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Appendix 1: Literature search strategy

All EBM Reviews via Ovid *(Cochrane Database of Systematic Reviews (2005+), ACP Journal Club (1991+), Cochrane Central Register of Controlled Trials (CCTR, 1991+), Cochrane Clinical Answers (CCA), Cochrane Methodology Register (2012+), Database of Abstracts of Reviews of Effects (DARE, 2016+), Health Technology Assessment Database (HTA, 2016+), National Health Service Economic Evaluation Databases (NHSEED, 2016+)):*
("gastric outlet obstruction*" or pylorostenosis or ((pylor* or stomach) adj2 (obstruction* or stenos*))).ab,hw,ti. AND stent*.ab,hw,ti. AND ((gastroenterostom* or gastro-enterostom* or gastroenteric-anastomosis or gastroenteroanastomosis or Billroth* or gastroduodenostom* or gastro-duodenostom* or gastrojejunostom* or gastro-jejunostom*).ab,hw,ti. AND (echoendoscop* or endoscopic-echography or endoscopic-ultraso* or endosonograph* or EUS-guided or ultrasound-guided or echo-endoscop* or ultrasonic-endoscop*).ab,hw,ti.)

Embase via Ovid (1974+):
((exp pylorus stenosis/ or ("gastric outlet obstruction*" or pylorostenosis or ((pylor* or stomach) adj2 (obstruction* or stenos*))).ab,kw,ti.) AND (exp stent/ or stent*.ab,kw,ti.) AND ((exp gastroenterostomy/ or (gastroenterostom* or gastro-enterostom* or gastroenteric-anastomosis or gastroenteroanastomosis or Billroth* or gastroduodenostom* or gastro-duodenostom* or gastrojejunostom* or gastro-jejunostom*).ab,kw,ti.) AND (exp endoscopic ultrasonography/ or (echoendoscop* or endoscopic-echography or endoscopic-ultraso* or endosonograph* or EUS-guided or ultrasound-guided or echo-endoscop* or ultrasonic-endoscop*).ab,kw,ti.))) NOT (exp animal/ not exp human/, exp child/ not exp adult/, "case report".pt,ti.) Limit to English

MEDLINE via Ovid (1946+ and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) Daily):
((exp Gastric Outlet Obstruction/ or ("gastric outlet obstruction*" or pylorostenosis or ((pylor* or stomach) adj2 (obstruction* or stenos*))).ab,kf,ti.) AND (exp Stents/ or stent*.ab,kf,ti.) AND ((exp Gastroenterostomy/ or (gastroenterostom* or gastro-enterostom* or gastroenteric-anastomosis or gastroenteroanastomosis or Billroth* or gastroduodenostom* or gastro-duodenostom* or gastrojejunostom* or gastro-jejunostom*).ab,kf,ti.) AND (exp Endosonography/ or (echoendoscop* or endoscopic-echography or endoscopic-ultraso* or endosonograph* or EUS-guided or ultrasound-guided or echo-endoscop* or ultrasonic-endoscop*).ab,kf,ti.))) NOT (exp Animals/ not Humans/, exp CHILD/ not exp ADULT/, "case report".pt,ti.) Limit to English

Scopus via Elsevier (1970+):
((TITLE-ABS-KEY (gastric-outlet-obstruction* OR pylorostenosis) OR TITLE-ABS-KEY ((pylor* OR stomach) W/2 (obstruction* OR stenos*)))) AND (TITLE-ABS-KEY (stent*)) AND ((TITLE-ABS-KEY (gastroenterostom* OR gastro-enterostom* OR gastroenteric-anastomosis OR gastroenteroanastomosis OR billroth* OR

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gastroduodenostom* OR gastro-duodenostom* OR gastrojejunostom* OR gastro-jejunostom*) AND TITLE-ABS-KEY (echoendoscop* OR endoscopic-echography OR endoscopic-ultraso* OR endosonograph* OR eus-guided OR ultrasound-guided OR echo-endoscop* OR ultrasonic-endoscop*))) AND (LIMIT-TO (LANGUAGE , "English"))

Web of Science Core Collection via Clarivate Analytics (1975+):
TOPIC: (gastric-outlet-obstruction* or pylorostenosis) OR TOPIC: ((pylor* or stomach) NEAR/2 (obstruction* or stenos*)) AND TOPIC: (stent*) AND TOPIC: (gastroenterostom* or gastro-enterostom* or gastroenteric-anastomosis or gastroenteroanastomosis or Billroth* or gastroduodenostom* or gastro-duodenostom* or gastrojejunostom* or gastro-jejunostom*) AND TOPIC: (echoendoscop* or endoscopic-echography or endoscopic-ultraso* or endosonograph* or EUS-guided or ultrasound-guided or echo-endoscop* or ultrasonic-endoscop*) Limit to English

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Appendix 2: MOOSE checklist. From: Stroup DF, Berlin JA, Morton SC et al. for the Meta-analysis Of Observational Studies in Epidemiology (MOOSE) Group. Meta-analysis of Observational Studies in Epidemiology. A Proposal for Reporting. JAMA. 2000;283(15):2008-2012. doi: 10.1001/jama.283.15.2008

