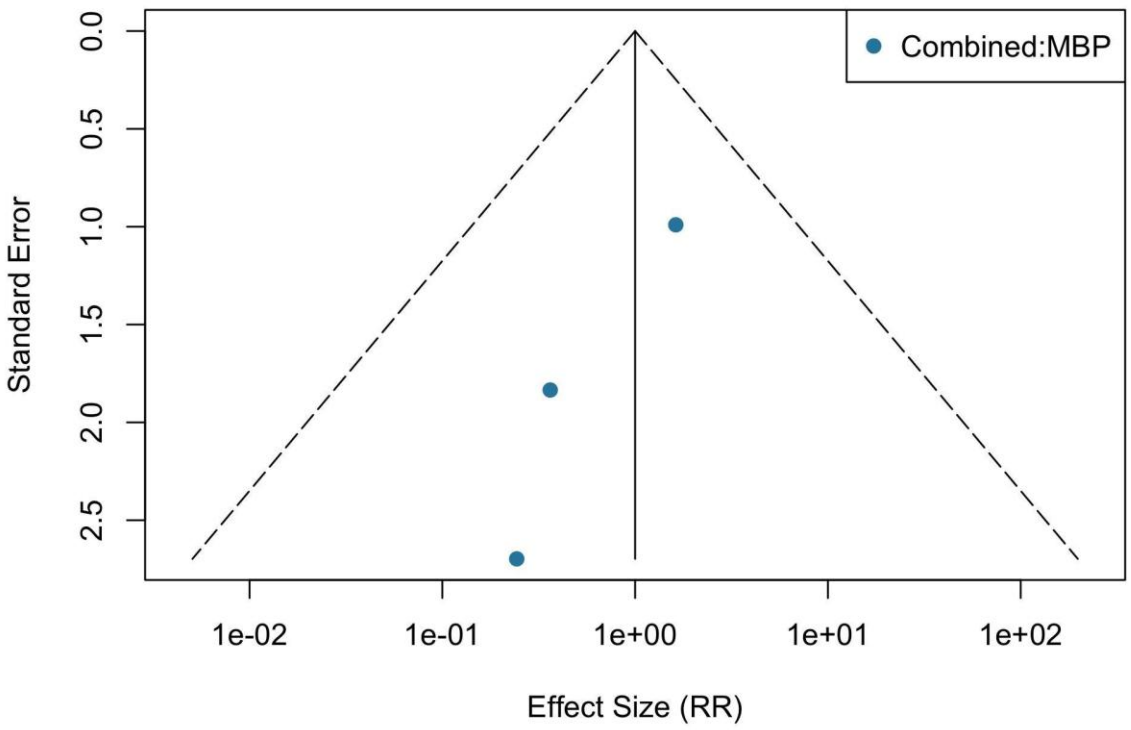


Figure E Funnel Plot of Treatment Comparisons for Incisional SSI

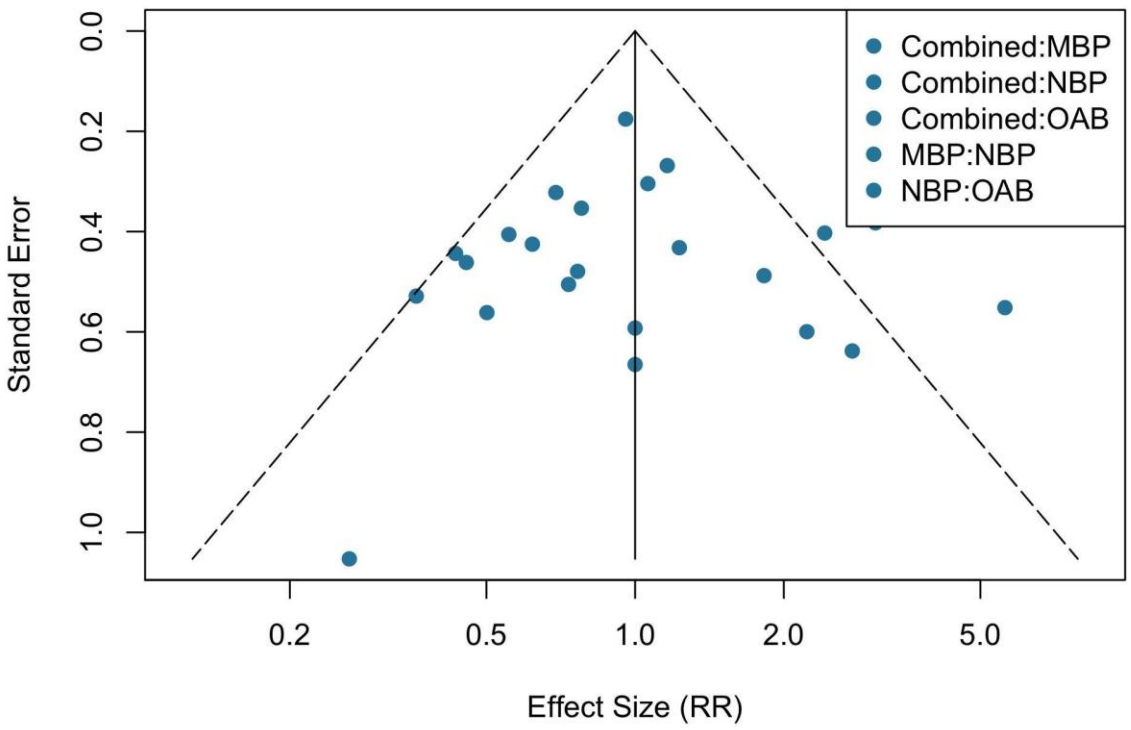


Figure F Funnel Plot of Treatment Comparisons for Ileus

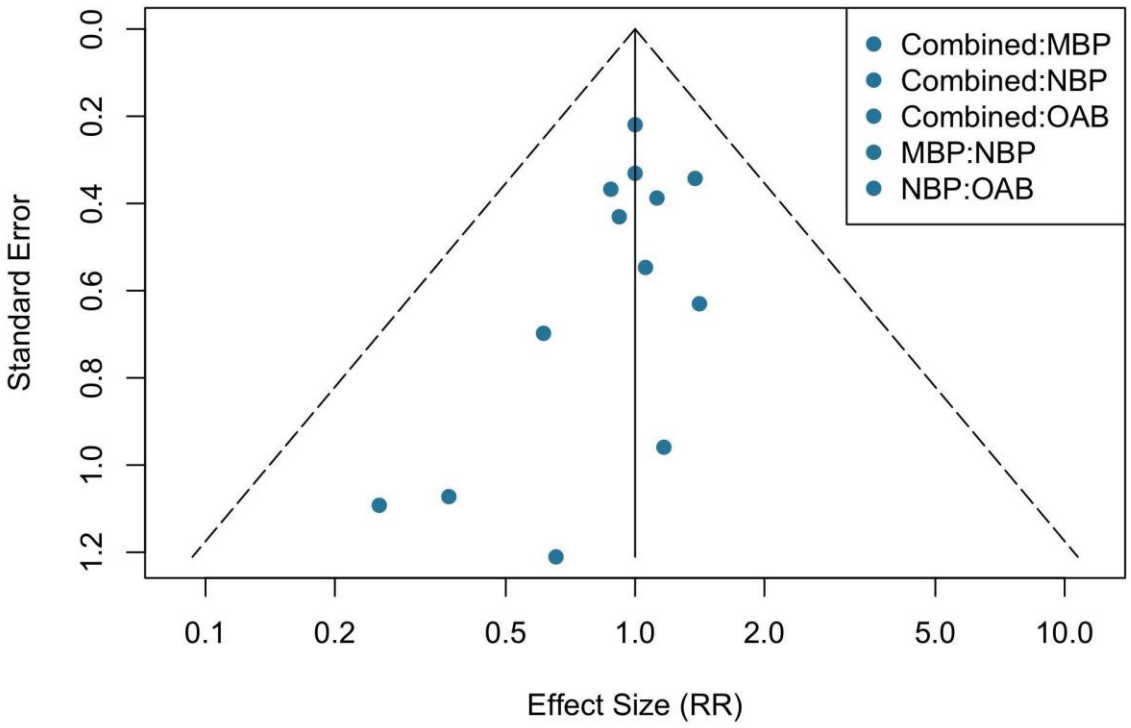


Figure G Funnel Plot of Treatment Comparisons for Anastomotic leak

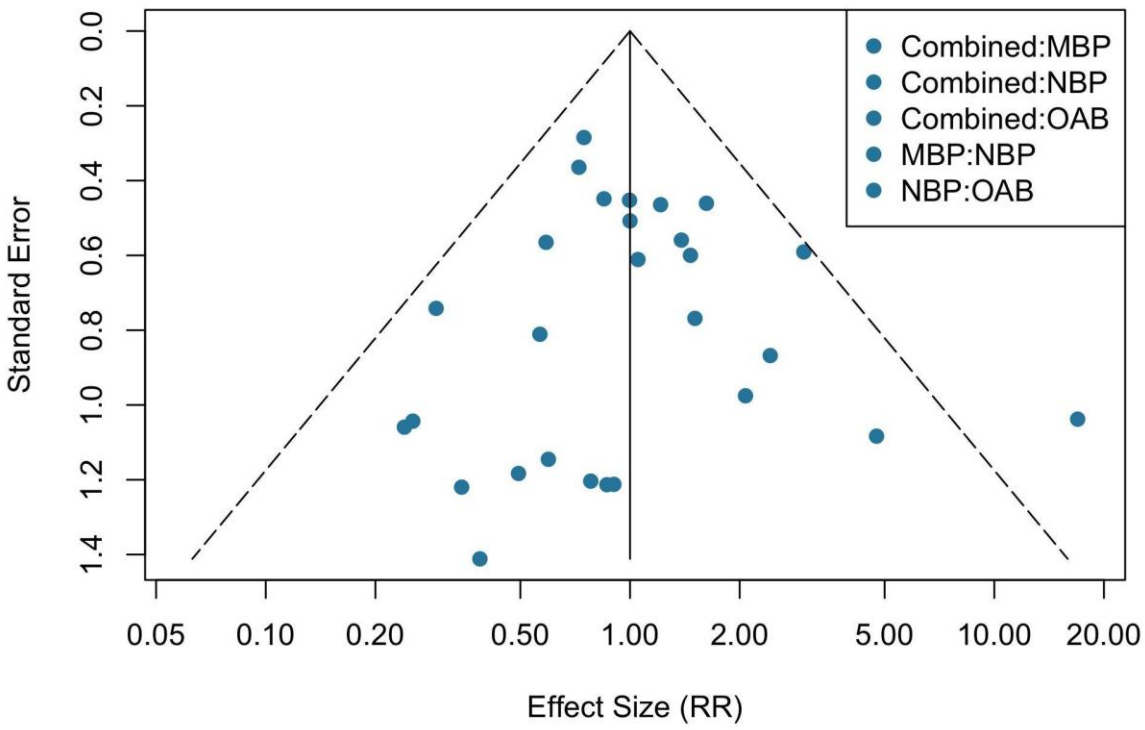


Figure H Funnel Plot of Treatment Comparisons for C1, C2

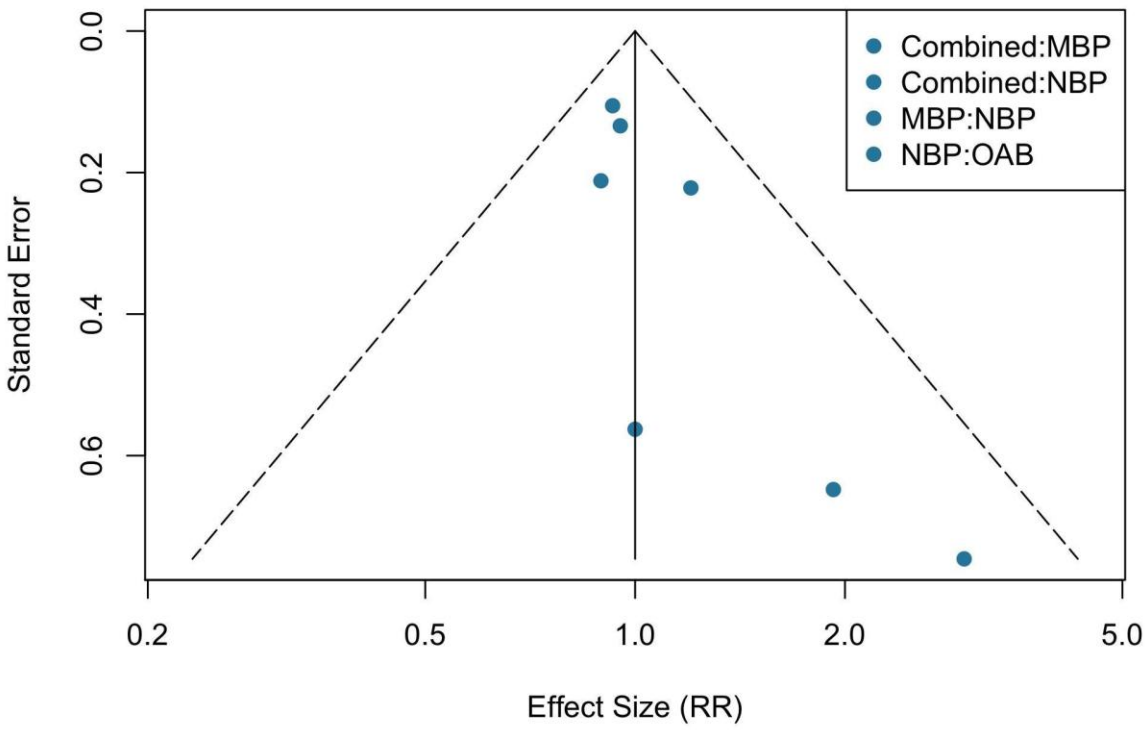
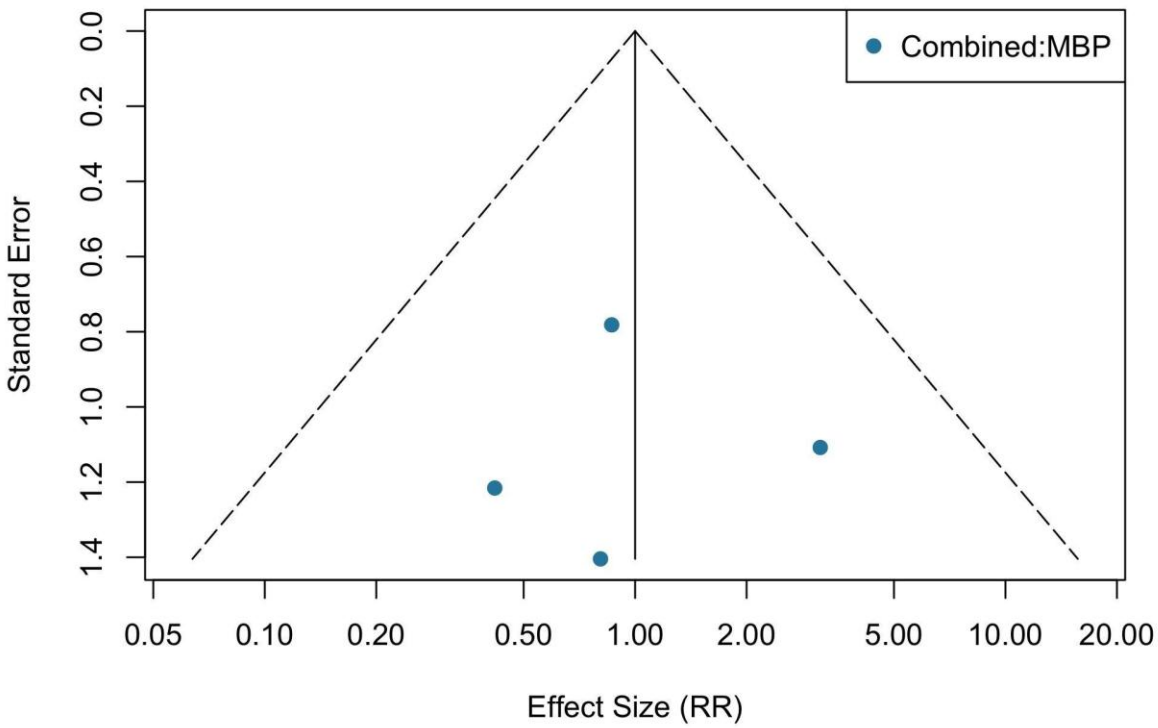


Figure I Funnel Plot of Treatment Comparisons for Sepsis


Combined:MBP
Standard Error
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
0.05
0.10
0.20
0.50
1.00
2.00
5.00
10.00
20.00
Effect Size (RR)

