Supplemental Material

Table S1. PRISMA-DTA Checklist

Section/topic	#	PRISMA-DTA Checklist Item	Reported on Page Number	Reported on Section/Paragraph
TITLE/ABSTRACT				
Title	1	Identify the report as a systematic review (+/- meta-analysis) of diagnostic test accuracy (DTA) studies.	Page 1	Title
Abstract	2	Abstract: See PRISMA-DTA for abstracts (Table S4).	Page2	Abstract/ Paragraph 1-3
INTRODUCTION				
Rationale	3	Describe the rationale for the review in the context of what is already known.	Page 3	Introduction/ Paragraph 1
Clinical role of index test	D1	State the scientific and clinical background, including the intended use and clinical role of the index test, and if applicable, the rationale for minimally acceptable test accuracy (or minimum difference in accuracy for comparative design).	Page 3	Introduction / Paragraph 2
Objectives	4	Provide an explicit statement of question(s) being addressed in terms of participants, index test(s), and target condition(s).	Page 4	Introduction / Paragraph 2
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.	Page 2	Registration
Eligibility criteria	6	Specify study characteristics (participants, setting, index test(s), reference standard(s), target condition(s), and study design) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	Page 4	Methods/ Paragraph 3-4
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.	Page 4	Methods/ Paragraph 3
Search	8	Present full search strategies for all electronic databases and other sources searched, including any limits used, such that they could be repeated.	Page 4	Methods/ Paragraph 3
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).	Page 4	Methods/ Paragraph 4
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.	Page 5	Methods/ Paragraph 5
Definitions for data extraction	11	Provide definitions used in data extraction and classifications of target condition(s), index test(s), reference standard(s) and other characteristics (e.g. study design, clinical setting).	Page 5	Methods/ Paragraph 5

Risk of bias and applicability	12	Describe methods used for assessing risk of bias in individual studies and concerns regarding the applicability to the review question.	Page 5	Methods/ Paragraph 6
Diagnostic accuracy measures	13	State the principal diagnostic accuracy measure(s) reported (e.g. sensitivity, specificity) and state the unit of assessment (e.g. per-patient, per-lesion).	Page 5-6	Methods/ Paragraph 7
Synthesis of results	14	Describe methods of handling data, combining results of studies and describing variability between studies. This could include, but is not limited to: a) handling of multiple definitions of target condition. b) handling of multiple thresholds of test positivity, c) handling multiple index test readers, d) handling of indeterminate test results, e) grouping and comparing tests, f) handling of different reference standards	Page 5-6	Methods/ Paragraph 7
Meta-analysis	D2	Report the statistical methods used for meta-analyses, if performed.	Page 5-6	Methods/ Paragraph 7
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	Page 5-6	Methods/ Paragraph 7
RESULTS				
Study selection	17	Provide numbers of studies screened, assessed for eligibility, included in the review (and included in meta-analysis, if applicable) with reasons for exclusions at each stage, ideally with a flow diagram.	Page 6	Results/ Paragraph 1
Study characteristics	18	For each included study provide citations and present key characteristics including: a) participant characteristics (presentation, prior testing), b) clinical setting, c) study design, d) target condition definition, e) index test, f) reference standard, g) sample size, h) funding sources	Page 6-7	Results/ Paragraph 2
Risk of bias and applicability	19	Present evaluation of risk of bias and concerns regarding applicability for each study.	Page 7	Results/ Paragraph 3
Results of individual studies	20	For each analysis in each study (e.g. unique combination of index test, reference standard, and positivity threshold) report 2x2 data (TP, FP, FN, TN) with estimates of diagnostic accuracy and confidence intervals, ideally with a forest or receiver operator characteristic (ROC) plot.	Page 6	Results/ Paragraph 1
Synthesis of results	21	Describe test accuracy, including variability; if meta-analysis was done, include results and confidence intervals.	Page 7-8	Results/ Paragraph 4-6
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression; analysis of index test: failure rates, proportion of inconclusive results, adverse events).	Page 7-8	Results/ Paragraph 7-8
DISCUSSION				
Summary of evidence	24	Summarize the main findings including the strength of evidence.	Page 9	Discussion/ Paragraph 1
Limitations	25	Discuss limitations from included studies (e.g. risk of bias and concerns regarding applicability) and from the review process (e.g. incomplete retrieval of identified research).	Page 10	Discussion/ Paragraph 2

Conclusions	26	Provide a general interpretation of the results in the context of other evidence. Discuss implications for future research and clinical practice (e.g. the intended use and clinical role of the index test).	Page 11	Conclusion
FUNDING				
Funding	27	For the systematic review, describe the sources of funding and other support and the role of the funders.	Page 11	Funding

Adapted From: McInnes MDF, Moher D, Thombs BD, McGrath TA, Bossuyt PM, The PRISMA-DTA Group (2018). Preferred Reporting Items for a Systematic Review and Meta-analysis of Diagnostic Test Accuracy Studies: The PRISMA-DTA Statement. JAMA. 2018 Jan 23;319(4):388-396. doi: 10.1001/jama.2017.19163.