Item No	Recommendation	Reported on Page No
Reporting of background should include		
1	Problem definition	6
2	Hypothesis statement	6
3	Description of study outcome(s)	7
4	Type of exposure or intervention used	7
5	Type of study designs used	7
6	Study population	7-8
Reporting of search strategy should include		
7	Qualifications of searchers (eg, librarians and investigators)	7
8	Search strategy, including time period included in the synthesis and key words	7-8
9	Effort to include all available studies, including contact with authors	8
10	Databases and registries searched	7
11	Search software used, name and version, including special features used (eg, explosion)	10
12	Use of hand searching (eg, reference lists of obtained articles)	7
13	List of citations located and those excluded, including justification	8, Suppl App 3
14	Method of addressing articles published in languages other than English	-
15	Method of handling abstracts and unpublished studies	7
16	Description of any contact with authors	-
Reporting of methods should include		
17	Description of relevance or appropriateness of studies assembled for assessing the hypothesis to be tested	8
18	Rationale for the selection and coding of data (eg, sound clinical principles or convenience)	8
19	Documentation of how data were classified and coded (eg, multiple raters, blinding and interrater reliability)	8
20	Assessment of confounding (eg, comparability of cases and controls in studies where appropriate)	8
21	Assessment of study quality, including blinding of quality assessors, stratification or regression on possible predictors of study results	8
22	Assessment of heterogeneity	10
23	Description of statistical methods (eg, complete description of fixed or random effects	9-10

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	models, justification of whether the chosen models account for predictors of study results, dose-response models, or cumulative meta-analysis) in sufficient detail to be replicated	
24	Provision of appropriate tables and graphics	Tables 1-2, Figs 1-3
Reporting of results should include		
25	Graphic summarizing individual study estimates and overall estimate	Figs 1-3 Suppl Fig 1,2
26	Table giving descriptive information for each study included	Table 1,2
27	Results of sensitivity testing (eg, subgroup analysis)	13
28	Indication of statistical uncertainty of findings	12-13

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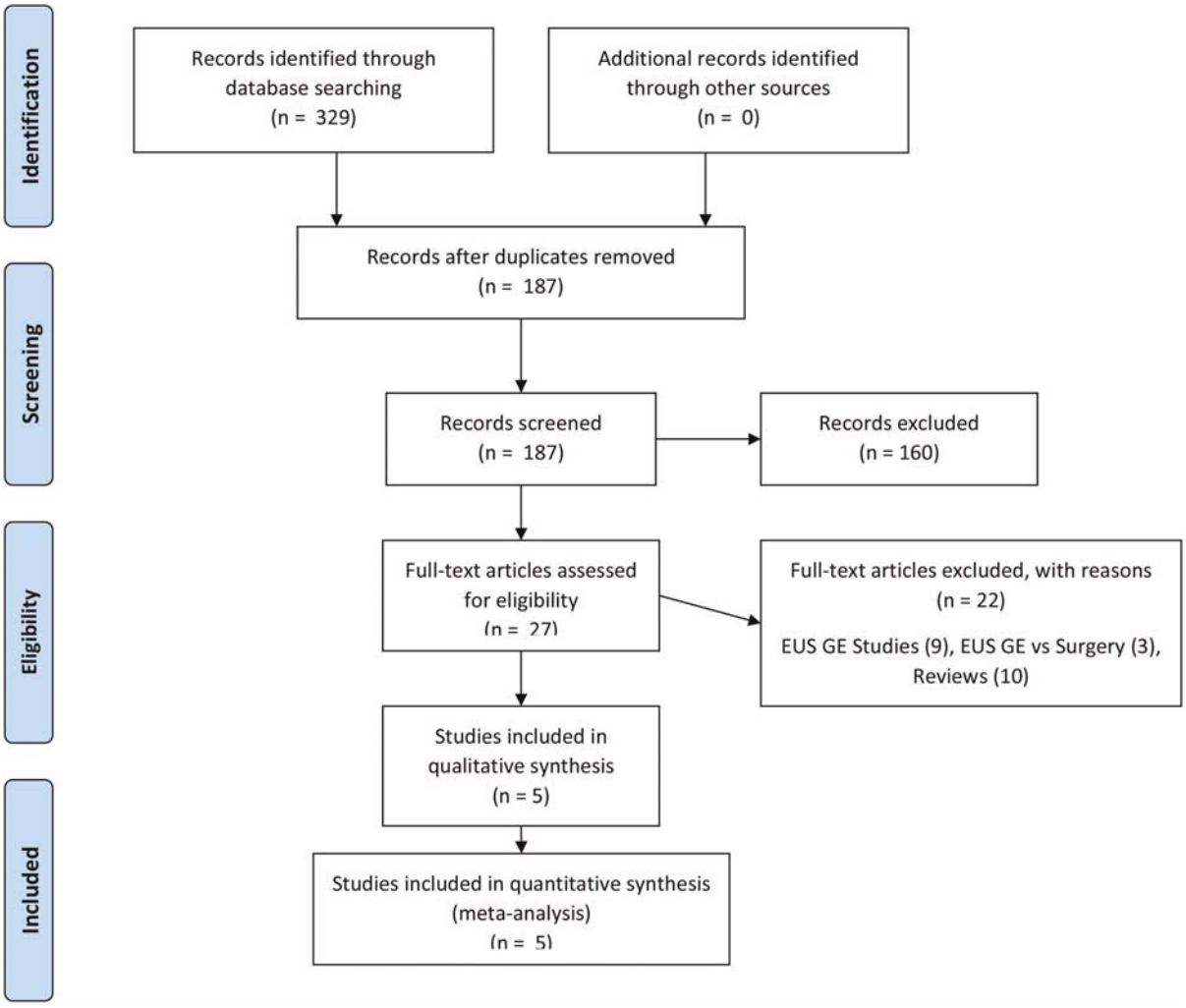
Appendix 3a: PRISMA Flowchart. From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097



