SUPPLEMENTAL MATERIAL

Data S1.

Quality Assessment Tool

Critical Appraisal Checklist for Cohort Studies & Studies Reporting Prevalence Data

This checklist and scoring instructions, was developed for the purpose of our meta-analysis using checklists created by the Joanna Briggs Institute ^{21, 22}.

2 points: Sufficiently fulfilled

1 point: Partially fulfilled or unclear

0 points: Unfulfilled or not reported

	2	1	0
1. Were the study participants and the setting described in detail (i.e.,			
sample size, sex proportion, age, recruitment hospital)?			
2. Were valid and reliable methods used for the identification of the			
condition (i.e., cognitive decline or delirium)?*			
3. Was the condition measured in a standard, reliable way for all			
participants (i.e., were the assessors who administered the measures			
adequately trained)? If there was more than one assessor, were they similar			
in ability/experience?*			
4. Were appropriate procedures in place to minimise attrition?			
5. Was the follow-up time reported?			
6 Was follow up complete and if not many the measure to be to follow			
6. Was follow up complete, and if not, were the reasons to loss to follow-			
up described (i.e., was there a clear and justifiable description of why			
participants dropped out or were excluded from the analysis)?			
Notes:			

*For studies that reported data for more than one outcome (i.e., cognitive impairment and delirium) the point scheme was relative to all outcomes. That is, a study would only score 2 on these items if all outcomes/conditions were identified using valid and reliable tests (item 2), in a valid and reliable manner (item 3).

Overall Appraisal Grade: /12

Scoring Instructions

1. Were the study participants and the setting described in detail (i.e., sample size, sex proportion, age, recruitment hospital)?

The study sample should be described in sufficient detail so that other researchers can determine if it is comparable to the population of interest to them. That is, did the researchers provide details on sample size, sex proportion, age and hospital recruited from for either the total sample at baseline, or the sample of participants included in the analyses?

- 2 = All details reported
- 1 = Some details reported
- 0 = No details reported

2. Were valid and reliable methods used for the identification of the condition (i.e., cognitive impairment or delirium)?

Here we are looking for measurement or classification bias. Many health problems are not easily diagnosed or defined and some measures may not be capable of including or excluding appropriate levels or stages of the health problem. If the outcomes were assessed based on existing definitions or diagnostic criteria, then the answer to this question is likely to be yes. If the outcomes were assessed using observer reported, or self-reported scales, the risk of over- or under-reporting is increased, and objectivity is compromised. Importantly, determine if the measurement tools used were validated instruments as this has a significant impact on outcome assessment validity.

Studies that reported only delirium data were assigned 2 points for this item if they used a standardized cognition or delirium assessment, and 1 point if they used a recognized criteria or guidelines (e.g., the Society of Thoracic Surgeons (STS) definition or The Diagnostic and Statistical Manual of Mental Disorders criteria.

- 2 = All measures were standardized and validated
- 1 = Some measures were standardized and validated
- 0 = No measures were standardized and validated

3. Was the condition measured in a standard, reliable way for all participants (i.e., were the assessors who administered the measures adequately trained)? If there was more than one assessor, were they similar in ability/experience?

Were those involved in collecting data trained or educated in the use of the instrument/s? If there was more than one data collector, were they similar in terms of level of education, and clinical or research experience. Overall, was the condition measured in the same way for all participants?

- 2 = The paper states that the assessor or assessors were trained. If the assessors were stated to be psychologists, neuropsychologists or psychometrists it was assumed they were adequately trained.
- 1 = Researchers mention that the tests were administered by assessors/investigators but do not mention their experience or training
- 0 =No clear statement of who conducted the assessments

4. Were appropriate procedures in place to minimize attrition?

Appropriate measures for minimizing attrition are systematic contact strategies (e.g., contacting participants three times; by letter, phone and email). A procedure would be considered inappropriate if it was not systematic (e.g., letting participants contact them, and therefore relying on their motivation).

If there was only one follow-up time that was <10 days and a strategy for minimizing attrition was not mentioned, the study was still assigned 2 points as the strategy was assumed not to be necessary (i.e., the patients were still in hospital). Also, studies that reported only delirium data were assigned 2 points using this same rationale, as the patients are assumed to still be in hospital during the delirium assessments.

- 2 = Studies that utilized a systematic contact strategy that was explicit and would be thought to lead to greater retention at follow-up, or N/A.
- 1 = Procedure mentioned (e.g., called participants) but not clear if the contact process was thorough
- 0 =No strategy mentioned

5. Was the follow up time reported?

The time points for follow-up assessments should be clearly stated. Studies with multiple follow-up assessments were assigned 2 points for this item if all follow-up time points were clearly and precisely stated, 1 point if some of the time-points were clearly and precisely stated, or all time-points were stated, but inexactly (e.g., "6 weeks").

- 2 = When the participant were likely to be out of hospital at time of assessment, studies that reported a mean and SD of the number of days/months for all follow-ups were assigned 2 points. If the follow-up time was likely to be when the patient was in hospital (e.g., 3 days) it was assumed that this was a precise value and the study was awarded 2 points.
- 1 = Studies that report a vague/inexact follow-up time (e.g., 6 months), which is likely to have varied between participants, for some or all follow-ups
- 0 = Follow-up time not reported

6. Was follow up complete, and if not, were the reasons to loss to follow up described?

Reporting of efforts to follow up participants that dropped out may be regarded as an indicator of a well conducted study. Therefore, this item is scored depending on whether a clear and justifiable description of why people were left out, excluded, dropped out, etc. was provided.

- 2 = Follow-up was complete, or if not, there was a statement of how many participants dropped out and for what reasons
- 1 = There is an unclear statement outlining reasons for drop-out and how many participants for each reason (i.e., reasons for drop-out are given but not how many participants for each reason)
- 0 = There was drop out but no mention of reasons why

Table S1. Pooled estimates and corresponding effect size (OR, MD, SMD) for pre, intra,

and post-operative variables for delirium (1-7 days) post-CABG.

		Estimate	Heterog	geneity	Common		
							effect size
Variable	k (n)	OR/MD†/	95%CI	p value	I ²	Tau ²	SMD
		SMD‡					
Pre-Operative (Categorical)							
Alcoholism	6 (994)	0.90	0.50—1.62	.721	13.45	0.08	0.06
Arrhythmia, incl. AF	15 (31746)	2.07	1.70—2.51	<.001	25.35	0.03	0.40
BMI >28 (including >30)	7 (16297)	1.16	0.74—1.80	.516	56.28	0.17	0.08
BMI \geq 30 only	5 (1786)	1.57	1.05—2.37	.030	0	0	0.25
Cognitive impairment	7 (1039)	4.17	2.75—6.33	<.001	0	0	0.79
Depression	4 (580)	2.49	1.29—4.81	.006	29.16	0.13	0.50
Diabetes	30 (48465)	1.49	1.39—1.60	<.001	0	0	0.22
Dyslipidemia/Hyperlipidemia	13 (6449)	0.89	0.63—1.25	.502	51.79	0.18	0.06
Education>12years/high school	4 (567)	0.66	0.41—1.06	.088	0	0	0.23
Hypertension	27 (38362)	1.44	1.21—1.70	<.001	52.54	0.07	0.20
Sex (male)	35 (37851)	0.90	0.75—1.08	.263	53.35	0.10	0.06
Kidney injury	14 (25264)	1.94	1.50—2.52	<.001	27.49	0.05	0.37
Previous MI <30 days	5 (926)	1.54	0.90—2.65	.116	37.82	0.14	0.24
Previous MI history/ever	11 (10662)	1.17	0.98—1.39	.075	0	0	0.09
Previous stroke, TIA, CVA	15 (27127)	2.55	1.94—3.35	<.001	44.42	0.10	0.52
PVD	14 (16340)	1.98	1.48—2.64	<.001	38.76	0.09	0.38
Smoking current	14 (17825)	1.19	0.84—1.69	.321	72.37	0.24	0.10
Smoking current/history	21 (25813)	1.15	0.94—1.42	.174	56.81	0.09	0.08
Pre-Operative (Continuous)							
Age (years) *	28 (9303)	4.14†	2.95—5.34	<.001	78.61	7.14	0.49
	I			I			I

BMI	5 (2143)	0.03†	-0.46—0.51	.915	0	0	0.01
Cognition: All tests	9 (887)	-0.58‡	-0.78— -0.37	<.001	34.11	0.03	0.58
Cognition: MMSE only	7 (621)	-1.14†	-1.91—-0.36	.004	77.72	0.68	0.52
Depression GDS	2 (233)	0.75†	-0.15—1.65	.101	0	0	0.30
Education (years)	6 (665)	-0.93†	-1.65—-0.20	.012	19.31	0.16	0.25
EuroSCORE *	10 (11199)	1.35†	0.58—2.12	.001	96.10	1.38	0.51
LVEF (%)	11 (3308)	1.25†	-0.69—3.19	.208	79.34	7.97	0.13
Intra-Operative (Continuous)							
ACC time (mins)	16 (7488)	5.97†	0.62—11.32	.029	90.65	101.19	0.29
CPB time (mins)	21 (12412)	7.41†	4.03—10.78	<.001	51.93	25.72	0.25
Duration of surgery (mins)	13 (3218)	20.53†	8.67—32.38	.001	75.96	325.89	0.35
Intubation time (hours)	11 (6693)	6.82†	2.44—11.20	.002	98.40	52.26	0.75
Number of grafts	8 (2731)	0.11†	-0.02—0.24	.084	34.30	0.01	0.13
Post-Operative (Categorical)							
Arrhythmia, incl. AF	16 (8809)	3.53	2.41—5.16	<.001	71.51	0.37	0.70
Post-Operative (Continuous)							
LOS in ICU (days)	14 (7177)	2.22†	1.32—3.13	<.001	97.84	2.69	1.20

Note: * indicates potential small-study effect or publication bias, see (**Figure S2**) and for forest plots (**Figure S1**). Symbols following pooled estimates denote different effect sizes: indicating OR (no symbol), MD† and SMD‡. ACC= aortic cross-clamp, AF= atrial fibrillation, BMI= body mass index, CPB= cardiopulmonary bypass, CVA= cerebrovascular attack, GDS= geriatric depression scale, ICU= intensive care unit, k= number of estimates (number of studies), LOS= length of stay, LVEF= left ventricular ejection fraction, , MD= mean difference, MI= myocardial infarction, MMSE= mini mental state examination, n= pooled sample size, OR= odds ratio, PVD= peripheral vascular disease, SMD= standardized mean difference and TIA= transient ischemic attack..

Table S2. Pooled estimates and corresponding effect size (OR, MD, SMD) for pre, intra, and post-operative variables for acute cognitive decline (immediately up to 1-month) post-CABG.

OR/MD†/ SMD: 1.24 1.11 3.42 1.44 1.16 1.91 1.03 1.21 1.12	95%CI 0.76—2.04 0.71—1.73 1.12—10.46 1.21—1.72 0.74—1.84 1.45—2.53 0.82—1.29 0.40—3.72 0.59—2.16	p value .389 .653 .031 <.001 .512 <.001 .824 .735 .724	I ² 0 0 61.53 4.18 35.86 34.10 0 54.22	Tau ² 0 0 0.40 0.01 0.11 0.09 0 0 0.67	SMD 0.12 0.06 0.68 0.20 0.08 0.36 0.01 0.11
1.24 1.11 3.42) 1.44 1.16) 1.91) 1.03 1.21 1.12	0.71 - 1.73 1.12 - 10.46 1.21 - 1.72 0.74 - 1.84 1.45 - 2.53 0.82 - 1.29 0.40 - 3.72	.653 .031 <.001 .512 <.001 .824 .735	0 61.53 4.18 35.86 34.10 0 54.22	0 0.40 0.01 0.11 0.09 0	0.06 0.68 0.20 0.08 0.36 0.01
1.11 3.42) 1.44 1.16) 1.91) 1.03 1.21 1.12	0.71 - 1.73 1.12 - 10.46 1.21 - 1.72 0.74 - 1.84 1.45 - 2.53 0.82 - 1.29 0.40 - 3.72	.653 .031 <.001 .512 <.001 .824 .735	0 61.53 4.18 35.86 34.10 0 54.22	0 0.40 0.01 0.11 0.09 0	0.06 0.68 0.20 0.08 0.36 0.01
1.11 3.42) 1.44 1.16) 1.91) 1.03 1.21 1.12	0.71 - 1.73 1.12 - 10.46 1.21 - 1.72 0.74 - 1.84 1.45 - 2.53 0.82 - 1.29 0.40 - 3.72	.653 .031 <.001 .512 <.001 .824 .735	0 61.53 4.18 35.86 34.10 0 54.22	0 0.40 0.01 0.11 0.09 0	0.06 0.68 0.20 0.08 0.36 0.01
3.42) 1.44 1.16) 1.91) 1.03 1.21 1.12	1.12—10.46 1.21—1.72 0.74—1.84 1.45—2.53 0.82—1.29 0.40—3.72	.031 <.001 .512 <.001 .824 .735	61.53 4.18 35.86 34.10 0 54.22	0.40 0.01 0.11 0.09 0	0.68 0.20 0.08 0.36 0.01
) 1.44 1.16) 1.91) 1.03 1.21 1.12	1.21—1.72 0.74—1.84 1.45—2.53 0.82—1.29 0.40—3.72	<.001 .512 <.001 .824 .735	4.18 35.86 34.10 0 54.22	0.01 0.11 0.09 0	0.20 0.08 0.36 0.01
1.16) 1.91) 1.03 1.21 1.12	0.74—1.84 1.45—2.53 0.82—1.29 0.40—3.72	.512 <.001 .824 .735	35.86 34.10 0 54.22	0.11 0.09 0	0.08 0.36 0.01
) 1.91) 1.03 1.21 1.12	1.45—2.53 0.82—1.29 0.40—3.72	<.001 .824 .735	34.10 0 54.22	0.09 0	0.36 0.01
) 1.03 1.21 1.12	0.82—1.29 0.40—3.72	.824 .735	0 54.22	0	0.01
1.21 1.12	0.40—3.72	.735	54.22		
1.12				0.67	0.11
	0.59—2.16	724			1
		.724	0	0	0.07
1.16	0.83—1.63	.394	25.17	0.05	0.08
2.44	1.47—4.04	.001	0	0	0.49
1.09	0.42—2.83	.865	57.17	0.50	0.05
1.03	0.64—1.66	.892	68.09	0.31	0.02
) 2.69†	1.20—4.18	<.001	92.85	9.17	0.53
-0.20†	-0.25— -0.14	<.001	0	0	0.10
0.23‡	-0.43—0.88	.492	69.56	0.23	0.23
0.204	-1.39—1.96	.740	82.66	1.21	0.24
U.28T					
	-0.20†	-0.20† -0.25— -0.14 0.23‡ -0.43—0.88	-0.20^{+} -0.25 -0.14 $<.001$ 0.23^{+} -0.43 -0.88 $.492$	-0.20^{+} -0.25 -0.14 $<.001$ 0 0.23^{+}_{+} -0.43 0.88 $.492$ 69.56 0.28^{+}_{+} -1.39 1.96 $.740$ 82.66	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

Education (years)	6 (534)	-0.44†	-1.40—0.53	.377	49.52	0.65	0.11
EuroSCORE	4 (582)	0.74†	0.48—1.01	<.001	0	0	0.46
LVEF %	9 (1126)	-1.97†	-4.21—0.28	.086	72.49	8.28	0.21
Intra-Operative (Continuous)							
ACC time (mins)	7 (867)	-1.34†	-5.91—3.23	.566	61.81	20.52	0.07
CPB time (mins)	13 (1699)	3.39†	-0.10—6.88	.057	59.34	16.87	0.15
Duration of surgery (mins)	6 (723)	13.52†	3.67—23.38	.007	21.27	32.28	0.26
Intubation time (hours)	6 (1193)	1.95†	1.37—2.52	<.001	28.29	0.15	0.82
Number of grafts	7 (1113)	0.03†	-0.03—0.09	.400	7.50	0	0.10
Total microemboli	4 (771)	0.16‡	-0.07—0.38	.167	45.77	0.02	0.16
Post-Operative (Categorical)							
Arrhythmia, incl. AF	6 (1045)	1.40	1.01—1.94	.042	0	0	0.19
Delirium	3 (355)	6.15	2.32—16.27	<.001	6.32	0.07	1.00
Without outlier	2 (308)	4.85	1.89—12.45	.001	0	0	0.87
Post-Operative (Continuous)							
LOS in ICU (days)	7 (1055)	0.29†	0.04—0.55	.025	77.82	0.08	0.77

Note: * indicates potential small-study effect or publication bias, see (**Figure S4**) and for forest plots (**Figure S3**). Symbols following pooled estimates denote different effect sizes: indicating OR (no symbol), MD† and SMD‡. ACC= aortic cross-clamp, AF= atrial fibrillation, BMI= body mass index, CPB= cardiopulmonary bypass, CVA= cerebrovascular attack, ICU= intensive care unit, k= number of estimates (number of studies), LOS= length of stay, LVEF= left ventricular ejection fraction, , MD= mean difference, MI= myocardial infarction, n= pooled sample size, OR= odds ratio, PVD= peripheral vascular disease, SMD= standardized mean difference and TIA= transient ischemic attack

Table S3. Pooled estimates and corresponding effect size (OR, MD, SMD) for pre, intra, and post-operative variables for cognitive decline in the mid-term (1 to 6-months) post-CABG.

OR/MD†/ SMD‡ 2.50 1.54 1.01 0.89 0.88	95%CI 1.28—4.88 0.98—2.40 0.82—1.23 0.59—1.32	p value .007 .059 .965	I ² 0 61.33	Tau² 0	SMD 0.51
2.50 1.54 1.01 0.89	0.98—2.40 0.82—1.23	.059			0.51
1.54 1.01 0.89	0.98—2.40 0.82—1.23	.059			0.51
1.54 1.01 0.89	0.98—2.40 0.82—1.23	.059			0.51
1.01 0.89	0.82—1.23		61.33		
0.89		.965		0.28	0.24
	0 59_1 32		0	0	0.00
0.88	0.57 - 1.52	.558	69.32	0.31	0.07
	0.57—1.37	.580	41.32	0.06	0.07
0.83	0.26—2.63	.748	0	0	0.11
0.71	0.41—1.21	.209	0	0	0.19
1.00	0.73—1.37	.983	0	0	0.00
1.09†	-0.06—2.25	.063	29.21	1.12	0.13
0.30‡	0.01—0.59	.041	68.84	0.04	0.30
0.50†	-0.17—1.17	.146	89.28	0.21	0.43
0.86‡	-0.68—2.39	.273	96.08	1.75	0.86
0.13†	-0.57—0.83	.715	44.26	0.24	0.05
0.61†	-0.63—1.86	.336	0	0	0.06
-1.29†	-4.35—1.76	.407	0	0	0.06
2.15†	-2.44—6.74	.359	28.63	10.41	0.06
0.041	-0.17—0.06	.358	0	0	0.06
	0.30‡ 0.50† 0.86‡ 0.13† 0.61†	0.30‡ 0.01—0.59 0.50† -0.17—1.17 0.86‡ -0.68—2.39 0.13† -0.57—0.83 0.61† -0.63—1.86 -1.29† -4.35—1.76 2.15† -2.44—6.74	$0.30 \ddagger$ $0.01 - 0.59$ $.041$ $0.50 \ddagger$ $-0.17 - 1.17$ $.146$ $0.86 \ddagger$ $-0.68 - 2.39$ $.273$ $0.13 \ddagger$ $-0.57 - 0.83$ $.715$ $0.61 \ddagger$ $-0.63 - 1.86$ $.336$ $-1.29 \ddagger$ $-4.35 - 1.76$ $.407$ $2.15 \ddagger$ $-2.44 - 6.74$ $.359$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

Total microemboli	4 (542)	-0.46‡	-0.97—0.05	.076	51.03	0.12	0.46
Post-Operative (Continuous)							
LOS in ICU (days)	2 (100)	0.23†	-1.10—1.55	.736	88.27	0.80	0.33

Note: * indicates potential small-study effect or publication bias, see (**Figure S6**) and for forest plots (**Figure S5**). Symbols following pooled estimates denote different effect sizes: indicating OR (no symbol), MD† and SMD‡. ACC= aortic cross-clamp, CI= cognitive index score, CPB= cardiopulmonary bypass, CVA= cerebrovascular attack, ICU= intensive care unit, k= number of estimates (number of studies), LOS= length of stay, LVEF= left ventricular ejection fraction, , MD= mean difference, MI= myocardial infarction, n= pooled sample size, OR= odds ratio, PVD= peripheral vascular disease, SMD= standardized mean difference and TIA= transient ischemic attack. Table S4. Pooled estimates and corresponding effect size (OR, MD, SMD) for pre, intra, and post-operative variables for cognitive decline in the long-term (12 to 15-months) post-CABG.

		Poole	ed Estimate		Hetero	geneity	Effect size
Variable	k (n)	OR/MD†/	95%CI	p value	I ²	Tau ²	SMD
		SMD‡					
Pre-Operative (Categorical)							
Cognitive impairment	2 (343)	1.02	0.57—1.80	.952	0	0	0.01
Diabetes	2 (504)	1.44	0.78—2.64	.245	0	0	0.20
Sex (male)	2 (301)	1.17	0.28—4.91	.830	28.63	0.49	0.09
Hypertension	2 (504)	1.30	0.84—2.00	.241	0	0	0.14
Pre-Operative (Continuous)							
Age (years)	2 (301)	1.57†	-2.94—6.09	.495	46.03	5.30	0.17
Intra-Operative (Continuous)							
Number of grafts	2 (301)	0.03†	-0.27—0.33	.832	0	0	0.04

Note: * indicates potential small-study effect or publication bias. See (**Figure S7**) for forest plots. Symbols following pooled estimates denote different effect sizes: indicating OR (no symbol), MD† and SMD‡. k= number of estimates (number of studies), MD= mean difference, n= pooled sample size, OR= odds ratio, SMD= standardized mean difference.

Table S5. Excluded references from full-text screening with associated reason.

