

Supplemental Digital Content

Appendix 1: PRISMA Checklist

Appendix 2: Search Strategies for MEDLINE and EMBASE

Appendix 3: Male vs. female animal organ dysfunction following antibiotic therapy

Appendix 4: Risk of bias summary

Appendix Table 1: PRISMA Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	4
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	6
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	7
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	7
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	7, 8
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	8
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Supplemental Digital Content, Appendix 2
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	8
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	8
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	8
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	9
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	9

Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I ²) for each meta-analysis.	9
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Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	N/A
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	N/A
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	9, 10
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	10
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	11
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	10, 11
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	N/A
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	N/A
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	N/A
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	12
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	12, 13
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	13
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	3

Appendix 2. Search strategies for MEDLINE and Embase

Database: Embase Classic+Embase <1947 to 2020 March 16>, Ovid MEDLINE(R) ALL <1946 to March 17, 2020>

Search Strategy:

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- 1 Drug Evaluation, Preclinical/ (76223)
 - 2 exp models, animal/ (1912938)
 - 3 exp animals, laboratory/ (1559009)
 - 4 (preclinic* or pre clinic*).tw,kw. (279407)
 - 5 (animals or animal or mice or mus or mouse or murine or woodmouse or rats or rat or murinae or muridae or cottonrat or cottonrats or hamster or hamsters or cricetinae or rodentia or rodent or rodents or pigs or pig or swine or swines or piglets or piglet or boar or boars or "sus scrofa" or ferrets or ferret or polecat or polecats or "mustela putorius" or "guinea pigs" or "guinea pig" or cavia or callithrix or marmoset or marmosets or cebuella or hapale or octodon or chinchilla or chinchillas or gerbillinae or gerbil or gerbils or jird or jirds or merione or meriones or rabbits or rabbit or hares or hare or diptera or flies or fly or dipteral or drosophila or drosophilidae or cats or cat or carus or felis or nematoda or nematode or nematoda or nematode or nematodes or sipunculida or dogs or dog or canine or canines or canis or sheep or sheeps or mouflon or mouflons or ovis or goats or goat or capra or capras or rupicapra or chamois or haplorhini or monkey or monkeys or anthropoidea or anthropoids or saguinus or tamarin or tamarins or leontopithecus or hominidae or ape or apes or pan or paniscus or "pan paniscus" or bonobo or bonobos or troglodytes or "pan troglodytes" or gibbon or gibbons or siamang or siamangs or nomascus or symphalangus or chimpanzee or chimpanzees or prosimians or "bush baby" or prosimian or bush babies or galagos or galago or pongidae or gorilla or gorillas or pongo or pygmaeus or "pongo pygmaeus" or orangutans or pygmaeus or lemur or lemurs or lemoridae or horse or horses or pongo or equus or cow or calf or bull or chicken or chickens or gallus or quail or bird or birds or quails or poultry or poultries or fowl or fowls or reptile or reptilia or reptiles or snakes or snake or lizard or lizards or alligator or alligators or crocodile or crocodiles or turtle or turtles or amphibian or amphibians or amphibia or frog or frogs or bombina or salientia or toad or toads or "epidalea calamita" or salamander or salamanders or eel or eels or fish or fishes or pisces or catfish or catfishes or siluriformes or arius or heteropneustes or sheatfish or perch or perches or percidae or perca or trout or trouts or char or chars or salvelinus or "fathead minnow" or minnow or cyprinidae or carps or carp or zebrafish or zebrafishes or goldfish or goldfishes or guppy or guppies or chub or chubs or tinca or barbels or barbuis or pimephales or promelas or "poecilia reticulata" or mullet or mullets or seahorse or seahorses or mugil curema or atlantic cod or shark or sharks or catshark or anguilla or salmonid or salmonids or whitefish or whitefishes or salmon or salmons or sole or solea or "sea lamprey" or lamprey or lampreys or pumpkinseed or sunfish or sunfishes or tilapia or tilapias or turbot or turbots or flatfish or flatfishes or sciuridae or squirrel or squirrels or chipmunk or chipmunks or suslik or susliks or vole or voles or lemming or lemmings or muskrat or muskrats or lemmus or otter or otters or marten or martens or martes or weasel or badger or badgers or ermine or mink or minks or sable or sables or gulo or gulos or wolverine or wolverines or minks or mustela or llama or llamas or alpaca or alpacas or camelid or camelids or guanaco or guanacos or chiroptera or chiropteras or bat or bats or fox or foxes or iguana or iguanas or xenopus laevis or parakeet or parakeets or parrot or parrots or donkey or donkeys or mule or mules or zebra or zebras or shrew or shrews or bison or bisons or buffalo or buffaloes or deer or deers or bear or bears or panda or pandas or "wild hog" or "wild boar" or fitchew or fitch or beaver or beavers or jerboa or jerboas or capybara or capybaras).tw,kf. (10912696)
 - 6 exp Animals/ not humans/ (17805450)
 - 7 or/1-6 (21203289)
 - 8 ((sex or gender) adj2 (difference* or disparit*)).tw. (185668)
 - 9 sex* dimorph*.tw,kw. (30922)
 - 10 (gender difference* or gender disparit*).kw. (9038)
 - 11 (sex or gender).ti. (299293)
 - 12 (gender based or gender specific).tw,kw. (34274)
 - 13 Sex Factors/ (266923)
 - 14 Sex Characteristics/ (54670)
 - 15 (male* and female*).tw,kw. (1198421)