Table S2. PRISMA-DTA for Abstracts Checklist

Section/topic	#	PRISMA-DTA Checklist Item	Reported on Page Number	Reported on Section/Paragraph
TITLE and PURPOSE				
Title	1	Identify the report as a systematic review (+/- meta-analysis) of diagnostic test accuracy (DTA) studies.	Page 1	Title
Objectives	2	Indicate the research question, including components such as participants, index test, and target conditions.	Page2	Abstract/ Paragraph 1
METHODS				
Eligibility criteria	3	Include study characteristics used as criteria for eligibility.	Page2	Abstract/ Paragraph 2
Information sources	4	List the key databases searched and the search dates.	Page2	Abstract/ Paragraph 2
Risk of bias & applicability	5	Indicate the methods of assessing risk of bias and applicability.	Page2	Abstract/ Paragraph 2
Synthesis of results	A1	Indicate the methods for the data synthesis.	Page2	Abstract/ Paragraph 2
RESULTS				
Included studies	6	Indicate the number and type of included studies and the participants and relevant characteristics of the studies (including the reference standard).	Page2	Abstract/ Paragraph 2
Synthesis of results	7	Include the results for the analysis of diagnostic accuracy, preferably indicating the number of studies and participants. Describe test accuracy including variability; if meta-analysis was done, include summary results and confidence intervals.	Page2	Abstract/ Paragraph 2

DISCUSSION				
Strengths and limitations	9	Provide a brief summary of the strengths and limitations of the evidence	Page2	Abstract/ Paragraph 3
Interpretation	10	Provide a general interpretation of the results and the important implications.	Page2	Abstract/ Paragraph 3
OTHER				
Funding	11	Indicate the primary source of funding for the review.	NA	NA
Registration	12	Provide the registration number and the registry name	Page2	Registration

Adapted From: McInnes MDF, Moher D, Thombs BD, McGrath TA, Bossuyt PM, The PRISMA-DTA Group (2018). Preferred Reporting Items for a Systematic Review and Meta-analysis of Diagnostic Test Accuracy Studies: The PRISMA-DTA Statement. JAMA. 2018 Jan 23;319(4):388-396. doi: 10.1001/jama.2017.19163.

Table S3. Search Strategy

PubMed	**EMBASE**	**Cocharane Library**
#1 “computed tomography” OR “CT” OR “cardiac CT” OR “echocardiography” OR “transesophagel echocardiography” OR “TEE” OR “imaging” #2 “left atrial” #3 “thrombus” OR “thrombosis” #4 “detection” OR “diagnosis” OR “assessment” #5 “cohort” OR “observational” OR “prospective” OR “retrospective” OR “trial” OR “epidemiology” # 6 #1 AND #2 AND #3 AND #4 AND #5	#1 “computed tomography” OR “CT” OR “cardiac CT” OR “echocardiography” OR “transesophagel echocardiography” OR “TEE” OR “imaging” #2 “ left atrial thrombus” OR “left atrial thrombosis” #3 “detection” OR “diagnosis” OR “assessment” #4 “cohort” OR “observational” OR “prospective” OR “retrospective” OR “trial” OR “epidemiology” #5 1# AND #2 AND #3 AND #4	#1 “computed tomography” OR “CT” OR “cardiac CT” OR “echocardiography” OR “transesophagel echocardiography” OR “TEE” OR “imaging” #2 “ left atrial thrombus” OR “left atrial thrombosis” #3 “detection” OR “diagnosis” OR “assessment” #4 “cohort” OR “observational” OR “prospective” OR “retrospective” OR “trial” OR “epidemiology” #5 1# AND #2 AND #3 AND #4