Reference	Exclusion Reason
Abner EL, Ding X, Caban-Holt AM, Schmitt FA, Kryscio RJ. Comorbid subjective cognitive decline and sleep apnea significantly increase the risk of incident dementia: Results from the prevention of alzheimer's disease with vitamin e and selenium study. Alzheimer's and Dementia. 2015;11:P733	abstract only
Aghadavoudi Jolfaei O, Bagheri K, Motamedi O, Akbari M. The effect of mean arterial pressure during cardiopulmonary bypass on clinical and para clinical parameters during and after coronary artery bypass graft surgery. European Journal of Anaesthesiology. 2012;29:69-70	abstract only
Al Tmimi L, Sergeant P, Velde M, Meyns B, Coburn M, Rex S. Xenon anaesthesia in patients undergoing off-pump coronary artery bypass graft surgery: A prospective, randomized controlled clinical trial (eudract 2012-002316-12). European Journal of Anaesthesiology. 2014;31:71	abstract only
Alexander W. American college of cardiology meeting highlights. P and T. 2017;42:340-343	abstract only
Andrejaitiene J, Sirvinskas E, Svagzdiene M. Post-cardiac surgery delirium risk factors and clinical outcome. Applied Cardiopulmonary Pathophysiology. 2012;16:251-252	abstract only
Annett Salzwedel A, Heidler MD, Wegscheider K, Schikora M, Jobges M, Zaskia P, Voller H. Cognitive performance in cardiac rehabilitation: Impact on short- and medium-term outcome of patient education. European Journal of Preventive Cardiology. 2017;24 (1 Supplement 1):S10	abstract only
Anonymous. Alzheimer's gene linked with postoperative confusion. Journal of psychosocial nursing and mental health services. 1998;36:13-14	abstract only
Antonitsis P, Anastasiadis K, Argiriadou H, Kosmidis MH, Megari K, Thomaidou E, Aretouli E, Papakonstantinou C. Improved neurocognitive outcome after coronary artery bypass surgery using minimal versus conventional extracorporeal circulation: A randomized controlled study. Journal of the American College of Cardiology. 2011;57:E910	abstract only
Arenson B, Grocott H, MacDonald L, Hiebert BM, Carino M, Freed DH, Arora RC. The effectiveness of implementing a systematic screening tool to improve identification of delirium after cardiac surgery. Canadian Journal of Cardiology. 2012;28:S288	abstract only
Arsenova N, Mosenko S. Neurological complications at the coronary artery bypass grafting. European journal of neurology. 2010;17:169	abstract only
Arthur B, Tan S, Alston P. Is postoperative delirium associated with the use of cardio-pulmonary bypass? A comparison of patients undergoing on- and off-pump coronary artery bypass grafting surgery. Journal of cardiothoracic and vascular anesthesia. 2011;25:S63-S64	abstract only
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Ozturk T, Kocan AA, Yildirim F, Alp D, Kurdal T. The effect of beta-blocking agents on morbidity und mortality following coronary artery bypass surgery. Gogus-Kalp-Damar Anestezi ve Yogun Bakim Dernegi Dergisi. 2013;19:80-85	not in english
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Rothenhausler HB, Stepan A, Hetterle R, Trantina-Yates A. The effects of coronary artery bypass graft surgery on health-related quality of life, cognitive	not in english
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Psychology and Pedagogics. 2017;14:178-189	
Stevens R, Gersbach P, Ruchat P, Hurni M, Stumpe F, Fischer A, Sadeghi H. [cardiac surgery in octogenarians]. Chirurgie cardiaque chez l'octogenaire.	not in english
<u>1995;125:2084-2089</u>	. 1. 1
Sugimoto K, Ohata A, Terada H, Kuriyama Y. Changes in neuropsychological functions following cardiovascular surgery. Clinical Neurology. 1995;35:606-610	not in english
Thiel A, Zimmer M, Stertmann WA, Kaps M, Hempelmann G. Microembolisations during cardiac surgery under extracorporeal circulation. Anasthesiologie	not in english
Intensivmedizin Notfallmedizin Schmerztherapie. 1997;32:715-720	
Trubnikova O, Mamontova A, Maleva O, Kuhareva I, Barbarash O. Factors determining the development of long-term postoperative cognitive dysfunction in	not in english
patients with type 2 diabetes undergoing coronary artery bypass grafting. European Journal of Preventive Cardiology. 2015;22:S189	
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coronary artery bypass grafting. Kardiologiia. 2015;55:49-56	
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Trubnikova OA, Mamontova AS, Syrova ID, Kukhareva IN, Maleva OV, Barbarash OL. The cognitive status of patients with type 2 diabetes mellitus after	not in english
coronary bypass surgery. Klinicheskaia Meditsina. 2015;93:39-44	
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metabolic parameters in type 2 diabetes mellitus patients undergoing coronary bypass surgery. Terapevticheskii Arkhiv. 2015;87:69-75	
Trubnikova OA, Tarasova IV, Mamontova AS, Syrova ID, Maleva OV, Barbarash OL. A role of carotid stenoses in the structure of early postoperative cognitive	not in english
dysfunction in patients underwent coronary artery bypass grafting. Zhurnal Nevrologii i Psikhiatrii Imeni S.S. Korsakova. 2014;114:36-42	
Trubnikova OA, Tarasova IV, Mamontova AS, Syrova ID, Maleva OV, Barbarash OL. Structure of cognitive disorders and dynamics of bioelectric activity of	not in english
the brain in patients after direct myocardial revascularization. Russian Journal of Cardiology. 2014;112:57-62	not in on aliah
Trubnikova OA, Tarasova IV, Syrova ID, Mamontova AS, Kovalenko AV, Barbarash OL, Barbarash LS. Neuropsychological status of patients with low and	not in english
moderate carotid artery stenoses after the coronary artery bypass surgery. Zhurnal Nevrologii i Psihiatrii imeni S.S. Korsakova. 2013;113:28-33	not in on aliah
Tsygan NV, Odinak MM, Khubulava GG, Tsygan VN, Peleshok AS, Andreev RV, Kurasov ES, Litvinenko IV. [postoperative cerebral dysfunction]. Zhurnal Nevrologii i Psikhiatrii Imeni S.S. Korsakova. 2017;117:34-39	not in english
Valentini M, Spezzaferri R, Brambilla G, Tavanelli M, Sangiuliano M, Majorino G, Racca V, Ferratini M. Complexities of psychological disorders observable	not in english
after surgical myocardial revascularization in male subjects. Italian Heart Journal Supplement. 2005;6:375-381	not in english
Wos S, Opala G, Jasinski M, Janas P, Bachowski R, Kus H, Domaradzki W, Gemel M, Deja M, Dyaczynska-Herman A. The incidence of early central nervous	not in english
system complications following cardiac surgery with cardiopulmonary bypass. Kardiologia Polska. 1997;47:115-119	not in english
system complications following carefact surgery with cardiopunnonary bypass. Kardiologia roiska. 1997,47.113-119	<u> </u>

Xu BL, Bi Q, Chen MY, Luo D. Ct cerebral perfusion parameters in prediction of postoperative cognition disorders of off-pump coronary artery bypass grafting. Chinese Journal of Interventional Imaging and Therapy. 2015;12:298-302	not in english
Xu D, Liu F, Hua Y, Zhang K-f, Liu Y-h, Shang X-b, Li H-l, Yao Q, Li X-f, Zhang R, et al. Increasing cardiopulmonary bypass flow volume improves outcome of patient with carotid stenosis undergoing coronary artery bypass grafting. Zhonghua wai ke za zhi [Chinese journal of surgery]. 2009;47:577-579	not in english
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Yilmaz M, Aydin U, Kilic Yilmaz V, Yavuz Y, Denizalti TB, Canik S. The effect of magnesium on neurocognitive functions after cardiopulmonary by-pass surgery. Turkiye Klinikleri Cardiovascular Sciences. 2014;26:105-110	not in english
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Zhang Y, Cheng H, Xu C, Bao H, Shi H, Ge Y, Wei H. [effects of ultrasound-guided stellate ganglion block on cerebral oxygen metabolism and postoperative cognitive dysfunction in the elderly]. Sheng wu yi xue gong cheng xue za zhi = Journal of biomedical engineering = Shengwu yixue gongchengxue zazhi. 2014;31:1107-1110	not in english
Zhang Y, Qian Y, Bao H, Shi H, Zhou J. Effect of stellate ganglion block on bilateral regional cerebral oxygen saturation and postoperative cognitive function. Sheng wu yi xue gong cheng xue za zhi = Journal of biomedical engineering = Shengwu yixue gongchengxue zazhi. 2016;33:132-135	not in english
Zhao YH, Wen DX. Analysis of related factors of postoperative cognitive dysfunction for patients undergoing off-pump coronary artery bypass graft surgery. Journal of Shanghai Jiaotong University (Medical Science). 2016;36:100-104	not in english
Zoll A, Degirmenci U, Bleich S, Richter-Schmidinger T, Kornhuber J, Fischlein T, Weih M. Neuropsychological complications after coronary bypass grafting. Fortschritte der Neurologie-Psychiatrie. 2009;77:97-101	not in english
Ernest CS, Elliott PC, Murphy BM, Le Grande MR, Goble AJ, Higgins RO, Worcester MUC, Tatoulis J. Predictors of cognitive function in candidates for coronary artery bypass graft surgery. Journal of the International Neuropsychological Society : JINS. 2007;13:257-266	only baseline data
Ernest CS, Murphy BM, Worcester MUC, Higgins RO, Elliott PC, Goble AJ, Le Grande MR, Genardini N, Tatoulis J. Cognitive function in candidates for coronary artery bypass graft surgery. The Annals of thoracic surgery. 2006;82:812-818	only baseline data
Hudetz JA, Patterson KM, Pagel PS. Comparison of pre-existing cognitive impairment, amnesic mild cognitive impairment, and multiple domain mild cognitive impairment in men scheduled for coronary artery surgery. European Journal of Anaesthesiology. 2012;29:320-325	only baseline data
Tsushima WT, Johnson DB, Lee JD, Matsukawa JM, Fast KMS. Depression, anxiety and neuropsychological test scores of candidates for coronary artery bypass graft surgery. Archives of clinical neuropsychology : the official journal of the National Academy of Neuropsychologists. 2005;20:667-673	only baseline data
Aldea GS, O'Gara P, Shapira OM, Treanor P, Osman A, Patalis E, Arkin C, Diamond R, Babikian V, Lazar HL, et al. Effect of anticoagulation protocol on outcome in patients undergoing cabg with heparin-bonded cardiopulmonary bypass circuits. The Annals of thoracic surgery. 1998;65:425-433	other
Barry SJE, Zeger SL, Selnes OA, Grega MA, Borowicz LM, Jr., McKhann GM. Quantitative methods for tracking cognitive change 3 years after coronary artery bypass surgery. The Annals of thoracic surgery. 2005;79:1104-1109	other
Bhamidipati D, Goldhammer JE, Sperling MR, Torjman MC, McCarey MM, Whellan DJ. Cognitive outcomes after coronary artery bypass grafting. Journal of Cardiothoracic & Vascular Anesthesia. 2017;31:707-718	other
Cockburn J, Hildick-Smith D, Trivedi U, De Belder A. Coronary revascularisation in the elderly. Heart. 2017;103:316-324	other
Indja B, Fanning JP, Maller JJ, Fraser JF, Bannon PG, Vallely M, Grieve SM. Neural network imaging to characterize brain injury in cardiac procedures: The emerging utility of connectomics. British Journal of Anaesthesia. 2017;118:680-688	other

Lamy A, Devereaux PJ, Prabhakaran D, Hu S, Piegas LS, Straka Z, Paolasso E, Taggart D, Lanas F, Akar AR, et al. Rationale and design of the coronary artery	other
bypass grafting surgery off or on pump revascularization study: A large international randomized trial in cardiac surgery. American Heart Journal. 2012;163:1-6	
Wu M, Liang Y, Dai Z, Wang S. Perioperative dexmedetomidine reduces delirium after cardiac surgery: A meta-analysis of randomized controlled trials. Journal	other
of Clinical Anesthesia. 2018;50:33-42	
Yuan SM, Lin H. Postoperative cognitive dysfunction after coronary artery bypass grafting. Brazilian Journal of Cardiovascular Surgery. 2019;34:76-84	other
Maggio M, Nicolini F, Cattabiani C, Beghi C, Gherli T, Schwartz RS, Valenti G, Ceda GP. Effects of testosterone supplementation on clinical and rehabilitative	protocol paper
outcomes in older men undergoing on-pump cabg. Contemporary Clinical Trials. 2012;33:730-738	
Uva MS, Matias F, Cavaco S, Magalhaes MP. Rationale, design and methodology for a prospective randomized study of graft patency in off-pump and on-pump	protocol paper
multi-vessel coronary artery bypass surgery (promiss) using multidetector computed tomography. Trials. 2008;9:44	
Whitlock R, Teoh K, Vincent J, Devereaux PJ, Lamy A, Paparella D, Zuo Y, Sessler DI, Shah P, Villar JC, et al. Rationale and design of the steroids in cardiac	protocol paper
surgery trial. American Heart Journal. 2014;167:660-665	

 Table S6. Demographic data, presence in statistical analyses and quality assessment scores for included studies within risk and

 protective factor meta-analyses for delirium and cognitive-decline post CABG.

Ref. No.	Lead Author, Year	Total No. of	Total No.	Mean/Median	SD/Range/IQR	C1	C2	C3	Del	QA
Kel. INO.	Leau Author, Tear	Patients	of Males	Age	of Age	CI	C2	ĊĴ	Dei	(/12)
51	Al Tmimi, 2016	92	78	67	R: 46-86	-	-	-	Х	12
52	Baba, 2007	218	152	71.25	5.5	X	-	-	-	10
53	Boodhwani, 2006*	448	390	68.3	0.4	X	-	-	-	12
54	Braekken, 1998	14	14	N/A	N/A	-	X	-	-	7
55	Bucerius, 2005	9682	7500	N/A	N/A	-	-	-	X	6
56	Caldas 2019	67	51	64.3	9.5	-	-	-	X	12
57	Chen, 2017	136	104	60.85	7.76	-	-	-	X	10
58	Christiansen, 2016	8	7	63.38	10.69	X	-	-	-	7
59	Coffey, 1983	1669	1384	52.15	SEM: 8	-	-	-	X	7
60	Colak, 2015	190	148	62.66	7.96	X	-	-	-	7
61	Cumurcu, 2008	50	37	59.62	10.66	-	-	-	X	9

Ref. No.	Lead Author, Year	Total No. of	Total No.	Mean/Median	SD/Range/IQR	C1	C2	C3	Del	QA
Ref. 140.	Leur Mution, Teur	Patients	of Males	Age	of Age	ĊI	02	00	Du	(/12)
62	deTournay-Jette, 2011	61	51	70.39	4.69	Х	Х	-	-	10
63	Dieleman, 2009	281	192	61.3	9	-	Х	Х	-	10
64	Djaiani, 2003	417	293	60.34	10	-	Х	-	-	9
65	Dong, 2014	108	83	63	7.9	Х	-	-	Х	10
66	Eriksson, 2002	52	40	70.27	5.53	-	-	-	Х	12
67	Goto, 2000	177	117	70.26	4.99	X	-	-	-	11
68	Gottesman, 2010	5052	3682	63.92	N/A	-	-	-	X	7
69	Hall, 1999	35	27	65.9	9.1	X	-	-	-	12
70	Harmon, 2004 [†]	35	28	61.7	7.51	X	X	-	-	9
71	Harmon, 2005 [†]	36	30	64.07	N/A	X	-	-	-	12
72	Humphreys, 2016	173	148	63.47	10.1	-	-	-	X	7
73	Kadoi, 2001 [‡]	185	138	N/A	N/A	X	X	-	-	6
74	Kadoi, 2002§	60	53	62.75	8.5	-	Х	-	-	9

Ref. No.	Lead Author, Year	Total No. of	Total No.	Mean/Median	SD/Range/IQR	C1	C2	C3	Del	QA
	,	Patients	of Males	Age	of Age					(/12)
75	Kadoi, 2003 [‡]	180	136	65	9	-	X	-	-	9
76	Kadoi, 2005§	280	210	65.07	9.93	Х	Х	-	-	9
77	Kadoi, 2007 [§]	106	53	62.55	10.45	-	Х	-	-	9
78	Kadoi, 2011 (a)§	124	89	61.29	5.39	X	-	-	-	12
79	Kadoi, 2011 (b)§	90	68	65	9	X	X	-	-	9
80	Kazmierski, 2014 (a) [¶]	113	90	64	R: 59-71	-	-	-	Х	12
81	Kazmierski, 2014 (b) [¶]	102	N/A	N/A	N/A	-	-	-	X	12
82	Kazmierski, 2014 (c) [¶]	113	90	Med: 64	R: 59-71	-	-	-	X	12
83	Khan, 2014	735	577	55.64	9.65	-	-	-	Х	10
84	Khatri, 1999	170	127	61	10	-	Х	-	-	7
85	Kok, 2017	57	N/A	N/A	N/A	-	-	Х	-	5
86	Kumpaitiene, 2019	59	34	66.49	8.04	X	-	-	-	11
87	Lachmann, 2018	252	180	61.0	9.1	-	-	Х	-	8

Ref. No.	Lead Author, Year	Total No. of	Total No.	Mean/Median	SD/Range/IQR	C1	C2	C3	Del	QA
Kel . 100.	Leau Autior, Tear	Patients	of Males	Age	of Age	CI	02	CJ	Dei	(/12)
88	Leenders, 2018	357	304	66.20	8.84	-	-	-	X	9
89	Li, 2015	38	34	62.4	11.8	-	-	-	X	10
90	Liu, 2009	227	209	60	8	X	X	-	-	9
91	Loponen, 2008	300	237	66.17	8.89	-	-	-	X	8
92	Mardani, 2012	196	183	61.84	11.83	-	-	-	X	9
93	Mariscalco, 2012	4079	3220	67.8	9.2	-	-	-	X	12
94	Martin, 2010 [#]	14262	10912	N/A	N/A	-	-	-	X	5
95	Martin, 2012 [#]	8474	6391	N/A	N/A	-	-	-	X	7
96	Mathew, 2006**	121	N/A	N/A	N/A	-	Х	-	-	8
97	Mathew, 2007**	677	471	61.7	10.5	-	Х	-	-	9
98	Miyazaki, 2011	768	N/A	N/A	N/A	-	-	-	X	6
99	Mu, 2010	243	200	61	8.3	-	-	-	X	12
100	Mu, 2013	166	141	60	8.9	X	-	-	-	12

Ref. No.	Lead Author, Year	Total No. of	Total No.	Mean/Median	SD/Range/IQR	C1	C2	C3	Del	QA
Kel. 110.	Leau Autior, Tear	Patients	of Males	Age	of Age	CI	C2	C3	Dei	(/12)
101	Newman, 1987	67	62	55.0	7.8	X	-	-	-	10
102	Nikolic, 2012	370	271	N/A	N/A	-	-	-	Х	7
103	Norkiene, 2007	1367	1035	64.98	9.14	-	-	-	Х	10
104	Norkiene, 2011	127	103	60.91	7.24	Х	-	-	-	11
105	Oh, 2008	46	36	63	5.5	Х	-	-	-	11
106	Oh, 2017	292	211	N/A	N/A	-	-	-	Х	10
107	Oldham, 2015	102	76	65.1	9	-	-	-	Х	11
108	Oldham, 2019	131	96	65.8	9.2	-	-	-	Х	12
109	Omiya, 2015	88	N/A	69	7	-	-	-	Х	10
110	Otomo, 2013	153	109	72	7	-	-	-	Х	12
111	Palmbergen, 2012	642	452	68.5	9.79	-	-	-	Х	11
112	Plaschke, 2010	114	89	68.98	8.39	-	-	-	Х	12
113	Reents, 2002	47	41	60.4	8	X	-	-	-	10

Ref. No.	Lead Author, Year	Total No. of	Total No.	Mean/Median	SD/Range/IQR	C1	C2	C3	Del	QA
Kel. 110.	Leau Autiloi, Tear	Patients	of Males	Age	of Age	CI	C2	C3	Dei	(/12)
114	Restrepo, 2002	13	10	65	9	Х	-	-	-	10
115	Ringaitiene, 2015	99	70	67.6	7.78	-	-	-	Х	10
116	Robson, 2000	124	N/A	59.44	9.25	-	Х	-	-	7
117	Rodriguez, 2010	356	325	63	9	Х	Х	-	-	5
118	Rolfson, 1999 (a) ^{††}	75	59	N/A	N/A	-	-	-	Х	12
119	Rolfson, 1999 (b) ^{††}	71	57	71	N/A	-	-	-	Х	11
120	Royse, 2000	47	37	64.22	1.78	Х	Х	-	-	8
121	Royse, 2011	180	153	62.79	10.5	-	-	-	Х	10
122	Rudolph, 2005	36	36	68.8	9.2	-	-	-	Х	12
123	Rudolph, 2006 ^{‡‡}	80	62	74.9	6.2	-	-	-	Х	11
124	Rudolph, 2009 ^{‡‡}	68	67	70.7	8.2	-	-	-	Х	12
125	Sahan, 2018	40	34	65.85	6.02	Х	Х	-	-	9
6	Santos, 2004	220	142	70.71	5.48	-	-	-	X	11

Ref. No.	Lead Author, Year	Total No. of	Total No.	Mean/Median	SD/Range/IQR	C1	C2	C3	Del	QA
Kel. 190.	Leau Author, Tear	Patients	of Males	Age	of Age	CI	C2	ĊĴ	Dei	(/12)
126	Scott, 2002	103	84	64.77	1.3	Х	-	-	-	12
127	Sevuk, 2015	200	128	70.65	3.95	-	-	-	X	12
128	Siepe, 2011	92	74	66.87	8.98	-	-	-	X	12
129	Silbert, 2006 ^{§§}	326	252	67.9	7.6	Х	Х	-	-	9
130	Silbert, 2008 ^{§§}	264	203	67.8	7.7	Х	-	X	-	7
131	Slater, 2009	240	201	64.74	9.96	Х	Х	-	-	7
132	Smith, 1986	55	51	54.7	R: 37-74	X	-	-	-	9
133	Smith, 2000	381	308	N/A	N/A	-	X	-	-	8
134	Stump, 1996	167	138	61	10	Х	-	-	-	8
135	Subramaniam, 2019	120	101	Med: 69	IQR: 63-76	-	-	-	Х	12
136	Suksompong, 2002	110	110	61.95	7.58	Х	-	-	-	10
137	Swaminathan, 2002	282	201	61	10.44	-	X	-	-	8
138	Sylivris, 1998	41	31	69.8	6.9	X	-	-	-	10

Ref. No.	Lead Author, Year	Total No. of	Total No.	Mean/Median	SD/Range/IQR	C1	C2	C3	Del	QA
Nel . 190.	Leau Autior, Tear	Patients	of Males	Age	of Age	CI	C2	C3	Dei	(/12)
139	Tagarakis, 2007	137	99	69.55	7.63	-	-	-	X	7
140	Tamura, 2019	88	76	69.3	2.5	-	-	-	X	10
141	Toeg, 2013 [*]	652	576	64.37	9	X	-	-	-	10
142	Trubnikova, 2014	101	101	56.6	5.85	X	-	X	-	4
143	Tully, 2010	158	125	64.68	10.56	-	-	-	X	10
144	van Dijk, 2004	281	191	61.2	9.0	-	X	-	-	7
145	Yilmaz, 2016	137	105	61.02	7.83	-	-	-	Х	10
146	Zhang, 2015	249	197	62.9	9.34	-	-	-	Х	12

[†], [‡], [§], [¶], ^{‡‡} Suspected overlap of samples; ^{*}, [|], [#], ^{**}, ^{††}, ^{§§} Known overlap of sample

Ref No. = supplementary reference list number; C1= acute cognitive decline (immediately post-operatively up to 1-month); C2= mid-term cognitive decline (1 to 6-months post-operatively); C3= long-term cognitive decline (12 to 15-months post-operatively). Del = delirium; Med = median; IQR= inter quartile range; QA = quality assessment; SD = standard deviation.

Table S7. Subgroup meta-analyses of diagnostic tool, for pre, intra and post-operative

variables for the development of delirium following CABG.