16 Female/ and male/ (12051135)
 17 or/8-16 (12402429)
 18 7 and 17 (3614525)
 19 exp Systemic Inflammatory Response Syndrome/ (404383)
 20 (sepsis or septic* or bacteremia or bacteraemia or endotoxic* or endotoxemi*
 or endotoxaemi*).tw,kw. (449921)
 21 cecum/ and ligation/ and punctures/ (1011)
 22 ((cecum or cecal or coecum or caecum) adj3 (ligation* or puncture* or injur*)).tw. (10348)
 23 ((cecum or cecal or coecum or caecum) and (ligation* or puncture* or injur*)).kf. (196)
 24 *Bacterial Infections/ (78593)
 25 bacterial infection*.tw,kw. (97141)
 26 critical* ill*.tw,kw. (123858)
 27 *Critical Illness/ (26666)
 28 *Critical Care/ (78952)
 29 critical care.tw,kw. (81516)
 30 systemic inflammat*.tw,kw. (77635)
 31 (Peritonitis/ or peritonitis.tw,kw.) and (feces/ or feces.tw,kw. or fecal.tw,kw. or faecal.tw,kw.
 or faeces.tw,kw.) (2844)
 32 slurry.tw,kw. (13661)
 33 fecal stem solution.tw,kw. (8)
 34 (Injections, Intraperitoneal/ or Infusions, Parenteral/) and (feces/ or feces.tw,kw. or fecal.tw,kw.
 or faecal.tw,kw. or faeces.tw,kw.) (1601)
 35 ((intraperiton* or periton*) adj10 (fecal or faecal or fece* or faece*)).tw. (2395)
 36 or/19-35 (1010356)
 37 18 and 36 (80032)
 38 exp Isotonic Solutions/ (14355)
 39 (crystalloid* or ringer* or hartmann*).tw,kw. (57685)
 40 normal saline.tw,kw. (55101)
 41 Sodium Chloride/ (267362)
 42 exp Serum Albumin/tu [Therapeutic Use] (834)
 43 (Albumin or Albumins).tw,kw. (363483)
 44 Fluid Therapy/ (41257)
 45 exp Anti-Bacterial Agents/ (4416597)
 46 (Acedapsone or Alamethicin or Amdinocillin or Amdinocillin Pivoxil or Amikacin
 or Aminosalicic Acid or Amoxicillin or Amphotericin B or Ampicillin or Anisomycin or Antimycin A or
 Arsphenamine or Aurodox or Azithromycin or Azlocillin or Aztreonam or Bacitracin or Bacteriocins
 or Bambermycins or beta-Lactams or Bongkreic Acid or Brefeldin A or Butirosin Sulfate
 or Calcimycin or Candicidin or Capreomycin or Carbenicillin or Carfecillin or Cefaclor or Cefadroxil or
 Cefamandole or Cefatrizine or Cefazolin or cefepime or Cefixime or Cefmenoxime or Cefmetazole or
 Cefonicid or Cefoperazone or Cefotaxime or Cefotetan or Cefotiam or Cefoxitin or Cefsulodin or
 Ceftazidime or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephacetrile or Cephalixin
 or Cephaloglycin or Cephaloridine or Cephalosporins or Cephalothin
 or Cephamycins or Cephapirin or Cephradine or Chloramphenicol or Chlortetracycline or Ciprofloxacin or
 Citrinin or Clarithromycin or Clavulanic Acid or Clavulanic Acids or Clindamycin or Clofazimine or
 Cloxacillin or Colistin or Cyclacillin or Cycloserine or Dactinomycin or Dapsone or Daptomycin or
 Demeclocycline or Diarylquinolines or Dibekacin or Dicloxacillin or Dihydrostreptomycin Sulfate or
 Diketopiperazines or Distamycins or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or
 Erythromycin or Erythromycin Estolate or Erythromycin Ethylsuccinate or Ethambutol or Ethionamide or
 Filipin or Floxacillin or Fluoroquinolones or Fosfomycin or Framycetin or Fusidic Acid or Gentamicins or
 Gramicidin or Hygromycin B or Imipenem or Isoniazid or Josamycin or Kanamycin or Kitasamycin or
 Lactams or Lasalocid or Leucomycins or Levofloxacin or Lincomycin or Lincosamides or Linezolid or
 Lucensomycin or Lyme cycline or Mepartricin or Methacycline or Methicillin or Mezlocillin or Mikamycin or
 Minocycline or Miocamycin or Moxalactam or Mupirocin or Mycobacillin or Mycophenolic Acid or Nafcillin
 or Nalidixic Acid or Natamycin or Nebramycin or Neomycin or Netilmicin or Netropsin or Nigericin or Nisin
 or Norfloxacin or Novobiocin or Nystatin or Ofloxacin or Oleandomycin or Oligomycins or Oxacillin
 or Oxolinic Acid or Oxytetracycline or Paromomycin or Pefloxacin or Penicillanic Acid or Penicillic Acid or