Supplement Figure 10. Fixed Funnel Plot of Treatment Comparisons

Figure A Fixed Funnel Plot of Treatment Comparisons for Mortality

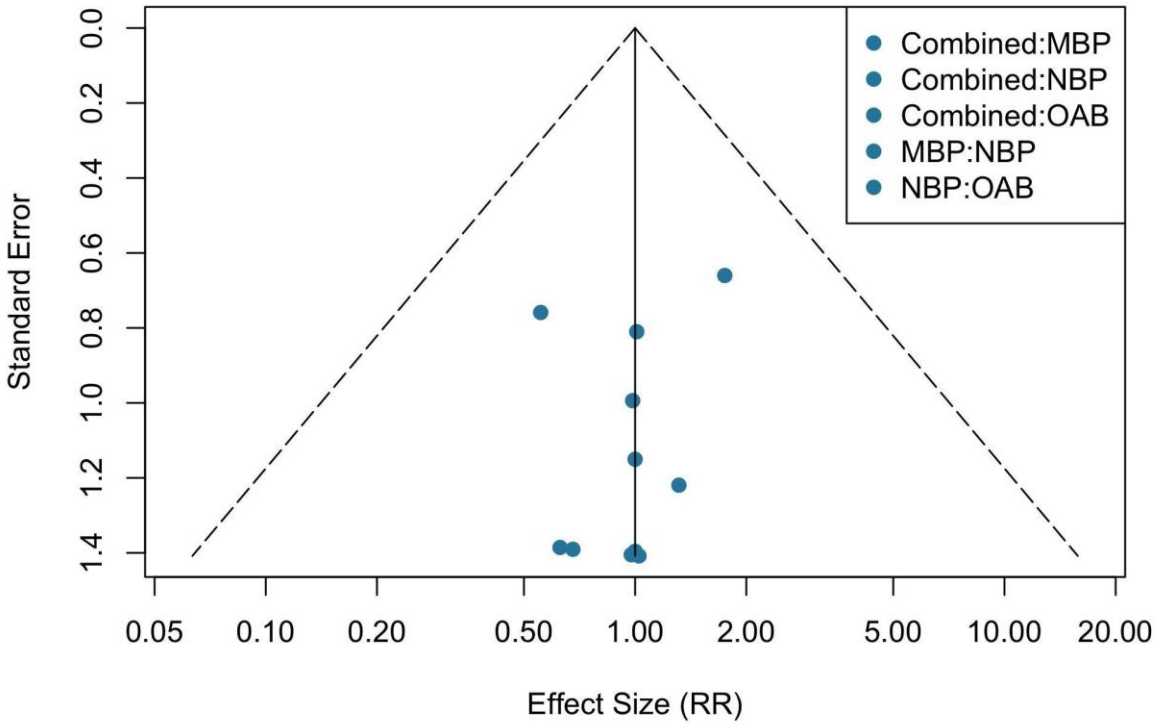


Figure B Fixed Funnel Plot of Treatment Comparisons for Organspace SSI

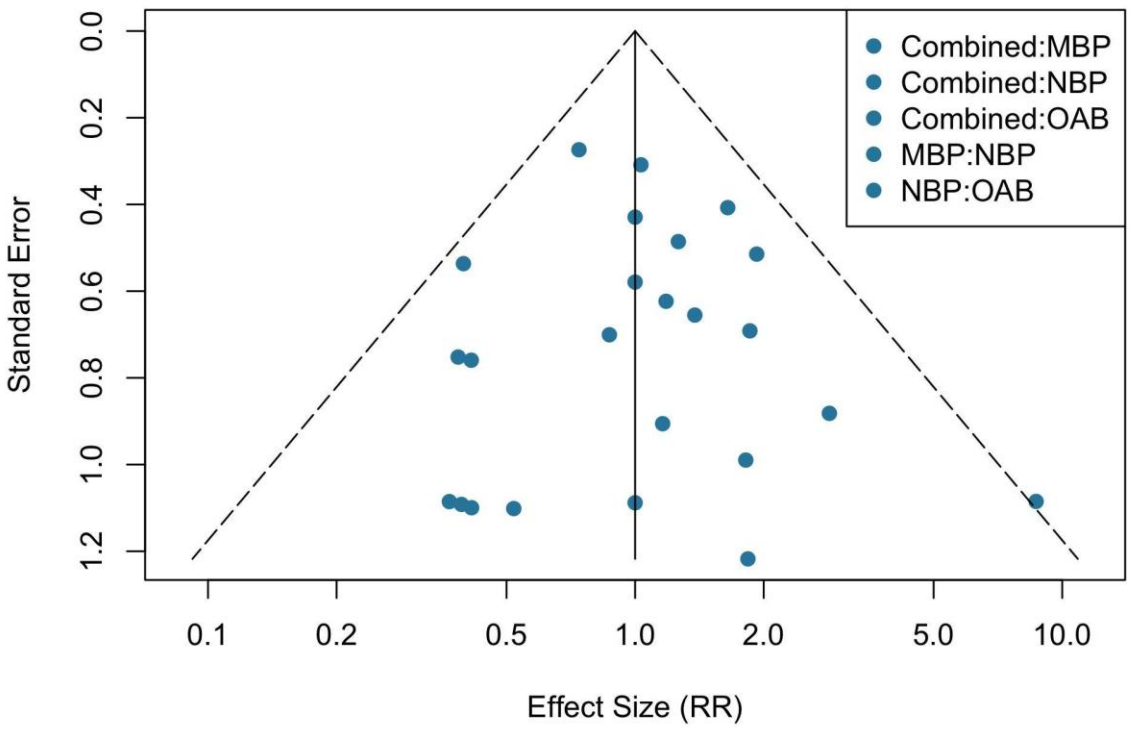


Figure C Fixed Funnel Plot of Treatment Comparisons for UTI

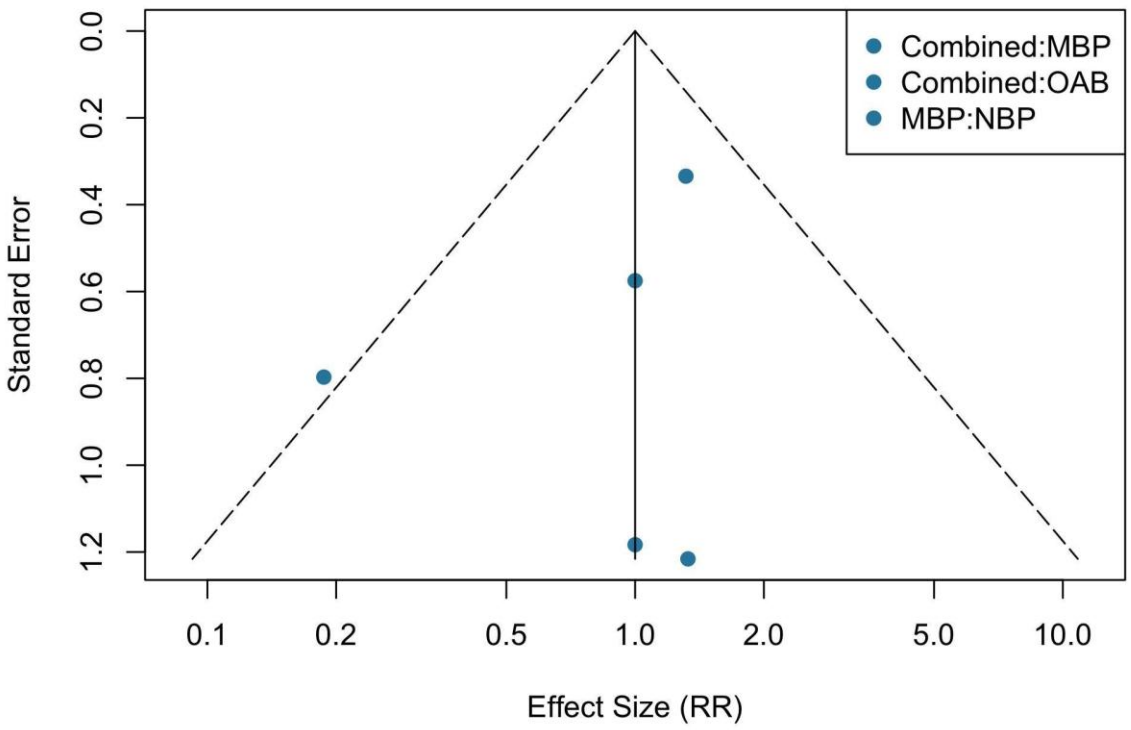


Figure D Fixed Funnel Plot of Treatment Comparisons for LOS

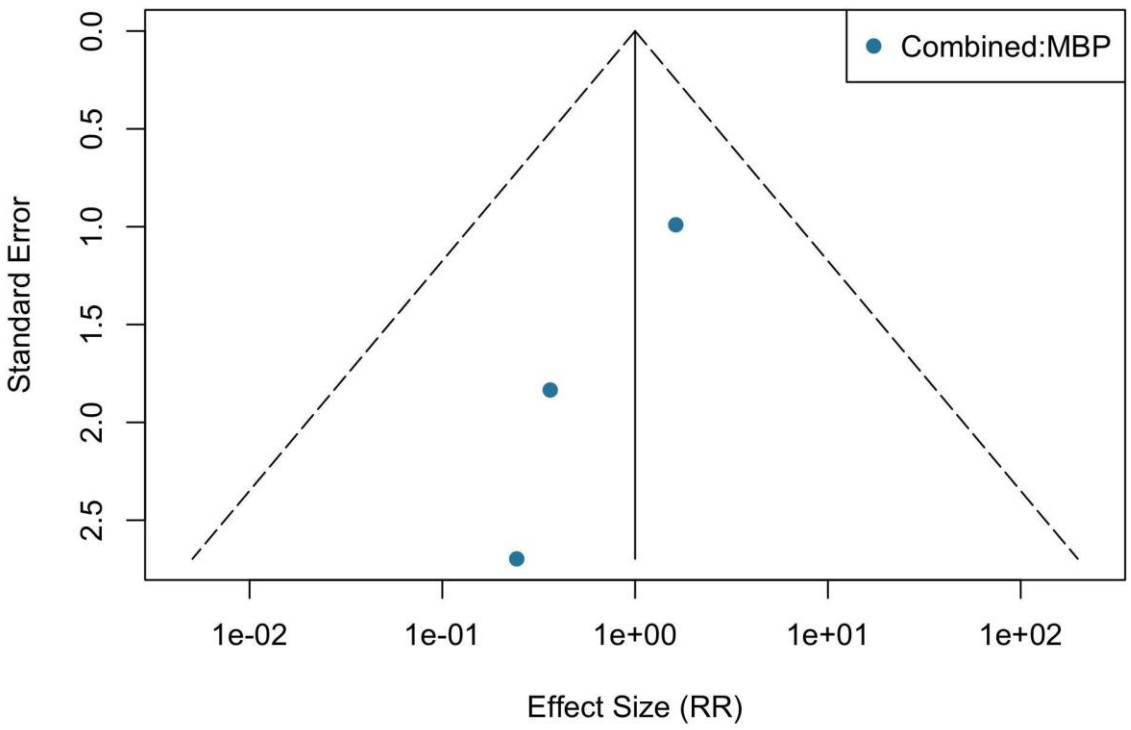


Figure E Fixed Funnel Plot of Treatment Comparisons for Incisional SSI

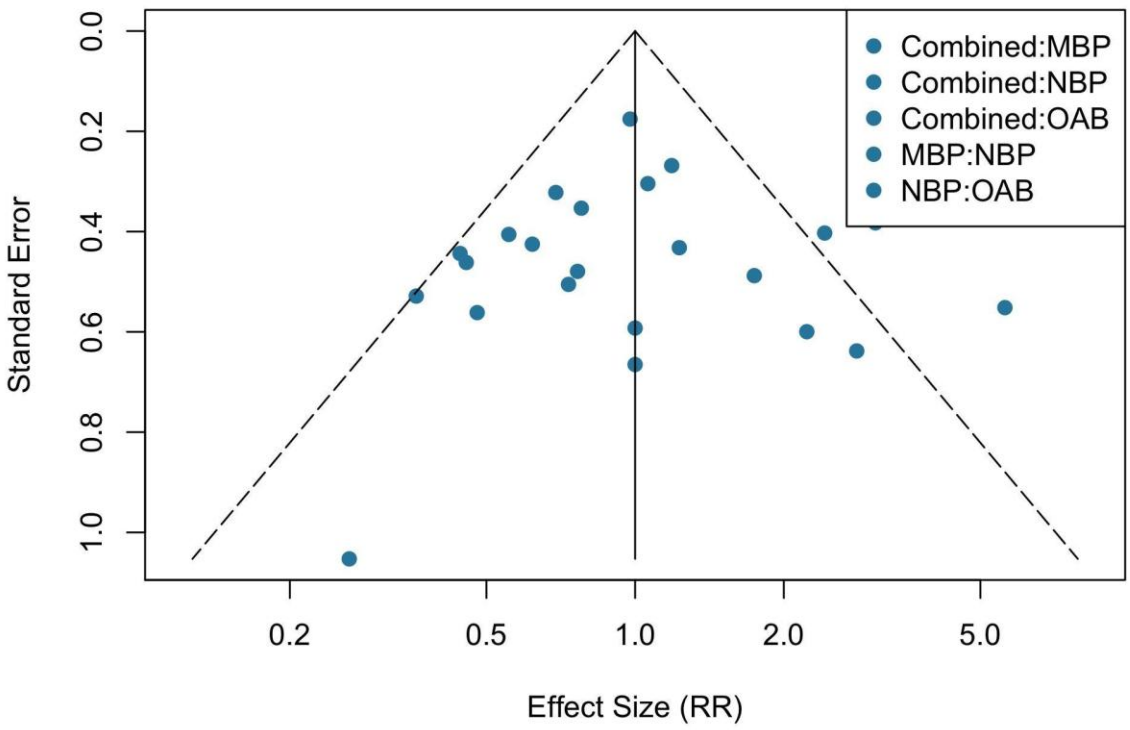


Figure F Fixed Funnel Plot of Treatment Comparisons for Ileus

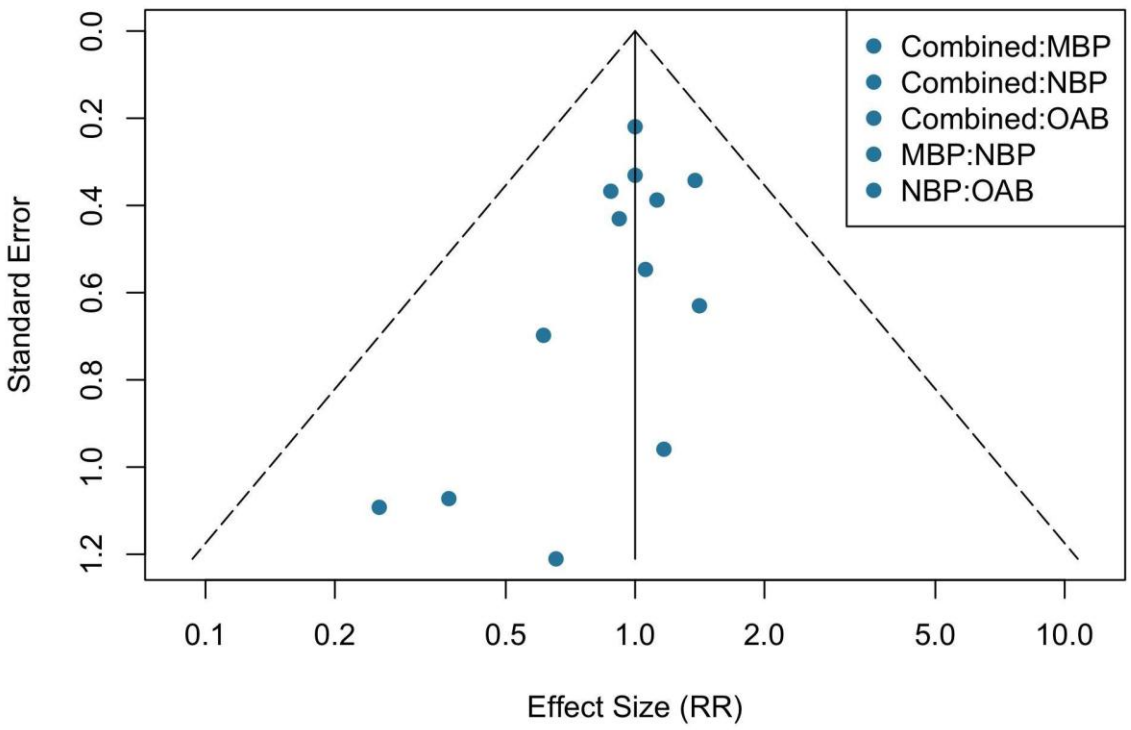


Figure G Fixed Funnel Plot of Treatment Comparisons for Anastomotic leak

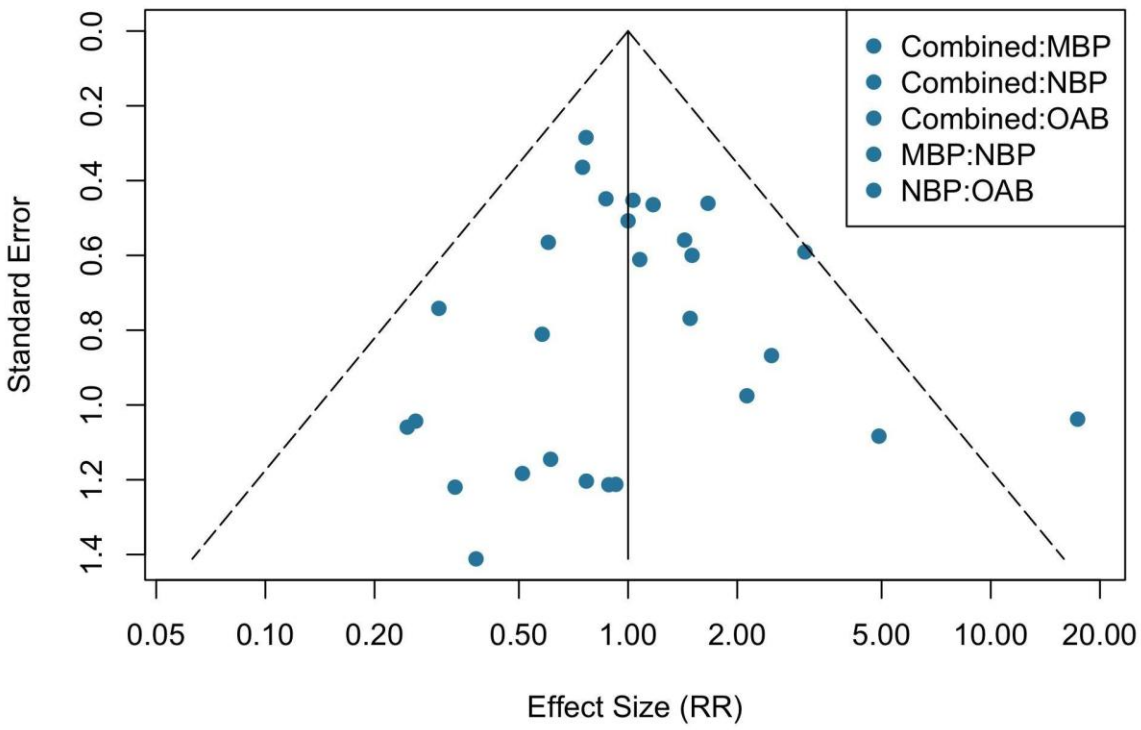


Figure H Fixed Funnel Plot of Treatment Comparisons for C1, C2

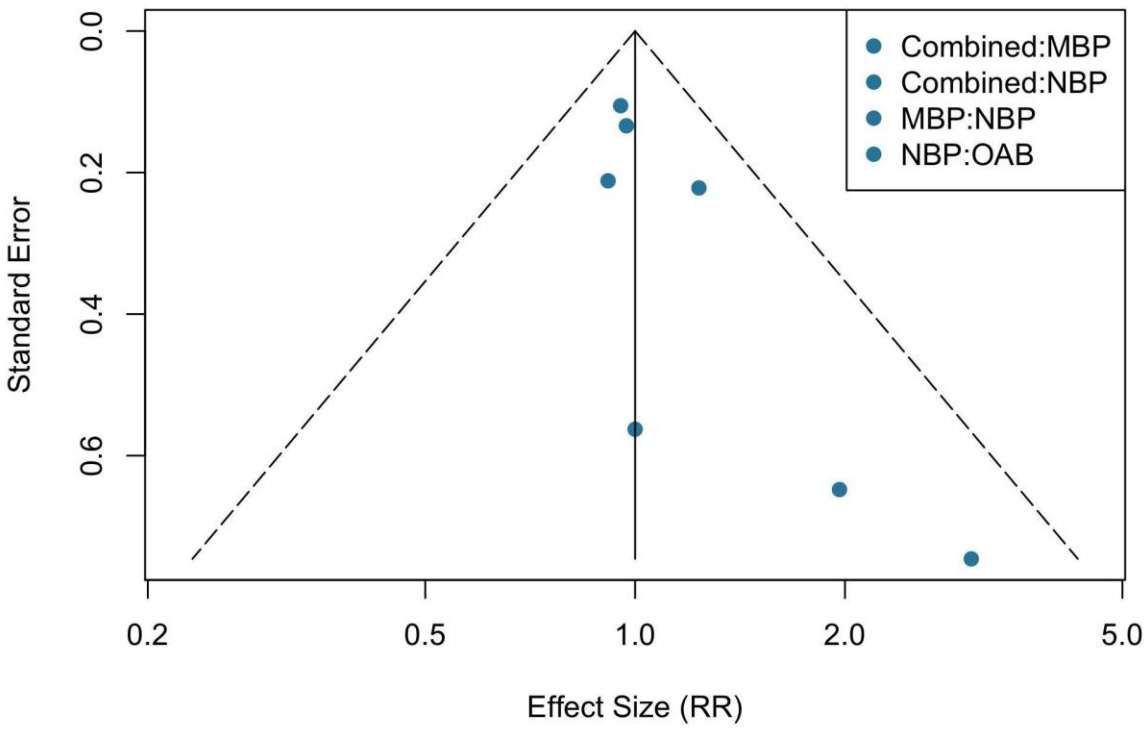
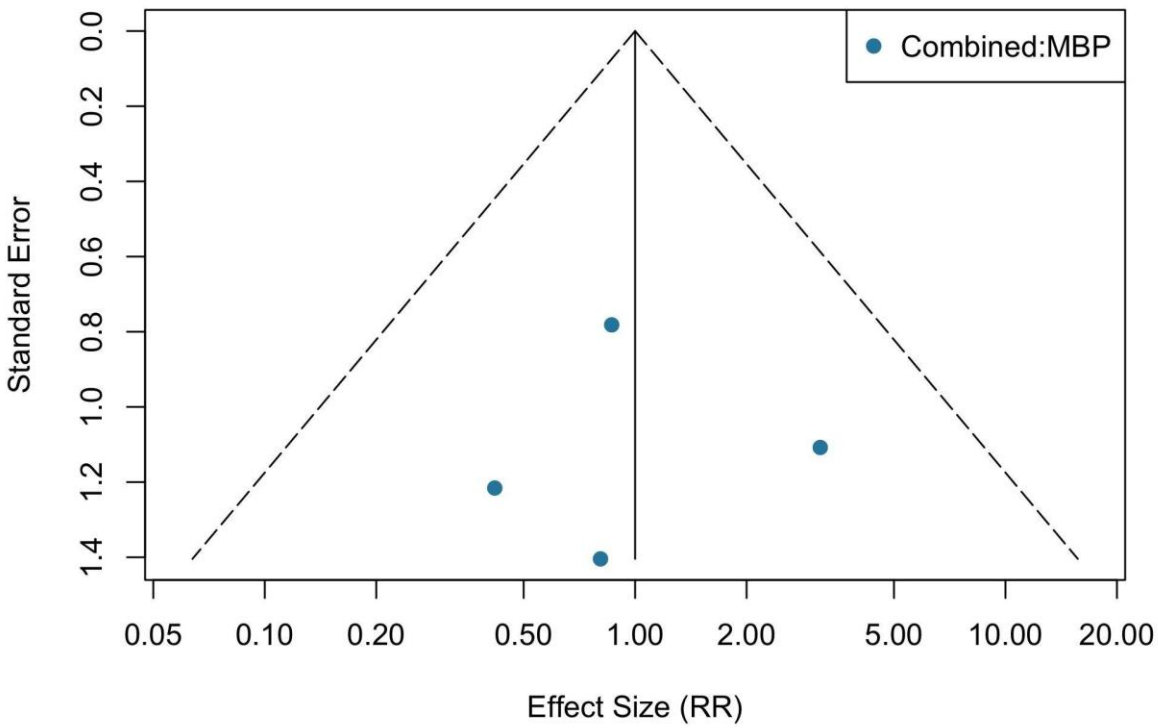


Figure I Fixed Funnel Plot of Treatment Comparisons for Sepsis


Combined:MBP
Standard Error
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
0.05
0.10
0.20
0.50
1.00
2.00
5.00
10.00
20.00
Effect Size (RR)