Variable	Delirium Diagnosis	k (n)	Pooled Es OR/MD*/	timate 95%CI	p value	Heter I ²	ogeneity Tau ²
			SMD†				
Pre-Operative (Categorical)							
Alcoholism	No Tool		Insufficien	it Data			
	Tool	5 (694)	0.77	0.46—1.29	.317	0	0
Arrhythmia, incl. AF	No Tool	7 (31550)	2.05	1.77—2.37	<.001	0	0
	Tool	8 (1252)	1.91	1.15—3.16	<.001	45.09	0.21
BMI >28 (including >30)	No Tool	2 (15629)	0.86	0.51—1.47	.587	62.68	0.10
	Tool	5 (668)	1.46	0.89—2.41	.133	11.02	0.04
BMI \geq 30 only	No Tool		Insufficien	t Data			
	Tool	4 (419)	1.85	1.09—3.14	.023	0.00	0
Cognitive Impairment	No Tool	Insufficient Data					
	Tool	6 (790)	4.11	2.59—6.53	<.001	0	0
Depression	No Tool	2 (378)	2.06	0.75—5.67	.162	66.06	0.35
	Tool	2 (202)	4.14	1.37—12.51	.012	0	0
Diabetes	No Tool	12 (42736)	1.46	1.33—1.60	<.001	13.34	0
	Tool	18 (5419)	1.57	1.32—1.87	<.001	0	0
Dyslipidaemia/Hyperlipidaemia	No Tool	4 (2283)	0.70	.033—1.49	.355	66.26	0.39
	Tool	9 (4166)	0.99	0.67—1.45	.943	46.78	0.14
Education>12years/high school	No Tool		Insufficien	it Data			
	Tool	3 (347)	0.78	0.45—1.35	.374	0	0
Hypertension	No Tool	11 (33054)	1.65	1.38—1.98	<.001	50.98	0.04
	Tool	16 (5308)	1.18	0.88—1.57	.267	38.51	0.12
Sex (male)	No Tool	10 (30814)	1.10	0.87—1.40	.415	62.44	0.06
	Tool	25 (6639)	0.78	0.60—1.01	.056	41.95	0.16
Kidney injury	No Tool	6 (23602)	1.91	1.40—2.60	<.001	36.40	0.05

Variable	Delirium Diagnosis	k (n)	Pooled Es OR/MD*/	stimate 95%CI	p value	Hetero I ²	ogeneity Tau ²
			SMD †		_		
	Tool	8 (1662)	1.96	1.18—3.25	.009	29.13	0.14
Previous MI <30 days	No Tool	3 (101)	1.98	0.88—4.49	.100	52.09	0.27
	Tool	2 (200)	1.04	0.56—1.93	.909	0	0
Previous MI history/ever	No Tool	3 (6877)	1.04	0.72—1.51	.822	45.06	0.05
	Tool	8 (3785)	1.24	0.92—1.67	.160	0	0
Previous stroke, TIA, CVA	No Tool	6 (22297)	2.73	1.92—3.88	<.001	56.18	0.09
	Tool	9 (4830)	2.37	1.50—3.70	<.001	35.96	0.16
PVD	No Tool	4 (11604)	2.11	1.73—2.58	<.001	0.90	0
	Tool	10 (4736)	2.01	1.28—3.15	.003	49.82	0.24
Smoking current	No Tool	5 (16780)	1.19	1.07—3.53	.030	85.56	0.33
	Tool	9 (1045)	0.83	0.60—1.15	.265	17.36	0.04
Smoking current/history	No Tool	8 (24122)	1.41	1.04—1.92	.029	76.07	0.12
	Tool	13 (1691)	0.92	0.73—1.15	.458	0	0
Pre-Operative (Continuous)							
Age (years)	No Tool	8 (3118)	3.11*	1.50—4.72	<.001	51.30	2.31
	Tool	20 (6185)	4.52*	2.95—6.09	<.001	82.93	9.67
BMI	No Tool		Insufficie	nt Data			
	Tool	4 (776)	0.023*	-0.6—0.65	.653	15.02	0.07
Cognition: All tests	No Tool		Insufficie	nt Data			
	Tool	9 (887)	-0.58†	-0.78— -0.37	<.001	34.11	0.03
Cognition: MMSE only	No Tool		Insufficie	nt Data			
	Tool	7 (621)	1.14*	-1.91— -0.36	.004	77.72	0.68
Depression GDS	No Tool		Insufficie	nt Data			
	Tool	2 (233)	0.75*	-0.15—1.65	.101	0	0
Education (years)	No Tool		Insufficie	nt Data			
	Tool	6 (665)	-0.93*	-1.65—-0.20	.012	19.31	0.16
EuroSCORE	No Tool	3 (1058)	3.06*	0.28—5.83	0.31	95.87	5.71

Variable	Delirium Diagnosis	k (n)	Pooled Es OR/MD*/	stimate 95%CI	p value	Heter I ²	ogeneity Tau²
			SMD †				
	Tool	7 (10141)	0.65*	0.14—1.16	.012	89.23	0.37
LVEF (%)	No Tool	4 (2518)	1.91*	-1.94—5.77	.330	91.24	13.83
	Tool	7 (790)	0.82*	-1.24—2.89	.435	57.05	4.24
Intra-Operative (Continuous)							
ACC time (mins)	No Tool	7 (3026)	9.88*	-0.52—20.29	.063	94.19	176.11
	Tool	9 (4462)	3.61*	-0.97—8.18	.123	75.77	34.07
CPB time (mins)	No Tool	8 (7693)	4.98*	2.33—7.63	<.001	0	0
	Tool	13 (4719)	7.91*	2.37—13.45	.005	60.91	52.60
Duration of surgery (mins)	No Tool		Insufficier	nt Data			
	Tool	12 (1851)	19.66*	7.18—32.14	.002	77.61	342.16
Intubation time (hours)	No Tool	3 (2194)	7.391*	1.78—13.00	.010	94.02	22.48
	Tool	8 (4499)	6.62*	1.25—12.00	.016	98.50	57.31
Number of grafts	No Tool	3 (1863)	0.06*	-0.27—0.38	.738	58.79	0.05
	Tool	5 (868)	0.15*	0.04—0.27	.009	0	0
Post-Operative (Categorical)							
Arrhythmia, incl. AF	No Tool	7 (4423)	4.26	2.16—8.40	<.001	82.46	0.65
	Tool	9 (4386)	2.98	1.93—4.61	<.001	52.46	0.20
Post-Operative (Continuous)							
LOS in ICU (days)	No Tool	4 (2390)	3.39*	-0.16—6.94	.061	99.04	12.59
	Tool	10 (4787)	1.69*	1.06—2.31	<.001	94.03	0.86
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Note: "Delirium Diagnosis" indicates analyses conducted by categorization of diagnostic method, where "No Tool" represents studies that did not utilize a specific instrument and "Tool" represents studies utilizing a standardized instrument e.g. Confusion Assessment Method (CAM) or the Delirium Rating Scale (DRS) to inform the reference standard. ACC= aortic cross-clamp, AF= atrial fibrillation, BMI= body mass index, CI= cognitive index score, CPB= cardiopulmonary bypass, CVA= cerebrovascular attack, GDS= geriatric depression scale, k= number of estimates (number of studies), LOS= length of stay, LVEF= left ventricular ejection fraction, MD= mean difference, MI= myocardial infarction, MMSE= mini mental state examination, n= pooled sample size, OR= odds ratio, PVD= peripheral vascular disease, SMD= standardised mean difference and TIA= transient ischemic attack. Symbols following pooled estimates denote different effect sizes: indicating OR (no symbol), MD* and SMD†.

Reference No.	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium (Standardized Delirium Measurement Tool: Y/N)
51	Al Tmimi, 2016	Delirium: CAM or CAM-ICU	Delirium: Positive CAM/CAM-ICU score (Y)
52	Baba, 2007	Cognition: HDS, Kana pick-out test, digit symbol, digit span (forward & backward)	Cognition: 20% method
53	Boodhwani, 2006	Cognition: Total learning free recall, consistent long-term retrieval, long-term retrieval, long- term storage, delayed recall, digit span (forward & backward), trails A & B, grooved pegboard, symbol digit modalities, RAVLT, Buschke selective reminding, WMS-III/mental control	Cognition: 0.5 SD method
54	Braekken, 1998	Cognition: WAIS vocabulary, WAIS picture completion, RCPM, CVLT-L, CVLT-S, CVLT-L, serial digit learning, WMS drawing, trails A & B, letter cancellation task, WAIS	Cognition: 1 SD method

Table S8. Study specific informati	1 • • 4		
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Reference	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium
No.			(Standardized Delirium Measurement Tool: Y/N)
		digit symbol, computerized RT, COWAT, grooved pegboard	
55	Bucerius, 2005	Delirium: APA guidelines	Delirium: According to APA guidelines (N)
56	Caldas, 2019	Delirium: CAM-ICU	Delirium: Positive CAM-ICU score (Y)
57	Chen, 2017	Delirium: CAM-ICU	Delirium: Positive CAM-ICU score (Y)
58	Christiansen, 2016	Cognition: VVLT, CST, stroop test, LDCT	Cognition: Decline of $>20\%$ in ≥ 2 tests
59	Coffey, 1983	Delirium: DSM-III criteria	Delirium: DSM-III diagnostic criteria (N)
60	Colak, 2015	Cognition: MMSE, color trail test, grooved pegboard	Cognition: Miscellaneous
		Delirium: DSS	Delirium: Patient met criteria specific to study (N)
61	Cumurcu, 2008	Delirium: DRS (for severity), DSM-IV-TR criteria, MMSE	Delirium: DSM-IV-TR diagnostic criteria (N)

Reference No.	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium (Standardized Delirium Measurement Tool: Y/N)
62	de Tournay-Jette, 2011	Cognition: MMSE (pre-screen, excluded if <24 pre-surgery), logical memory subtest (of the Rivermead battery), RAVLT, digit symbol, trails A & B, stroop test, verbal fluency test	Cognition: 1 SD method
63	Dieleman, 2009	Cognition: RAVLT-L, RAVLT-R, grooved pegboard, trails A & B, Sternberg memory comparison, line orientation test, stroop test, continuous performance task, self-ordering tasks, visuospatial working memory, symbol digit modalities	Cognition: RCI method
64	Djaiani, 2003	Cognition: Randt short story, WAIS digit span, WMS figural memory, WAIS digit symbol, Trails B, RAVLT	Cognition: 1 SD method
65	Dong, 2014	Cognition: 12 neuropsychological tests used to assess cognitive functions including attention, memory and executive function	Cognition: RCI method

Reference	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium
No.			(Standardized Delirium Measurement Tool: Y/N)
		Delirium: CAM-ICU	Delirium: Positive CAM-ICU score (Features 1 and
			2 are present and either Feature 3 or 4 is present)
			(Y)
		Delirium: DSM-III-R	Delirium: DSM-III-R diagnostic criteria (N)
66	Eriksson, 2002	Delirium: CAM and OBS scale	Delirium: Positive CAM score and fulfilled DSM-IV
			criteria (Y)
67	Goto, 2000	Cognition: HDS	Cognition: Cutoff method
68	Gottesman, 2010	Delirium: DSS	Delirium: Charts reviewed for delirium in those with
			neurologic injury (N)
69	Hall, 1999	Cognition: Trails A & B, digit span (forward &	Cognition: Z-score method
		backward), COWAT	
70	Harmon, 2004	Cognition: RAVLT, trails A & B, grooved	Cognition: RCI method
		pegboard, COWAT, digit symbol	

Reference	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium
No.			(Standardized Delirium Measurement Tool: Y/N)
		Delirium: DSM-III-R, MMSE	Delirium: Diagnosis based on the DSM-III-R criteria and the MMSE (N)
71	Harmon, 2005	Cognition: RAVLT, trails A & B, grooved pegboard, COWAT, digit symbol	Cognition: RCI method
		Delirium: DSM-III-R, MMSE	Delirium: Diagnosis based on the DSM-III-R criteria and the MMSE (N)
		Delirium: ICDSC	Delirium: ICDSC score \geq 4 (Y)
72	Humphreys, 2016	Delirium: DSI, SPMSQ	Delirium: Positive DSI score (had any one of the critical symptoms of delirium: disorientation, disturbance of consciousness, or perceptual disturbance) (Y)
73	Kadoi, 2001	Cognition: MMSE, RAVLT, trails A & B, digit span (forward), grooved pegboard	Cognition: 1 SD method

Reference No.	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium (Standardized Delirium Measurement Tool: Y/N)
74	Kadoi, 2002	Cognition: MMSE, RAVLT, trails A & B, digit span (forward), grooved pegboard	Cognition: 1 SD method
75	Kadoi, 2003	Cognition: MMSE, RAVLT, trails A & B, digit span (forward), grooved pegboard	Cognition: 1 SD method
76	Kadoi, 2005	Cognition: MMSE, RAVLT, trails A & B, digit span (forward), grooved pegboard	Cognition: 1 SD method
77	Kadoi, 2007	Cognition: MMSE, RAVLT, trails A & B, digit span (forward), grooved pegboard	Cognition: 1 SD method
79	Kadoi, 2011 (a)	Cognition: MMSE, RAVLT, trails A & B, digit span (forward), grooved pegboard	Cognition: 1 SD method
78	Kadoi, 2011 (b)	Cognition: MMSE, RAVLT, trails A & B, digit span (forward), grooved pegboard	Cognition: 1 SD method
80	Kazmierski, 2014 (a)	Cognition: MoCA, trails B	Cognition: Cutoff method

Reference	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium
No.			(Standardized Delirium Measurement Tool: Y/N)
		Delirium: CAM or CAM-ICU, RASS	Delirium: If RASS was above –4 (–3 through +4), assessment with the CAM-ICU was administered (Y)
81	Kazmierski, 2014 (b)	Delirium: CAM-ICU, MDAS (for severity)	Delirium: Positive CAM-ICU score (Feature 1 and Feature 2 and either Feature 3 or 4 are present) (Y)
82	Kazmierski, 2014 (c)	Delirium: CAM-ICU	Delirium: If RASS was above –4 (–3 through +4), assessment with the CAM-ICU was administered (Y)
83	Khan, 2014	Delirium: DSM-IV	Delirium: Diagnosed using DSM-IV criteria (N)
84	Khatri, 1999	Cognition: Randt short story, WAIS-R digit span, WAIS-R digit symbol, trails B, figural memory	Cognition: 20% method
85	Kok, 2017	Cognition: CogState brief computerized test battery (detection task, identification task, one card learning task and one back task)	Cognition: RCI method

Reference No.	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium (Standardized Delirium Measurement Tool: Y/N)
86	Kumpaitiene, 2019	Cognition: MMSE, RAVLT, WAIS digit span, WAIS digit symbol, Shulte table	Cognition: Pre-post change of >2 points in combined studentized score, or >2 points in \geq 2 individual studentized test scores.
87	Lachmann, 2018	Motor choice RT, grooved pegboard, Trails A & B, symbol digit modalities, stroop test, continuous performance task, RAVLT, self- ordering tasks, visual/spatial working memory, Sternberg memory comparison, line orientation	Cognition: Decrease of ≥20% on ≥3 tests
88	Leenders, 2018	Delirium: CAM, CAM-ICU, multidisciplinary consultation	Delirium: Administration of haloperidol in addition to positive CAM or CAM-ICU score and multidisciplinary consultation (Y)
89	Li, 2015	Delirium: CAM	Delirium: Positive CAM score (Features 1 and 2 are present and either Feature 3 or 4 is present) (Y)
90	Liu, 2009	Cognition: WMS mental control, WMS visual retention, WMS paired-associate verbal learning, digit span (forward and backward),	Cognition: RCI method

Reference	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium
No.			(Standardized Delirium Measurement Tool: Y/N)
		WAIS-R digit symbol, trails A, grooved pegboard (dom & non-dom)	
91	Loponen, 2008	Delirium: DSS (clinically diagnosed)	Delirium: Clinically diagnosed with requirement that temporary medication, i.e. diazepam or haloperidol, was needed to sedate the delirious patient (N)
92	Mardani, 2012	Delirium: DSM-IV, MMSE	Delirium: DSM-IV criteria interviews conducted on patients with a MMSE score ≤ 23 (N)
93	Mariscalco, 2012	Delirium: CAM-ICU	Delirium: At least 2 positive assessments on CAM- ICU (Features 1 and 2 are present and either Feature 3 or 4 is present) (Y)
94	Martin, 2010	Delirium: STS	Delirium: Defined according to STS definition (N)
95	Martin, 2012	Delirium: STS	Delirium: Defined according to STS definition (N)

Reference No.	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium (Standardized Delirium Measurement Tool: Y/N)
96	Mathew, 2006	Cognition: Randt short story, WMS modified visual reproduction test, WAIS-R digit span, WAIS-R digit symbol, trails B	Cognition: 1 SD method (domain)
97	Mathew, 2007	Cognition: Randt short story, WMS modified visual reproduction test, WAIS-R digit span, WAIS-R digit symbol, trails B	Cognition: 1 SD method (domain)
98	Miyazaki, 2011	Delirium: DSM-IV	Delirium: Diagnosed according to DSM-IV criteria or administering antipsychotic agents by reviewing medical records during the ICU stay (N)
99	Mu, 2010	Delirium: CAM-ICU, RASS	Delirium: If RASS was above –4 (–3 through +4), assessment with the CAM-ICU was administered (4-step algorithm) (Y)
100	Mu, 2013	Cognition: Trails A, grooved pegboard (dom & non-dom), the WMS-Chinese edn. of the mental control subtest, digit span subtest (forward & backward), visual retention subtest,	Cognition: 1 SD method (preop) / RCI method

Reference	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium
No.			(Standardized Delirium Measurement Tool: Y/N)
		paired associate verbal learning subtest, digit symbol subtest	
101	Newman, 1987	Cognition: RAVLT, non-verbal recognition memory test (computer-administered), Trails A & B, WAIS block design, Purdue Pegboard (left, right, and both hands), letter cancellation test, symbol digit replacement (computer- based), choice RT (computer-based)	Cognition: Decrease of ≥1SD in >3 tests
102	Nikolic, 2012	Delirium: CAM	Delirium: Positive CAM score (Features 1 and 2 are present and either Feature 3 or 4 is present) (Y)
103	Norkiene, 2007	Delirium: DSM-IV	Delirium: Clinician diagnosis according to DSM-IV criteria (N)
104	Norkiene, 2011	Cognition: MMSE, RAVLT, trails A & B, digit span, digit symbol, cube drawing	Cognition: 1 SD method
		Delirium: DSM-IV	Delirium: Defined according to DSM-IV criteria (N)

Reference	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium
No.			(Standardized Delirium Measurement Tool: Y/N)
105	Oh, 2008	Cognition: MMSE, trails A, grooved pegboard	Cognition: 20% method
106	Oh, 2017	Delirium: DSS (psychiatric consultation & DSM- IV)	Delirium: Diagnosed by psychiatric consultation according to DSM-IV criteria (N)
107	Oldham, 2015	Cognition: CDR, MMSE, digit span, HVLT, WMS-IV, progressive digit sequencing, three word fluency tasks, NAB mazes subtest, trails A & B, digit symbol	Cognition: Cutoff method, 1 SD method
		Delirium: aDST, CAM, DI, MMSE	Delirium: Determined based on CAM (Y)
108	Oldham, 2019	Delirium: CAM, MMSE, abbreviated digit span test, DI	Delirium: Psychiatrist diagnosis based on CAM, MMSE, digit span test and delirium index (Y)
109	Omiya, 2015	Delirium: DRS-R-98	Delirium: DRS-R-98 score ≥ 8 (Y)
110	Otomo, 2013	Delirium: DSM-IV, DRS	Delirium: Diagnosed according to DSM-IV criteria & DRS score (Y)

Reference	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium
No.			(Standardized Delirium Measurement Tool: Y/N)
111	Palmbergen, 2012	Delirium: DOS scale, confirmed by geriatrician or	Delirium: DOS scale for screening. If suspected,
		internist	confirmed by geriatrician or internist (Y)
112	Plaschke, 2010	Delirium: CAM-ICU (German), RASS	Delirium: Positive CAM-ICU score (Y)
113	Reents, 2002	Cognition: d2-letter cancellation test, trails B,	Cognition: 1 SD method
		Benton's visual retention test, WAIS block	
		design, WAIS digit span	
		Delirium: DSM-IV	Delirium: Defined according to DSM-IV criteria (N)
114	Restrepo, 2002	Cognition: Trails B, oral and written naming test,	Cognition: Z-score method
		oral reading tests, line cancellation, Bells tests	
115	Ringaitiene, 2015	Delirium: CAM-ICU	Delirium: Positive CAM-ICU score (Y)
116	Robson, 2000	Cognition: RAVLT, trails A & B, PASAT,	Cognition: 1 SD method (<20% tests), 0.5 SD
		grooved pegboard, COWAT, NART, block	method (<20% tests)
		design, object assembly test, digit symbol,	
		picture completion test	

Reference No.	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium (Standardized Delirium Measurement Tool: Y/N)
117	Rodriguez, 2010	Cognition: Group 1: RAVLT, trails A & B, grooved pegboard, symbol digit modalities, WAIS-R digit span, WMS mental control, letter (FAS test), category fluency (animal naming), finger tapping; Group 2: RAVLT, trails A & B, grooved pegboard, symbol digit modalities, WAIS-R digit span, verbal fluency (FAS test), categories (animal naming)	Cognition: Z-score method
118	Rolfson, 1999 (a)	Delirium: CAM, MMSE, DSM-III-R	Delirium: Diagnosed according to DSM-III-R criteria, based on results from standardized measures (e.g. CAM) and consultation with nurses, family members and hospital records (Y)
119	Rolfson, 1999 (b)	Delirium: DSM-III-R on clinical grounds (CAM, CAM-MD, CAM-RN, MMSE, clock drawing test, MD chart review, RN chart review - used to determine clinical diagnosis)	Delirium: Clinically diagnosed according to DSM- III-R criteria, based on results from standardized measures (Y)

Reference No.	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium (Standardized Delirium Measurement Tool: Y/N)
120	Royse, 2000	Cognition: Recall (short-term & delayed), COWAT, trails A & B, grooved pegboard (dom & non-dom), digit symbol, digit span (forward & backward)	Cognition: 20% method
121	Royse, 2011	Cognition: Trails A & B, COWAT, stroop test, letter cancellation, grooved pegboard (dom & non-dom), RAVLT, digit span (forward & backward), symbol digit modalities	Cognition: 1 SD method (<20% tests)
		Delirium: CAM	Delirium: Positive CAM score (Y)
122	Rudolph, 2005	Delirium: CAM, digit span, DSI, MDAS, MMSE	Delirium: Positive CAM score (Features 1 and 2 are present and either Feature 3 or 4 is present) (Y)
123	Rudolph, 2006	Delirium: CAM (CAM-ICU for postoperatively intubated patients), digit span, DSI, MDAS, MMSE	Delirium: Positive CAM score (Features 1 and 2 are present and either Feature 3 or 4 is present) (Y)

Reference No.	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium (Standardized Delirium Measurement Tool: Y/N)
124	Rudolph, 2009	Delirium: CAM, digit span, DSI, MDAS, MMSE	Delirium: Positive CAM score (Features 1 and 2 are present and either Feature 3 or 4 is present) (Y)
125	Sahan, 2018	Cognition: WMS logical memory, clock drawing test, word list generation test, digit span, visuomotor spatial skills test	Cognition: 1 SD method (≥2 tests)
6	Santos, 2004	Delirium: DSM-IV	Delirium: Diagnosed by geriatrician based on DSM- IV criteria, in addition to notes from nurses and physicians (N)
126	Scott, 2002	Cognition: WMS-R logical memory (I & II), altered form of WMS-R digit span, trails A & B, COWAT	Cognition: 1 SD method (<20% tests), 1 SD method
127	Sevuk, 2015	Delirium: DRS-R-98 (for severity), ICDSC	Delirium: ICDSC score ≥ 4 (Y)
128	Siepe, 2011	Delirium: MMSE, psychologist assessment	Delirium: 10 point drop or more on MMSE from pre-op and a positive assessment by a psychologist (N)

Reference No.	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium (Standardized Delirium Measurement Tool: Y/N)
129	Silbert, 2006	Cognition: CERAD AVLT, digit symbol, Trails A & B, COWAT, semantic fluency test, grooved pegboard test (dom & non-dom)	Cognition: 1 SD method and 20% method (≥2 tests)
130	Silbert, 2008	Cognition: CERAD AVLT, Digit symbol, Trails A & B, COWAT, semantic fluency test, grooved pegboard test (dom & non-dom)	Cognition: 1 SD method (≥2 tests)
131	Slater, 2009	Cognition: MMSE, Trails A & B, HVLT (trials 1, 2, 3, B & C), grooved pegboard (dom & non- dom), stroop test (part C & CW)	Cognition: 1 SD method (<20% tests)
		Delirium: DRS	Delirium: Based on DRS (Y)
132	Smith, 1986	Cognition: WAIS vocab and picture completion subtests, RAVLT, block design, grooved pegboard, trails A & B, letter cancellation, digit symbol replacement, two-choice RT	Cognition: 1 SD method

Reference No.	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium (Standardized Delirium Measurement Tool: Y/N
133	Smith, 2000	Cognition: RAVLT, Rey auditory nonverbal memory, Trails A & B, letter cancellation, symbol-digit replacement, visual RT, grooved pegboard (dom & non-dom), finger tapping (dom & non-dom)	Cognition: 20% method (≥2 tests)
134	Stump, 1996	Cognition: Trails A & B, grooved pegboard (dom & non-dom), finger tapping (dom & non-dom), symbol digit, letter cancellation, visual RT, verbal and nonverbal memory	Cognition: 20% method (≥2 tests)
135	Subramaniam, 2019	Delirium: CAM, CAM-ICU	Delirium: Positive CAM or CAM-ICU score (Y
136	Suksompong, 2002	Cognition: Thai Mental State Exam	Cognition: Miscellaneous
137	Swaminathan, 2002	Cognition: Randt short story (immediate & delay), digit symbol, trails B, digit span (forward & backward), figural memory (immediate & delayed)	Cognition: 1 SD method (domain)

Reference No.	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium (Standardized Delirium Measurement Tool: Y/N)
138	Sylivris, 1998	Cognition: WAIS-R general information questionnaire, digit span, digit symbol, RAVLT, COWAT	Cognition: Miscellaneous
139	Tagarakis, 2007	Delirium: DRS	Delirium: Based on DRS, which was performed on patients suspected to develop delirium (Y)
140	Tamura, 2019	Delirium: ICDSC	Delirium: ICDSC >3
141	Toeg, 2013	Cognition: Buschke selective reminding or RAVLT, WAIS-R digit span, finger tapping task, letter and category fluency, trails A & B, grooved pegboard, symbol digit modalities	Cognition: 1 SD method (domain)
142	Trubnikova, 2014	Cognition: Complex visuomotor reaction (reaction time, number of errors), functional mobility of nervous processes and performance of brain responses to feedback (reaction time, number of errors, missed signals), Bourdons test, visual short-term memory tests	Cognition: 20% method

Reference	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium
No.			(Standardized Delirium Measurement Tool: Y/N)
		(memorisation of 10 numbers, 10 words, 10 nonsense syllables)	
143	Tully, 2010	Delirium: DSI, DSM-IV-TR, SPMSQ	Delirium: Classification based on DSM-IV-TR criteria. Evidence of perceptual disturbance and/or language disturbance was requisite for a delirium diagnosis. Neurology assessments, SPMSQ results and medical notes also evaluated. (N)
144	van Dijk, 2004	Cognition: RAVLT-L, RAVLT-R, grooved pegboard, trails A & B, Sternberg memory comparison, line orientation test, stroop test	Cognition: 20% method
145	Yilmaz, 2016	Delirium: CAM-ICU	Delirium: Positive CAM-ICU score (Features 1 and 2 are present and either Feature 3 or 4 is present) (Y)
146	Zhang, 2015	Delirium: CAM-ICU, RASS	Delirium: Positive CAM-ICU score (Features 1 and 2 are present and either Feature 3 or 4 is present) (Y)

Reference	Lead Author, Year	Instruments	Definitions of Cognitive Decline and Delirium
No.			(Standardized Delirium Measurement Tool: Y/N)

Note. see Supplementary Table 9 for glossary of instrument acronyms

Table S9. Glossary of abbreviations.