Penicillin G or Penicillin* or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxins or Pristinamycin or Prodigiosin or Prothionamide or Pyrazinamide or Ribostamycin or Rifabutin or Rifampin or Rifamycins or Ristocetin or Rolitetracycline or Roxarsone or Roxithromycin or Rutamycin or Sirolimus or Sisomicin or Spectinomycin or Spiramycin or Streptogramin A or Streptogramin Group A or Streptogramin Group B or Streptogramins or Streptomycin or Streptovaricin or Sulbactam or Sulbenicillin or Sulfamerazine or Sulfameter or Sulfamethoxyipyridazine or Talampicillin or Teicoplanin or Tetracycline or Thalidomide or Thiamphenicol or Thienamycins or Thioacetazone or Thiostrepton or Ticarcillin or Tobramycin or Trimethoprim, Sulfamethoxazole Drug Combination or Troleandomycin or Tunicamycin or Tylosin or Tyrocidine or Tyrothricin or Valinomycin or Vancomycin or Vernamycin B or Viomycin or Virginiamycin).tw,kw. (1068654)

47 (antibiotic* or anti biotic*).tw,kw. (821462)

48 (fluid* adj2 (therap* or resuscitat*)).tw. (24964)

49 (fluid* and (therap* or resuscitat*)).kf. (1610)

50 or/38-49 (5507447)

51 37 and 50 (25954)

52 51 use medall (1539)