Supplement Figure 11. Large Sample Funnel Plot of Treatment Comparisons

Figure A Large Sample Funnel Plot of Treatment Comparisons for Mortality

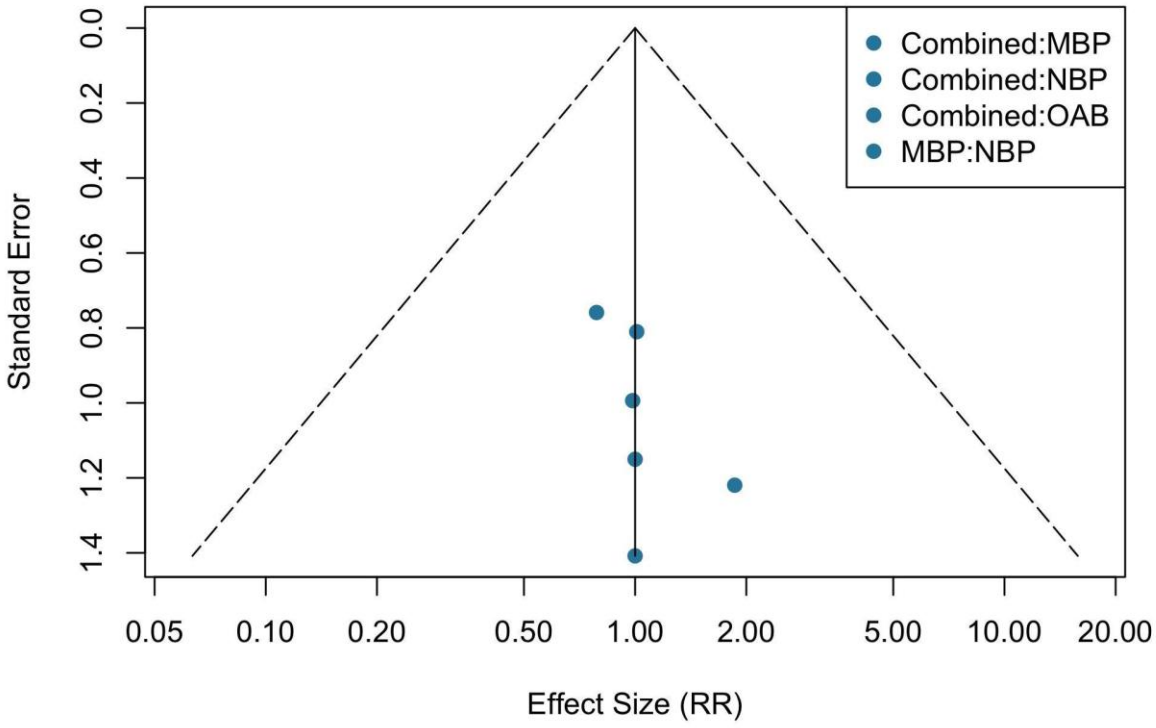


Figure B Large Sample Funnel Plot of Treatment Comparisons for Organspace SSI

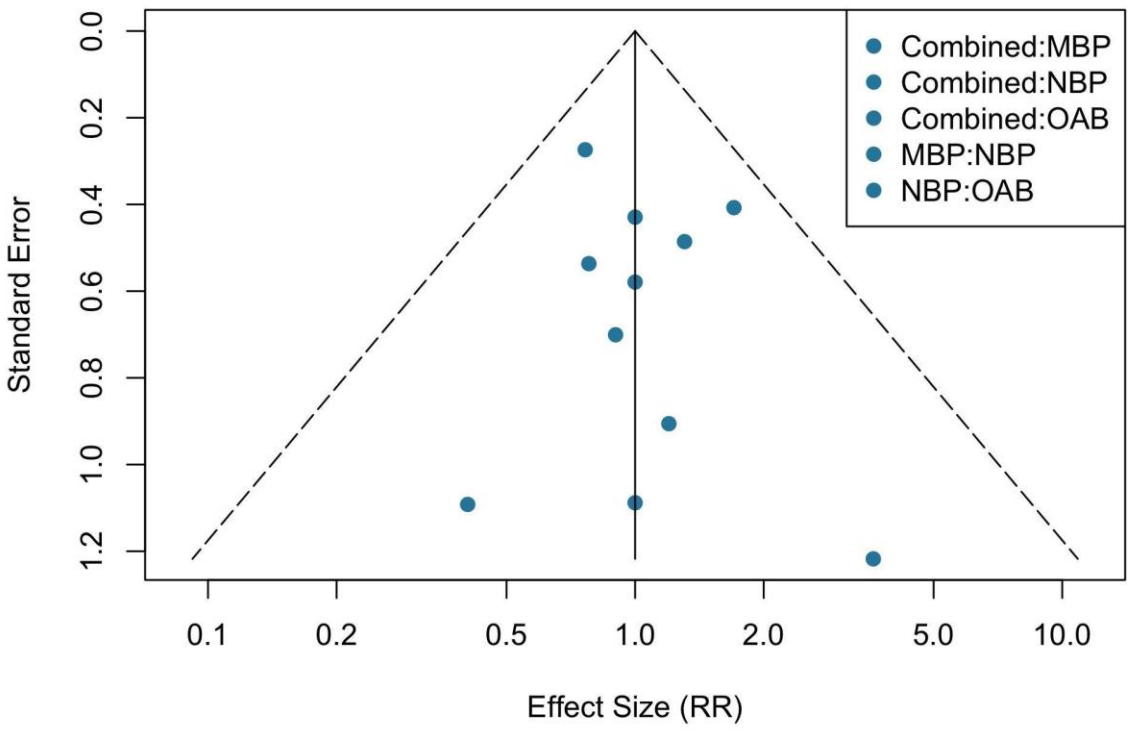


Figure C Large Sample Funnel Plot of Treatment Comparisons for UTI

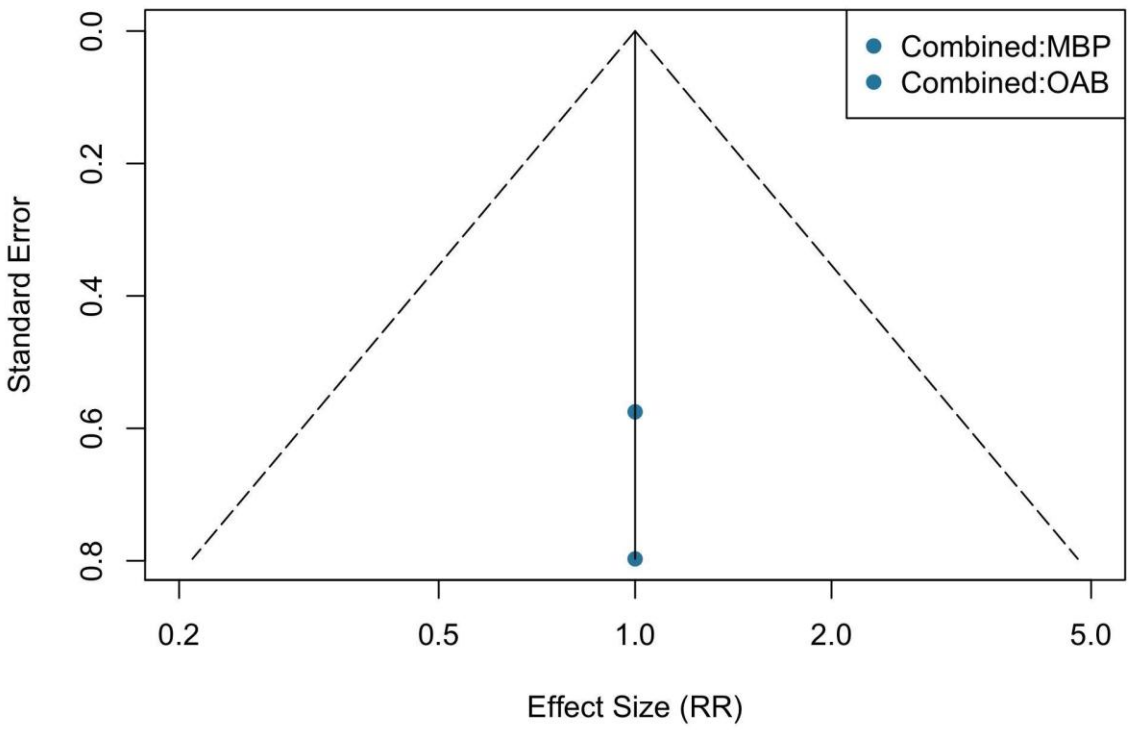


Figure D Large Sample Funnel Plot of Treatment Comparisons for LOS

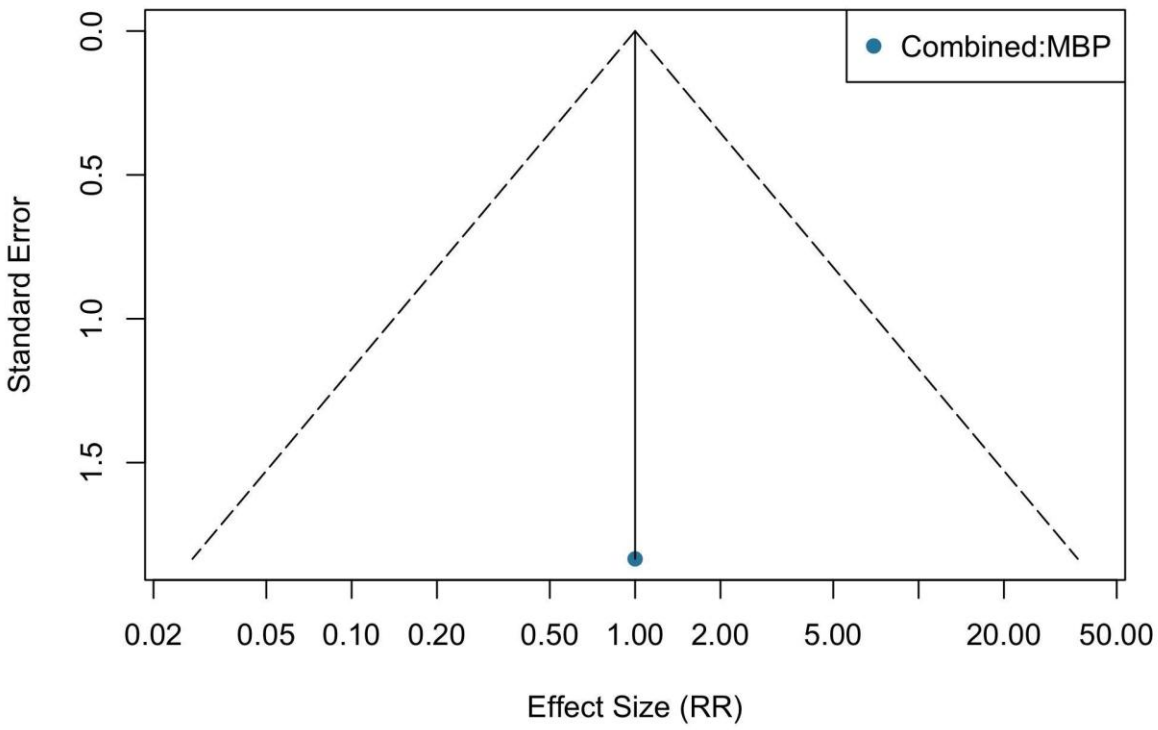


Figure E Large Sample Funnel Plot of Treatment Comparisons for Incisional SSI

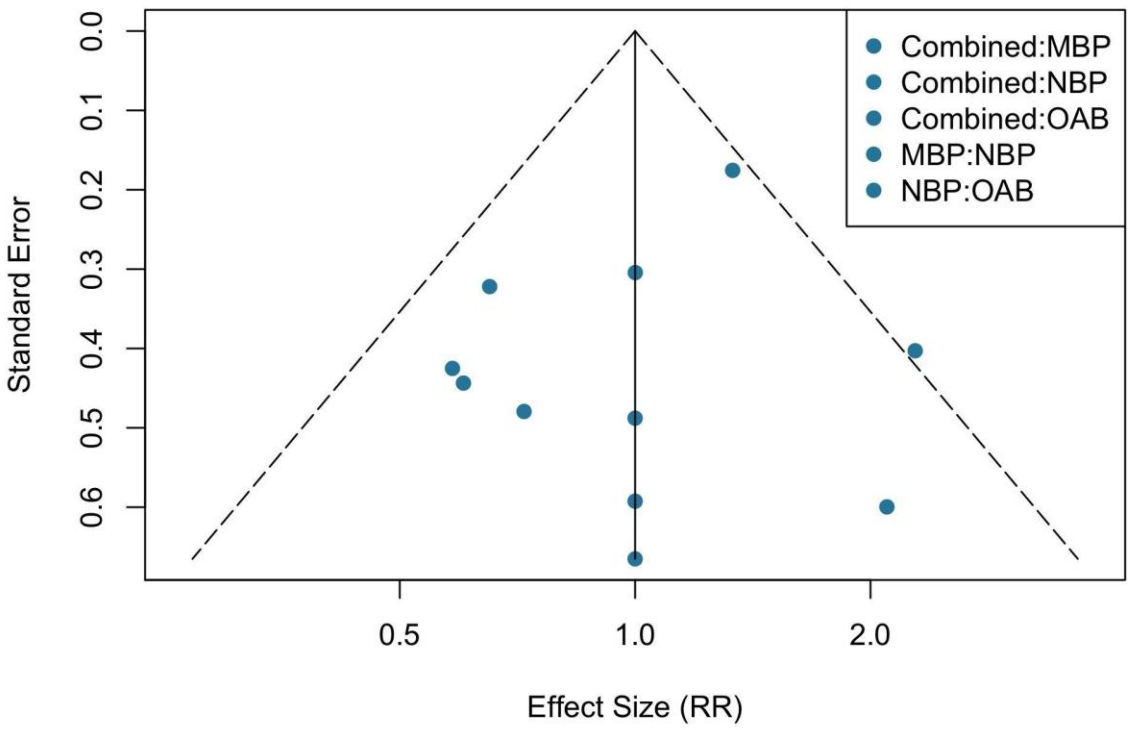


Figure F Large Sample Funnel Plot of Treatment Comparisons for Ileus

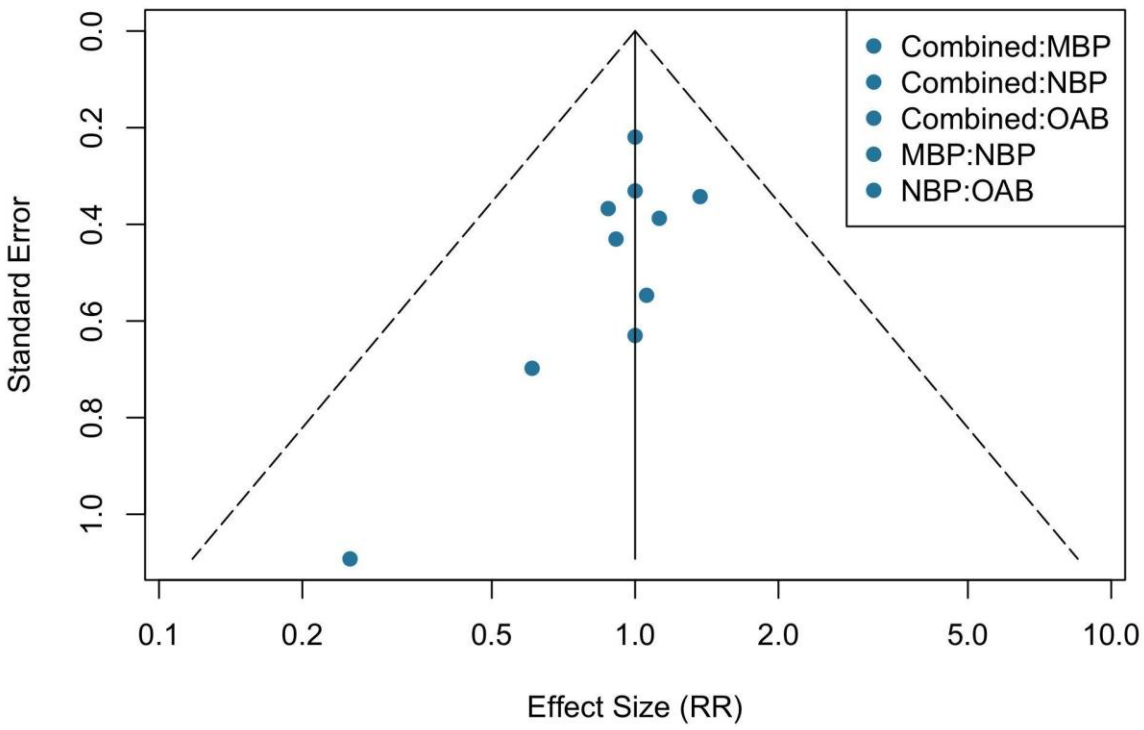


Figure G Large Sample Funnel Plot of Treatment Comparisons for Anastomotic leak

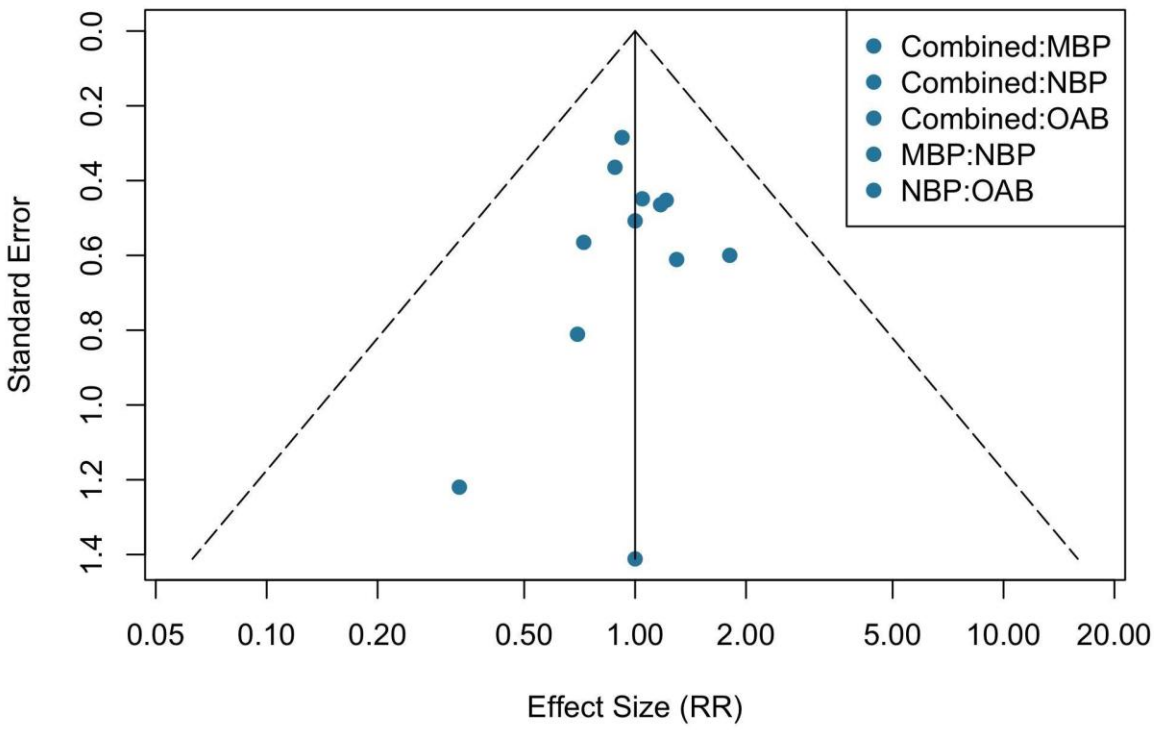
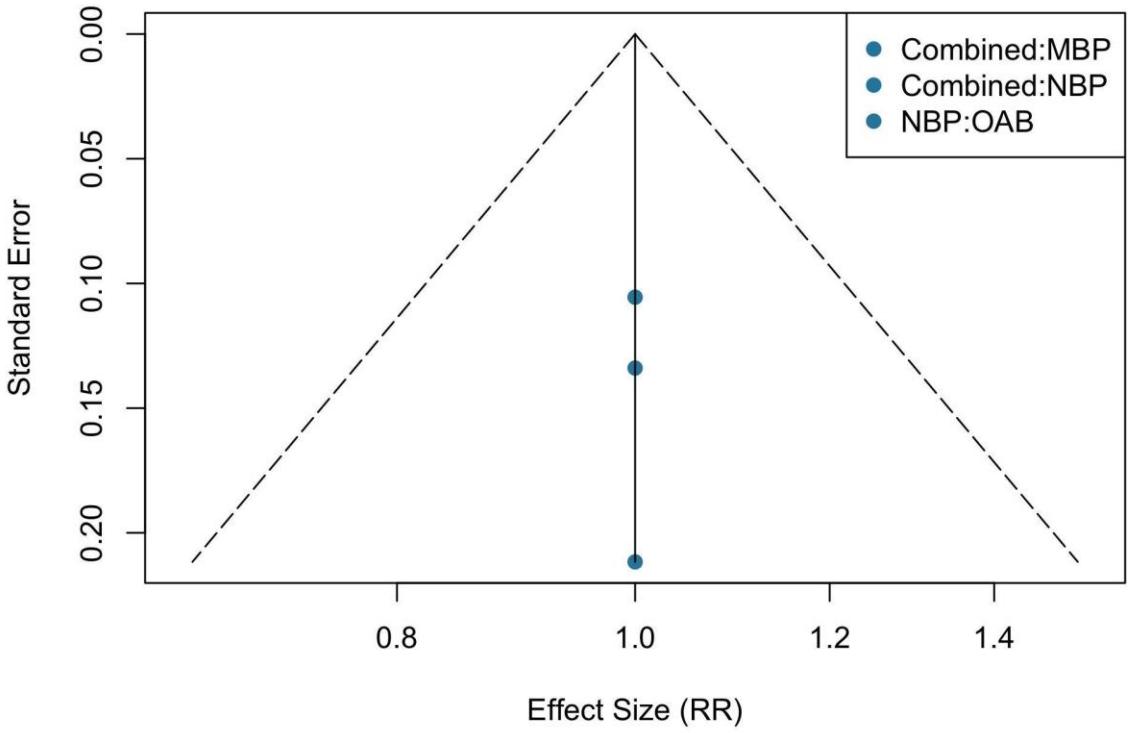


Figure H Large Sample Funnel Plot of Treatment Comparisons for C1, C2


Combined:MBP
Combined:NBP
NBP:OAB
Standard Error
0.00
0.05
0.10
0.15
0.20
0.8
1.0
1.2
1.4
Effect Size (RR)