Table S4. Summary of QUADAS-2 Assessment of Included Studies

Study, Year	Risk of Bias				Applicability Concerns		
	Patient Selection	Index Test	Reference Standard	Flow and Timing	Patient Selection	Index Test	Reference Standard
Achenbach 2004	Low	Low	Low	Low	Low	Low	Low
Kim 2007	Low	Low	Low	Low	Low	Low	Low
Shapiro 2007	Low	Low	Low	High	Low	Low	Low
Feuchtner 2008	Low	Low	Unclear	Low	Low	Low	Low
Tang 2008	Low	Low	Low	Low	Low	Low	Low
Hur 2008	Low	Low	Unclear	Low	Low	Low	Low
Patel 2008	Low	Unclear	Unclear	Low	Low	Low	Low
Martinez 2009	Low	Low	Low	Low	Low	Low	Low
Hur 2009	Low	Low	Unclear	Low	Low	Low	Low
Kim 2010	Low	Low	Low	Low	Low	Low	Low
Kapa 2010	Low	Low	Low	Low	Low	Low	Low
Maltagliati 2011	Unclear	Unclear	Unclear	Low	Low	Low	Low
Hur 2011	Low	Low	Unclear	Low	Low	Low	Low
Swait 2012	Low	Low	Low	Low	Low	Low	Low
Hur 2013	Low	Low	Low	Low	Low	Low	Low
Dorenkamp 2013	Low	Low	Low	Low	Low	Low	Low
Budoff 2014	Low	Low	Low	Low	Low	Low	Low
Hong 2014	Low	Low	Unclear	Low	Low	Low	Low
Hosmi 2016	Low	Low	Low	Low	Low	Low	Low
Lazoura 2016	Low	Low	Low	Low	Low	Low	Low
Wang 2016	Low	Low	Low	Low	Low	Low	Low
Kottmaier 2018	Low	Low	Unclear	Low	Low	Low	Low
Kuronuma 2019	Low	Low	Low	Low	Low	Low	Low
Li 2019	Low	Low	Unclear	Low	Low	Low	Low
Spagnolo 2020	Low	Low	Low	Low	Low	Low	Low
Guha 2020	Low	Low	Low	Low	Low	Low	Low
Zhai 2017	Low	Low	Low	Low	Low	Low	Low

QUADAS-2: Quality Assessment of Diagnostic Accuracy Studies 2

Figure S1.

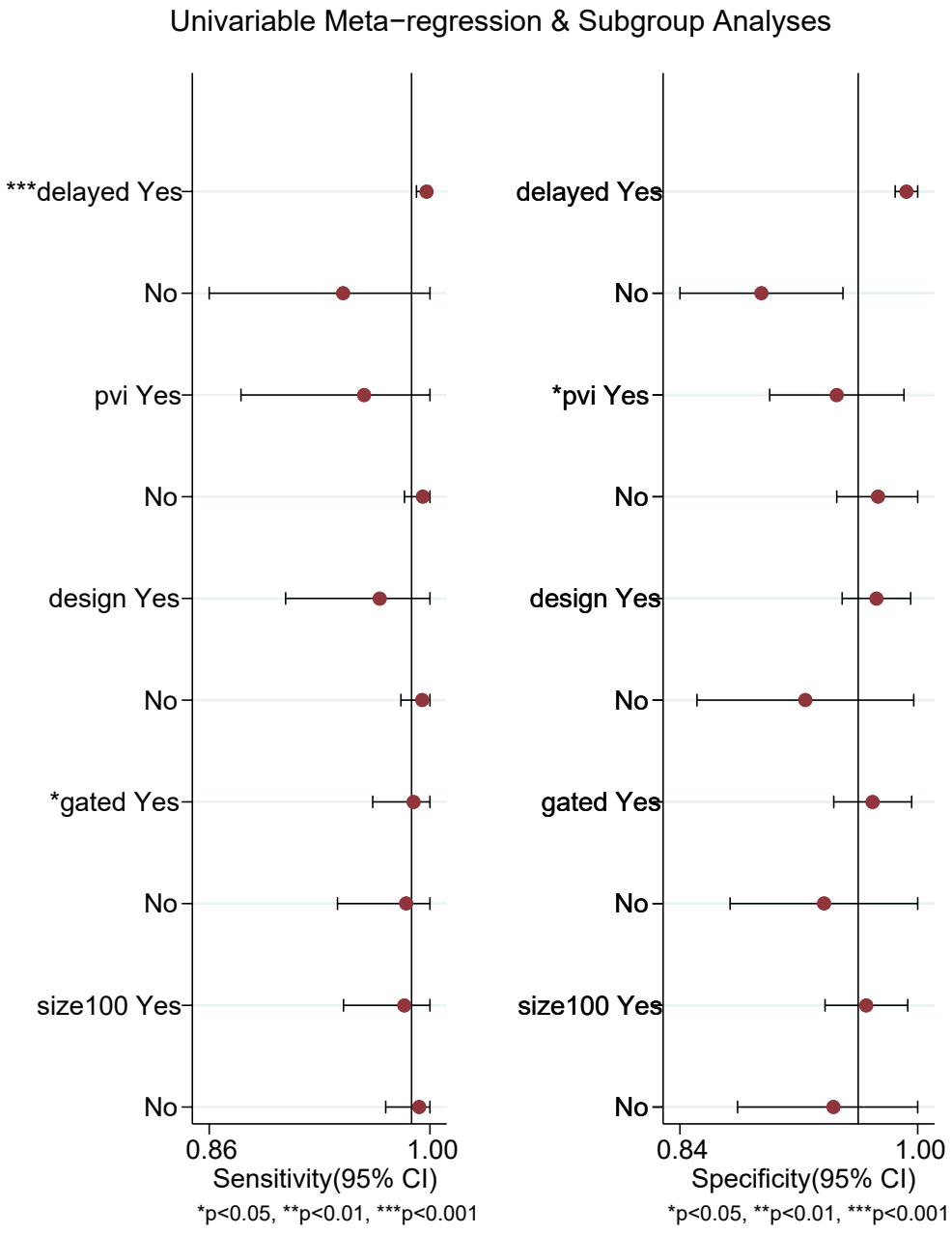
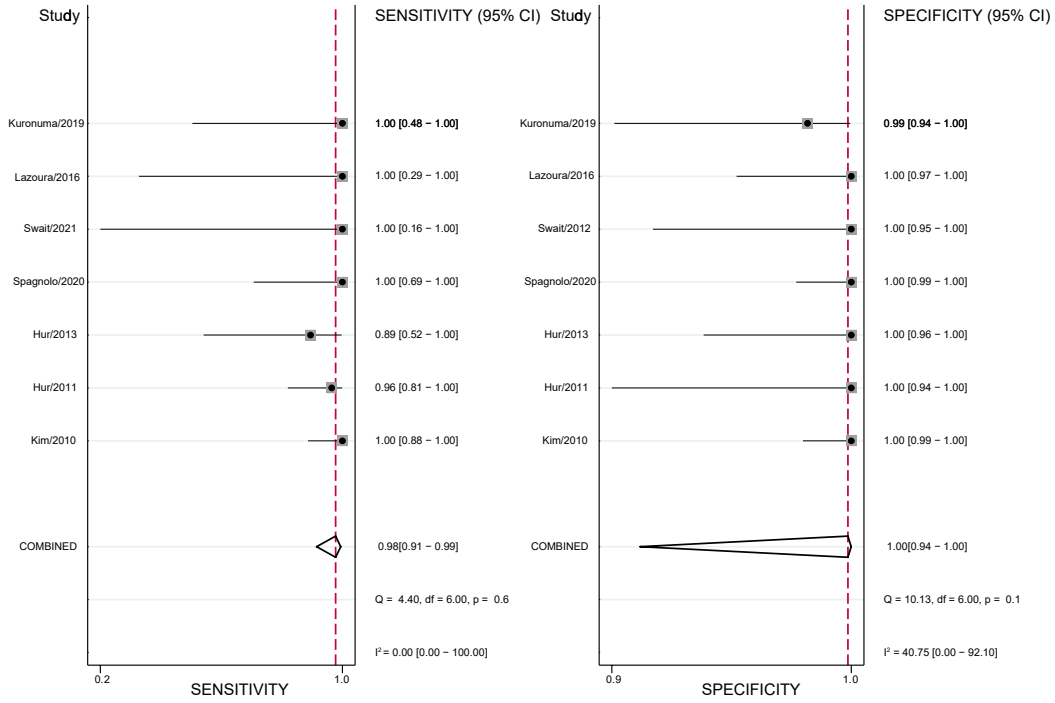