53 exp animal experiment/ or exp animal model/ or exp experimental animal/ or exp transgenic animal/ or exp male animal/ or exp female animal/ or exp juvenile animal/ or animal/ or chordata/ or vertebrate/ or tetrapod/ or exp fish/ or amniote/ or exp amphibia/ or mammal/ or exp reptile/ or exp sauropsid/ or therian/ or exp monotremate/ or placental mammals/ or exp marsupial/ or Euarchontoglires/ or exp Afrotheria/ or exp Boreoeutheria/ or exp Laurasiatheria/ or exp Xenarthra/ or primate/ or exp Dermoptera/ or exp Glires/ or exp Scandentia/ or Haplorhini/ or exp prosimian/ or simian/ or exp tarsiiform/ or Catarrhini/ or exp Platyrrhini/ or ape/ or exp Cercopithecidae/ or hominid/ or exp hylobatidae/ or exp chimpanzee/ or exp gorilla/ or exp orang utan/ (13354796)

54 (animal or animals or pisces or fish or fishes or catfish or catfishes

or sheatfish or silurus or arius or heteropneustes or clarias or gariepinus or fathead minnow or fathead minnows or pimephales or promelas or cichlidae or trout or trouts or char or chars

or salvelinus or salmo or oncorhynchus or guppy or guppies or millionfish or poecilia or goldfish or goldfishes or carassius or auratus or mullet or mullets or mugil or curema or shark or sharks or cod or cods or gadus or morhua or carp or carps or cyprinus or carpio or killifish or eel or eels or anguilla or zander or sander or lucioperca or stizostedion or turbot or turbots or psetta or flatfish or flatfishes or plaice or pleuronectes or platessa or tilapia or tilapias or oreochromis or sarotherodon or common sole or dover sole or solea or zebrafish or zebrafishes or danio or rerio or seabass

or dicentrarchus or labrax or morone or lamprey or lampreys or petromyzon or pumpkinseed or pumpkinseeds or lepomis or gibbosus or herring or clupea or harengus or amphibia or amphibian or amphibians or anura or salientia or frog or frogs or rana or toad or toads or bufo or xenopus or laevis or bombina or epidalea or calamita or salamander or salamanders or newt or newts or triturus or reptilia or reptile or reptiles or bearded dragon or pogona or vitticeps or iguana or iguanas or lizard or lizards or anguis fragilis or turtle or turtles or snakes or snake or aves or bird or birds or quail or quails or coturnix or bobwhite or colinus or virginianus or poultry or poultries or fowl or fowls or chicken or chickens or gallus or zebra finch or taeniopygia or guttata or canary).tw. (3602670)

55 (canaries or serinus or canaria or parakeet or parakeets or grasskeet or parrot or parrots or psittacine or psittacines or shelduck or tadorna or goose or geese or branta or leucopsis or woodlark or lullula or flycatcher or ficedula or hypoleuca or dove or doves or geopelia or cuneata or duck or ducks or greylag or graylag or anser or harrier or circus pygargus or red knot or great knot or calidris or canutus or godwit or limosa or lapponica or meleagris or gallopavo or jackdaw or corvus or monedula or ruff or philomachus or pugnax or lapwing or peewit or plover or vanellus or swan or cygnus or columbianus or bewickii or gull or chroicocephalus or ridibundus or albigrons or great tit or parus or aythya or fuligula or streptopelia or risoria or spoonbill or platalea or leucorodia or blackbird or turdus or merula or blue tit or cyanistes or pigeon or pigeons or columba or pintail or anas or starling or sturnus or owl or athene noctua or pochard or ferina or cockatiel or nymphicus or hollandicus or skylark or alauda or tern or sterna or teal or crecca or oystercatcher or haematopus or ostralegus or shrew or shrews or sorex or araneus or crocidura or russula or european mole or talpa or chiroptera or bat or bats or eptesicus or serotinus or myotis or dasycteme or daubentonii).tw. (166944)

56 (pipistrelle or pipistrellus or cat or cats or felis or catus or feline or dog or dogs or canis or canine or canines or otter or otters or lutra or badger or badgers or meles or fitchew or fitch or fountart

or foulmart or ferrets or ferret or polecat or polecats or mustela or putorius or weasel or weasels or fox or foxes or vulpes or common seal or phoca or vitulina or grey seal or halichoerus or horse or horses or equus or equine or equidae or donkey or donkeys or mule or mules or pig or pigs or swine or swines or hog or hogs or boar or boars or porcine or piglet or piglets or sus or scrofa or llama or llamas or lama or glama or deer or deers or cervus or elaphus or cow or cows or bos taurus or bos indicus or bovine or bull or bulls or cattle or bison or bisons or sheep or sheeps or ovis aries or ovine or lamb or lambs or mouflon or mouflons or goat or goats or capra or caprine or chamois or rupicapra or leporidae or lagomorpha or lagomorph or rabbit or rabbits or oryctolagus).tw. (3105625)