Supplement Figure 12 Low Risk Funnel Plot of Treatment Comparisons

Figure A Low Risk Funnel Plot of Treatment Comparisons for Mortality

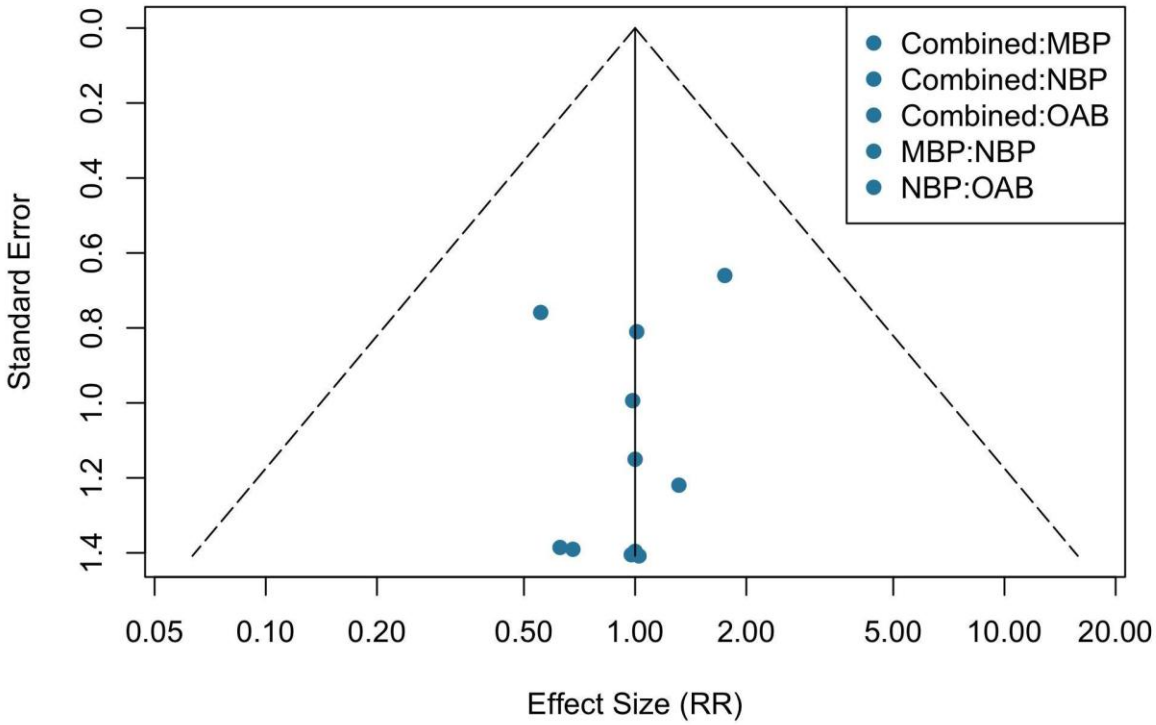


Figure B Low Risk Funnel Plot of Treatment Comparisons for Organspace SSI

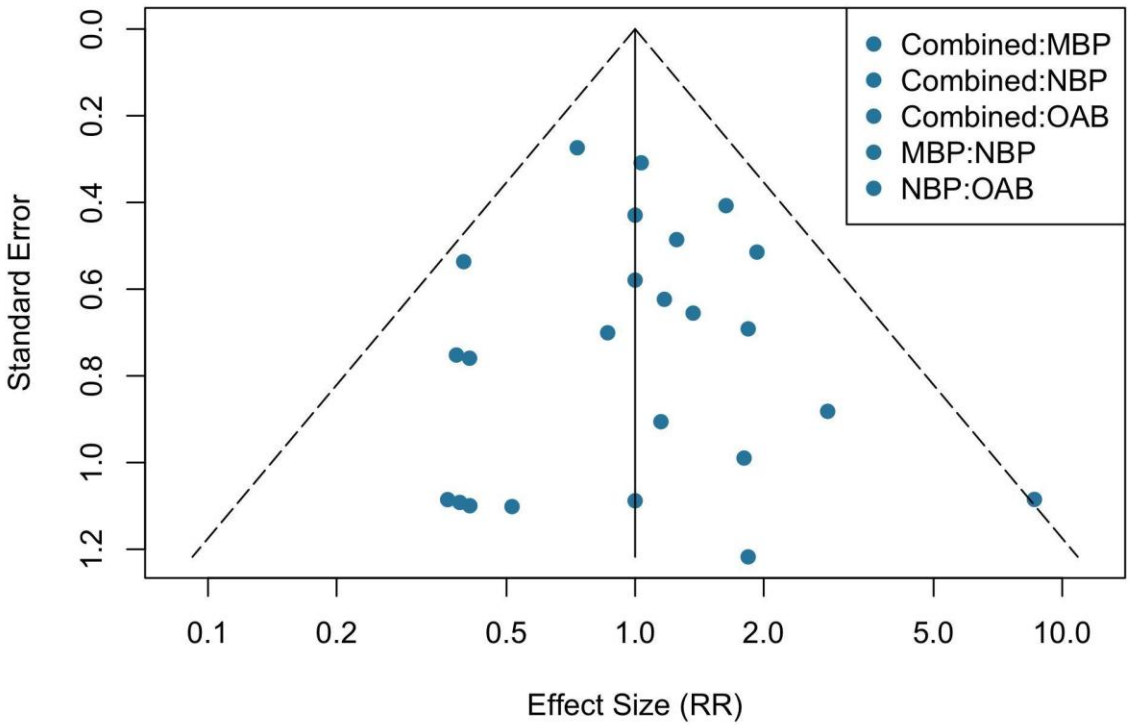


Figure C Low Risk Funnel Plot of Treatment Comparisons for UTI

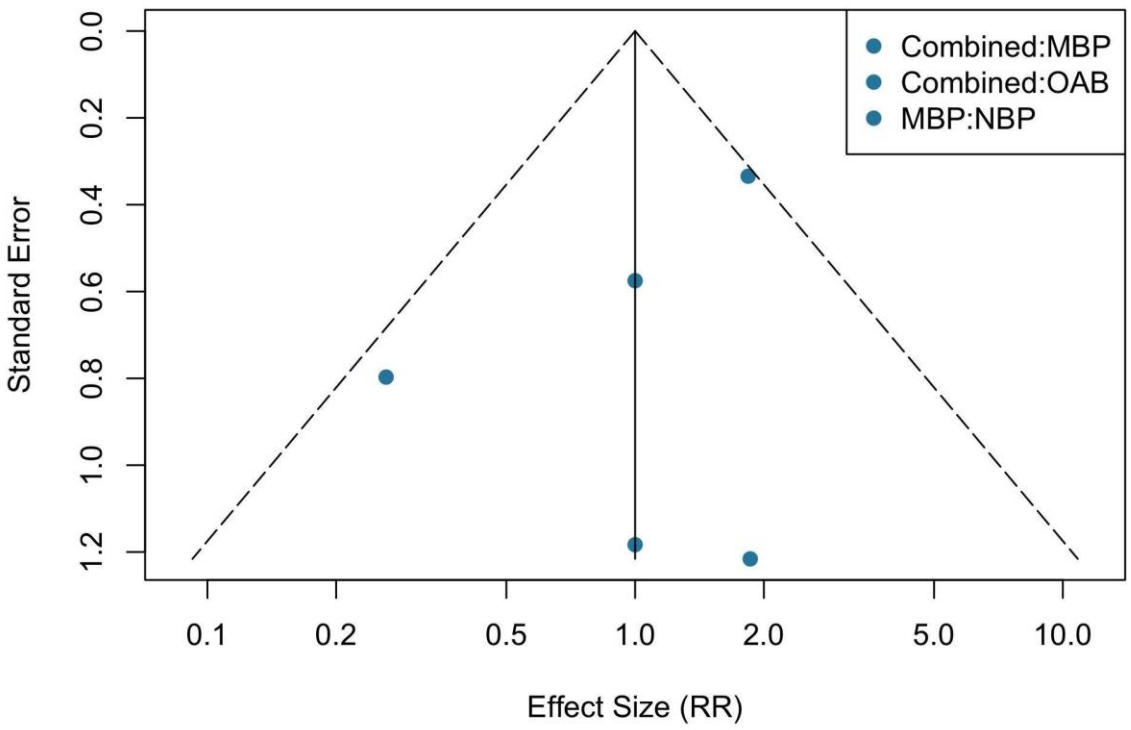


Figure D Low Risk Funnel Plot of Treatment Comparisons for LOS

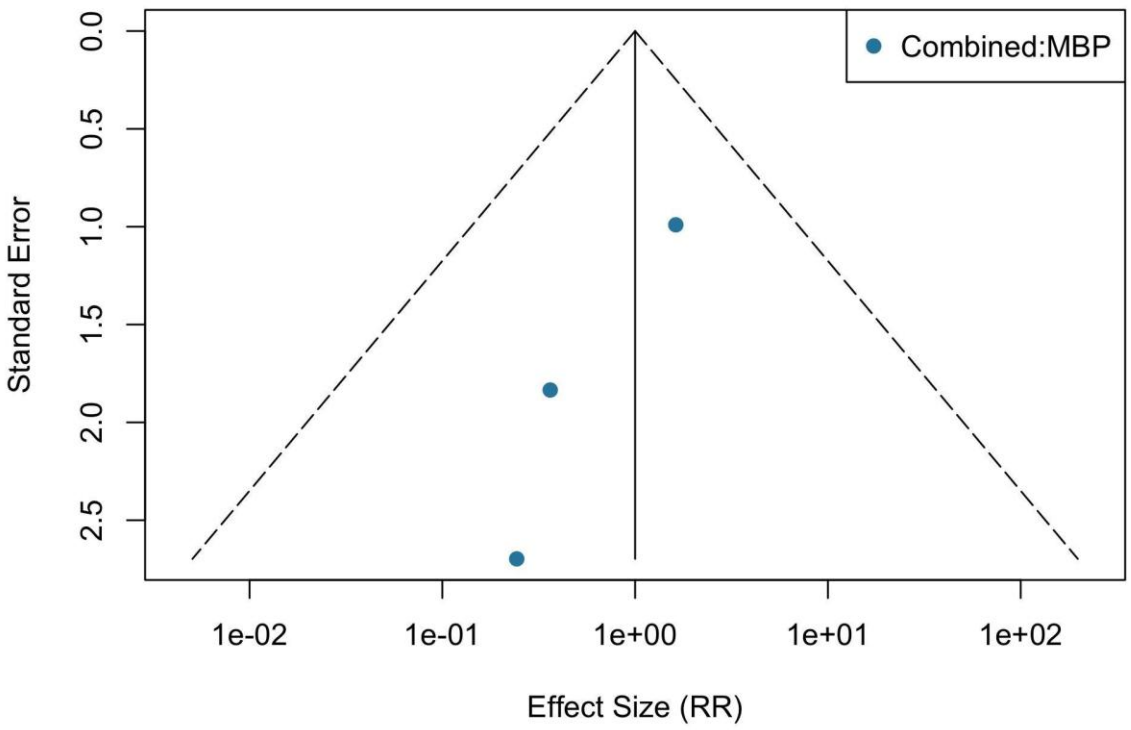


Figure E Low Risk Funnel Plot of Treatment Comparisons for Incisional SSI

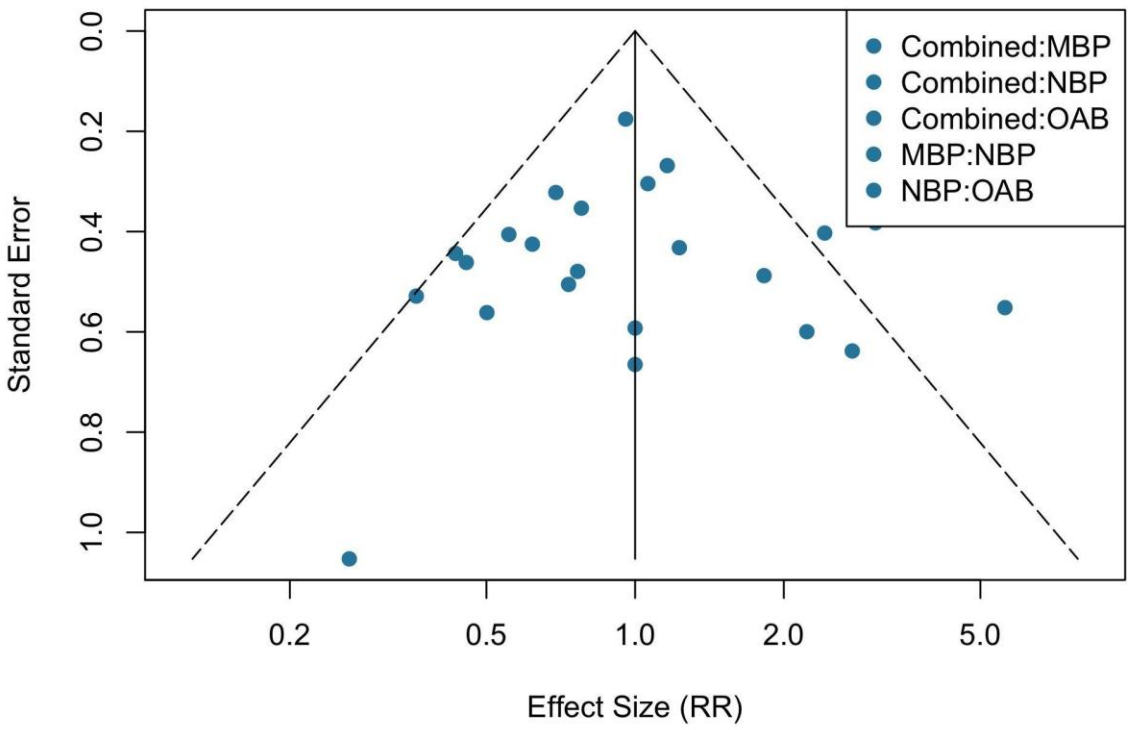


Figure F Low Risk Funnel Plot of Treatment Comparisons for Ileus

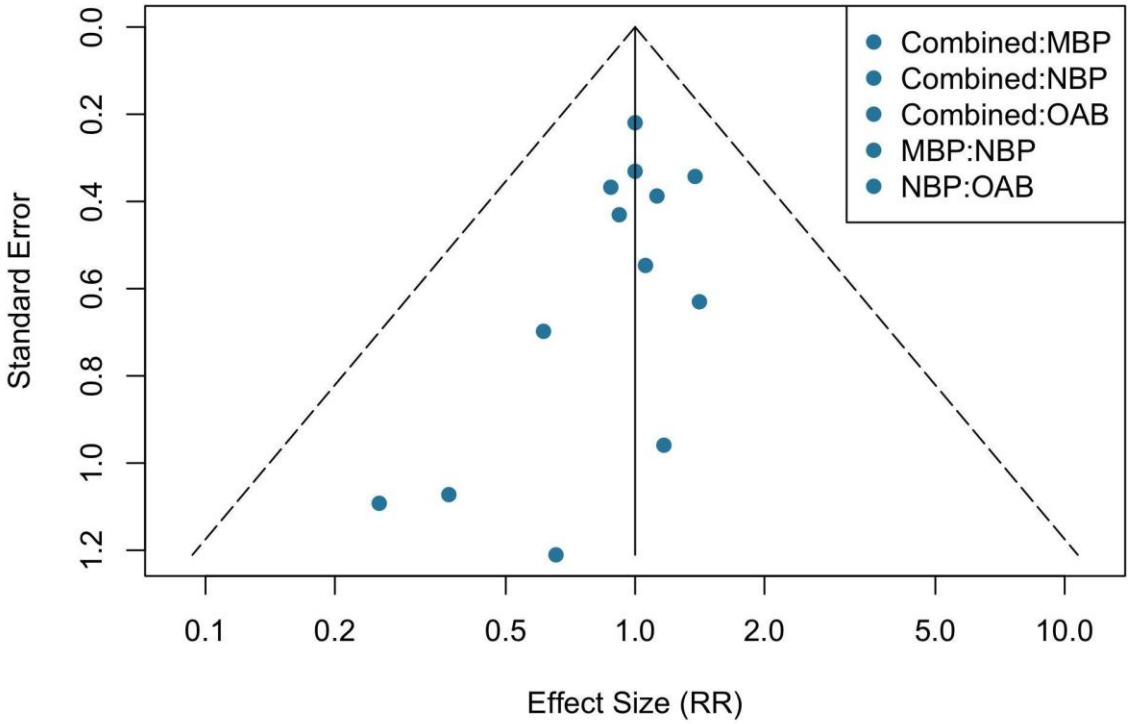


Figure G Low Risk Funnel Plot of Treatment Comparisons for Anastomotic leak

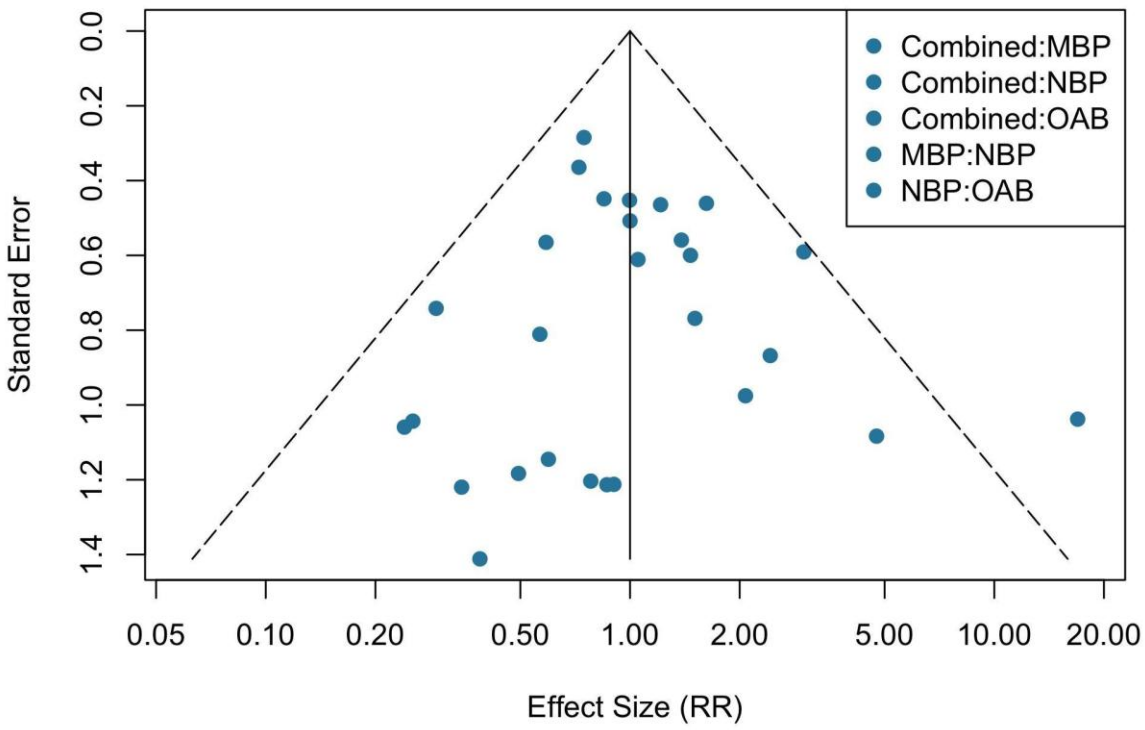


Figure H Low Risk Funnel Plot of Treatment Comparisons for C1, C2

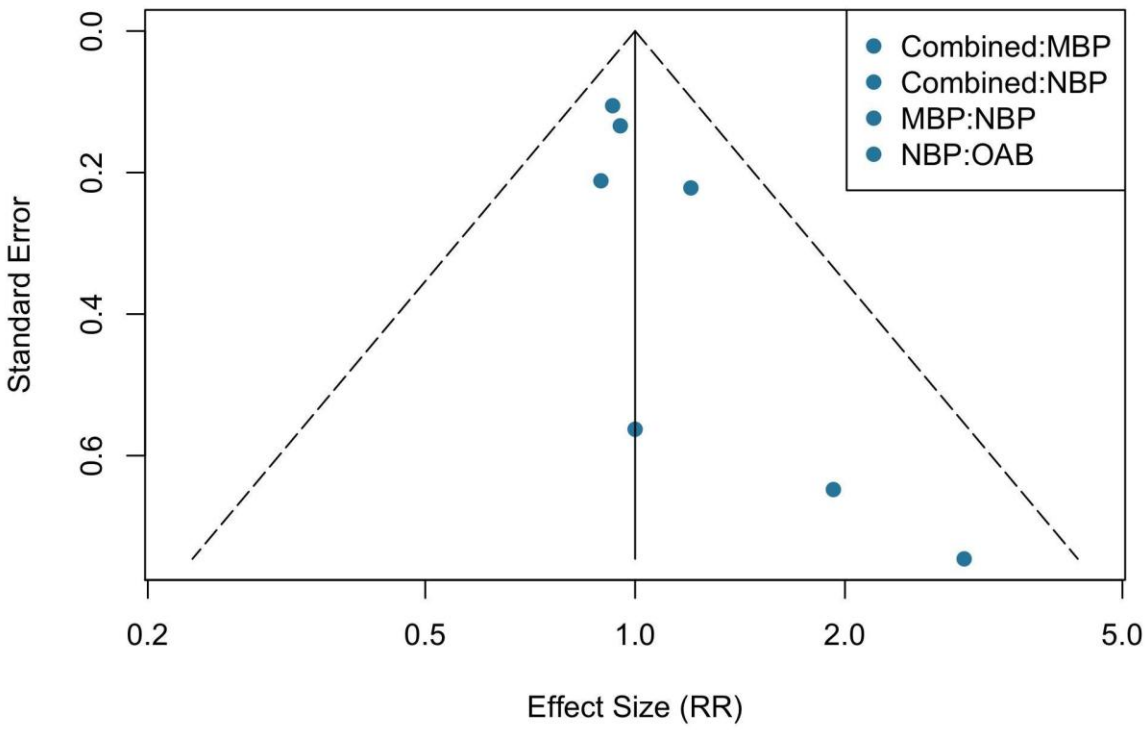
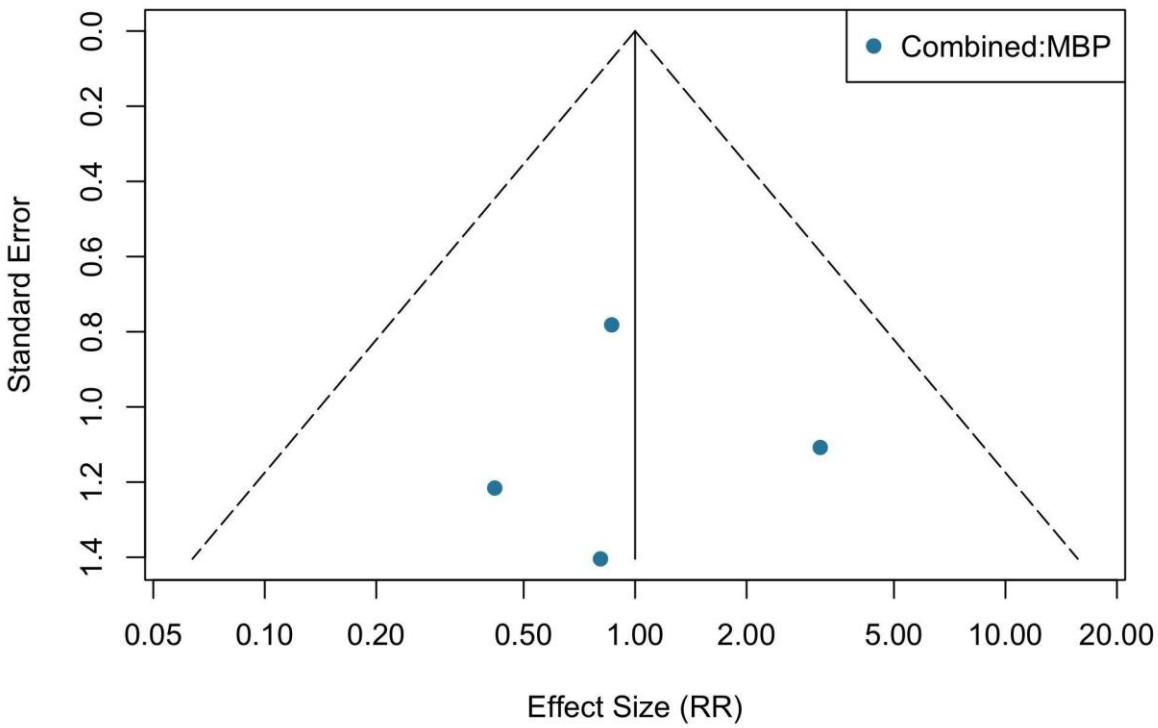


Figure I Low Risk Funnel Plot of Treatment Comparisons for Sepsis


Combined:MBP
Standard Error
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
0.05
0.10
0.20
0.50
1.00
2.00
5.00
10.00
20.00
Effect Size (RR)