	Cognitive Impairment
AVLT	Auditory Verbal Learning Test
CDR	Clinical Dementia Rating scale
CERAD	The Consortium to Establish a Registry for Alzheimer's Disease
COWAT	Controlled Oral Word Association Test
CST	Concept Shifting Test
CVLT	California Verbal Learning Test
Digit symbol	Digit Symbol Substitution Task
HDS	Hasegawa Dementia Scale
HVLT	Hopkins Verbal Learning Test
LDCT	Letter-Digit Coding Test
MMSE	Mini Mental State Examination
MoCA	Montreal Cognitive Assessment
NAB	Neuropsychological Assessment Battery
NART	National Adult Reading Test
PASAT	Paced Auditory Serial Addition Task
Randt short story	Randt Memory Test Short-Story Module
RAVLT	Rey Auditory Verbal Learning Test
RAVLT-L	Rey Auditory-Verbal Learning – Learning Trial
RAVLT-R	Rey Auditory-Verbal Learning – Recognition Trial
RCPM	Raven Coloured Progressive Matrices
RT	Reaction Time
Stroop test	Stroop Colour Word Interference Test
Trails A & B	Halstead-Reitan Trail-making tests A & B

WAIS Wechsler Adult Intelligence Scale

WMS Wechsler Memory Scale

Delirium		
aDST	abbreviated Digit Span Test	
APA	American Psychiatric Association	
CAM	Confusion Assessment Method	
CAM-ICU	Confusion Assessment Method for the ICU	
DI	Delirium Index	
DOS	Delirium Observation Screening scale	
DRS	Delirium Rating Scale	
DRS-R-98	Delirium Rating Scale Revised-98	
DSI	Delirium Symptom Interview	
DSM-III-R	Diagnostic and Statistical Manual of Mental Disorders 3 rd ed., Revised.	
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders 4 th ed.	
DSM-IV-TR	Diagnostic and Statistical Manual of Mental Disorders 4 th ed., Text Revision	
DSS	Definition that is specific to the study	
ICDSC	The Intensive Care Delirium Screening Checklist	
MDAS	Memorial Delirium Assessment Scale	
MMSE	Mini Mental State Examination	
OBS	Organic Brain Syndrome scale	
RASS	The Richmond Agitation Sedation Scale	
SPMSQ	Short Portable Mental Status Questionnaire	
STS	Accordance with Society of Thoracic Surgeons	

Figure S1. Forest plots for delirium post-CABG analyses.

Variable	Forest Plot	
Pre-Operative (Categorical)		
Alcoholism	Study name Statistics for each study Odds ratio and S	5% CI
	Odds Lower Upper ratio limit limit Z-Value p-Value	
	Dong, 2014 1.057 0.362 3.084 0.101 0.919	— T T
	Humphreys, 2016 1.280 0.390 4.206 0.407 0.684	_
	Loponen, 2008 8.235 0.711 95.421 1.687 0.092	
	Mu, 2010 0.557 0.265 1.171 -1.543 0.123	-1
	Ringaitiene, 2015 1.487 0.071 31.270 0.256 0.798	
		_ 1
		1 1
	0.1 0.2 0.5 1 2	5 10
Arrhythmia, incl. AF	Study name Statistics for each study Odds ratio and 95	% CI
	Odds Lower Upper ratio limit limit Z-Value p-Value	
	Caldas, 2019 0.719 0.075 6.915 -0.286 0.775 K = = =	<u> </u>
	Coffey, 1983 0.629 0.149 2.652 -0.632 0.528	-
	Dong, 2014 1.310 0.519 3.303 0.571 0.568	-
	Eriksson, 2002 0.258 0.013 5.012 -0.895 0.371	3
	Gottesman, 2010 2.363 1.647 3.392 4.665 0.000	-
	Kazmierski, 2014a 2.361 0.597 9.343 1.224 0.221	
	Kazmierski, 2014b 2.778 0.497 15.517 1.164 0.244	•
	Mardani, 2012 4.519 1.041 19.614 2.014 0.044 Martin, 2010 1.883 1.522 2.330 5.824 0.000	
	Martin, 2010 1.083 1.022 2.000 0.000 Martin, 2012 2.070 1.575 2.720 5.218 0.000	
	Miyazaki, 2011 2.728 1.283 5.799 2.608 0.009	
	Mu, 2010 1.271 0.703 2.299 0.794 0.427	
	Nikolic, 2012 1.933 0.946 3.951 1.808 0.071	_
	Santana Santos, 2004 3.454 0.802 14.872 1.664 0.096	
	Zhang, 2015 5.103 2.535 10.269 4.567 0.000	-+-1
	2.068 1.700 2.514 7.277 0.000	
	0.1 0.2 0.5 1 2	5 10
	Favours A Fav	ours B
3MI >28 (including >30)	Study name Statistics for each study Odds ratio and 95	% CI
	Odds Lower Upper ratio limit limit Z-Value p-Value	
	Caldas, 2019 1.316 0.299 5.788 0.364 0.716	<u> </u>
	Chen, 2017 1.397 0.575 3.394 0.738 0.460	-
	Martin, 2010 0.703 0.557 0.888 -2.958 0.003 -	
	Norkeine, 2007 1.244 0.655 2.364 0.667 0.505	
	Royse, 2011 2.800 1.161 6.752 2.293 0.022	
	Rudolph, 2005 1.750 0.449 6.825 0.806 0.420	I
	Zhang, 2015 0.695 0.266 1.815 -0.743 0.457	
	1.158 0.744 1.802 0.649 0.516	
	0.1 0.2 0.5 1 2	5 10
	0.1 0.2 0.J I Z	5 10

BMI ≥30 only	Study name		Statist	ics for	each st	udy					Odds	ratio a	nd 95%	6 CI	-
		Odds ratio	Lower limit	Upper limit		lue	p-Valu	e							
	Caldas, 2019	1.316	0.299	5.78	B 0.3	364	0.71	16	l	Ē	-	-		+	Ť
	Chen, 2017	1.397	0.575	3.39	4 0.1	738	0.46	50			-	_		-	
	Norkeine, 2007	1.244	0.655	2.36	4 0.0	667	0.50)5				-			
	Royse, 2011	2.800	1.161	6.75	2 2.	293	0.02	22				27			
	Rudolph, 2005	1.750	0.449	6.82	5 0.1	806	0.42	20			-		-		
		1.573	1.045	2.36	8 2.	172	0.03	30				-			
								0	.1 ().2	0.5	1	2	5	10
Cognitive Impairment	Study name		Stat	istics fo	reach	study	L			0	dds ra	tio ar	nd 95%	CI	
		Odd: ratio	s Lowe D limit			alue	p-Val	ue							
	Leenders, 2018	4.08	1.4	46 11.5	20 2	2.656	0.0	800	1	Т	1		-		-
	Oldham, 2018	3.00	0 1.1	23 8.0	13 2	2.192	0.0	28				-			-01
	Kazmierski, 2014a	a 7.61	9 2.9	27 19.8	32 4	4.160	0.0	000					-		
	Oldham, 2015	6.11	1 1.0	56 35.3	63 2	2.021	0.0	043				-	-		->
	Rudolph, 2005	4.00	0.9	81 16.3	11 1	1.933	0.0	053					-	-	
	Zhang, 2015	4.44	6 1.6	76 11.7	97 2	2.997	0.0	003					82		->
	Rolfson, 1999b	2.31	1 0.7	52 7.1	06 1	1.462	0.1	144				2			0
		4.17	0 2.7	46 6.3	32 6	5.700	0.0	000					-		
									0.1	0.2	0.5	1	2	5	10
	Study name			Statistic	s for e	ach s	study				Odds	ratio	and 95	% CI	
			Odds L ratio		Z-Value		per mit p	-Value							
	Oldham, 2018		3.984	1.158	2.193	3 13	.705	0.028		1	Î –	1	1-+-		-
Depression	Santana Santos, 2		1.242	0.553	0.52	5 2	.787	0.600				_		- 1	
	Tully, 2010		3.490	1.477	2.850		.245	0.004					Γ+		_
	Rolfson, 1999a		4.846	0.408		0 57		0.211			8	-		-+)
	0		2.493	1.291		2 4		0.006							1
														-	1
									0.	.1 (.2 (0.5	1 2	5	10

Diabetes	Study name		Statis	tics for e	ach study			Odds ratio ar	nd 95% Cl		
		Odds ratio	Lower limit	Upper limit	7.Value	p-Value					
	Caldas, 2019	2.333	0.746		2-value	0.145	P 8	1		¥	
	Chen, 2017	1.421	0.690		0.954	0.340			<u></u>		
	Leenders, 2018	1.456	0.722	2.939	1.050	0.294			-	_	
	Dong, 2014	2.718	1.122		2.215	0.027		525 S S	2 ²	—	2
	Eriksson, 2002 Gottesman, 2010	1.889	0.394		0.795	0.427					2
	Bucerius, 2005	1.616	1.390		6.239	0.000					
	Coffey, 1983	1.564	0.597		0.910	0.363			-	8	
	Humphreys, 2016 Kazmierski, 2014a	2.210	1.110		2.257	0.024		-	-	·	
	Kazmierski, 2014b	1.154	0.517		0.350	0.727		2			
	Khan, 2014	1.237	0.872		1.191	0.234		5			
	Loponen, 2008	0.345	0.077		-1.398	0.162	<	-	-		
	Mardani, 2012 Mariscalco, 2012	0.661	0.143		-0.531	0.596					
	Martin, 2010	1.481	1.299		5.869	0.000					
	Martin, 2012	1.549	1.290	1.860	4.687	0.000					
	Miyazaki, 2011	1.539	1.021		2.059	0.039					
	Mu, 2010 Nikolic, 2012	1.767	1.041		2.109	0.035					
	Norkeine, 2007	1.792	0.887		1.626	0.104		10			
	Omiy a, 2015	0.354	0.036		-0.893	0.372				1	1
	Otomo, 2013	1.555	0.548		0.830	0.407	4		-		1
	Ringaitiene, 2015 Rudalah, 2005	1.882	0.416		0.821	0.412			-		
	Rudolph, 2005 Santana Santos, 2004	2.286	0.586		1.191	0.234			-		8
	Sevuk, 2015	1.124	0.611		0.375	0.707					
	Tully, 2010	0.718	0.345	1.495	-0.886	0.376					
	Yilmaz, 2016	0.820	0.284		-0.366	0.714					
	Zhang, 2015	1.755	0.988		1.920 11.183	0.055			-		
							0.1 0	2 0.5 1	2	5	10
Dyslipidemia/Hyperlipidemia	Study name			-		ach study	1	Odds ra	tio and 95%	CI	
			odds I ratio	Lower limit	Upper limit	Z-Value	p-Value				
	Caldas, 2019		0.395	0.126	1.240	-1.592	0.111	┤─┼───┼	<u> </u>		1
	Dong, 2014		1.399	0.640	3.055	0.842	0.400		─┼<u>╋</u>┼─		
	Coffey, 1983		0.212	0.074	0.606	-2.898	0.004		120-00		
	Humphreys, 2016		2.560	0.909	7.206	1.780	0.075	I T I	<u></u>		
	Loponen, 2008		1.066	0.368	3.085	0.118	0.906				
	Mariscalco, 2012		0.630	0.411	0.965	-2.123	0.034	_			
	Mu, 2010		1.028	0.615	1.720	0.107	0.915	200 <u>-</u>			
										_	
	Omiya, 2015		4.000		73.618	0.933	0.351				1
	Otomo, 2013		0.461	0.162	1.314	-1.449	0.147				
	Rudolph, 2005		1.474		17.913	0.304	0.761			1	1
	Santana Santos, 200		0.639		1.233		0.182				
	Sevuk, 2015		1.442	0.784	2.652	1.176	0.240				
	T. II. 0040		1.481	0.658	3.336	0.948	0.343	1		8	
	Tully, 2010					0.070	0 500				
	Tully, 2010		0.890	0.633	1.251	-0.672	0.502		-	5.00	
	Tuliy, 2010		0.890	0.633	1.251	-0.672	0.502	0.1 0.2 0.5	1 2	5	10
Education>12years/high school											10
Education>12years/high school	Study name			Statistic	cs for ea	-0.672			1 2		10
Education>12years/high school		0			s for ea		<u>′</u>				10
Education>12years/high school	Study name	0 r	dds L atio	Statistic .ower limit	cs for ea Upper limit	ach study Z-Value	p-Value				10
Education>12years/high school	Study name Chen, 2017	O r C	dds L atio	Statistic ower limit 0.211	cs for ea Upper limit 1.535	ach study Z-Value -1.115	p-Value 0.265				10
Education>12years/high school	Study name Chen, 2017 Oldham, 2018	0 r 0	dds L atio).568).779	Statistic ower limit 0.211 0.291	cs for ea Upper limit 1.535 2.086	Z-Value -1.115 -0.497	p-Value 0.265 0.619				10
Education>12years/high school	Study name Chen, 2017 Oldham, 2018 Rudolph, 2006	0 r 0 1	dds L atio).568).779 1.000	Statistic ower limit 0.211 0.291 0.416	Upper limit 1.535 2.086 2.405	Z-Value -1.115 -0.497 0.000	p-Value 0.265 0.619 1.000				10
Education>12years/high school	Study name Chen, 2017 Oldham, 2018	0 r 0 1	dds L atio).568).779	Statistic ower limit 0.211 0.291	cs for ea Upper limit 1.535 2.086	Z-Value -1.115 -0.497	p-Value 0.265 0.619				10
Education>12years/high school	Study name Chen, 2017 Oldham, 2018 Rudolph, 2006	0 r 0 1 4	dds L atio).568).779 1.000	Statistic ower limit 0.211 0.291 0.416	Upper limit 1.535 2.086 2.405	Z-Value -1.115 -0.497 0.000 -1.942	p-Value 0.265 0.619 1.000				10
Education>12years/high school	Study name Chen, 2017 Oldham, 2018 Rudolph, 2006	0 r 0 1 4	dds L atio).568).779 1.000).368	Statistic over limit 0.211 0.291 0.416 0.134	Cs for ea Upper limit 1.535 2.086 2.405 1.009	Z-Value -1.115 -0.497 0.000 -1.942	p-Value 0.265 0.619 1.000 0.052		tio and 95%		10