57 (cuniculus or laprine or hares or lepus or rodentia or rodent or rodents or murinae or mouse or mice or mus or musculus or murine or woodmouse or apodemus or rat or rats or rattus or norvegicus or guinea pig or guinea pigs or cavia or porcellus or hamster or hamsters or mesocricetus or cricetus or cricetus or gerbil or gerbils or jird or jirds or meriones or unguiculatus or jerboa or jerboas or jaculus or chinchilla or chinchillas or beaver or beavers or castor fiber or castor canadensis or sciuridae or squirrel or squirrels or sciurus or chipmunk or chipmunks or marmot or marmots or marmota or suslik or susliks or spermophilus or cynomys or cottonrat or cottonrats or sigmodon or vole or voles or microtus or myodes or glareolus or primate or primates or prosimian or prosimians or lemur or lemurs or lemuridae or loris or bush baby or bush babies or bushbaby or bushbabies or galago or galagos or anthropoidea or anthropoids or simian or simians).tw. (6558773)

58 (monkey or monkeys or marmoset or marmosets or callithrix or cebuella or tamarin or tamarins or saguinus or leontopithecus or squirrel monkey or squirrel monkeys or saimiri or night monkey or night monkeys or owl monkey or owl monkeys or douroucoulis or aotus or spider monkey or spider monkeys or ateles or baboon or baboons or papio or rhesus monkey or macaque or macaca or mulatta or cynomolgus or fascicularis or green monkey or green monkeys or chlorocebus or vervet or vervets or pygerythrus or hominoidea or ape or apes or hylobatidae or gibbon or gibbons or siamang or siamangs or nomascus or symphalangus or hominidae or orangutan or orangutans or pongo or chimpanzee or chimpanzees or pan troglodytes or bonobo or bonobos or pan paniscus or gorilla or gorillas or troglodytes).tw. (296026)

59 (preclinic* or pre clinic*).tw. (276754)

60 53 or 54 or 55 or 56 or 57 or 58 or 59 (15450153)

61 sex difference/ or sex factor/ (704305)

62 ((sex or gender) adj2 (difference* or disparit*)).tw. (185668)

63 sex* dimorph*.tw. (29301)

64 (sex or gender).ti. (299293)

65 (gender based or gender specific).tw. (34013)

66 sexual characteristics/ (1326)

67 (male* and female*).tw. (1196843)

68 (exp female animal/ or female/) and (exp male animal/ or male/) (12053434)

69 or/61-68 (12463783)

70 60 and 69 (1601012)

71 exp systemic inflammatory response syndrome/ (404383)

72 (sepsis or septic* or bacteremia or bacteraemia or endotoxic* or endotoxemi* or endotoxaemi*).tw. (440734)

73 *bacterial infection/ (108811)

74 Bacterial Infection*.tw. (93996)

75 critical illness/ (56761)

76 intensive care/ (174579)

77 critical* ill*.tw. (120949)

78 critical care.tw. (71606)

79 systemic inflammat*.tw. (76281)

80 (peritonitis and (feces or fecal or faecal or faeces)).tw. (2420)

81 ((intraperiton* or periton*) adj10 (fecal or faecal or fece* or faece*)).tw. (2395)

82 slurry.tw. (13532)

83 fecal stem solution.tw. (8)