Supplement Figure 6 Meta regression (age) Plot of Treatment Comparisons

Figure A Meta regression (age) Plot of Treatment Comparisons for Mortality

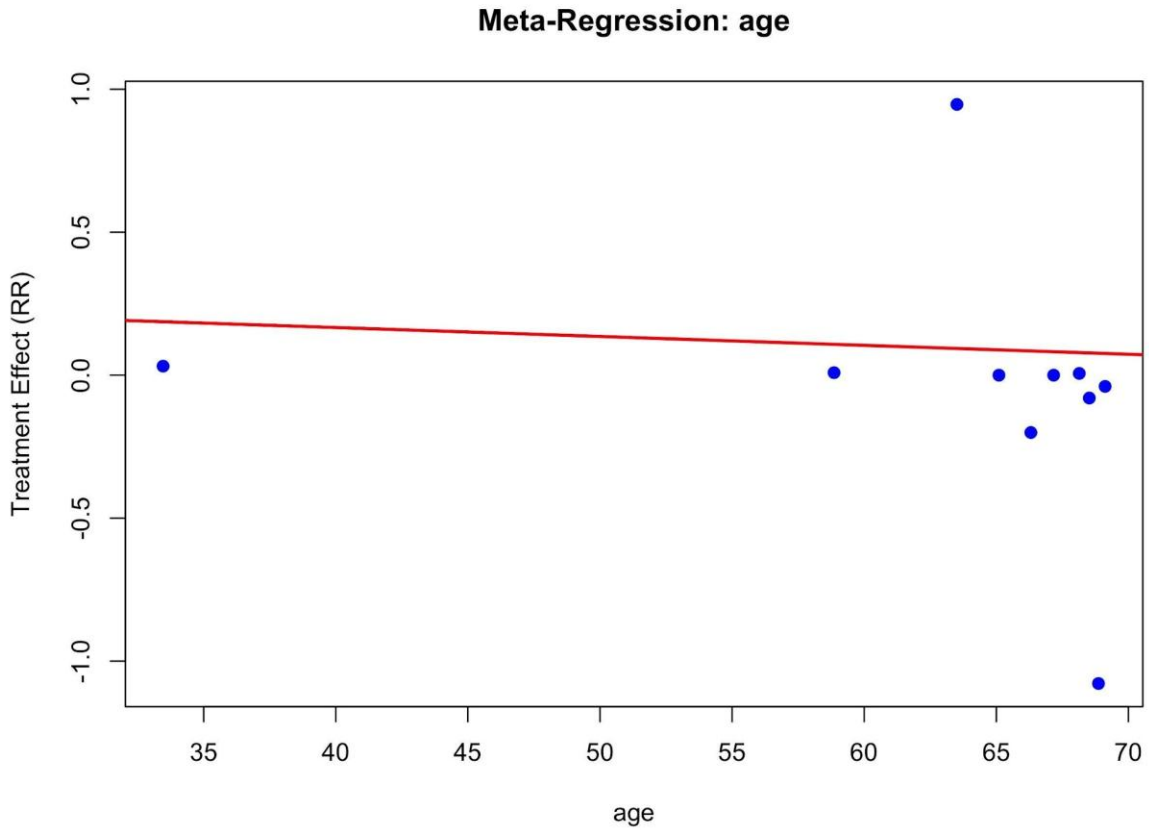


Figure B Meta regression (age) Plot of Treatment Comparisons for Organspace SSI

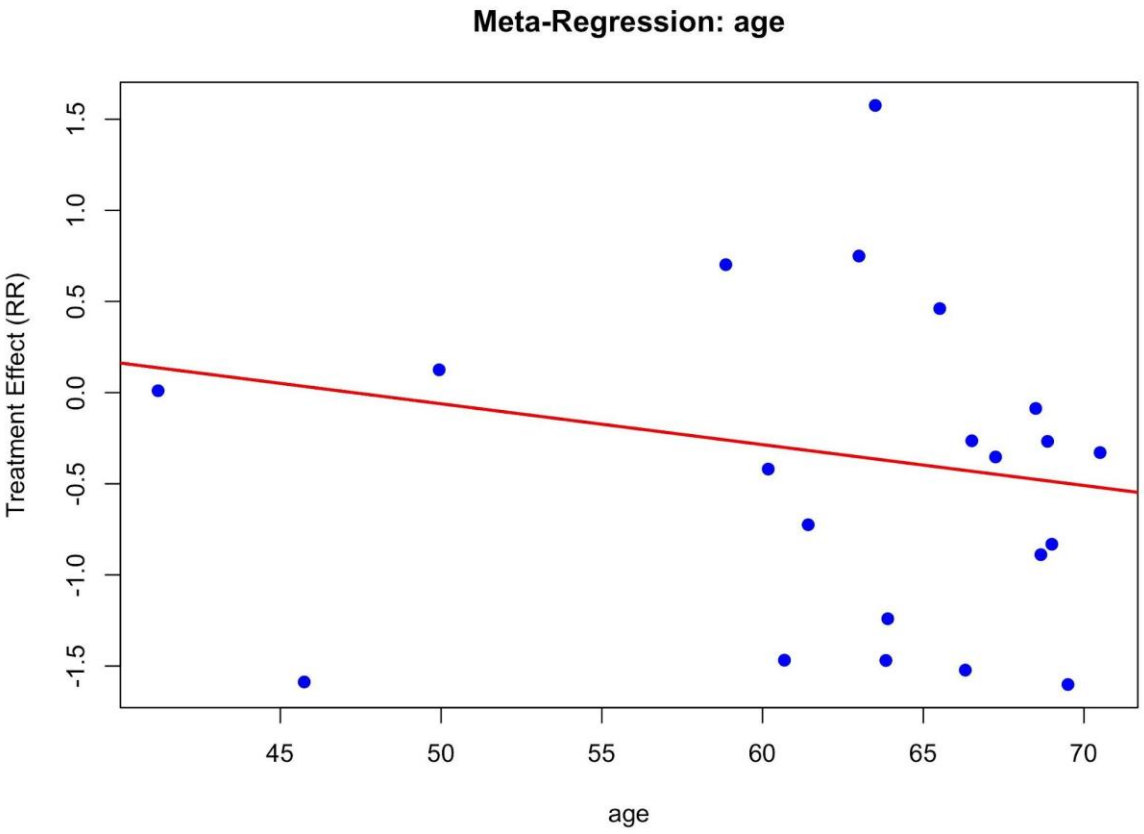


Figure C Meta regression (age) Plot of Treatment Comparisons for UTI

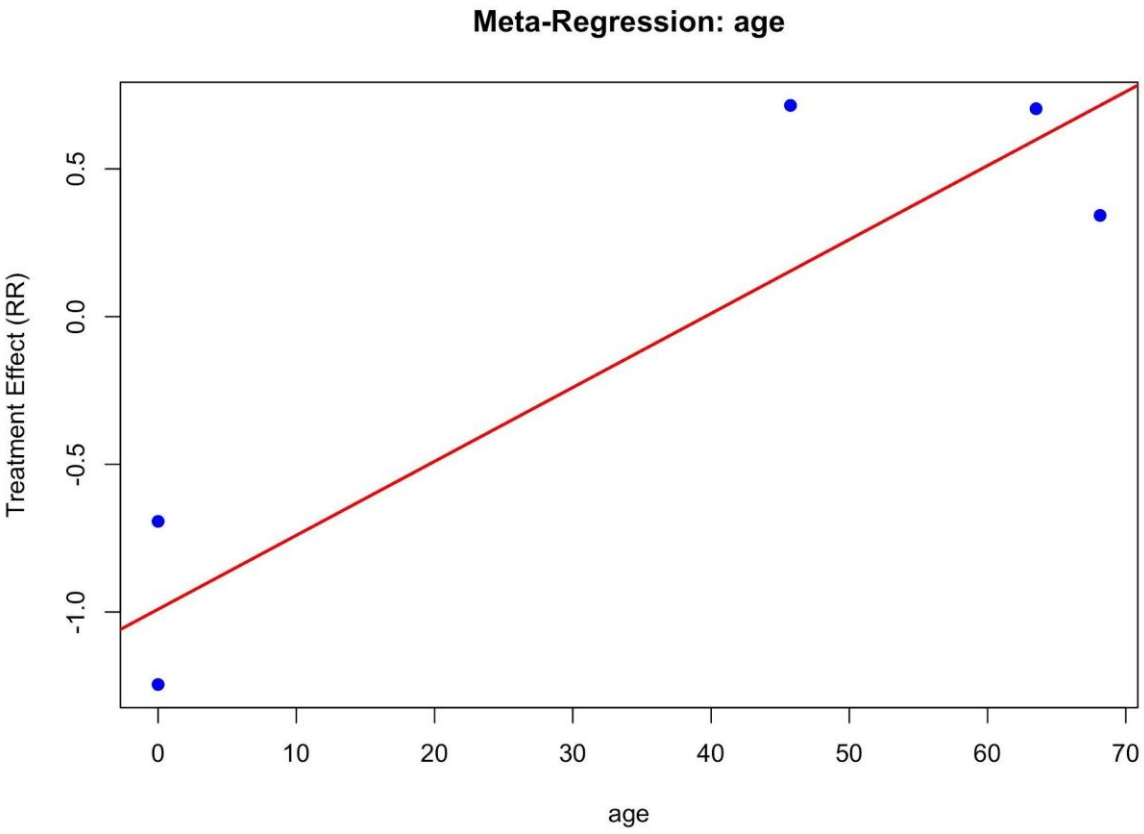


Figure D Meta regression (age) Plot of Treatment Comparisons for LOS

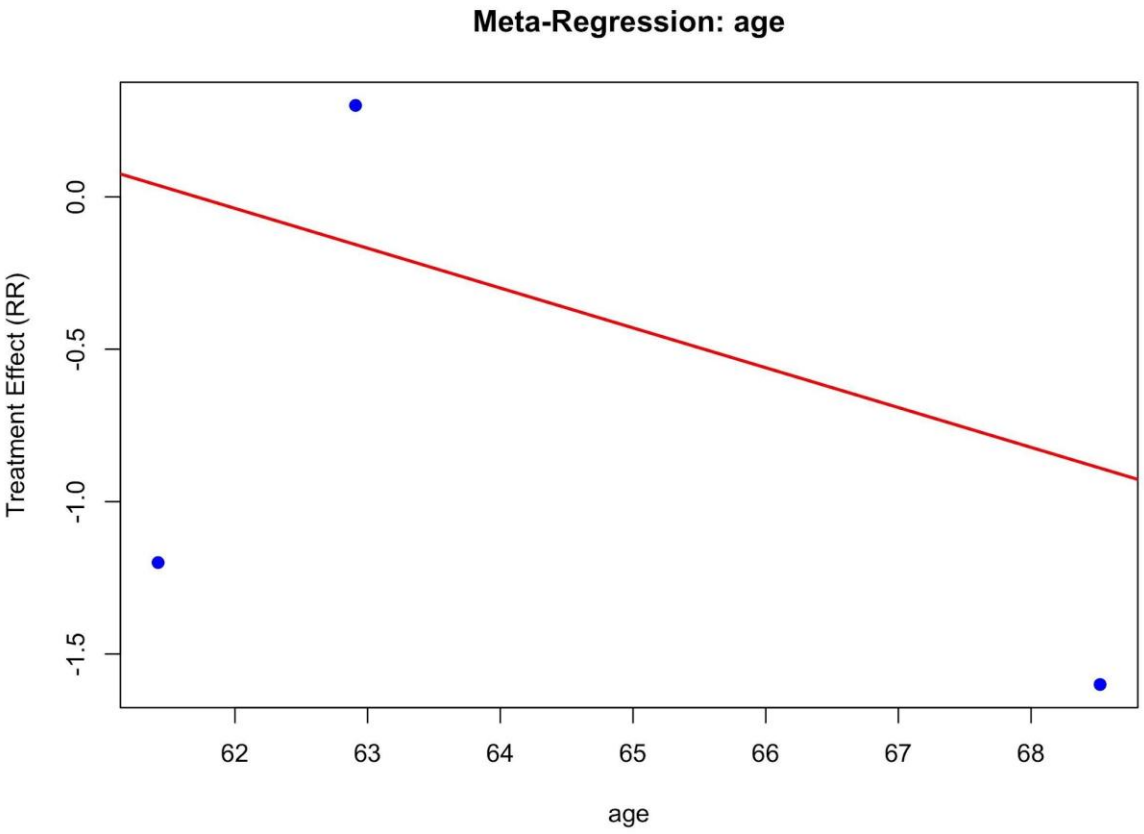


Figure E Meta regression (age) Plot of Treatment Comparisons for Incisional SSI

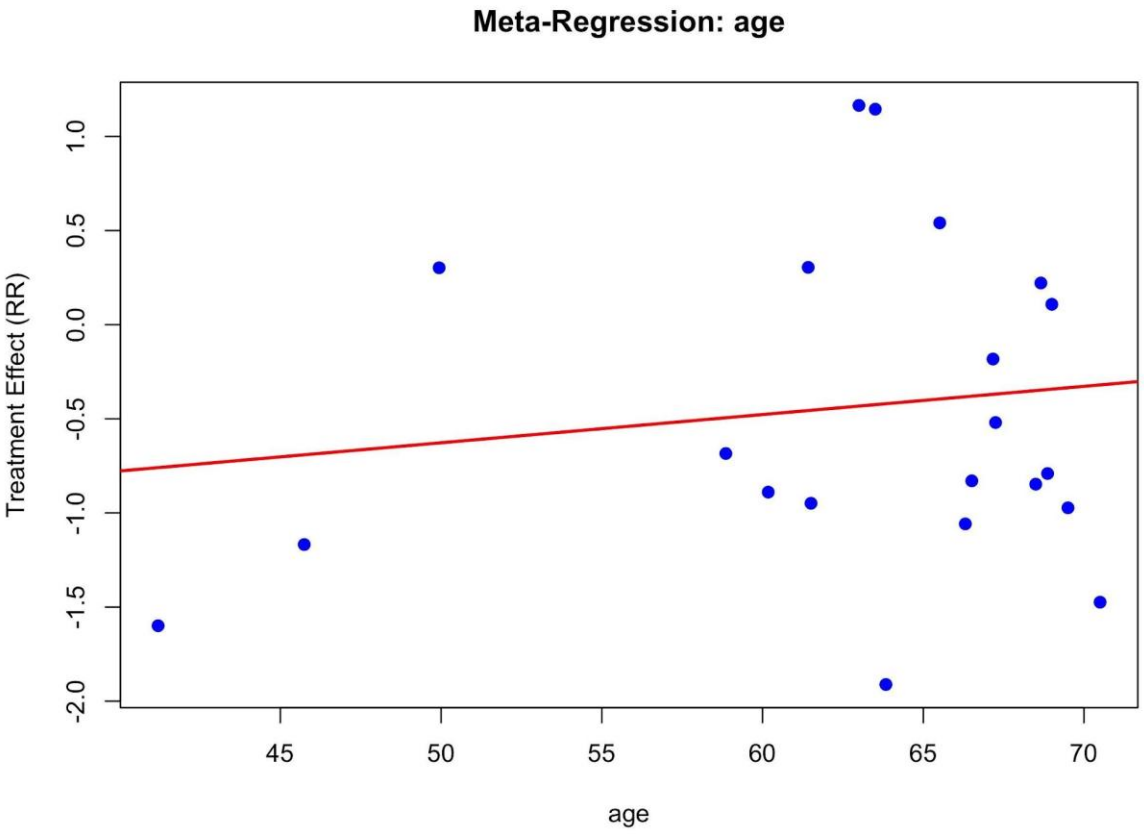


Figure F Meta regression (age) Plot of Treatment Comparisons for Ileus

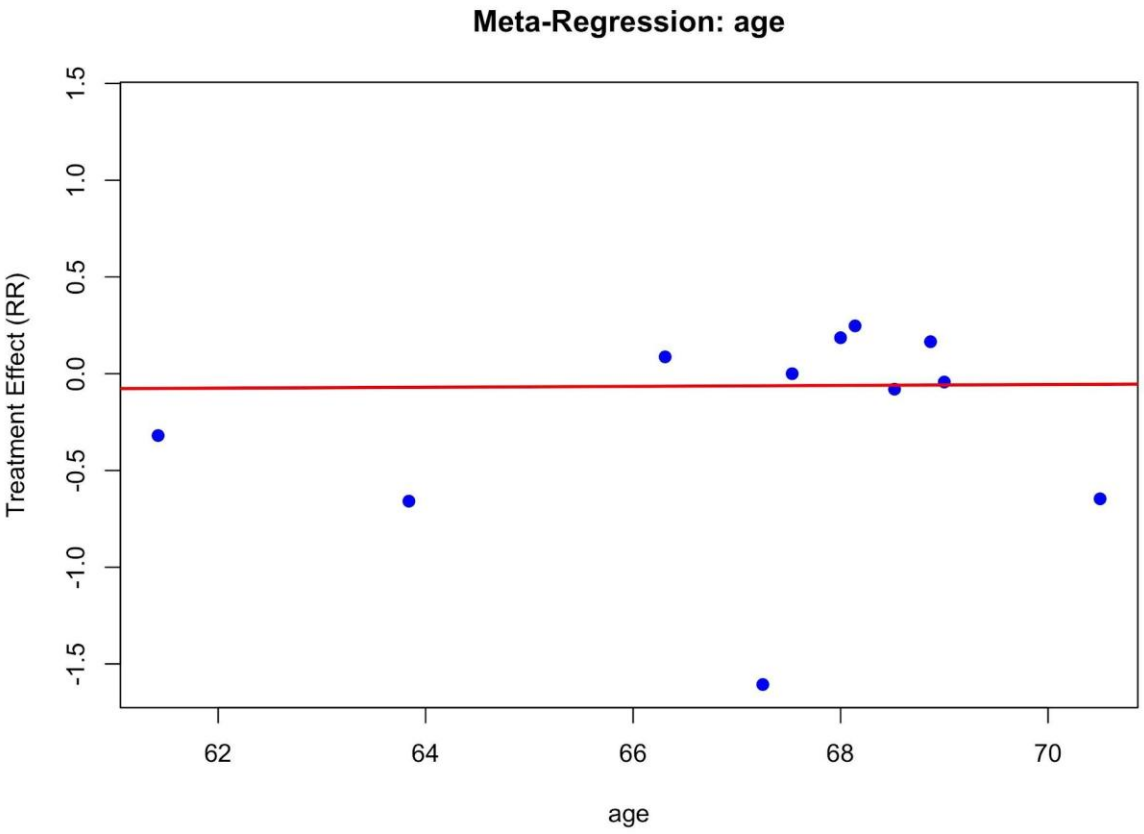


Figure G Meta regression (age) Plot of Treatment Comparisons for Anastomotic leak