Univariable Meta−regression & Subgroup Analyses
***delayed Yes
No
pvi Yes
No
design Yes
No
*gated Yes
No
size100 Yes
No
0.86
1.00
Sensitivity(95% CI)
*p<0.05, **p<0.01, ***p<0.001
delayed Yes
No
*pvi Yes
No
design Yes
No
gated Yes
No
size100 Yes
No
0.84
1.00
Specificity(95% CI)
*p<0.05, **p<0.01, ***p<0.001

Figure S2.


Study
SENSITIVITY (95% CI)
Kuronuma/2019
1.00 [0.48 − 1.00]
Lazoura/2016
1.00 [0.29 − 1.00]
Swait/2021
1.00 [0.16 − 1.00]
Spagnolo/2020
1.00 [0.69 − 1.00]
Hur/2013
0.89 [0.52 − 1.00]
Hur/2011
0.96 [0.81 − 1.00]
Kim/2010
1.00 [0.88 − 1.00]
COMBINED
0.98[0.91 − 0.99]
Q = 4.40, df = 6.00, p = 0.6
I² = 0.00 [0.00 − 100.00]
0.2
1.0
SENSITIVITY
Study
SPECIFICITY (95% CI)
Kuronuma/2019
0.99 [0.94 − 1.00]
Lazoura/2016
1.00 [0.97 − 1.00]
Swait/2012
1.00 [0.95 − 1.00]
Spagnolo/2020
1.00 [0.99 − 1.00]
Hur/2013
1.00 [0.96 − 1.00]
Hur/2011
1.00 [0.94 − 1.00]
Kim/2010
1.00 [0.99 − 1.00]
COMBINED
1.00[0.94 − 1.00]
Q = 10.13, df = 6.00, p = 0.1
I² = 40.75 [0.00 − 92.10]
0.9
1.0
SPECIFICITY