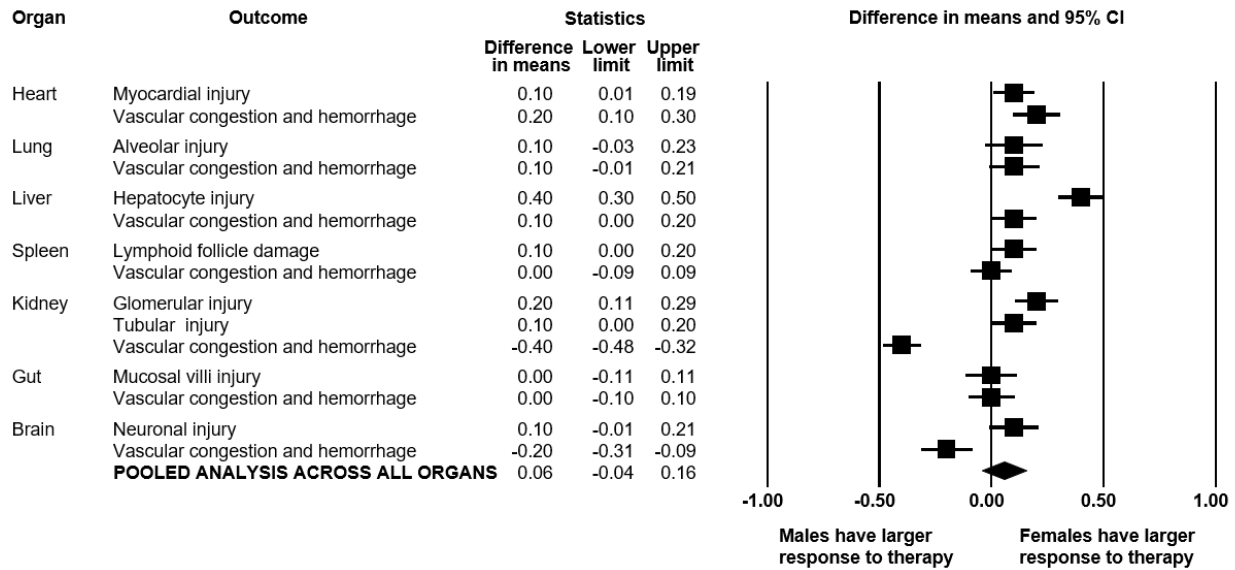
84 peritonitis/ and feces/ (616)

85 experimental sepsis/ or "cecal ligation and puncture-induced sepsis"/ or experimental septic shock/ or lipopolysaccharide-induced sepsis/ (1860)