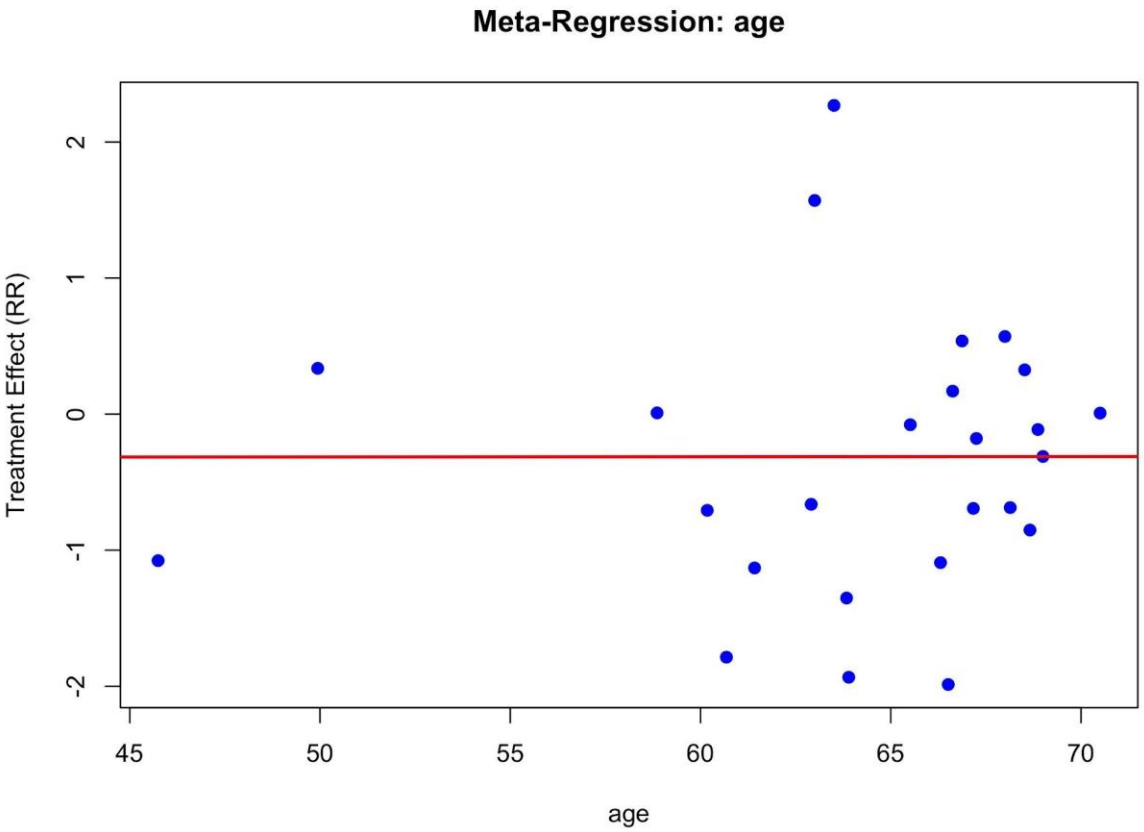


Figure H Meta regression (age) Plot of Treatment Comparisons for C1, C2

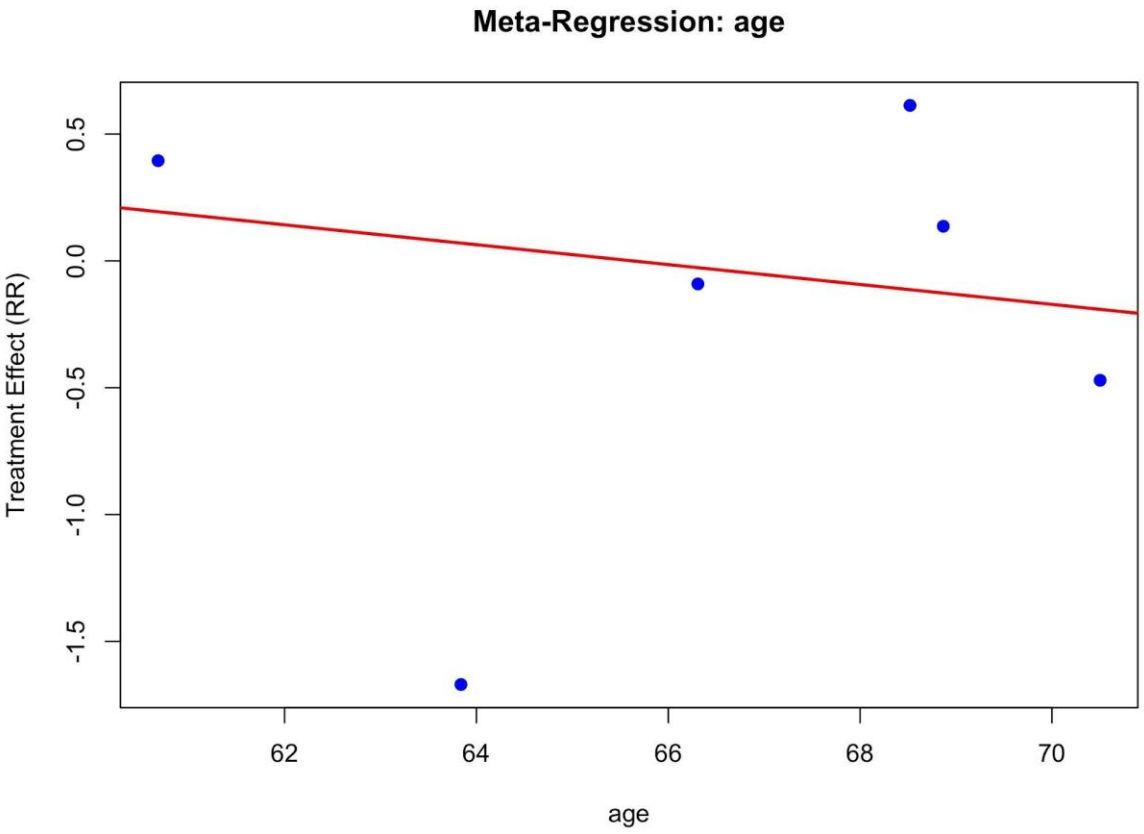
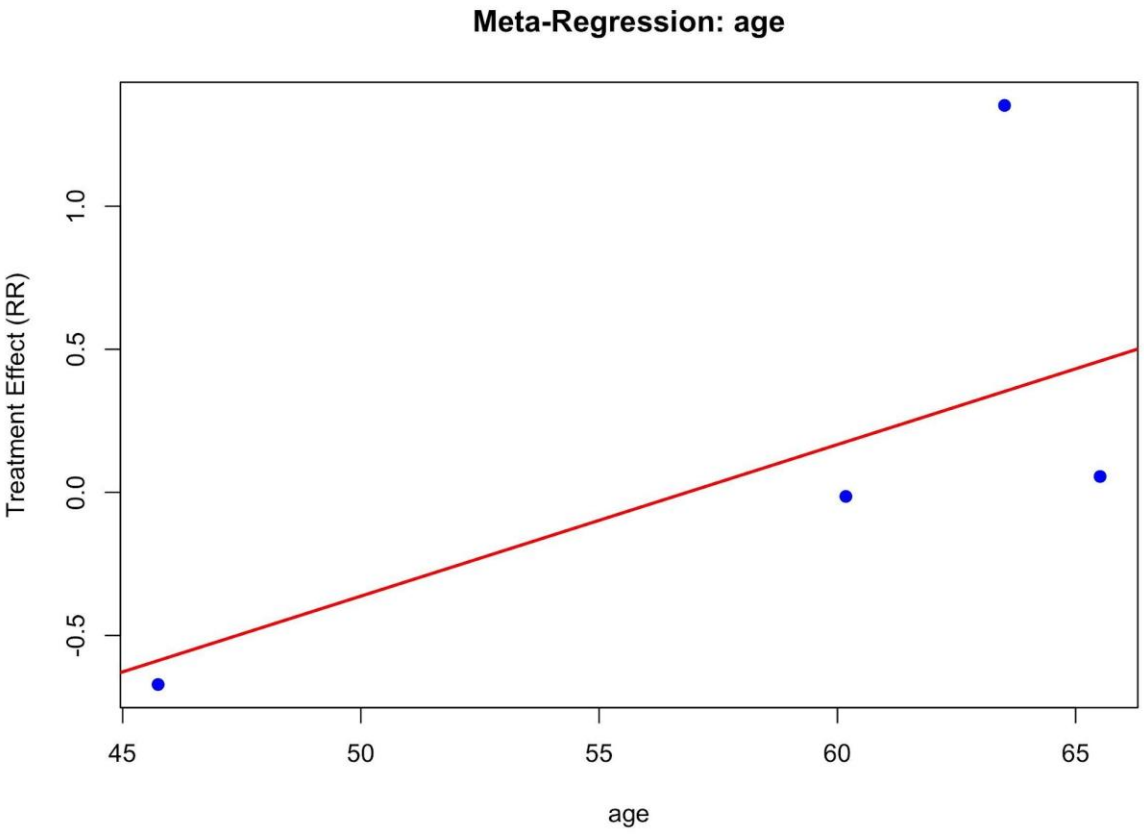