Hypertension	Study name		Statist	ics for ea	ch study		Odds ratio and 95% Cl
		Odds ratio	Lower limit	Upper limit	Z-Value	p-Value	
	Caldas, 2019	2.368				0.294	
	Chen, 2017	4.440	0.473	11.871 10.987	1.048 3.225	0.001	
	Dong, 2014	1.446	0.658	3.179	0.919	0.358	
	Eriksson, 2002	1.800	0.420	7.712	0.792	0.428	
	Gottesman, 2010	1.391	1.048	1.847	2.285	0.022	
	Coffey, 1983	1.649	0.836	3.255	1.442	0.149	
	Humphreys, 2016 Kazmierski, 2014a	0.750	0.374	1.505 3.687	-0.810	0.418	
	Khan, 2014a	1.285	0.448	2.410	0.467	0.641	
	Loponen, 2008	1.593	0.581	4.365	0.905	0.365	
	Mardani, 2012	6.067	2.536	14.512	4.051	0.000	
	Mariscalco, 2012	0.671	0.435	1.037	-1.797	0.072	
	Martin, 2010	1.511	1.302	1.754	5.434	0.000	
	Martin, 2012	1.706	1.386	2.100	5.040	0.000	
	Miyazaki, 2011	2.705	1.526	4.798	3.408	0.001	
	Mu, 2010 Nikolic, 2012	1.395	0.818	2.379 6.548	1.221	0.222	
	Norkeine, 2007	0.965	0.456	2.040	-0.094	0.925	
	Omiya, 2015	0.850	0.135	5.366	-0.173	0.863	
	Otomo, 2013	0.487	0.164	1.447	-1.294	0.196	
	Ringaitiene, 2015	0.874	0.043	17.656	-0.088	0.930	│
	Rudolph, 2005	2.600		15.177	1.062	0.288	│ │ │ │ │ │ │ │ │
	Santana Santos, 2004	2.228	1.115	4.451	2.268	0.023	
	Sevuk, 2015	0.867	0.424	1.773 1.631	-0.392	0.695	
	Tully, 2010 Yilmaz, 2016	0.650	0.213	1.986	-0.567	0.450	
	Zhang, 2015	1.319	0.762	2.283	0.989	0.323	
		1.436	1.212	1.702	4.174	0.000	
		ito limi			e p-Valu	e	
	Caldes, 2019 1	.026 0.2	281 3.74	0.03	9 0.96	9	· · · · · • • • · · · · · ·
		0.180 0.0					< ∎
	2002 00 20 20 20 20 20 20 20 20 20 20 20	2.525 0.7				4	
	Oldram, 2018	1.267 0.1	02 0.70			-	2
	Cumurcu 2008 (1373 0.0	193 1.45				
		1.373 0.0 1.928 0.3		95 -1.39	2 0.164	4	
	Dorg., 2014 0 Erikeson, 2002 0	1.928 0.3 1.583 0.1	377 2.26 136 2.50	95 -1.39 97 -0.16 96 -0.72	2 0.16 2 0.87 5 0.48	4 1 9	
	Dang, 2014 0 Enikesan, 2002 0 Gattesman, 2010 0	1.928 0.3 1.583 0.1 1.839 0.6	977 2.28 136 2.50 951 1.07	95 -1.39 97 -0.16 96 -0.72 19 -1.36	2 0.16 2 0.87 5 0.489 7 0.172	4 1 9 2	
	Dorg., 2014 0 Erilezson, 2002 0 Gottesman, 2010 0 Al Tmirni, 2016 0	1.928 0.3 1.583 0.1 1.839 0.6 1.595 0.1	377 2.28 136 2.50 351 1.07 164 2.16	85 -1.39 17 -0.18 16 -0.72 19 -1.36 10 -0.78	2 0.16/ 2 0.87 5 0.469 7 0.172 9 0.430	4 1 9 2 0	
	Dong, 2014 0 Enlesson, 2002 0 Gottesman, 2010 0 Al Traini, 2016 0 Humphreys, 2016 0	1.928 0.3 1.583 0.1 1.839 0.6	377 2.28 136 2.50 136 1.07 164 2.16 229 1.33	85 -1.39 17 -0.16 16 -0.72 19 -1.36 10 -0.78 13 -1.33	2 0.18 2 0.87 5 0.48 7 0.17 9 0.43 5 0.18	4 9 2 0	
	Dorg., 2014 0 Erikeson, 2002 0 Gotteeman, 2010 0 Al Tmimi, 2016 0 Humphreys, 2016 0 Kazmisesik, 2014s 0 Khan, 2014 1	1.928 0.3 1.583 0.1 1.839 0.6 1.555 0.1 1.550 0.2 1.436 0.1 1.978 1.2	377 2.26 136 2.51 351 1.07 164 2.16 229 1.32 172 1.10 288 3.01	15 -1.39 17 -0.16 16 -0.72 19 -1.36 10 -0.78 13 -1.33 14 -1.75 19 3.11	2 0.16 2 0.87 5 0.46 7 0.17 9 0.40 5 0.18 1 0.08 6 0.00	4 9 2 0 2 0	
	Dong, 2014 0 Eriteson, 2002 0 Gottesman, 2010 0 Al Thim, 2016 0 Humphreys, 2016 0 Kazmiersk, 2014 1 Li, 2015 2	1.928 0.3 1.583 0.1 1.839 0.6 1.595 0.1 1.550 0.2 1.436 0.1 1.978 1.2 1.273 0.0	377 2.28 136 2.50 351 1.07 164 2.16 229 1.32 172 1.10 288 3.00 397 5336	35 -1.39 17 -0.16 16 -0.72 19 -1.36 20 -0.78 23 -1.33 14 -1.75 19 3.11 14 0.51	2 0.16 2 0.87 5 0.48 7 0.17 9 0.43 5 0.18 1 0.08 6 0.00 0 0.61	4 9 2 0 2 0 2 0	
	Dong, 2014 0 Enlesson, 2002 0 Gottesman, 2010 0 Al Traini, 2016 0 Humphreys, 2016 0 Kazmisrski, 2014 0 Kitan, 2014 1 Li, 2015 2 Laponen, 2008 4	1.928 0.3 1.523 0.1 1.839 0.6 1.555 0.1 1.555 0.1 1.550 0.2 1.436 0.1 1.978 1.2	377 2.22 136 2.51 1361 1.07 164 2.16 229 1.32 172 1.10 286 3.00 397 53.35 321 35.95	35 -1.39 17 -0.16 16 -0.72 19 -1.36 20 -0.78 23 -1.32 34 -1.75 39 3.11 14 0.51 54 1.50	2 0.16 2 0.87 5 0.48 7 0.17 9 0.43 5 0.18 1 0.08 6 0.00 0 0.13	4 9 2 0 2 0 2 0 3	
	Dorg., 2014 0 Enileson, 2002 0 Gotteemar, 2010 0 Al Trnimi, 2018 0 Humphree, 2018 0 Kazmiersik, 2014 0 Khar, 2014 1 Li, 2015 2 Loporen, 2008 4 Mardani, 2012 0	1.928 0.3 1.583 0.1 1.839 0.6 1.556 0.1 1.555 0.2 1.436 0.1 1.978 1.2 1.273 0.0 1.727 0.6 1.441 0.1 1.900 0.5	377 2.22 336 2.50 351 1.07 164 2.16 229 1.32 172 1.10 288 3.00 997 53.39 321 35.95 128 1.52 543 1.48	95 -1.39 17 -0.16 96 -0.72 79 -1.36 90 -0.78 123 -1.33 14 -1.76 19 3.11 14 -1.56 14 1.50 154 1.50 164 -1.29 17 -0.41	2 0.16 2 0.87 5 0.48 7 0.17 9 0.40 5 0.18 1 0.08 6 0.00 0 0.13 2 0.19 0 0.68	4 9 2 0 2 0 3 8 2	
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	Dong, 2014 0 Erileson, 2002 0 Gottesman, 2010 0 Al Trimi, 2016 0 Humphreys, 2016 0 Kazniseski, 2014 0 Kitan, 2014 1 Li, 2015 2 Loponen, 2008 4 Mardani, 2012 0 Martin, 2012 1	1.928 0.3 1.583 0.1 1.639 0.6 1.550 0.2 1.436 0.1 1.550 0.2 1.436 0.1 1.978 1.2 1.727 0.6 1.444 0.1 1.900 0.5 0.955 0.9 1.123 0.8	377 2.28 136 2.51 1351 1.07 164 2.16 229 1.32 172 1.10 288 3.00 297 53.39 212 1.52 213 1.52 214 1.46 337 1.28 305 1.36	95 -1.39 97 -0.16 98 -0.72 99 -1.36 90 -0.73 913 -1.32 914 -1.75 919 3.11 910 3.11 911 0.51 912 44 915 1.125 916 -1.22 917 -0.41 918 -1.125 914 -1.55	2 0.16 2 0.67 5 0.48 7 0.17 9 0.43 5 0.18 5 0.18 5 0.18 6 0.000 0 0.61 0 0.61 0 0.61 0 0.61 0 0.61 0 0.03 2 0.19 0 0.62 3 0.25 0 0 00 0 0 00 0 0 00 0 0 00 0 0 00 0 0 00 0 0 0	4 9 2 0 2 2 0 3 8 2 4 2	
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Kidney injury	Study name		Statist	ics for ea	ach study	L		Odd	ls ratio	and 95%	6 CI	
		Odds ratio	Lower limit	Upper limit	Z-Value	p-Value						
	Leenders, 2018	4,744			4.104	0.000	T	Ŧ	E	т т <u>–</u>	4	_
	Humphreys, 2016	1.010			0.015	0.988		32				
	Mardani, 2012	1.973				0.127						
	Martin, 2012	1.918				0.000				—		
	Martin, 2012	1.607				0.006				-T		
	Mu, 2010	1.229			0.301	0.763			_			
	Nikolic, 2012	1.045				0.913			-	↓		
	Omiya, 2015	4.000		73.618	0.933	0.351			_			- >
	Otomo, 2013	1.814	0.361	9.126	0.723	0.470			-	-	_	_
	Ringaitiene, 2015	2.106	0.093	47.538	0.468	0.640	K	-	_		-	-
	Santana Santos, 2004	5.547	1.677	18.352	2.806	0.005				-	-	>
	Tully, 2010	0.473	0.098	2.275	-0.935	0.350	K	3	-	+		
	Zhang, 2015	2.492									-	- L
	Oh, 2017	3.060			2.181	0.029				-	•	
		1.944	1.502	2.517	5.044	0.000				•		
							0.1	0.2	0.5	1 2	5	10
Previous MI <30 days	Study name	s	Statistic	s for ea	ch stud	У		Odd	ls ratio	and 9	5% C	l.
			ower l	Jpper								
	r	atio	limit	limit	Z-Value	p-Value		2		100	1	
	Humphreys, 2016 0	.940	0.476	1.855	-0.178	0.858			H			
	Loponen, 2008 1	.825	0.498	6.687	0.907	0.364			-			÷.
	Mardani, 2012 4	.224	1.552	11.496	2.820	0.005					_	\rightarrow
	Ringaitiene, 2015 1	.675	0.372	7.547	0.672	0.502			-			_
	1772		0.574	2.394	0.435	0.663						
				2.653	1.570	0.116						
		.040	0.000	2.000	1.070	0.110	0.1	0.2	0.5	1 2	5	1
D ')//////												
Previous MI history/ever	Study name		1	No.22	ach study	L		Odd	ls ratio	and 95%	6 CI	
		Odds	Lower	Upper	7 Value	p-Value						
		ratio	limit	limit	Z-value	p-value				20 D.		1
	Caldas, 2019	1.024			0.033	0.974	Ť	1-	-			
	Caldas, 2019 Chen, 2017	1.024	0.243	<mark>4.32</mark> 6	0.033		Ĩ	-				
	Caldas, 2019 Chen, 2017 Dong, 2014		0.243 0.959	4.326 4.324		0.974	1				-	
	Chen, 2017	1.024 2.037	0.243 0.959 0.669	4.326 4.324 3.264	0.033 1.852	0.974 0.064					-	
	Chen, 2017 Dong, 2014	1.024 2.037 1.478	0.243 0.959 0.669	4.326 4.324 3.264 4.448	0.033 1.852 0.966 0.304	0.974 0.064 0.334		-			-	
	Chen, 2017 Dong, 2014 Eriksson, 2002	1.024 2.037 1.478 1.222	0.243 0.959 0.669 0.336 0.978	4.326 4.324 3.264 4.448 1.575	0.033 1.852 0.966 0.304 1.773	0.974 0.064 0.334 0.761		-			-	
	Chen, 2017 Dong, 2014 Eriksson, 2002 Gottesman, 2010 Coffey, 1983 Mariscalco, 2012	1.024 2.037 1.478 1.222 1.241	0.243 0.959 0.669 0.336 0.978 0.575 0.692	4.326 4.324 3.264 4.448 1.575 2.242 1.610	0.033 1.852 0.966 0.304 1.773 0.364	0.974 0.064 0.334 0.761 0.076					-	
	Chen, 2017 Dong, 2014 Eriksson, 2002 Gottesman, 2010 Coffey, 1983 Mariscalco, 2012 Omiya, 2015	1.024 2.037 1.478 1.222 1.241 1.135 1.056 2.933	0.243 0.959 0.669 0.336 0.978 0.575 0.692 0.383	4.326 4.324 3.264 4.448 1.575 2.242 1.610 22.463	0.033 1.852 0.966 0.304 1.773 0.364 0.253 1.036	0.974 0.064 0.334 0.761 0.076 0.716 0.801 0.300		-				1
	Chen, 2017 Dong, 2014 Eriksson, 2002 Gottesman, 2010 Coffey, 1983 Mariscalco, 2012 Omiya, 2015 Ringaitiene, 2015	1.024 2.037 1.478 1.222 1.241 1.135 1.056 2.933 0.784	0.243 0.959 0.669 0.336 0.978 0.575 0.692 0.383 0.185	4.326 4.324 3.264 4.448 1.575 2.242 1.610 22.463 3.332	0.033 1.852 0.966 0.304 1.773 0.364 0.253 1.036 -0.329	0.974 0.064 0.334 0.761 0.076 0.716 0.801 0.300 0.742		-			-	
	Chen, 2017 Dong, 2014 Eriksson, 2002 Gottesman, 2010 Coffey, 1983 Mariscalco, 2012 Omiya, 2015 Ringaitiene, 2015 Santana Santos, 2004	1.024 2.037 1.478 1.222 1.241 1.135 1.056 2.933 0.784 0.675	0.243 0.959 0.669 0.336 0.978 0.575 0.692 0.383 0.185 0.379	4.326 4.324 3.264 4.448 1.575 2.242 1.610 22.463 3.332 1.203	0.033 1.852 0.966 0.304 1.773 0.364 0.253 1.036 -0.329 -1.332	0.974 0.064 0.334 0.761 0.076 0.716 0.801 0.300 0.742 0.183		-			-	7
	Chen, 2017 Dong, 2014 Eriksson, 2002 Gottesman, 2010 Coffey, 1983 Mariscalco, 2012 Omiya, 2015 Ringaitiene, 2015	1.024 2.037 1.478 1.222 1.241 1.135 1.056 2.933 0.784	0.243 0.959 0.669 0.336 0.978 0.575 0.692 0.383 0.185 0.379 0.179	4.326 4.324 3.264 4.448 1.575 2.242 1.610 22.463 3.332 1.203 4.129	0.033 1.852 0.966 0.304 1.773 0.364 0.253 1.036 -0.329 -1.332 -0.188	0.974 0.064 0.334 0.761 0.076 0.716 0.801 0.300 0.742						7

VDD Statistics Vipper ratio Vipper limit ZValue p-Value Caldas, 2019 0.717 0.914 0.363 2.300 0.912 0.848 Leenders, 2018 1.765 0.776 0.4100 1.321 0.186 Dong, 2014 2.003 0.714 9.400 1.449 0.147 Eriksson, 2002 9.486 1.475 60.991 2.370 0.018 Gottesman, 2010 2.009 1.683 3.168 5.190 0.000 Marica, 2012 2.799 1.102 6.682 2.171 0.030 Martin, 2010 3.895 2.839 5.290 8.709 0.000 Myazaki, 2011 2.150 1.385 3.386 3.042 0.012 Martin, 2010 1.929 6.769 1.178 3.839 2.144 0.032 Paimbergen, 2012 7.781 2.063 2.9354 3.029 0.002 Roifson, 1999a 6.789 1.178 3.839 2.144 0.032 <t< th=""><th>-</th></t<>	-
PVD Study name Statistics for each study Odds ratio and 95%. Cdas, 2019 0.433 0.902 0.424 0.640 0.002 PVD Study name Statistics for each study Odds ratio and 95%. Cdas, 2019 0.433 0.905 5.440 0.000 Numbergen, 2010 2.309 1.683 3.168 5.190 0.000 Martani, 2012 2.709 1.102 6.662 2.171 0.030 Martani, 2012 2.709 1.102 6.662 2.171 0.030 Martani, 2010 3.895 2.889 5.290 8.709 0.000 Myzacki, 2011 1.515 1.385 3.304 0.001 1.00 Mu, 2010 1.924 0.879 4.212 1.637 0.102 Norkeine, 2007 1.400 0.422 4.644 0.500 0.582 Palmbergen, 2012 7.781 2.063 3.350 6.680 0.000 0.1 0.2 0.5 1 2 0.51 1 2 Pddds Demeratio Demers	
PVD Study name Statistics for each study Odds ratio and 95%. Cdata, 2019 0.433 0.907 2.448 0.007 Numphreys, 2014 2.603 0.714 9.490 1.449 0.147 Eriksson, 2002 9.486 1.475 60.991 2.370 0.018 Gottesman, 2010 2.309 1.683 3.168 5.190 0.000 Khan, 2014 18.365 2.130 158.346 2.648 0.008 Martin, 2012 2.709 1.102 6.662 2.171 0.030 Martin, 2010 3.895 2.889 5.290 8.709 0.000 Mixeaki, 2011 2.150 1.385 3.304 0.001 1.02 0.582 Paimbergen, 2017 7.781 2.063 2.545 1.936 0.502 0.582 Paimbergen, 2017 7.781 2.063 2.545 0.029 0.002 0.1 0.1 0.2 0.5 1 2 Rolfson, 1999a 6.769 1.178 38.988 2.144 0.032 0.01 0.1 0.2 0.5	-
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Norkeine, 2007 2.790 1.303 5.970 2.643 0.008	
Otomo, 2013 3.314 1.088 10.094 2.109 0.035	<u> </u>
Ringaitiene, 2015 2.130 0.468 9.689 0.978 0.328	
Sevuk, 2015 0.854 0.253 2.881 -0.254 0.799	
Tully, 2010 1.128 0.397 3.203 0.226 0.821	
1.977 1.482 2.637 4.636 0.000	
0.1 0.2 0.5 1 2	5 10
Smoking current Study name Statistics for each study Odds ratio and 95%	CI
Odds Lower Upper ratio limit limit Z-Value p-Value	
Caldas, 2019 0.343 0.069 1.697 -1.312 0.190	
Chen, 2017 0.442 0.212 0.921 -2.179 0.029	
Dong, 2014 0.974 0.449 2.113 -0.066 0.948	
Kazmierski, 2014b 0.467 0.155 1.405 -1.355 0.175	
Khan, 2014 2.886 2.016 4.132 5.789 0.000	⊢
Mardani, 2012 8.358 1.850 37.764 2.759 0.006	
Martin, 2010 1.147 0.971 1.354 1.611 0.107	
Norkeine, 2007 1.053 0.438 2.536 0.116 0.908	
Omiya, 2015 1.600 0.237 10.809 0.482 0.630	
Otomo, 2013 2.012 0.617 6.562 1.159 0.246	
Rudolph, 2005 1.545 0.318 7.502 0.540 0.589	
Santana Santos, 2004 1.962 0.935 4.118 1.781 0.075	
Sevuk, 2015 0.748 0.413 1.356 -0.958 0.338 Zhang, 2015 1.115 0.649 1.918 0.395 0.693	_
Zhang, 2015 1.115 0.649 1.918 0.395 0.693 1.194 0.841 1.694 0.992 0.321	-
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0.1 0.2 0.5 1 2	- 5 10

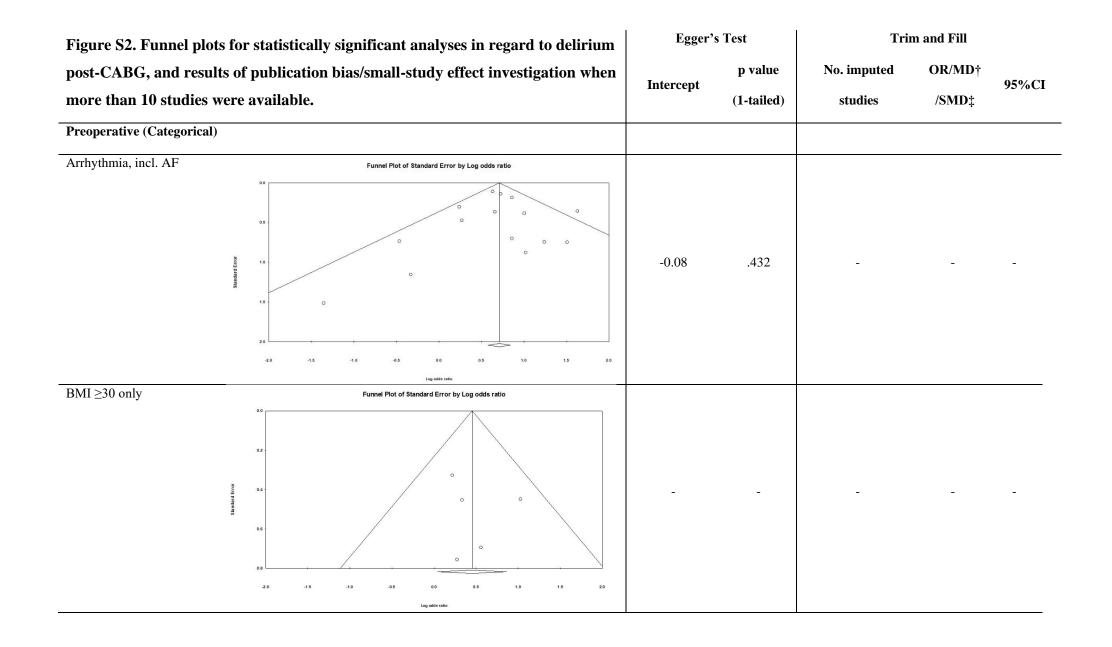
Smoking current/history	Study name			Statistic	cs for ea	ach stud	y			Oddsn	atio and 9	5% CI	
			dds L atio	ower limit		Z-Value	p-Valu	e					
	Caldas, 2019		0.644	0.198	2.093	-0.732	the production of the second	100	F			ł I	
	Chen, 2017	0). 442	0.212	0.921	-2.179	0.02	9		-	_		
	Oldham, 2018	1	1.492	0.558	3.987	0.798	0.42	5		0	-	.	
	Dong, 2014		.974	0.449	2.113	-0.066		1.0		-	-t	1 5	
	Gottesman, 2010		1.145	0.893	1.468	1.065					-		
	Coffey, 1983		0.974	0.451	2.105	-0.066		2				- C	
	Humphreys, 2016		1.110	0.561	2.195	0.300				-			
	Kazmierski, 2014b		0.467	0.155	1.405	-1.355		2010	-	i.e.	_		
	Khan, 2014		2.886	2.016	4.132	5.789		22 - F				100	_
	Mardani, 2012		3.358		37.764	2.759		38.51				o) — —	
	Martin, 2010		1.147	0.971	1.354	1.611		5 C					
	Miyazaki, 2011 Mu, 2010		1.323).929	0.848 0.543	2.065	1.232				-	C. Contra		
	Norkeine, 2007		1.053	0.438	2.536	0.116		52					
	Omiya, 2015		1.600		10.809	0.482		Sec. 1	3				
	Otomo, 2013		2.012	0.617	6.562	1.159							_ 1
	Ringaitiene, 2015		1.263	0.236	6.766	0.273		81	3				_
	Rudolph, 2005		1.545	0.318	7.502	0.540		22 P	- 23	-			
	Santana Santos, 2			0.604	1.858	0.201		8			_		
	Sevuk, 2015		0.748	0.413	1.356	-0.958		5		1			
	Zhang, 2015	1	1.115	0.649	1.918	0.395							
		1	1.153	0.939	1.415	1.360	0.17	4				2	5 5
								0.	1 0.2	0.5	1	2 5	1
Pre-Operative (Continuous)													
Age (years) *	Study name			Statistic	s for each	study				Differen	ce in means ar	d 95% CI	
			Standard		Lower								
	Caldas, 2019	means 5.000	error 2.82	Varian 5 6.8			Z-Value p 1.904	-Value 0.057		T.		1	
	Chen, 2017	1.700	1.42				1,195	0.232				_	-
	Leenders 2018	5.800	1.43				4.034	0.000					-
	Oldham, 2018 Cumurcu, 2008	4.100	2.17				1.888	0.059					- ,
	Dong, 2014	6.700	1.39				4.788	0.000					
	Eriksson, 2002 Al Tmimi, 2016	4.200 2.749	1.83				2.291	0.022					-
	Kazmierski, 2014a	6.666	1.44	2 2.0	79 3.84	9.492	4.623	0.000				-+-	
	Khan, 2014 Li, 2015	1.700	0.86				1.972 3.295	0.049				-	
	Loponen, 2008	6.200	2.16				2.866	0.004				-	1
	Mardani, 2012	-2.070	2.23				-0.927	0.354		+	•		
	Mariscalco, 2012 Mu, 2010	5.000	0.99				5.013 5.262	0.000					
	Norkeine, 2007	5.800	1.43				4.045	0.000					-
	Oldham, 2015 Otomo, 2013	5.600	2.54			7 10.583 B 4.558	2.202	0.028					े
	Palmbergen, 2012	7.520	1.31	8 1.7	36 4.93	7 10.103	5.707	0.000			100	-	
	Plaschke, 2010 Ringaitiene, 2015	6.000 2.500	1.77				3.380	0.001					_
	Rudolph, 2009	8.600	1.71	5 2.9	42 5.23	8 11.962	5.014	0.000					
		2.200	1.36	5 1.8			1.612 3.669	0.107					
	Rudolph, 2006								1		- -		
	Rudolph, 2006 Santana Santos, 2004 Sevuk, 2015	2.880	0.78	5 0.6			-1.877	0.061	1			-	2
	Santana Santos, 2004 Sevuk, 2015 Siepe, 2011	2.880 -1.100 6.200	0.78 0.58 3.81	5 0.6 6 0.3 6 14.5	43 -2.24 63 -1.28	9 0.049 0 13.680	-1.877 1.625	0.061 0.104					
	Santana Santoa, 2004 Sevuk, 2015 Siepe, 2011 Tully, 2010	2.880	0.78 0.58	5 0.6 6 0.3 6 14.5 9 3.3	43 -2.24 63 -1.28 07 -1.06	9 0.049 0 13.680 4 6.064	-1.877	0.061					
	Santana Santos, 2004 Sevuk, 2015 Siepe, 2011	2.880 -1.100 6.200 2.500	0.78 0.58 3.81 1.81	5 0.6 6 0.3 6 14.5 9 3.3 7 1.6	43 -2.24 63 -1.28 07 -1.08 57 0.08	9 0.049 0 13.680 4 6.064	-1.877 1.625 1.375	0.061 0.104 0.169			F		
	Santana Santoa, 2004 Sevuk, 2015 Siepe, 2011 Tully, 2010	2.880 -1.100 6.200 2.500 2.610	0.78 0.58 3.81 1.81 1.28	5 0.6 6 0.3 6 14.5 9 3.3 7 1.6	43 -2.24 63 -1.28 07 -1.08 57 0.08	9 0.049 0 13.680 4 6.064 7 5.133	-1.877 1.625 1.375 2.028	0.061 0.104 0.169 0.043	-10.00	-5.00	0.00	5.00	10.0
BMI	Santana Santoa, 2004 Sevuk, 2015 Siepe, 2011 Tully, 2010	2.880 -1.100 6.200 2.500 2.610	0.78 0.58 3.81 1.81 1.28	5 0.6 6 0.3 6 14.5 9 3.3 7 1.6 0 0.3	43 -2.24 63 -1.28 07 -1.08 57 0.08	9 0.049 0 13.680 4 6.064 7 5.133 8 5.339	-1.877 1.625 1.375 2.028	0.061 0.104 0.169 0.043	-10.00		0.00		10.0
BMI	Santana Santos, 2004 Sevuk, 2015 Siepe, 2011 Tully, 2010 Zhang, 2015	2.880 -1.100 6.200 2.500 2.610 4.144	0.78 0.58 3.81 1.81 1.28	5 0.6 6 0.3 6 14.5 9 3.3 7 1.6 0 0.3	43 -2.24 63 -1.28 07 -1.06 57 0.08 72 2.94 for each Lower	9 0.049 0 13.680 4 6.084 7 5.133 8 5.339 study r Upper	-1.877 1.625 1.375 2.028	0.061 0.104 0.169 0.043 0.000	-10.00				10.0
BMI	Santana Santos, 2004 Sevuk, 2015 Siepe, 2011 Tully, 2010 Zhang, 2015 Study name Differe in med	2.880 -1.100 6.200 2.500 2.610 4.144	0.78 0.58 3.81 1.81 1.28 0.61	5 0.6 6 0.3 6 14.5 9 3.3 7 1.6 0 0.3 Statistics	43 -2.243 63 -1.286 07 -1.086 57 0.082 72 2.946 For each Lower e limit	9 0.049 0 13.680 4 6.064 7 5.133 8 5.339 study r Upper limit	-1.877 1.625 1.375 2.028 6.792	0.061 0.104 0.169 0.043 0.000	-10.00				10.0
BMI	Santana Santos, 2004 Sevuk, 2015 Siepe, 2011 Tully, 2010 Zhang, 2015 Study name Differe in me Leenders, 2018 -	2.880 -1.100 6.200 2.500 2.610 4.144	0.78 0.58 3.81 1.81 1.28 0.81 tandard error	5 0.6 6 0.3 6 14.5 9 3.3 7 1.6 0 0.3 Statistics Variance	43 -2.24 63 -1.28 07 -1.08 57 0.08 72 2.94 10 10 10 10 10 10 10 10 10 10 10 10 10	9 0.049 0 13.680 4 6.064 7 5.133 8 5.339 study r Upper limit 8 0.548	-1.877 1.625 1.375 2.028 6.792 Z-Value	0.061 0.104 0.169 0.043 0.000 p-Value	-10.00				10.0
BMI	Santana Santos, 2004 Sevuk, 2015 Siepe, 2011 Tully, 2010 Zhang, 2015 Study name Differe in met Leenders, 2018 Dong, 2014 (1)	2.880 -1.100 6.200 2.500 2.610 4.144 nce St ans 0.700	0.78 0.58 3.81 1.81 1.28 0.61 tandard error 0.637	5 0.6 6 0.3 6 14.5 9 3.3 7 1.6 0 0.3 Statistics Variance 0.40 0.23	43 -2.24 63 -1.28 67 -1.06 57 0.08 72 2.94 6 for each Lower e limit 5 -1.94 4 -0.24	9 0.049 0 13.680 4 6.064 7 5.133 8 5.339 study Upper limit 8 0.548 9 1.649	-1.877 1.625 1.375 2.028 6.792 Z-Value -1.100	0.061 0.104 0.169 0.043 0.000 p-Value 0.272	-10.00				10.0
BMI	Santana Santos, 2004 Se vuk, 2015 Siepe, 2011 Tully, 2010 Zhang, 2015 Differe In mee Leenders, 2018 	2.880 -1.100 6.200 2.500 2.610 4.144 nce St ans 0.700 0.700	0.78 0.58 3.81 1.81 1.81 1.28 0.81 tandard error 0.637 0.484	5 0.6 6 0.3 6 14.5 9 3.3 7 1.6 0 0.3 Statistics Variance 0.40 0.23 0.19	43 -2.24 63 -1.28 63 -1.28 67 -1.06 57 0.08 72 2.54 6 for each Lower e limit 15 -1.94 14 -0.24 19 -1.07	9 0.049 0 13.680 4 0.064 7 5.133 8 5.339 study Upper limit 8 0.548 9 1.649 4 0.674	-1.877 1.625 1.375 2.028 6.792 Z-Value -1.100 1.446	0.061 0.104 0.169 0.043 0.000 p-Value 0.272 0.148	-10.00				10.0
BMI	Santana Santos, 2004 Se vuk, 2015 Siepe, 2011 Tully, 2010 Zhang, 2015 Study name Differe in med Leenders, 2018 - Dong, 2014 Mu, 2010 - Norkeine, 2007	2.880 -1.100 6.200 2.500 2.610 4.144 nce St ans 0.700 0.700 0.200	0.78 0.58 3.81 1.81 1.28 0.61 tandard error 0.637 0.484 0.446	5 0.6 6 0.3 6 14.5 9 3.3 7 1.6 0 0.3 Statistics Variance 0.40 0.23 0.19 0.25	43 -2.24 63 -1.28 63 -1.28 607 -1.08 77 2.94 6 for each Lower e limit 5 -1.94 4 -0.24 9 -1.07 5 -0.98	9 0.049 0 13.880 4 0.084 7 5.133 8 5.339 study r Upper limit 8 0.548 9 1.649 4 0.674 0 1.000	-1.877 1.625 1.375 2.028 6.792 Z-Value -1.100 1.446 -0.449	0.061 0.104 0.169 0.043 0.000 p-Value 0.272 0.148 0.654	-10.00				10.0
BMI	Santana Santos, 2004 Se vuk, 2015 Siepe, 2011 Tully, 2010 Zhang, 2015 Study name Differe in mea Leenders, 2018 	2.880 -1.100 8.200 2.500 2.500 4.144 nce St 0.700 0.200 0.200 0.010	0.78 0.58 3.81 1.81 1.28 0.61 tandard error 0.637 0.484 0.446 0.505	5 0.6 6 0.3 6 14.5 9 3.3 7 1.6 0 0.3 Statistics Variance 0.40 0.23 0.19 0.25 2.26	43 -2.24 83 -1.28 83 -1.28 807 -1.08 57 0.08 72 2.94 6 6 6 6 6 6 7 108 7 2.94 108 108 107 108 108 108 108 108 108 108 108	9 0.049 0 13.880 4 0.084 7 5.133 8 5.339 study 7 Upper Ilmit 8 0.548 9 1.649 4 0.674 0 1.000 9 3.249	-1.877 1.625 1.375 2.028 6.792 Z-Value -1.100 1.446 -0.449 0.020	0.061 0.104 0.104 0.043 0.000 p-Value 0.272 0.148 0.654 0.984	-10.00				10.0