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Appendix 3b: PRISMA Checklist. From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

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.	6-7
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	8-9
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.	NA
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.	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.	7
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	7-8 Suppl Appx 1
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.	9
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	9-10
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	13

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		synthesis.	
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	9-10
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.	11-12

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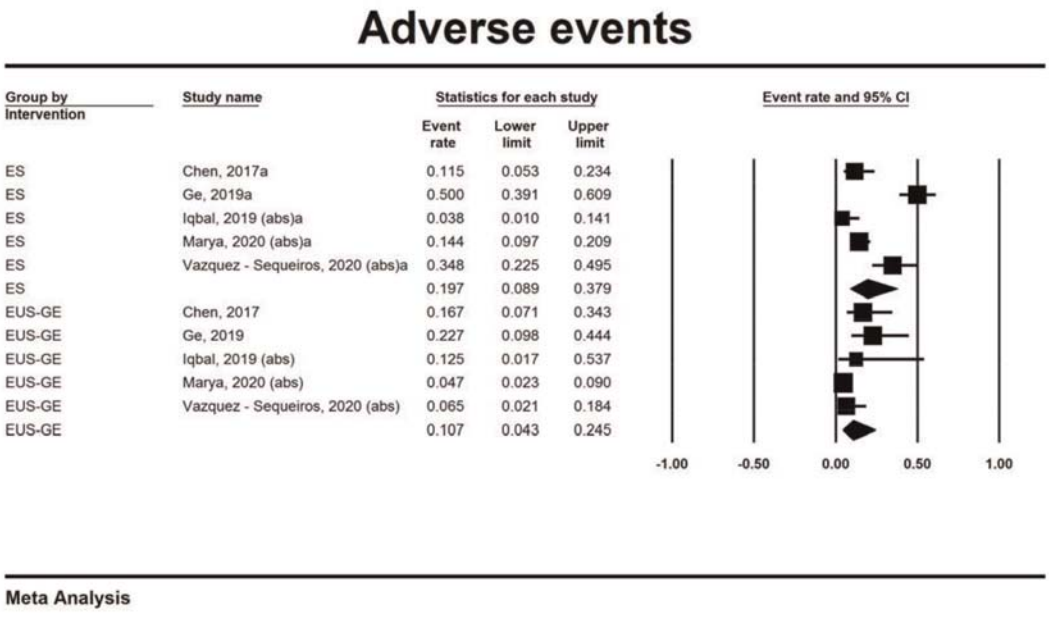
Supplementary Table 1: Newcastle Ottawa Quality Score

Study	SELECTION				COMPARABILITY	OUTCOME			SCORE	QUALITY
	Representativeness of the average adult in community	Cohort size	Information on clinical outcomes	Outcome not present at start	Factors comparable between the groups	Adequate clinical assessment	Follow up time	Adequacy of follow-up	MAX=8	HIGH>6, MEDIUM 4 to 6, LOW <4
	Population based: 1; Multi-center: 0.5; Single-center: 0	>40 patients: 1; 39 to 20: 0.5; <20: 0	Information with clarity: 1; Information derived from percentage value: 0.5; Unclear: 0	not present: 1; present: 0	yes: 1; no: 0	yes: 1; no: 0	yes: 1; not mentioned: 0	All patients followed up: 1; >50% followed up: 0.5; <50% followed up OR not mentioned: 0		
Chen, 2017	0.5	1	1	1	1	1	1	1	7.5	HIGH
Ge, 2019	0	1	1	1	1	1	0	0	5	MEDIUM
Iqbal, 2019 (abs)	0	1	1	1	1	1	0	0	5	MEDIUM
Marya, 2020 (abs)	0.5	1	1	1	1	1	1	1	7.5	HIGH
Vazquez - Sequeiros, 2020 (abs)	0.5	1	1	1	1	1	1	1	7.5	HIGH

Supplementary material

Supplementary Fig. 1 Forest plot of overall adverse events.



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Supplementary Fig. 2 Forest plot of major adverse events