Figure I Meta regression (age) Plot of Treatment Comparisons for Sepsis


Meta-Regression: age
Treatment Effect (RR)
1.0
0.5
0.0
-0.5
45
50
55
60
65
age

Supplement Figure 7. Meta regression (male) Plot of Treatment Comparisons

Figure A Meta regression (male) Plot of Treatment Comparisons for Mortality

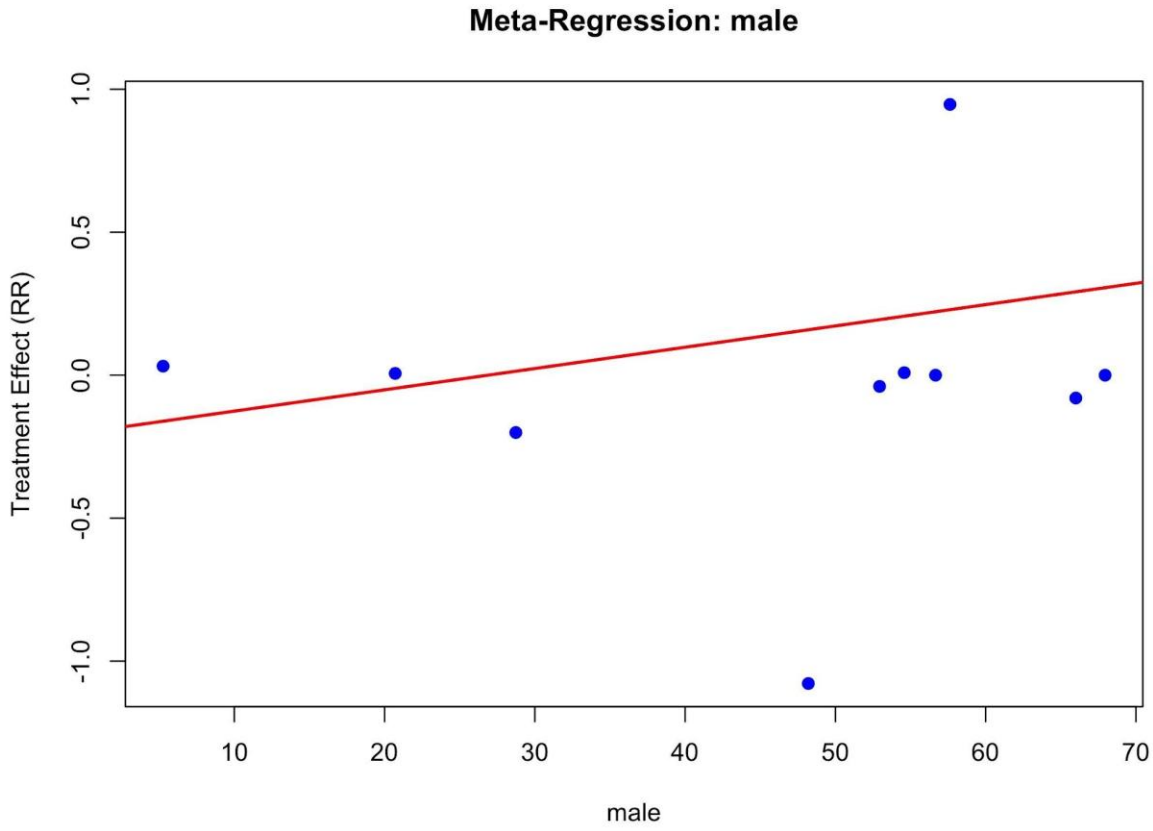


Figure B Meta regression (male) Plot of Treatment Comparisons for Organspace SSI

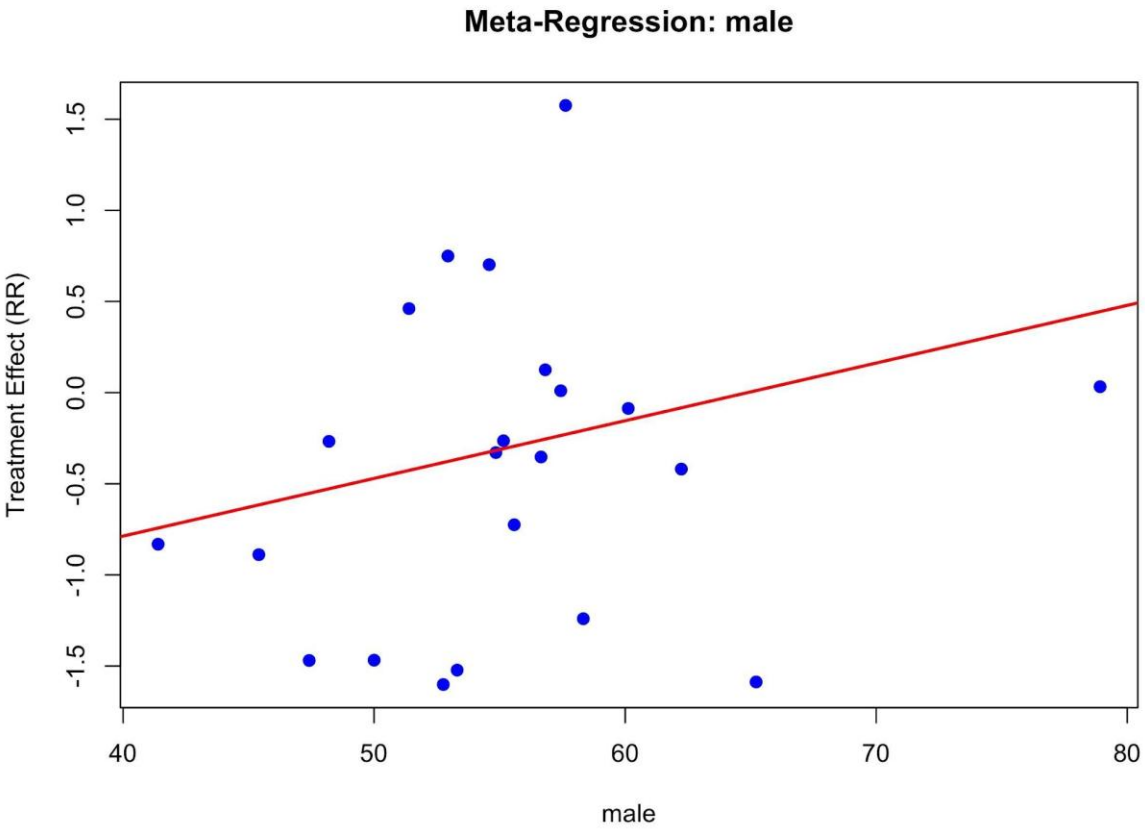


Figure C Meta regression (male) Plot of Treatment Comparisons for UTI

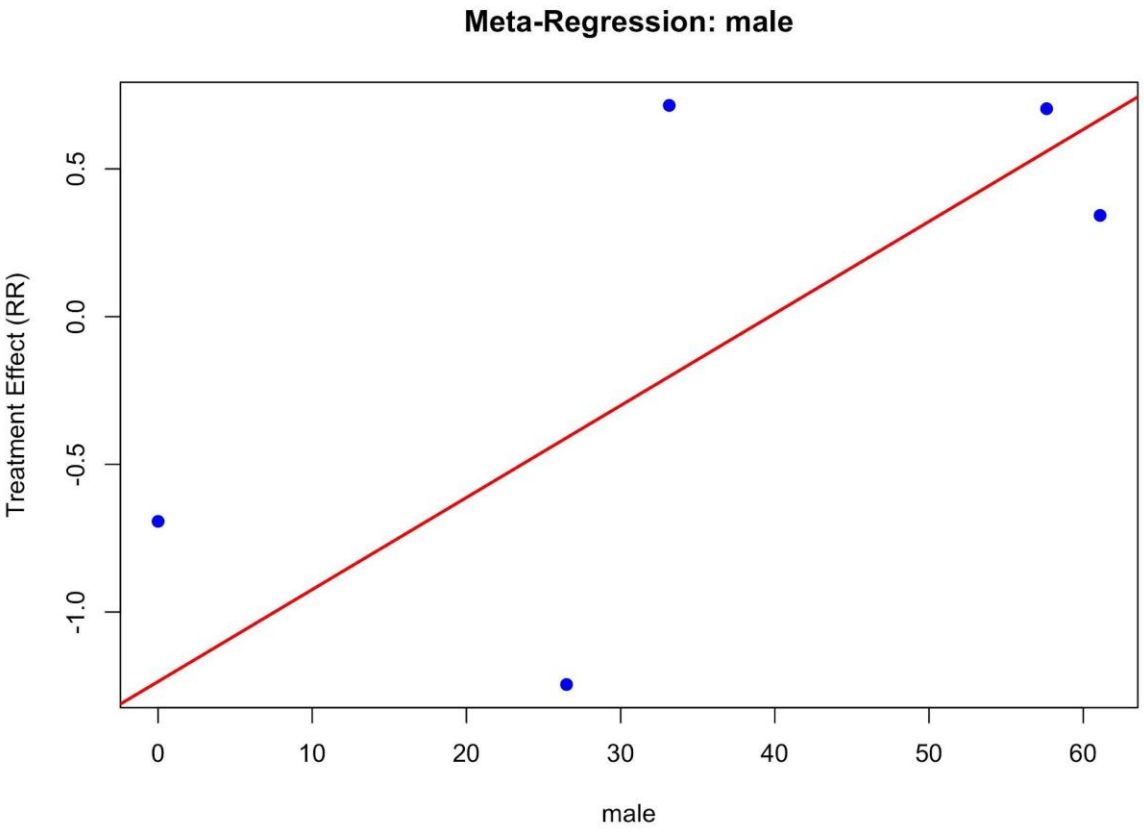


Figure D Meta regression (male) Plot of Treatment Comparisons for LOS

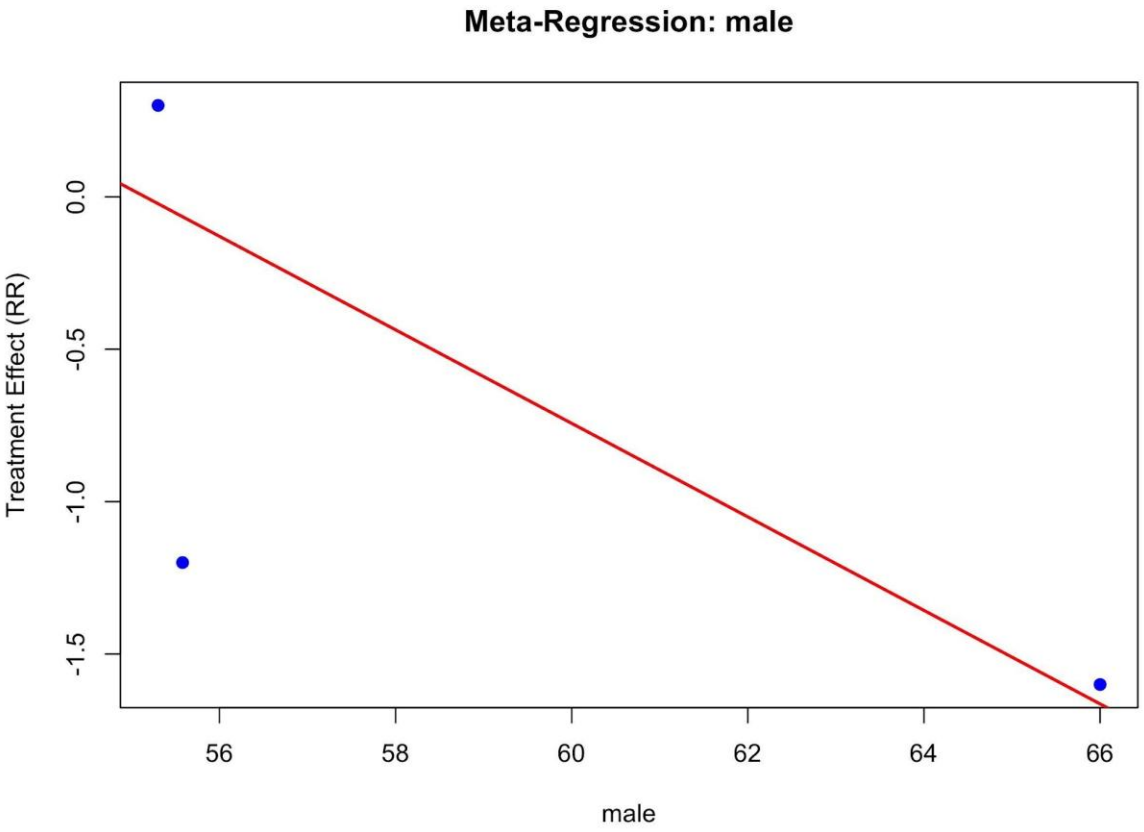


Figure E Meta regression (male) Plot of Treatment Comparisons for Incisional SSI

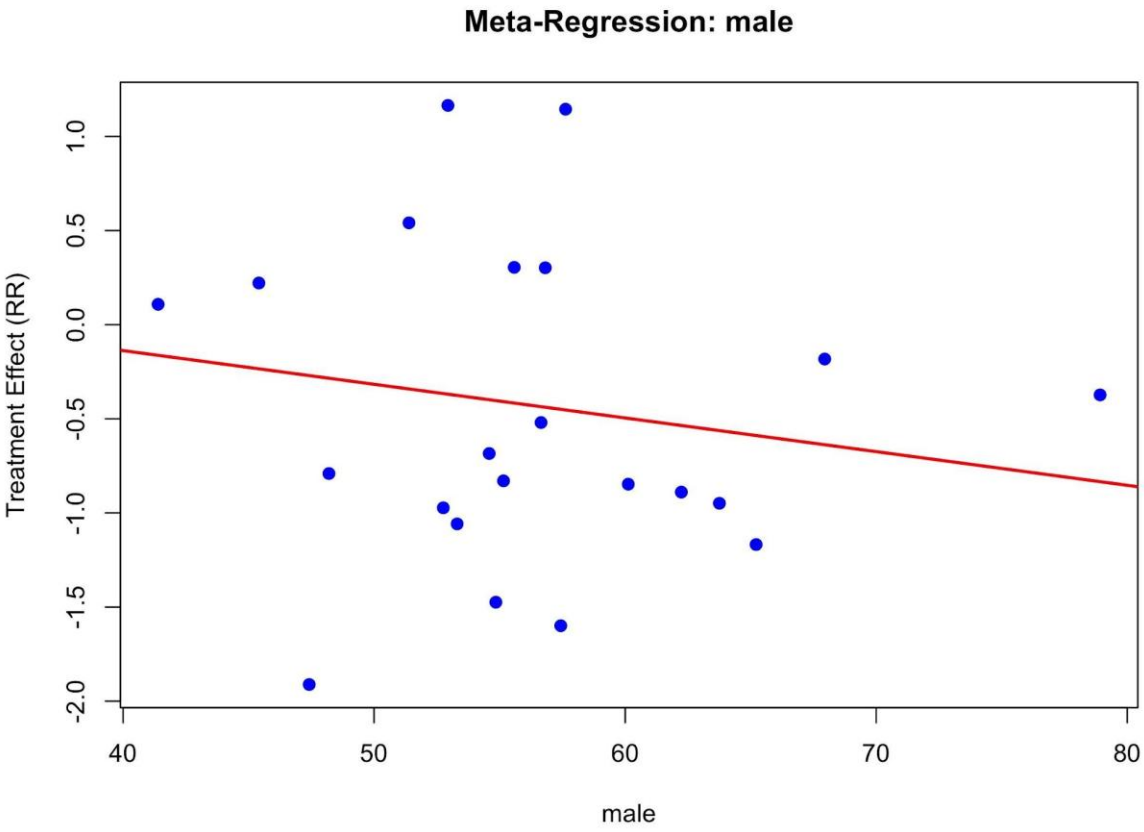


Figure F Meta regression (male) Plot of Treatment Comparisons for Ileus