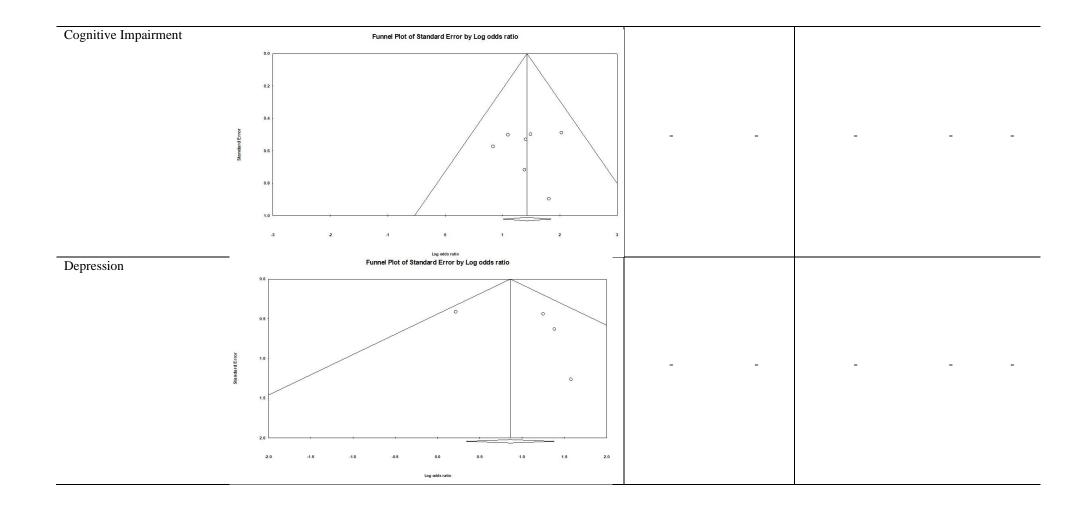
Cognition: All tests	Study name		S	latistics for	r each st	tudy				Std diff	in means and	195% CI	
0	18 — B		Standard			Upper	2007	100101					
		in means	error	/ariance	limit	limit	Z-Value	p-Value			3	12	20
	Caldas, 2019	-1.059	0.295	0.087	-1.638	-0.481	-3.588	0.000	-		13		
	Chen, 2017	-0.316	0.184	0.034	-0.677	0.046	-1.712	0.087			1000 C		
	Oldham, 2018	-0.445	0.240	0.057	-0.914	0.025	-1.855	0.064		3 - <u>8</u>			
	Al Tmimi, 2016	0.000	0.258	0.066	-0.505	0.505	0.000	1.000					
	Kazmierski, 2014a Li, 2015	-0.737	0.202	0.041 0.215	-1.132 -1.821	-0.342 -0.004	-3.654 -1.968	0.000	393		3		
	and the second se	-0.784	0.293						30- 8	1	1.10		
	Oldham, 2015 Otomo, 2013	-0.772	0.268	0.086	-1.359	-0.210 -0.247	-2.678	0.007					
	Rudolph, 2009	-0.572	0.248	0.061	-1.057	-0.086	-2.309	0.021		20 A 10	_		
	Ruddipii, 2005	-0.576	0.105	0.011	-0.782	-0.370	-5.481	0.000			10		
				0.011	0.102	0.010		0.000	-2.00	-1.00	0.00	1.00	2.00
Cognition: MMSE only	Study name	Difference	<u>S</u> tandard	tatistics for	r each si Lower	tudy Upper				Differenc	e in means	and 95% CI	
		in means		Variance	limit	limit	Z-Value	p-Value					
	Caldas, 2019	-4.627	1.226	1.503	-7.030	-2.224	-3.774	0.000	— —			1	
	Chen, 2017	-0.200	0.116	0.013	-0.428	0.028	-1.722	0.085					
	Oldham, 2018	-0.900	0.482	0.232	-1.845	0.045	-1.867	0.062		.	-∎-		
	Al Tmimi, 2016	0.000	0.394	0.155	-0.773	0.773	0.000	1.000			-		
	Li, 2015	-3.300	1.611	2.595	-6.457	-0. 143	-2.048	0.041	_				
	Oldham, 2015	-1.600	0.587	0.344	-2.750	-0.450	-2.726	0.006		-	∎		
	Rudolph, 2009	-1.400	0.594	0.353	-2.565	-0.235	-2.356	0.018			▰┈│		
		-1.136	0.394	0.155	-1.907	-0.364					◆		
									-8.00	-4.00	0.00	4.00	8.00
									-0.00	-4.00	0.00	4.00	0.00
Depression CDS	server ratios trates are									Part Part of the			
Depression GDS	Study name			Statistics	for each	study				Differen	ce in means	and 95% CI	
		Difference	Standard		Lowe	r Upp	er						
		in means	error	Variance	limit	t lim	nit Z-Va	lue p-Valu	e				
	Oldham, 2018	1.000	0.599	0.359	-0.1	74 2.	174 1.	669 0.09	5	1	-		1
		0.400						559 0.57					1
	Oldham, 2015		0.716	0.513							and the second		and a second
		0.753	0.459	0.211	-0.14	48 1.0	654 1.	639 0.10	11				-
									-2.00	-1.00	0.00	1.00	2.00
									-200	-1.00	0.00	1.00	2.00
Education (years)	Study name			Statistics	s for eac	h study				Differen	ce in means	and 95% CI	
		Difference in means		l Varianc	Low e lim		per mit Z-V	alue p-Valu	10				
								and an area	2	1.14	1	- E	- F
	Caldas, 2019	-1.36						0.808 0.4					
	Kazmierski, 2014c	-1.76						3.206 0.0					
	Kazmierski, 2014b	-1.22						1.388 0.1					
	LI, 2015	1.30						0.568 0.5			100	-	
	Mu, 2010	0.00						0.000 1.0			_	-	
	Otomo, 2013	-1.00						1.337 0.1					
		-0.92	6 0.37	0 0.13	37 -1.0	652 -0	200 -2	2.499 0.0	12			1.	
									-4.00	-2.00	0.00	2.00	4.00
EuroSCORE	Study name			Statistics fo	or each s	tudy				Differe	ence in means	and 95% CI	-
		Difference	Standard		Lower	Upper							
		inmeans	error	Variance	lim it	limit		p-Value		31	-		
	Al Tmimi, 2016	0.305	0.248	0.061	-0.180						-		
	Caldas, 2019	0.992	0.652	0.426	-0.286								
	Dang, 2014 Lapanen, 2008	0.500	0.198	0.039 0.594	0.111							8	- 202
	Martin, 2012	5.600	0.442	0.196	4.733								
	Mu, 2010	1.200	0.251	0.063	0.708							_	1
	Narkeine, 2007	1.700	0.379	0.143	0.958								
	Ringaitiene, 2015	0.000	0.542	0.294	-1.062						_	0.00	
	Sevuk, 2015	0.010	0.042	0.002	-0.073						The second se		
	Zhang, 2015	1.690	0.315	0.100	1.072	2.30	5.357	7 0.000			Т		
	Contraction to contract of MPROPRIETY	1.347	0.394	0.155	0.575	2.12	3.417	7 0.001	3	80.00	-		
									~				
									-4.00	-2.00	0.00	2.00	4.00

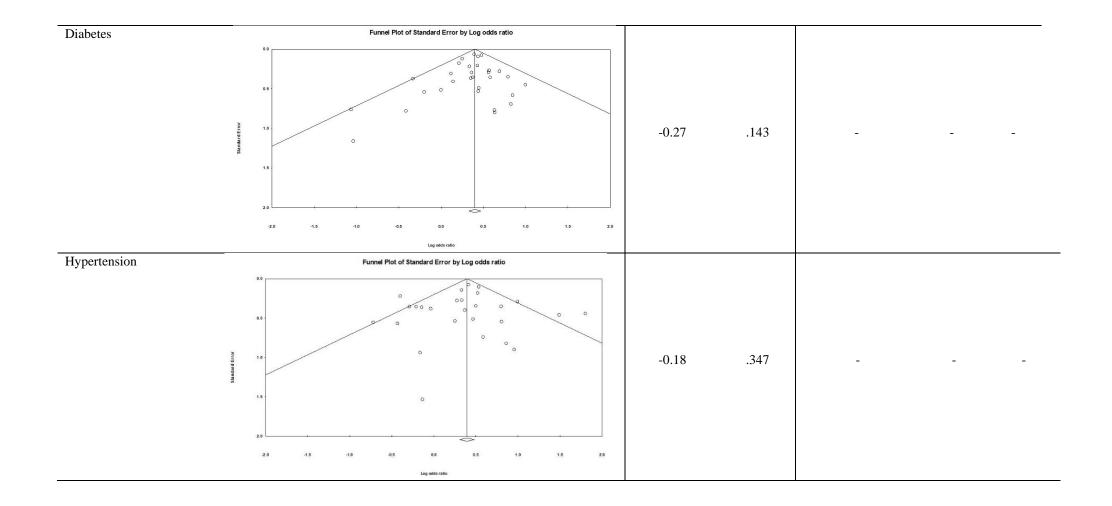
LVEF (%)	Study name		22	Statistics f	oreach s	tudy				Differen	ice in means	and 95% CI	
		Difference in means	Standard error	Variance	Lower	Upper limit	Z-Value	n Value					
	Caldas, 2019				limit				1			1	i i
	Caidas, 2019 Chen, 2017	-3.577 2.300	1.461 1.657	2.133	-6.440 -0.948	-0.714 5.548	-2.449 1.388	0.014	9		-		
	Kazmierski, 2014c	-0.054	1.882		-3.742	3.634	-0.029	0.977		_	CON 1	_	
	Kazmierski, 2014b	0.398	2.292		-4.096	4.891	0.173	0.862					
	Khan, 2014	- <mark>2.49</mark> 0	0.870	0.756	-4.194	-0.786	-2.863	0.004					
	Mardani, 2012	0.120	0.922		-1.686	1.926	0.130	0.896		12	· — # —	- 100 C	
	Mu, 2010	2.700	1.222		0.306	5.094	2.210	0.027					
	Norkeine, 2007 Ringaitiene, 2015	6.700 3.900	1.455		3.848	9.552 8.847	4.604	0.000			82-7	1	
	Rudolph, 2009	1.000	2.524		-3.756	5.756	0.412	0.680		<u></u>			
	Santana Santos, 2004	4.000	1.725		0.619	7.381	2.319	0.020			100		-
		1.247	0.990	0.979	-0.692	3.187	1.260	0.208				► T	
									-8.00	-4.00	0.00	4.00	8.
Intra-Operative (Continuous)													
ACC time (mins)	Study name			Statistics	foreachs	tudy				Differend	ce in means	and 95% CI	
		Difference		I	Lower	Upper		1999		_			
	Coldes 2010	in means	error	Variance		limit	Z-Value		Ŀ	-		1	P
	Caldas, 2019 Leenders, 2018	-13.00 6.10				0.261	-1.921 2.348	0.055	×.				
	Cumurcu, 2008	18.94				34.994	2.340	0.019			-		
	Eriksson, 2002	4.30					0.814	0.415		1			s - 200-
	Kazmierski, 2014a	4.01					1.552	0.121					
	Kazmierski, 2014b	5.53 28.22					2.047 14.081	0.041			-		
	Khan, 2014 Loponen, 2008	8.00					14.001	0.241				_	
	Mardani, 2012	2.00					0.917	0.359			-		85
	Mariscalco, 2012	19.80					5.655	0.000					-
	Nikolic, 2012	1.17					0.479	0.632				-	
	Norkeine, 2007 Ringaitiene, 2015	3.10 -5.50					0.918	0.359 0.426					
	Santana Santos, 2004	2.04					0.570	0.569	0.02				
	Sevuk, 2015	-0.73	3 3.15				-0.233	0.816		13-		-St.	
	Tully, 2010	8.10				15.929	2.028	0.043					0
		5.97	2.73	2 7.46	2 0.616	11.324	2.185	0.029	-20.00	-10.00	0.00	10.00	20.0
			S	tatistics for	each stud	v				Difference	e in means an	nd 95% CI	
CPB time (mins)	Study name					-							
CPB time (mins)		Difference in means	Standard		ower U	pper	Value p-\	/alue					
CPB time (mins)			Standard	l Variance	ower U limit	pper limit Z-		/alue 0.374	1 -			- 1	3
CPB time (mins)	Caldas, 2019 Cumurou, 2008	in means -7.000 15.260	Standard error 1 7.878 8.490	Variance 62.035 - 72.077	ower U limit 22.437 -1.380 3	pper limit Z- 8.437 1.900	-0.889 1.797	0.374 0.072	1 -	+•	•	· +	,
CPB time (mins)	Caldas, 2019 Cumurou, 2008 Erikeson, 2002	in means -7.000 15.260 8.900	Standard error 7.878 8.490 9.834	Variance 62.035 - 72.077 96.701 -	ower U limit 22.437 -1.380 3 10.374 2	pper limit Z- 8.437 1.900 8.174	-0.889 1.797 0.905	0.374 0.072 0.365	-	-		•	
CPB time (mins)	Caldas, 2019 Cumurou, 2008	in means -7.000 15.260	Standard error 1 7.878 8.490	Variance 62.035 - 72.077	ower U limit 22.437 -1.380 3 10.374 2 1.333	pper limit Z 8.437 1.900 8.174 8.887	-0.889 1.797 0.905 2.653	0.374 0.072	-	-			
CPB time (mins)	Caldas, 2019 Cumuroz, 2008 Erikeson, 2002 Gottesman, 2010 Kazmierski, 2014a Kazmierski, 2014b	in means -7.000 15.260 8.900 5.100 12.660 15.349	Standard error 7.878 8.490 9.834 1.922 3.839 4.968	Variance 62.035 - 72.077 96.701 - 3.695 14.740 24.663	ower U limit 22.437 -1.380 3 10.374 2 1.333 5.135 2 5.615 2	pper limit Z- 8.437 1.900 8.174 8.867 0.184 5.082	0.889 1.797 0.905 2.853 3.297 3.091	0.374 0.072 0.365 0.008 0.001 0.002	-	-			
CPB time (mins)	Caldas, 2019 Cumurov, 2008 Erikason, 2002 Gottesman, 2010 Kazmierski, 2014a Khan, 2014	in means -7.000 15.260 8.900 5.100 12.660 15.349 2.100	Standard error 7.878 8.490 9.834 1.922 3.839 4.968 3.316	Variance 62.035 - 72.077 96.701 - 3.695 14.740 24.663 10.995	.ower U limit 22.437 -1.380 3 10.374 2 1.333 5.135 2 5.615 2 -4.399	pper limit Z- 8.437 1.900 8.174 8.867 0.184 5.082 8.599	-0.889 1.797 0.905 2.653 3.297 3.091 0.633	0.374 0.072 0.365 0.008 0.001 0.002 0.527	-	-			
CPB time (mins)	Caldas, 2019 Cumurau, 2008 Erikesona, 2002 Gottesman, 2010 Kazmierski, 2014a Khan, 2014 Leenders, 2018	in means -7.000 15.260 8.900 5.100 12.660 15.349 2.100 0.764	Standard error 7.878 8.490 9.834 1.922 3.839 4.968 3.318 5.346	Variance 62.035 - 72.077 96.701 - 3.695 14.740 24.663 10.995 28.576	ower U limit 22.437 -1.380 3 10.374 2 1.333 5.135 2 5.615 2 -4.399 -9.713 1	pper limit Z 8.437 1.900 8.174 8.867 0.184 5.082 8.699 1.241	-0.889 1.797 0.905 2.653 3.297 3.091 0.633 0.143	0.374 0.072 0.365 0.008 0.001 0.002 0.527 0.886	-	-			
CPB time (mins)	Caldas, 2019 Cumurov, 2008 Erikason, 2002 Gottesman, 2010 Kazmierski, 2014a Khan, 2014	in means -7.000 15.260 8.900 5.100 12.660 15.349 2.100	Standard error 7.878 8.490 9.834 1.922 3.839 4.968 3.318 5.346	Variance 62.035 - 72.077 96.701 - 3.695 14.740 24.663 10.995 28.576	.ower U limit 22.437 -1.380 3 10.374 2 1.333 5.135 2 5.615 2 -4.399 -9.713 1 42.816 13	pper limit Z: 8.437 1.900 8.174 8.887 0.184 5.082 8.599 1.241 5.216	0.889 1.797 0.905 2.653 3.297 3.091 0.633 0.143 1.017	0.374 0.072 0.365 0.008 0.001 0.002 0.527	-	-			<u> </u>
CPB time (mins)	Caldas, 2019 Cumurav, 2008 Erikeson, 2002 Gottesman, 2010 Kazmierski, 2014a Kazmierski, 2014b Khan, 2014 Leenders, 2018 Li, 2015	in means -7.000 15.260 8.900 5.100 12.860 15.349 2.100 0.764 46.200	Standard error 7.878 8.490 9.834 1.922 3.839 4.988 3.318 5.348 45.417	Variance 62.035 72.077 96.701 3.695 14.740 24.663 10.995 28.576 28.576 28.576 2052.711 62.462	cower U limit 22.437 -1.380 3 10.374 2 1.333 5.135 5.615 2 -4.399 -9.713 -9.213 1 -4.399 -2.439	pper jimit Z- 8.437 1.900 8.174 8.887 0.184 5.082 8.599 1.241 5.216 5.490	0.889 1.797 0.905 2.653 3.297 3.091 0.633 0.143 1.017 1.265	0.374 0.072 0.365 0.008 0.001 0.002 0.527 0.886 0.309	-	-			1 - 1
CPB time (mins)	Caldas, 2019 Cumurau, 2008 Erikesona, 2002 Gottesman, 2010 Kazmierski, 2014a Khan, 2014 Leenders, 2018 Li, 2015 Loponen, 2008 Mardani, 2012 Mariscalco, 2012	in means -7.000 15.260 8.900 5.100 12.860 15.349 2.100 0.764 46.200 10.000 2.000 25.700	Standard error 7.876 8.490 9.834 1.922 3.839 4.986 3.316 5.346 45.417 7.903 3.442 4.450	Variance 62.035 72.077 96.701 14.740 24.663 10.995 28.676 2062.711 62.462 11.847 19.799	ower U limit 22.437 -1.380 3 10.374 2 1.333 5.135 5.135 2 -4.399 -9.713 -9.713 1 42.816 13 -5.490 2 -4.746 16.979	- pper innit Z: 8.437 1.900 8.174 8.887 0.184 5.082 8.599 1.241 5.216 5.490 8.746 4.421	0.889 1.797 0.905 2.653 3.297 3.091 0.633 0.143 1.017 1.265 0.581 5.776	0.374 0.365 0.008 0.001 0.002 0.527 0.886 0.309 0.206 0.561 0.000	-	-			
CPB time (mins)	Caldas, 2019 Cumurou, 2008 Erikeson, 2002 Gottesman, 2010 Kazmierski, 2014a Khan, 2014 Leendersi, 2014b Li, 2015 Loponen, 2008 Mardani, 2012 Marisadoo, 2012 Nikoliro, 2012	in means -7.000 15.260 8.900 5.100 12.860 15.349 2.100 0.764 46.200 10.000 2.5.700 9.073	Standard error 7.876 8.490 9.834 1.922 3.839 4.965 3.316 5.346 45.417 5.346 45.417 3.442 4.450 3.045	Variance 62.035 72.077 96.701 3.695 14.740 24.663 10.995 28.578 2082.711 62.462 11.847 11.847 19.799 9.272	ower U limit 22.437 -1.380 3 10.374 2 1.333 5.135 5.615 2 -4.390 -9.713 12.816 13 -5.490 2 -4.746 16.979 3.105 1	pper imit Z: 8.437 1.900 8.174 8.887 0.184 5.082 8.599 1.241 5.216 5.490 8.746 4.421 5.041	0.889 1.797 0.905 2.653 3.297 3.091 0.633 0.143 1.017 1.265 0.581 5.776 2.980	0.374 0.072 0.365 0.008 0.001 0.002 0.527 0.886 0.309 0.206 0.561 0.000 0.003	- -	-			
CPB time (mins)	Caldas, 2019 Cumurau, 2008 Erikesona, 2002 Gottesman, 2010 Kazmierski, 2014a Khan, 2014 Leenders, 2018 Li, 2015 Loponen, 2008 Mardani, 2012 Mariscalco, 2012	in means -7.000 15.260 8.900 5.100 12.860 15.349 2.100 0.764 46.200 10.000 2.000 25.700	Standard error 7.876 8.490 9.834 1.922 3.839 4.986 3.316 5.346 45.417 7.903 3.442 4.450	Variance 62.035 72.077 96.701 3.695 14.740 24.663 10.995 28.578 2082.711 62.462 11.847 11.847 19.799 9.272	ower U limit 22.437 -1.380 3 10.374 2 1.333 5.135 5.615 2 -4.399 -9.713 -9.713 1 -5.490 2 -4.746 16.979 -3.105 1 -0.096 2	pper imit Z: 8.437 1.900 8.174 8.887 0.184 5.082 8.599 1.241 5.216 5.490 8.746 4.421 5.041 3.696	0.889 1.797 0.905 2.653 3.297 3.091 0.633 0.143 1.017 1.265 0.581 5.776 2.980 1.944	0.374 0.365 0.008 0.001 0.002 0.527 0.886 0.309 0.206 0.561 0.000	-	-			
CPB time (mins)	Caldas, 2019 Cumurou, 2008 Erikason, 2002 Gottesman, 2010 Kazmierski, 2014a Kazmierski, 2014b Khan, 2014 Leenders, 2018 Li, 2015 Loponen, 2008 Mardani, 2012 Marisaaloo, 2012 Nikolio, 2012 Nokeine, 2007	in means -7.000 15.260 8.900 5.100 12.860 15.349 2.100 0.764 46.200 10.000 2.000 2.000 2.000 9.073 11.800	Standard error 1 7.878 8.490 9.834 1.922 3.839 4.988 3.316 5.346 45.417 45.417 7.903 3.442 4.540 3.045 6.069	Variance I 62.035 - 72.077 - 96.701 - 3.695 - 14.740 - 24.663 - 28.576 - 28.576 - 28.462 - 11.847 - 19.799 - 92.72 - 36.837	ower U limit 22.437 -1.380 3 10.374 2 1.333 5.135 5.615 2 -4.399 -9.713 -4.746 16.979 -3.105 1 -0.096 2 -2.071 1	- pper imit Z: 8.437 1.900 8.174 8.887 0.184 5.082 8.599 1.241 5.216 5.490 8.746 4.421 5.041 3.696 6.071	0.889 1.797 0.905 2.653 3.297 3.091 0.633 0.143 1.017 1.265 0.581 5.776 2.980 1.944 0.308	0.374 0.072 0.365 0.008 0.001 0.002 0.309 0.309 0.208 0.561 0.000 0.003 0.052	-	-			
CPB time (mins)	Caldas, 2019 Cumurou, 2008 Erikason, 2002 Gottesman, 2010 Kazmierski, 2014a Kazmierski, 2014b Khan, 2014 Leenders, 2018 Li, 2015 Loponen, 2008 Mardani, 2012 Mariscalco, 2012 Nikolic, 2012 Nikolic, 2012 Nikolic, 2013 Ringalfene, 2015	in means -7.000 15.260 8.900 5.100 12.660 15.349 2.100 0.764 46.200 2.000 2.000 2.000 2.000 10.000 1.000 2.0000 2.0000 2.0000 2.0000 2.0000 2.0000 2.0000 2.0000 2.000	Standard error 9 5.874 1.922 3.834 1.922 3.838 4.988 3.316 5.346 4.5477 7.903 3.442 4.505 3.045 6.089 9.730 8.089 9.730 16.018 10.799	Variance 82.035 72.071 3.095 14.740 24.083 24.083 28.571 28.571 62.462 11.847 19.795 82.722 36.837 94.681 - 256.865 -	ower U limit 22.437 -1.380 3 00.374 2 1.335 2 5.135 2 -4.399 - -9.713 1 42.816 13 -5.490 2 -4.746 16.979 3.105 1 -0.096 2 -2.071 1 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 2 -0.096 3	- pper limit Z: 8.437 1.900 8.174 8.867 8.699 1.241 5.216 8.490 8.746 4.421 5.490 8.746 4.421 5.041 3.696 8.071 2.394 1.065	0.889 1.797 0.905 2.653 3.297 3.091 0.633 0.143 1.017 1.265 0.581 5.776 2.980 1.944 0.581 5.776 0.980 1.944 0.308 1.311 0.009	0.374 0.072 0.385 0.000 0.001 0.002 0.527 0.888 0.309 0.208 0.561 0.000 0.052 0.561 0.000 0.052 0.561 0.000 0.052 0.758 0.758 0.190	-	-			
CPB time (mins)	Caldas, 2019 Cumurou, 2008 Erikeson, 2002 Gottesman, 2010 Kazmierski, 2014a Khan, 2014 Leenders, 2014 Li, 2015 Loponen, 2008 Mardani, 2012 Nikolic, 2012 Nikolic, 2012 Nikolic, 2012 Nikolic, 2013 Ringalisene, 2015 Rudolph, 2009	in means -7.000 15.260 8.900 5.100 12.860 15.349 2.100 0.764 46.200 10.000 2.000 25.700 9.073 11.800 -3.000 21.000 -0.000 2.000	Standard error 1 7.878 8.490 9.834 1.922 3.839 4.983 4.983 4.983 4.983 4.983 4.983 4.983 3.316 5.346 4.5.417 3.046 4.5.417 3.042 4.450 3.046 6.069 9.730 16.018 10.799 6.794	Variance 82.035 72.071 3.095 14.740 24.685 28.578 2002.711 10.995 28.578 20.402 11.847 19.799 9.272 36.837 94.681 -256.685 -110.611 -40.158	ower U limit 1380 10.374 2 1.380 3 5.135 2 4.399 9.713 42.816 13 5.490 2 4.746 13 5.096 2 4.749 1 22.071 1 -0.096 2 22.071 1 10.394 5 11.316 1	- pper limit Z 8.437 1.900 8.174 8.887 0.184 5.082 8.899 8.746 8.490 8.746 8.490 8.746 8.490 8.746 8.490 8.746 8.491 3.696 6.071 2.394 2.394 1.085 5.316	0.889 1.797 0.905 2.653 3.297 3.091 0.633 0.143 0.143 1.017 1.265 0.581 5.776 2.980 1.944 0.308 1.311 0.009 0.294	0.374 0.072 3.865 0.008 0.001 0.002 0.885 0.885 0.885 0.309 0.206 0.661 0.003 0.052 7.758 0.190 0.993 0.993	 -	-			
CPB time (mins)	Caldas, 2019 Cumurav, 2008 Erikeson, 2002 Gottesman, 2010 Kazmierski, 2014a Kazmierski, 2014b Khan, 2014 Leenders, 2018 Li, 2015 Loponen, 2008 Mardani, 2012 Mariscalco, 2012 Nikolic, 2012 Norkeine, 2007 Oldham, 2018 Otomo, 2013 Ringalfene, 2015 Rudolph, 2009 Santana Santos, 2004	in means -7,000 15,260 8,900 12,860 15,349 2,100 0,764 46,200 10,000 2,000 25,700 9,073 11,800 2,000 2,000 2,000 2,000 2,000 2,000 3,970	Standard error 1 7.878 8.490 9.834 1.922 3.839 4.965 5.346 45.417 3.442 4.450 3.042 4.450 3.042 4.450 3.042 4.450 3.042 4.450 3.042 4.450 3.042 4.450 3.042 4.450 3.042 4.509 9.730 10.018 10.018	Variance 62.035 72.077 99.701 3.695 14.740 24.655 28.576 10.995 28.576 10.995 28.576 10.995 28.576 10.995 28.576 10.995 28.576 11.847 19.799 9.272 36.851 2.56.865 2.56.865 27.878 27.878	ower U limit 1 22.437 -1.380 -1.380 3 0.374 2 1.333 5 5.615 2 -4.399 -9.713 -9.713 1 12.816 13 -6.4746 16.979 3.105 1 -0.096 2 20.071 1 10.394 5 21.265 2 -13.378 1	- pper limit Z 8.437 1.900 8.174 5.082 8.899 1.241 5.216 5.217 5.216 5.316 5.316 5.316	0.889 1.797 0.905 2.653 3.297 3.091 0.633 0.143 0.765 1.017 1.265 0.581 5.776 2.980 1.944 0.308 1.311 0.0294 0.294 0.752	0.374 0.072 3.365 0.008 0.001 0.002 0.527 0.527 0.588 0.339 0.206 0.561 0.000 0.052 0.551 0.005 0.052 0.558 0.993 0.993 0.993 0.768 0.452		-			
CPB time (mins)	Caldas, 2019 Cumurou, 2008 Erikeson, 2002 Gottesman, 2010 Kazmierski, 2014a Khan, 2014 Leenders, 2014 Li, 2015 Loponen, 2008 Mardani, 2012 Nikolic, 2012 Nikolic, 2012 Nikolic, 2012 Nikolic, 2013 Ringalisene, 2015 Rudolph, 2009	in means -7.000 15.260 8.900 5.100 12.860 15.349 2.100 0.764 46.200 10.000 2.000 25.700 9.073 11.800 -3.000 21.000 -0.000 2.000	Standard error 1 7.878 8.490 9.834 1.922 3.839 4.983 4.983 4.983 4.983 4.983 4.983 4.983 3.316 5.346 4.5.417 3.046 4.5.417 3.042 4.450 3.046 6.069 9.730 16.018 10.799 6.794	Variance 62.035 72.077 99.701 3.695 14.740 24.655 28.576 10.995 28.576 10.995 28.576 10.995 28.576 10.995 28.576 10.995 28.576 11.847 19.799 9.272 36.851 2.56.865 2.56.865 27.878 27.878	ower U limit 1380 10.374 2 1.383 3 5.135 2 5.615 2 4.399 2 -9.713 1 12.816 13 -5.490 2 -4.746 16.979 10.096 2 22.071 1 10.394 5 10.394 5 21.265 2 11.310 1 -6.378 1	- pper limit Z. 8.437 1.900 0.184 5.082 1.241 5.082 1.241 5.216 5.490 4.421 5.490 4.421 5.041 3.696 6.071 2.394 1.085 5.316 9.982	0.889 1.797 0.905 2.853 3.297 3.091 0.633 1.917 1.265 0.581 5.776 0.308 1.944 1.311 0.009 0.294 0.295 0.752 0.057	0.374 0.072 3.865 0.008 0.001 0.002 0.885 0.885 0.885 0.309 0.206 0.661 0.003 0.052 7.758 0.190 0.993 0.993	-	-			
CPB time (mins)	Caldas, 2019 Cumurou, 2008 Erikeson, 2002 Gottesman, 2010 Kazmierski, 2014a Khan, 2014 Li, 2015 Loponen, 2008 Mardani, 2012 Mariscalco, 2012 Nikolic, 2012 Norkeine, 2007 Oldham, 2018 Otomo, 2013 Ringaišene, 2015 Rudolph, 2009 Santana Santos 2004 Sevuk, 2015	in means -7.000 15.260 5.100 12.660 15.349 2.100 0.764 46.200 2.000 2.5.000 2.5.000 9.073 11.800 -3.000 2.1.000 2.1.000 2.5.000 2.5.000 3.970 0.282	Standard error 9.634 1.922 3.834 1.922 3.834 4.956 3.316 5.346 5.346 5.346 5.346 5.346 5.346 5.346 5.346 5.346 5.346 5.346 1.003 3.442 4.450 8.009 9.730 3.045 6.009 9.734 1.0.799 6.794 5.280 4.949	Variance 82.035 72.071 3.095 14.740 24.695 28.578 28.578 20.462 11.847 19.799 82.462 11.847 19.792 36.837 94.081 -256.565 -116.611 -40.158 -27.873 24.492 136.385	ower U limit 1380 10.374 2 1.383 3 5.135 2 5.615 2 4.399 2 -9.713 1 12.816 13 -5.490 2 -4.746 16.979 10.096 2 22.071 1 10.394 5 10.394 5 21.265 2 11.310 1 -6.378 1	- pper pper s. 437 1.900 8.174 5.087 0.184 5.089 8.867 0.184 5.082 8.890 8.746 5.490 8.746 5.490 8.746 5.490 8.746 5.4421 5.041 3.696 6.071 1.065 5.316 4.318 4.318 9.982 2.889	0.889 1.797 0.905 2.653 3.297 3.091 0.633 0.143 1.017 1.0581 5.776 2.980 1.944 0.308 1.311 1.944 0.308 1.311 0.009 0.294 0.752 1.713	0.374 0.072 3.865 0.008 0.001 0.002 0.527 0.888 0.309 0.581 0.581 0.000 0.003 0.561 0.000 0.003 0.561 0.000 0.003 0.562 0.758 0.190 0.993 0.758 0.758	-	-			