- 86 or/71-84 (1085397)
- 87 70 and 86 (22360)
- 88 isotonic solution/ (13826)
- 89 (crystalloid* or ringer* or hartmann*).tw. (57313)
- 90 crystalloid/ (10052)
- 91 Hartmann solution/ (612)
- 92 calcium chloride plus potassium chloride plus sodium chloride/ (89)
- 93 Ringer solution/ or Ringer lactate solution/ (12365)
- 94 sodium chloride/ (267362)
- 95 normal saline.tw. (55036)
- 96 albumin/dt, iv [Drug Therapy, Intravenous Drug Administration] (2570)
- 97 (Albumin or Albumins).tw. (361206)
- 98 fluid therapy/ or fluid resuscitation/ (53148)
- 99 exp antibiotic agent/ (1555144)
- 100 (Acedapsone or Alamethicin or Amdinocillin or Amdinocillin Pivoxil or Amikacin or Aminosalicylic Acid or Amoxicillin or Amphotericin B or Ampicillin or Anisomycin or Antimycin A or Arsphenamine or Aurodox or Azithromycin or Azlocillin or Aztreonam or Bacitracin or Bacteriocins or Bambermycins or beta-Lactams or Bongkreic Acid or Brefeldin A or Butirosin Sulfate or Calcimycin or Candicidin or Capreomycin or Carbenicillin or Carfecillin or Cefaclor or Cefadroxil or Cefamandole or Cefatrizine or Cefazolin or cefepime or Cefixime or Cefmenoxime or Cefmetazole or Cefonicid or Cefoperazone or Cefotaxime or Cefotetan or Cefotiam or Cefoxitin or Cefsulodin or Ceftazidime or Ceftizoxime or Ceftriaxone or Cefuroxime or Cephacetrile or Cephalixin or Cephaloglycin or Cephaloridine or Cephalosporins or Cephalothin or Cephamecins or Cephapirin or Cephradine or Chloramphenicol or Chlortetracycline or Ciprofloxacin or Citrinin or Clarithromycin or Clavulanic Acid or Clavulanic Acids or Clindamycin or Clofazimine or Cloxacillin or Colistin or Cyclacillin or Cycloserine or Dactinomycin or Dapsone or Daptomycin or Demeclocycline or Diarylquinolines or Dibekacin or Dicloxacillin or Dihydrostreptomycin Sulfate or Diketopiperazines or Distamycins or Doxycycline or Echinomycin or Edeine or Enoxacin or Enviomycin or Erythromycin or Erythromycin Estolate or Erythromycin Ethylsuccinate or Ethambutol or Ethionamide or Filipin or Floxacillin or Fluoroquinolones or Fosfomycin or Framycetin or Fusidic Acid or Gentamicins or Gramicidin or Hygromycin B or Imipenem or Isoniazid or Josamycin or Kanamycin or Kitasamycin or Lactams or Lasalocid or Leucomycins or Levofloxacin or Lincomycin or Lincosamides or Linezolid or Lucensomycin or Lyme cycline or Mepartricin or Methacycline or Methicillin or Mezlocillin or Mikamycin or Minocycline or Miocamycin or Moxalactam or Mupirocin or Mycobacillin or Mycophenolic Acid or Nafcillin or Nalidixic Acid or Natamycin or Nebramycin or Neomycin or Netilmicin or Netropsin or Nigericin or Nisin or Norfloxacin or Novobiocin or Nystatin or Ofloxacin or Oleandomycin or Oligomycins or Oxacillin or Oxolinic Acid or Oxytetracycline or Paromomycin or Pefloxacin or Penicillanic Acid or Penicillic Acid or Penicillin G or Penicillin* or Pipemidic Acid or Piperacillin or Pivampicillin or Polymyxin B or Polymyxins or Pristinamycin or Prodigiosin or Prothionamide or Pyrazinamide or Ribostamycin or Rifabutin or Rifampin or Rifamycins or Ristocetin or Rolitetracycline or Roxarsone or Roxithromycin or Rutamycin or Sirolimus or Sisomicin or Spectinomycin or Spiramycin or Streptogramin A or Streptogramin Group A or Streptogramin Group B or Streptogramins or Streptomycin or Streptovaricin or Sulbactam or Sulbenicillin or Sulfamerazine or Sulfameter or Sulfamethoxypyridazine or Talampicillin or Teicoplanin or Tetracycline or Thalidomide or Thiamphenicol or Thienamycins or Thioacetazone or Thiostrepton or Ticarcillin or Tobramycin or Trimethoprim, Sulfamethoxazole Drug Combination or Troleandomycin or Tunicamycin or Tylosin or Tyrocidine or Tyrothricin or Valinomycin or Vancomycin or Vernamycin B or Viomycin or Virginiamycin).tw. (1047104)
- 101 (antibiotic* or anti biotic*).tw. (796019)
- 102 (fluid* adj2 (therap* or resuscitat*)).tw. (24964)
- 103 or/88-102 (3223144)
- 104 87 and 103 (3854)
- 105 conference abstract*.pt. (3724845)
- 106 conference review.pt. (12018)
- 107 104 not (105 or 106) (3218)
- 108 107 use emczd (1835)**
- 109 52 or 108 (3374)

- 110 remove duplicates from 109 (2657)
- 111 110 use medall (1535) Medline
- 112 110 use emczd (1122) Embase

Appendix 3: Male vs. female animal organ dysfunction following antibiotic therapy



Point estimates (difference in means) and 95% confidence intervals (CI) are depicted for individual organ dysfunction. A pooled meta-analytic summary (random effects model) of overall effect of biological sex across all organs is depicted by the diamond at the bottom of the plot. Data from reference 18.

Appendix 4: Risk of bias summary

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of Personnel (performance Bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)
Das 2019	?	?	?	?	-	?
Lewis 2018	?	?	?	?	-	?

A yellow circle with a “?” indicates an unclear risk of bias for the domain. A red circle with a “-” indicates a high risk of bias for the domain.