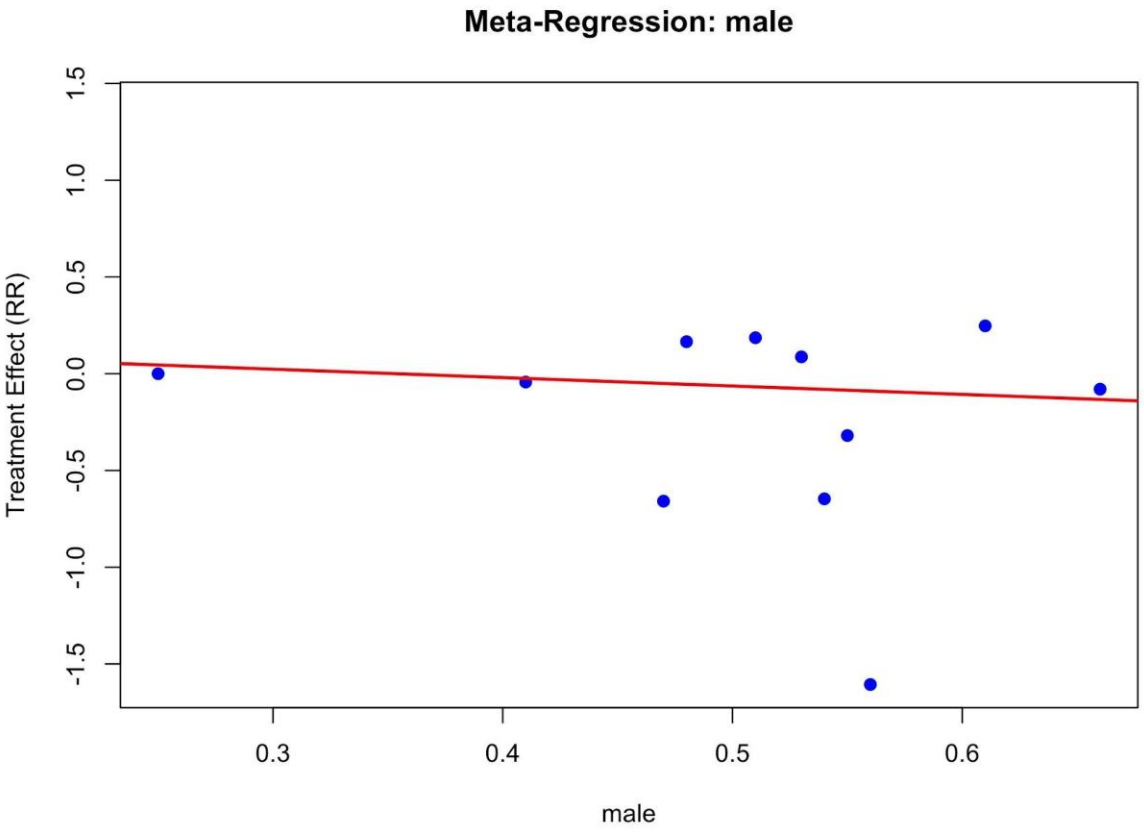


Figure G Meta regression (male) Plot of Treatment Comparisons for Anastomotic leak

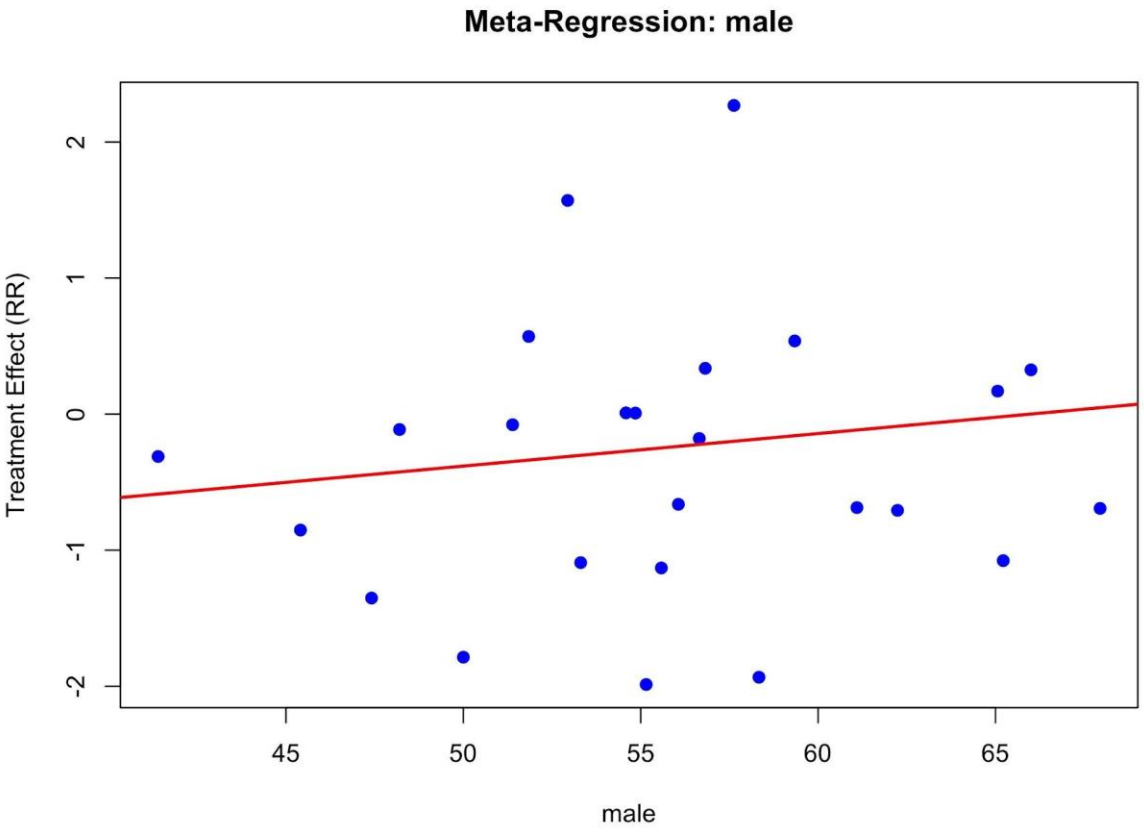


Figure H Meta regression (male) Plot of Treatment Comparisons for C1, C2

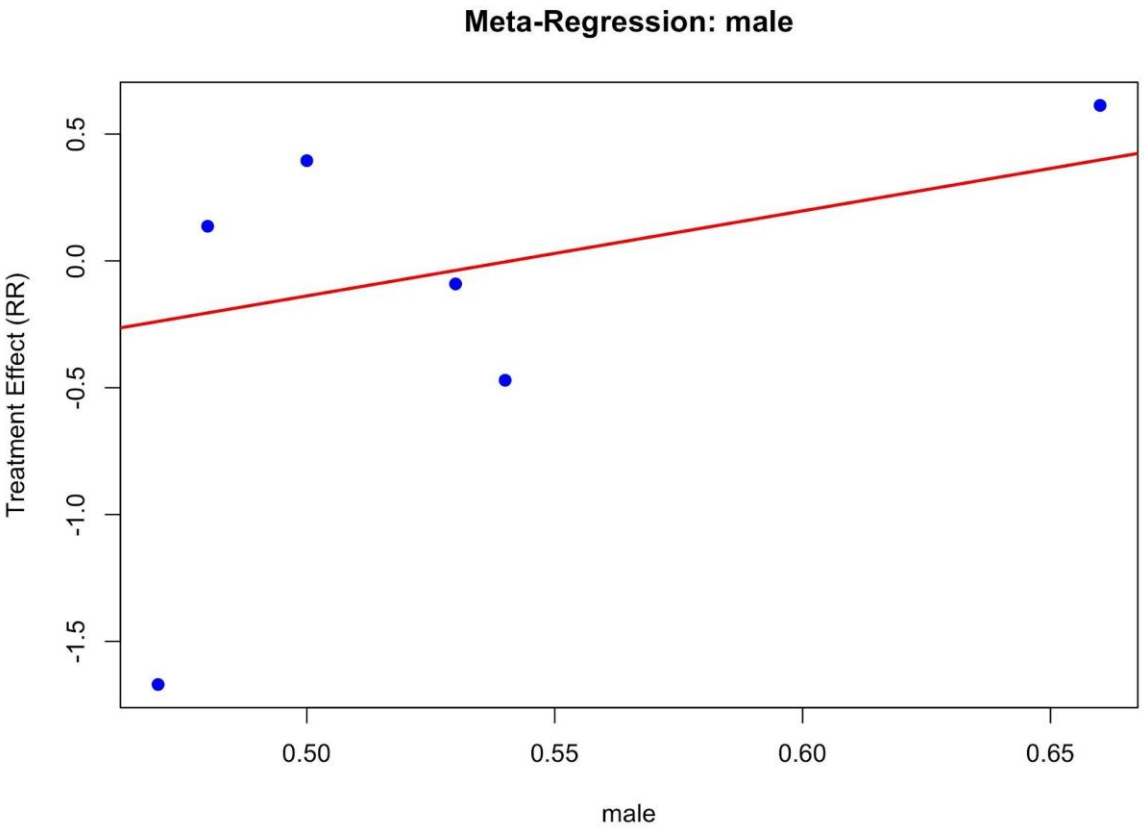
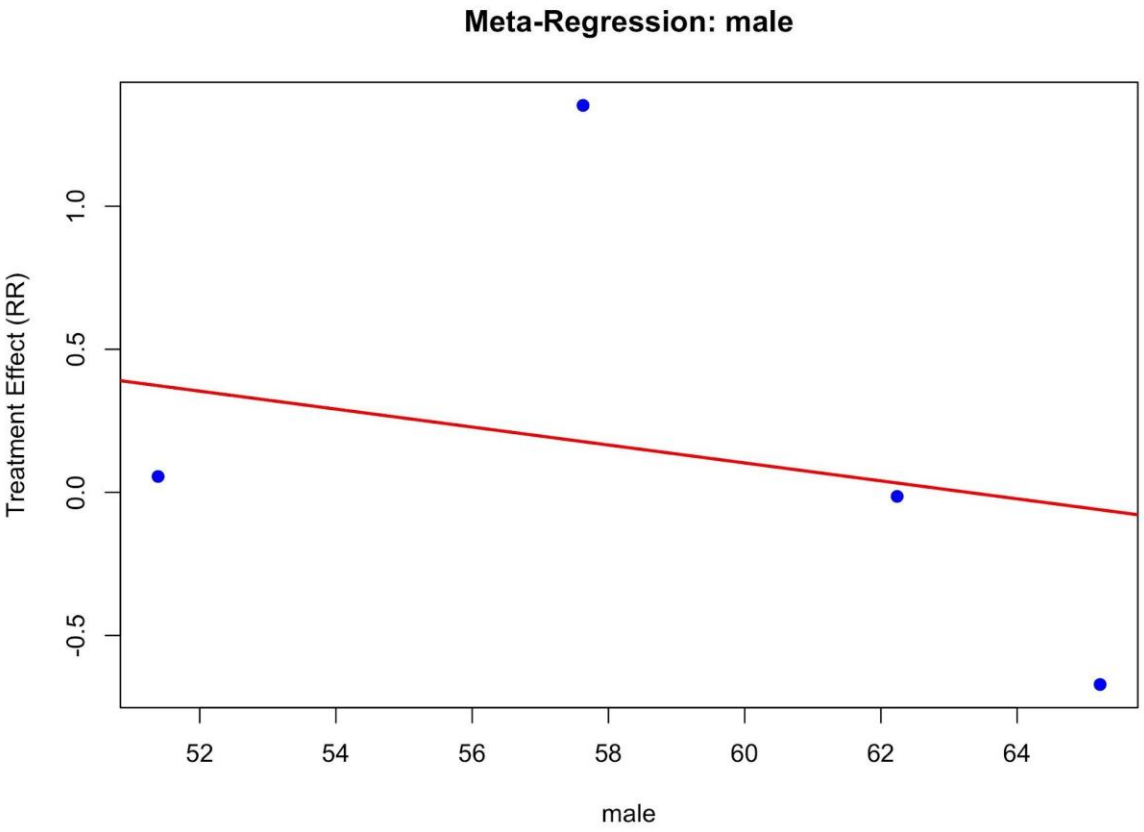


Figure I Meta regression (male) Plot of Treatment Comparisons for Sepsis


Meta-Regression: male
Treatment Effect (RR)
1.0
0.5
0.0
-0.5
52
54
56
58
60
62
64
male

Supplement Figure 8 Meta regression (Center) Plot of Treatment Comparisons

Figure A Meta regression (center) Plot of Treatment Comparisons for Mortality

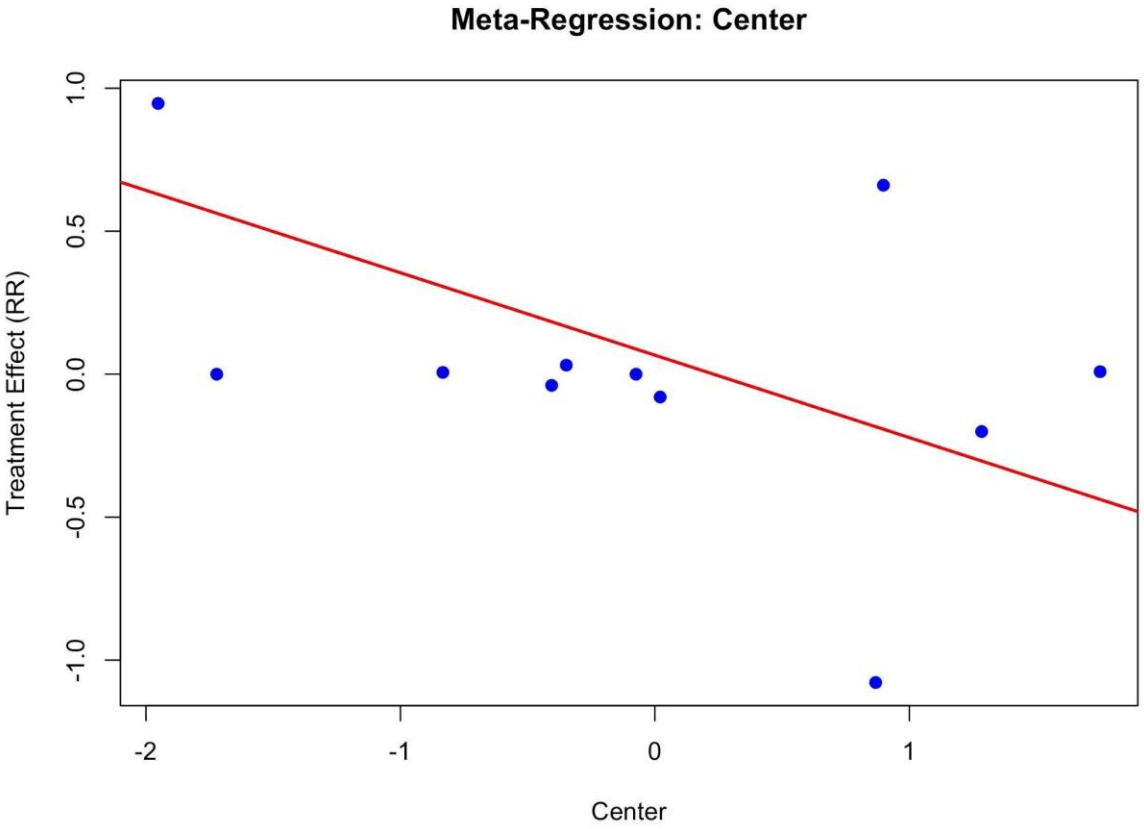
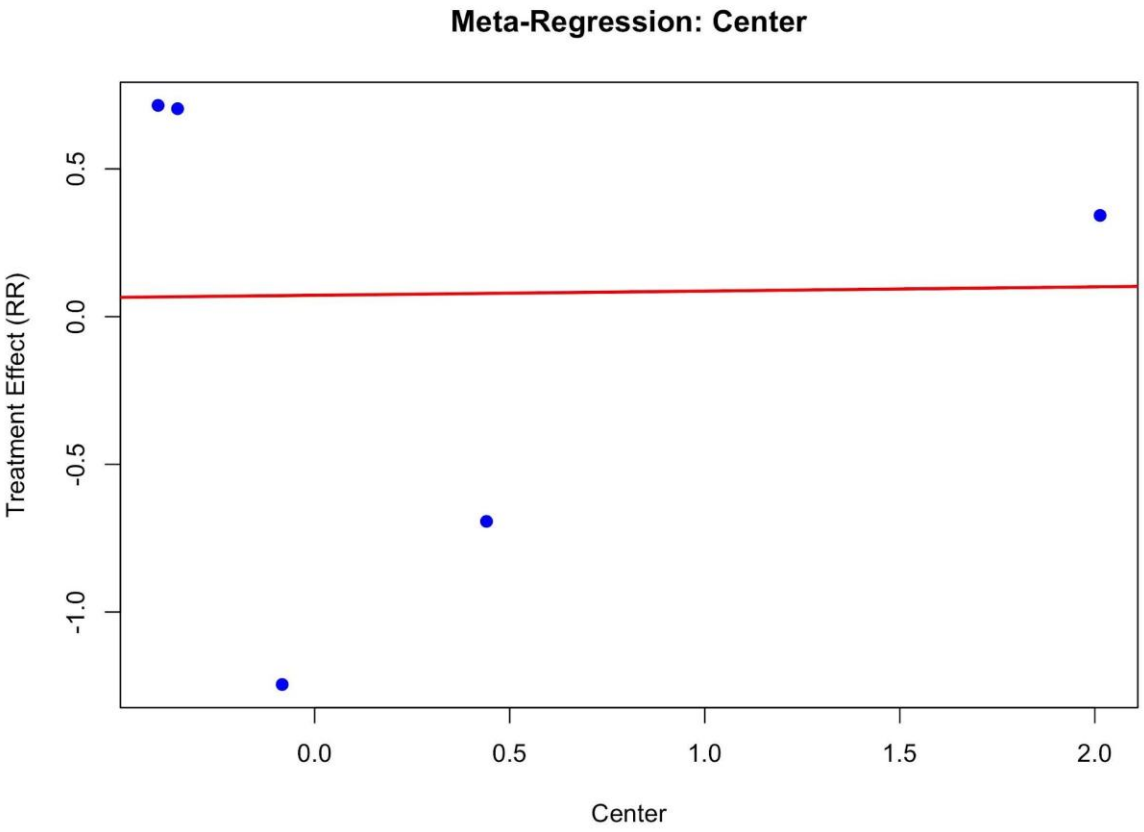


Figure B Meta regression (Center) Plot of Treatment Comparisons for UTI


Meta-Regression: Center
Treatment Effect (RR)
0.5
0.0
-0.5
-1.0
0.0
0.5
1.0
1.5
2.0
Center