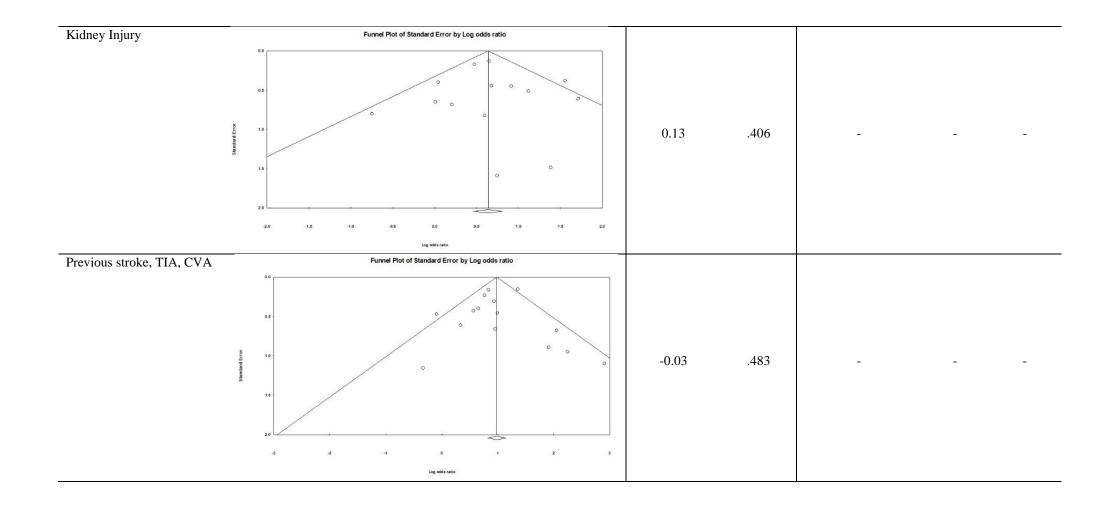
Duration of surgery (mins)	Study name		- 2010 - 10 - 10 - 10 - 10	Statistics f	132	1000				Difference	e in means	and 95% CI	
		Difference in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value					
	Caldas, 2019	-20.000	16.447	270.493	-52.235	12.235	-1.216	0.224	k—			- 1	1
	Dong, 2014	30.000	11.195	125.329	8.058	51.942	2.680	0.007			9 <u>-</u>		7
	Kazmierski, 2014a Kazmierski, 2014b	30.000 40.683	8.930 9.203	79.753 84.688	12.497 22.646	47.503 58.720	3.359 4.421	0.001					
	Mu, 2010	22.800	8.817	77.741	5.519	40.081	2.586	0.010			23-		- 1
	Nikolic, 2012	43.510	10.354	107.195	23.218	63.803	4.202	0.000				-	-
	Norkeine, 2007 Oldham, 2018	32.000	15.245 14.076	232.396 198.142	2.121	61.879 27.589	2.099	0.036		22			7
	Otomo, 2013	9.000	22.941	526.310	-35.964	53.964	0.392	0.695			e		
	Ringaitiene, 2015	5.400	16.955	287.464	-27.831	38.631	0.318	0.750		-	-		-
	Rudolph, 2009	-2.000	14.265	203.477	-29.958	25.958	-0.140	0.888		2	-	6 B.	
	Sevuk, 2015 Zhang, 2015	2.100 48.070	4.524 8.779	20.462 77.073	-6.766 30.863	10.966	0.464 5.475	0.642				· · · ·	
	Entrig, Este	20.526	6.048	36.574	8.673	32.379	3.394	0.001			1.0		7
									-50.00	-25.00	0.00	25.00	50.
	_												
Intubation time (hours)	Study name	Difference	<u>S</u> Standard	tatistics for	593 - 1-	udy Upper				Difference	in means a	and 95% CI	
		inmeans		Variance	limit		Z-Value	p-Value					
	Al Tmimi, 2016	5.088	1.919	3.684	1.326	8.850	2.651	0.008		T	_1		
	Eriksson, 2002	0.200	1.423	2.024	-2.588	2.988	0.141	0.888					
	Khan, 2014 Mariscalco, 2012	11.680 31.918	0.683	0.467	10.341 29.062	13.019 34.774	17.100 21.907	0.000				-	5
	Mu, 2010	2.311	0.494	0.244	1.343	3.279	4.677	0.000					S
	Nikolic, 2012	0.375	2.767	7.657	-5.049	5.799	0.135	0.892		-	-	1	
	Norkeine, 2007 Otomo, 2013	4.150 2.000	1.176 2.089	1.383 4.363	1.845 -2.094	6.455 6.094	3.528 0.957	0.000			-		
	Sevuk, 2015	0.360	0.368	0.136	-2.094	1.082	0.957	0.328					
	Siepe, 2011	6.000	2.181	4.755	1.726	10.274	2.752	0.006			- T-	ਰ	
	Zhang, 2015	10.428	1.740	3.028	7.018	13.839	5.992	0.000					
		6.820	2.234	4.990	2.442	11.199	3.053	0.002	1	1			
									-20.00	-10.00	0.00	10.00	20.
Number of grafts	Study name		S	tatistics fo	reach stu	udy				Difference	e in means	and 95% CI	
C			Standard	Manianaa		Upper	7.1/ahua						
	Dec. 2014	in means		Variance	limit	limit	Z-Value	p-Value	12	-	- I -		
	Dong, 2014 Loponen, 2008	0.200	0.206	0.042	-0.204 -0.272	0.604	0.971	0.332		2	_	1000	-0
	Mardani, 2012	-0.190	0.126	0.016	-0.437	0.057	-1.506	0.132			-		
	Mu, 2010	0.100	0.096	0.009	-0.089	0.289	1.038	0.299					
	Norkeine, 2007	0.210	0.169	0.029	-0.122	0.542	1.240	0.215					
	Rudolph, 2009	0.200	0.163	0.027	-0.119	0.519	1.228	0.220					
	Sevuk, 2015 Zhang, 2015	0.296 -0.036	0.112	0.013	0.076	0.516	2.633 -0.246	0.008		<u>.</u>	_		
	Linning, Loro	0.111	0.064	0.004	-0.015	0.237	1.730	0.084			_]●	- I	
									-1.00	-0.50	0.00	0.50	1
Post-Operative (Categorical)													
	_			_									
		ne		Statis		reach	study			Oddsr	atio and	95% CI	
Arrhythmia, incl. AF	Study na	<u></u>	Odd	1	1000								
Arrhythmia, incl. AF	Study na	<u></u>	Odd : ratio	s Lowe	r Upp	ber	Value p	-Value					
Arrhythmia, incl. AF	Study nar Caldas, 2			s Lowe	r Upp	oer it Z-	Value p 2.596	-Value 0.009	T	1 1	1 -		-
Arrhythmia, incl. AF		019	ratio	s Lowe limi 14 1.46	er Upp t linn	oer hit Z- 200	COLUMN TO A				1	-	
Arrhythmia, incl. AF	Caldas, 2	019 983	ratio 4.71	s Lowe limi 14 1.46 71 3.13	er Upp t lim 62 15.2	Der 1 it Z- 200 619	2.596	0.009			<u> </u>		
Arrhythmia, incl. AF	Caldas, 2 Coffey, 1	019 983 2008	ratio 4.71 6.77	s Lowe limit 14 1.46 71 3.13 00 0.71	er Upp t lim 36 15.2 36 14.6	Der 1 it Z- 200 519 162	2.596 4.871	0.009			+		
Arrhythmia, incl. AF	Caldas, 2 Coffey, 1 Cumurcu, Eriksson, Kazmiersl	019 983 2008 2002 ¢i, 2014a	ratio 4.71 6.77 3.30 1.00 9.51	Lowe lim i i i i i i i i i i	er Upp t lim 32 15.2 36 14.0 18 15.1 25 4.4 38 36.2	200 200 219 162 436 254	2.596 4.871 1.535 0.000 3.302	0.009 0.000 0.125 1.000 0.001			+		
Arrhythmia, incl. AF	Caldas, 2 Coffey, 1 Cumurcu, Eriksson, Kazmiersl Kazmiersl		ratio 4.71 6.77 3.30 1.00	Lowe limi 14 1.46 71 3.13 00 0.71 00 0.22 17 2.49 34 1.07	er Upp t lim 32 15.2 36 14.0 18 15.1 25 4.4 98 36.2 79 17.8	200 519 162 436 254 393	2.596 4.871 1.535 0.000 3.302 2.066	0.009 0.000 0.125 1.000 0.001 0.039			+		-
Arrhythmia, incl. AF	Caldas, 2 Coffey, 1 Cumurcu, Eriksson, Kazmiersl		ratio 4.71 6.77 3.30 1.00 9.51	Lowe lim i 14 1.46 71 3.13 00 0.71 00 0.22 17 2.49 94 1.07 22 1.51	Imm Imm 36 14.0 36 14.0 36 14.0 37 36.2 38 36.2 39 36.2 39 17.8 36 14.1	Der 1it Z -1 200 519 162 436 254 393 711	2.596 4.871 1.535 0.000 3.302 2.066 2.677	0.009 0.000 0.125 1.000 0.001 0.039 0.007					
Arrhythmia, incl. AF	Caldas, 2 Coffey, 1 Cumurcu, Eriksson, Kazmiersl Kazmiersl Loponen, Mardani,		ratic 4.71 6.77 3.30 1.00 9.51 4.39 4.72 2.17	Lowe lim 14 1.46 71 3.13 70 0.77 70 0.22 71 2.49 74 1.07 76 0.90	Im 32 15.2 36 14.6 18 15.2 36 36.2 37 36.2 38 36.2 39 17.8 30 14.1 30 2.5	Der it Z -1 200 519 162 436 254 393 711 247	2.596 4.871 1.535 0.000 3.302 2.066 2.677 1.730	0.009 0.000 0.125 1.000 0.001 0.039 0.007 0.084					
Arrhythmia, incl. AF	Caldas, 2 Coffey, 1 Cumurcu, Eriksson, Kazmiersl Kazmiersl Loponen, Mardani, Mariscalc		ratic 4.71 6.77 3.30 1.00 9.51 4.39 4.72 2.17 3.17	Lowe Imi 14 1.46 71 3.13 70 0.22 77 2.49 74 1.07 72 1.5 76 0.90 78 2.07	Im Im 62 15.2 63 14.6 18 15.2 18 15.2 18 15.2 18 15.2 18 15.2 18 36.2 19 36.2 16 14.2 16 14.2 16 14.2 16 14.2 16 14.2 16 14.2 17 4.8	Der it Z - 200 519 162 436 254 393 711 247 366	2.596 4.871 1.535 0.000 3.302 2.066 2.677 1.730 5.320	0.009 0.000 0.125 1.000 0.001 0.039 0.007 0.084 0.000					
Arrhythmia, incl. AF	Caldas, 2 Coffey, 1 Cumurcu, Eriksson, Kazmiersl Kazmiersl Loponen, Mardani, Mariscalc Miyazaki,		ratic 4.71 6.77 3.30 1.00 9.51 4.39 4.72 2.17 3.17 1.90	Lowe limit 14 1.46 71 3.13 10 0.71 10 0.22 17 2.49 14 1.07 12 1.51 76 0.90 78 2.07 13 1.20 14 1.46 14 1.46 14 1.46 14 1.46 15 1.31 15 1.51 16 0.90 17 1.51 17 1.51	Im Im 32 15.2 36 14.6 18 15.2 36 14.6 18 15.2 36 36.2 37 17.8 36 14.2 37 17.8 36 14.2 37 17.8 36 14.2 37 17.8 36 14.2 36 14.2 36 2.8	Der it Z - 200 319 162 436 254 393 711 247 366 363	2.596 4.871 1.535 0.000 3.302 2.066 2.677 1.730 5.320 3.091	0.009 0.000 0.125 1.000 0.001 0.039 0.007 0.084 0.000 0.002					
Arrhythmia, incl. AF	Caldas, 2 Coffey, 1 Cumurcu, Eriksson, Kazmiersl Kazmiersl Loponen, Mardani, Mariscalc Miyazaki, Mu, 2010		ratic 4.71 6.77 3.30 1.00 9.51 4.39 4.72 2.17 3.17 1.90 2.71	Lowe limit 14 1.46 71 3.13 10 0.7 10 0.22 17 2.49 14 1.07 12 1.5 16 0.90 18 2.07 13 1.26 18 0.93 1.26 18 0.93 1.26 1.26 1.27 1.26 1.27 1	Fr Upp 12 15.2 36 14.0 38 15.2 36 14.0 18 15.2 36 14.0 18 15.2 36 14.0 379 17.8 16 14.1 302 5.2 36 2.8 36 2.8 38 7.8	Ser Z 200 519 162 436 2254 393 711 247 366 363 3377 377	2.596 4.871 1.535 0.000 3.302 2.066 2.677 1.730 5.320 3.091 1.842	0.009 0.000 0.125 1.000 0.001 0.039 0.007 0.084 0.000 0.002 0.065					
Arrhythmia, incl. AF	Caldas, 2 Coffey, 1 Cumurcu, Eriksson, Kazmiersl Kazmiersl Loponen, Mardani, Mariscalc Miyazaki, Mu, 2010 Nikolic, 20		ratic 4.71 6.77 3.30 9.51 4.39 4.72 2.17 3.17 1.90 2.71 1.61	Lowe limit 14 1.46 71 3.13 10 0.7 10 0.22 17 2.49 14 1.07 12 1.5 16 0.90 18 0.93 1.26 18 0.93 16 0.95 16 0	Imm Imm 32 15.2 36 14.0 38 15.2 36 14.0 18 15.2 36 14.0 18 15.2 36 14.0 379 17.8 316 14.1 32 5.2 36 2.8 366 2.8 38 7.8 365 2.7	Ser Z 200 519 162 436 2254 393 711 247 366 363 377 735	2.596 4.871 1.535 0.000 3.302 2.066 2.677 1.730 5.320 3.091 1.842 1.787	0.009 0.000 0.125 1.000 0.001 0.039 0.007 0.084 0.000 0.002 0.065 0.074					
Arrhythmia, incl. AF	Caldas, 2 Coffey, 1 Cumurcu, Eriksson, Kazmiersl Kazmiersl Loponen, Mardani, Mariscalc Miyazaki, Mu, 2010 Nikolic, 20 Norkeine,		ratic 4.71 6.77 3.30 9.51 4.39 4.72 2.17 3.17 1.90 2.71 1.61 16.20	Lowe limit 14 1.46 13.13 00 0.71 00 0.22 17 2.49 24 1.07 22 1.57 76 0.99 78 2.07 33 1.26 18 0.93 16 0.95 18 8.48	r Upp t lim 52 15.2 36 14.6 18 15.7 36 36.2 379 17.8 36 14.5 36 36.2 379 17.8 36 2.5 36 2.6 36 2.8 38 7.8 35 30.9	Ser Z-200 2010 619 162 436 2254 393 711 247 3866 3377 735 959	2.596 4.871 1.535 0.000 3.302 2.066 2.677 1.730 5.320 3.091 1.842 1.787 8.436	0.009 0.000 0.125 1.000 0.001 0.039 0.007 0.084 0.000 0.002 0.065 0.074 0.000					
Arrhythmia, incl. AF	Caldas, 2 Coffey, 1 Cumurcu, Eriksson, Kazmierst Loponen, Mardani, Mariscalc Miyazaki, Mu, 2010 Nikolic, 20 Norkeine, Santana S		ratic 4.71 6.77 3.30 1.00 9.51 4.39 4.72 2.17 3.17 1.90 2.71 1.61 16.20 04 3.41	Lowe limit 14 1.46 71 3.13 00 0.71 00 0.22 17 2.49 04 1.07 22 1.57 76 0.90 1.26 1.8 0.3 1.26 1.8 0.3 1.26 1.8 0.3 1.26 1.8 0.4 0.4 0.22 1.57	r Upp t lim 52 15.2 36 14.6 18 15.2 36 14.6 18 15.2 49 36.2 79 17.8 16 14.2 36 2.6 36 2.8 38 7.8 35 30.9 35 30.9	Ser Z 200 619 162 436 254 393 711 247 366 3377 735 959 6526 526	2.596 4.871 1.535 0.000 3.302 2.066 2.677 1.730 5.320 3.091 1.842 1.787 8.436 3.642	$\begin{array}{c} 0.009\\ 0.000\\ 0.125\\ 1.000\\ 0.001\\ 0.039\\ 0.007\\ 0.084\\ 0.000\\ 0.002\\ 0.065\\ 0.074\\ 0.000\\ 0.000\\ 0.000\\ \end{array}$					
Arrhythmia, incl. AF	Caldas, 2 Coffey, 19 Cumurcu, Eriksson, Kazmiersl Loponen, Mardani, Mariscalc Miyazaki, Mu, 2010 Nikolic, 20 Norkeine, Santana S Tamura, 2		ratic 4.71 6.77 3.30 9.51 4.39 4.72 2.17 3.17 1.90 2.71 1.61 16.20 04 3.41 1.04	Lowe limit 14 1.46 71 3.13 00 0.77 00 0.22 17 2.49 04 1.07 22 1.57 76 0.90 78 2.07 73 1.26 8 0.93 1.26 8 0.93 1.26 8 0.93 1.26 1.6 1.6 1.6 1.6 1.6 1.6 1.6 1.	r Upp t lim 32 15.2 36 14.6 18 15.2 36 14.6 38 36.2 79 17.8 38 36.2 39 17.8 36 2.4 38 36.2 38 7.8 38 7.8 38 7.8 38 7.8 365 2.3 35 30.9 365 6.6 39 4.0	Der iit Z-' 2000 519 5162 436 2554 393 711 247 366 363 3777 735 959 526 018 018	2.596 4.871 1.535 0.000 3.302 2.066 2.677 1.730 5.320 3.091 1.842 1.787 8.436 3.642 0.057	$\begin{array}{c} 0.009\\ 0.000\\ 0.125\\ 1.000\\ 0.001\\ 0.039\\ 0.007\\ 0.084\\ 0.000\\ 0.002\\ 0.065\\ 0.074\\ 0.000\\ 0.000\\ 0.955\\ \end{array}$					
Arrhythmia, incl. AF	Caldas, 2 Coffey, 1 Cumurcu, Eriksson, Kazmierst Loponen, Mardani, Mariscalc Miyazaki, Mu, 2010 Nikolic, 20 Norkeine, Santana S		ratic 4.71 6.77 3.30 9.55 4.33 4.72 2.17 3.17 1.90 2.71 1.61 16.20 04 3.41 1.04 5.80	Lowe limit 14 1.46 71 3.13 00 0.77 00 0.22 17 2.49 04 1.07 22 1.57 76 0.90 78 2.07 78 2.07	r Upp t lim 32 15.2 36 14.6 18 15.2 36 14.6 18 15.2 36 14.6 38 36.2 79 17.8 36 14.5 36 2.5 36 2.6 38 7.6 38 7.8 36 2.5 37 30.9 35 30.9 35 30.9 35 30.9 36 4.0 39 4.0 30 30.9 30 30.9 30 30.9 30 30.9 30 4.0 30 4.0 30 4.0 30 4.0 30 4.0 30 4.0 30 4.0 30 4.0	Der iit Z-' 2000 319 3612 254 393 711 2247 3866 3863 3777 735 359 3526 018 7780 780	2.596 4.871 1.535 0.000 3.302 2.066 2.677 1.730 5.320 3.091 1.842 1.787 8.436 3.642 0.057 4.869	$\begin{array}{c} 0.009\\ 0.000\\ 0.125\\ 1.000\\ 0.001\\ 0.039\\ 0.007\\ 0.084\\ 0.000\\ 0.002\\ 0.065\\ 0.074\\ 0.000\\ 0.000\\ 0.955\\ 0.000\\ \end{array}$					
Arrhythmia, incl. AF	Caldas, 2 Coffey, 19 Cumurcu, Eriksson, Kazmiersl Loponen, Mardani, Mariscalc Miyazaki, Mu, 2010 Nikolic, 20 Norkeine, Santana S Tamura, 2		ratic 4.71 6.77 3.30 9.51 4.39 4.72 2.17 3.17 1.90 2.71 1.61 16.20 04 3.41 1.04	Lowe limit 14 1.46 71 3.13 00 0.77 00 0.22 17 2.49 04 1.07 22 1.57 76 0.90 78 2.07 78 2.07	r Upp t lim 32 15.2 36 14.6 18 15.2 36 14.6 38 36.2 79 17.8 38 36.2 39 17.8 36 2.4 38 36.2 38 7.8 38 7.8 38 7.8 38 7.8 365 2.3 35 30.9 365 6.6 39 4.0	Der iit Z-' 2000 319 3612 254 393 711 2247 3866 3863 3777 735 359 3526 018 7780 780	2.596 4.871 1.535 0.000 3.302 2.066 2.677 1.730 5.320 3.091 1.842 1.787 8.436 3.642 0.057	$\begin{array}{c} 0.009\\ 0.000\\ 0.125\\ 1.000\\ 0.001\\ 0.039\\ 0.007\\ 0.084\\ 0.000\\ 0.002\\ 0.065\\ 0.074\\ 0.000\\ 0.000\\ 0.955\\ \end{array}$	0.1			┤╵┽╷╵╕┇ _{╈┿╈} ┿ _┷ ╺┿╷╵◆	

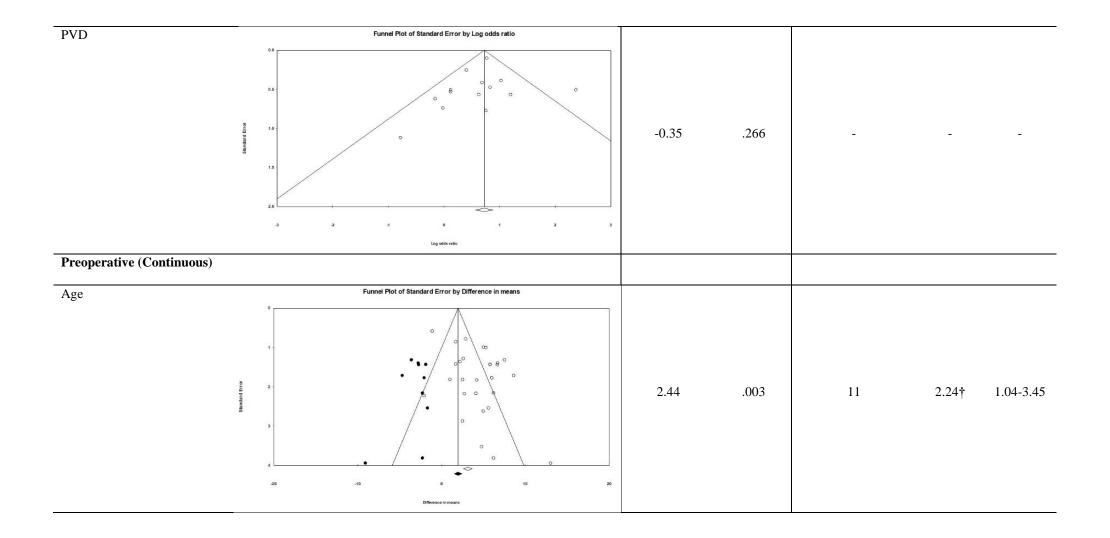
Post-Operative (Continuous)													
LOS in ICU (days)	Study name			Statistics fo	or each st	udy				Differenc	e in means	and 95% CI	
		Difference in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value					
	Al Tmimi, 2016	1.491	0.339	0.115	0.826	2.155	4.396	0.000		Ĩ	1 -	- 1	
	Caldas, 2019	2.910	1.833	3.361	-0.683	6.503	1.587	0.112			3 <u>88</u>		3
	Chen, 2017	2.253	0.272	0.074	1.721	2.786	8.295	0.000			10.25		
	Eriksson, 2002	-0.100	0.209	0.044	-0.509	0.309	-0.479	0.632			-		
	Khan, 2014	6.510	0.234	0.055	6.052	6.968	27.852	0.000					2
	Mardani, 2012	0.530	0.251	0.063	0.037	1.023	2108	0.035			-	20-02	0.00
	Mariscalco, 2012	2.188	0.074	0.005	2.043	2.333	29.630	0.000					
	Mu, 2010	0.920	0.197	0.039	0.533	1.306	4.666	0.000					
	Norkeine, 2007	4.800	0.438	0.191	3.943	5.657	10.971	0.000				-	-
	Omiya, 2015	1.385	0.349	0.122	0.701	2.070	3.965	0.000			22 <u>0</u>	-	
	Palmbergen, 2012	2.990	0.385	0.148	2.236	3.744	7.773	0.000				-	
	Siepe, 2011	1.500	1.381	1.906	-1.206	4.206	1.087	0.277			8 <u></u>		
	Subramaniam, 2019	1.412	0.353	0.125	0.720	2.105	3.996	0.000			300		
	Zhang, 2015	2.500	0.311	0.097	1.890	3.110	8.035	0.000					
		2.221	0.462	0.213	1.316	3.126	4.812	0.000					
									-6.00	-3.00	0.00	3.00	6.

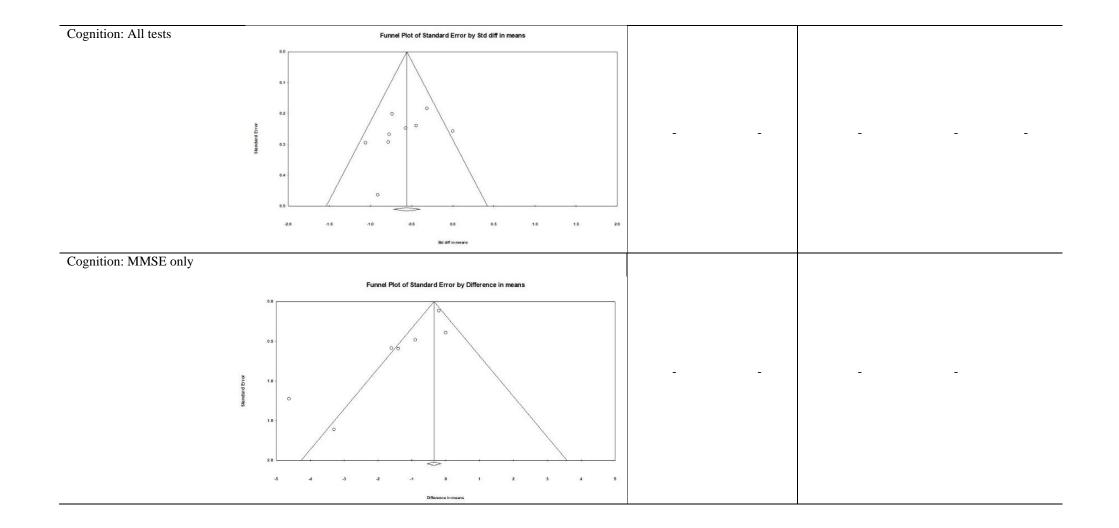


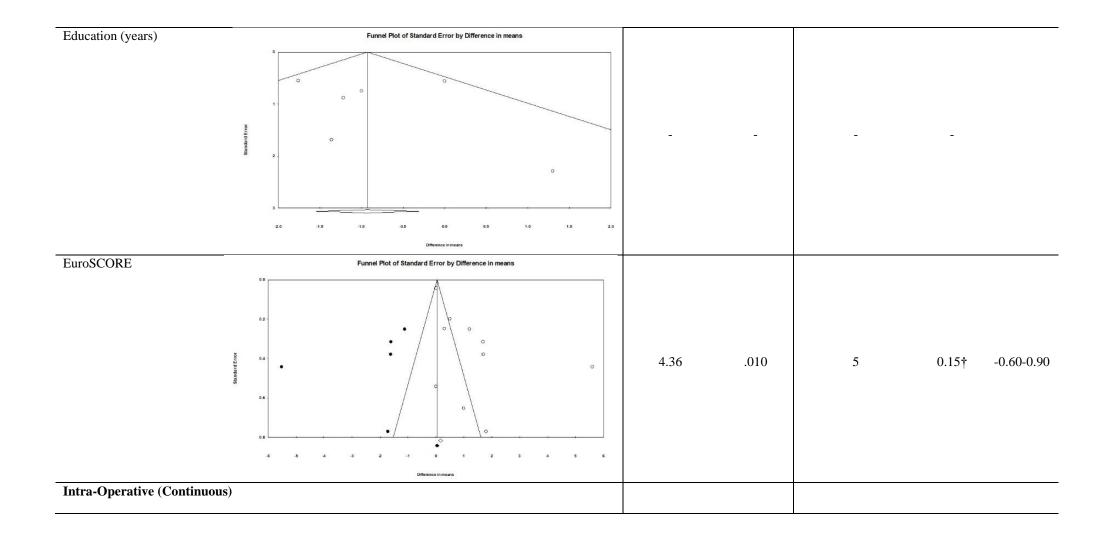


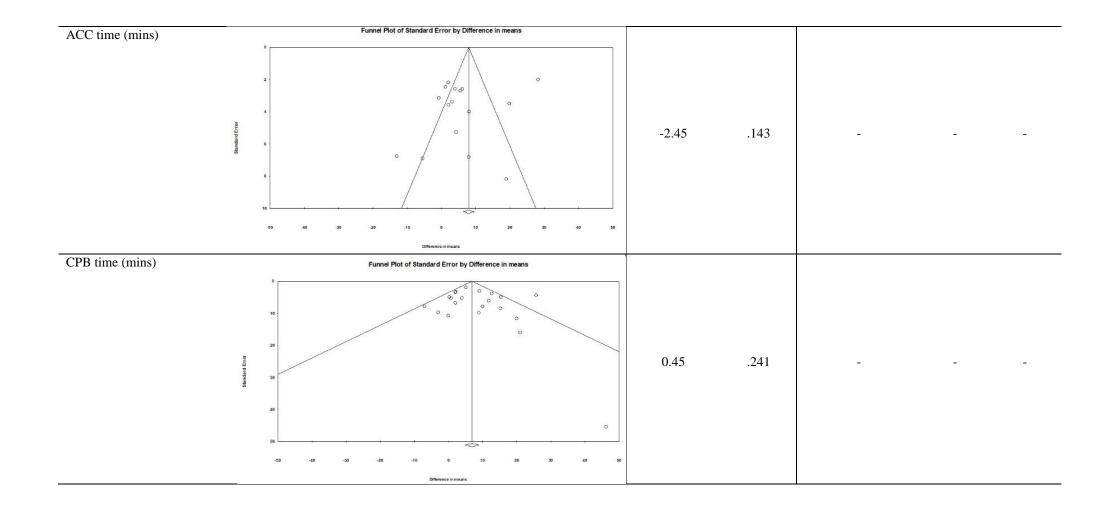


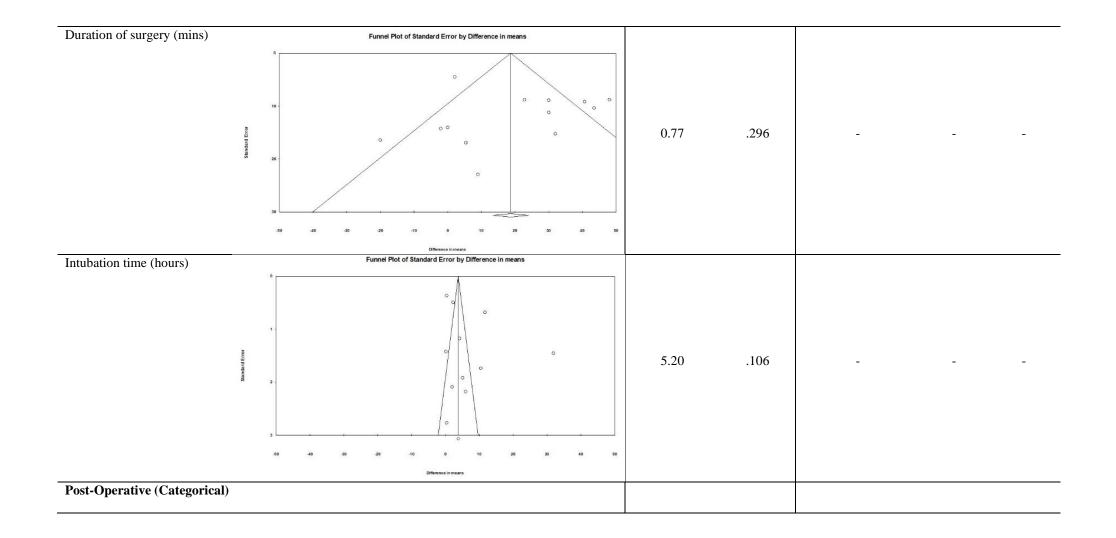












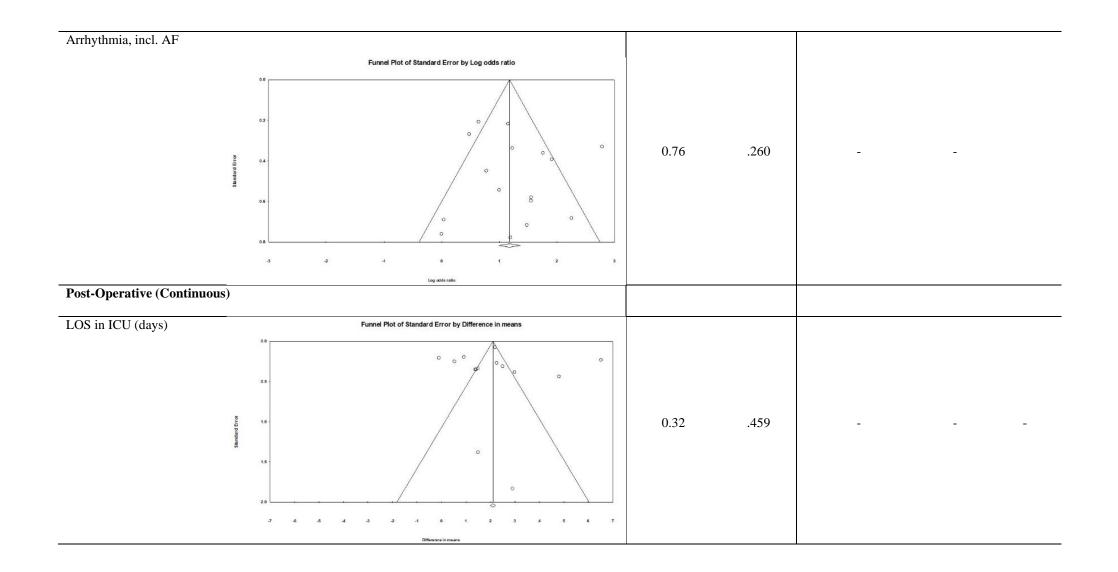


Figure S3. Forest plots for acute cognitive decline post-CABG analyses.

Variable	Forest Plot												
Pre-Operative (Categorical)													
Arrhythmia, incl. AF	Study name		Statisti	cs for ea	ach study			Od	ds ratio	o and	95%	CI	
		Odds ratio	Lower limit	Upper limit	Z-Value	p-Value							
	Colak, 2015	11.000	1,425	84.927	2.299	0.021	1	T	Ĩ	1 -	1	-	-
	Dong, 2014	1.459	0.561	3.795	0.774	0.439						-	
	Mu, 2013	0.938	0.397	2.214		0.883			-		4		
	Norkiene, 2011	1.170	0.356	3.843	0.258	0.796			-	-	+	- -	
	Restrepo, 2002	0.905	0.029	27.858	-0.057	0.954	k-	-	-	-	-	_	>
	Slater, 2009	0.495	0.056	4.360	-0.634	0.526	K-	_	+	-	-	-1	
	Suksompong, 2002	1.090	0.216	5.504	0.104	0.917		-	_	+	+	+	
		1.243	0.757	2.041	0.861	0.389				-			
							0.1	0.2	0.5	1	2	5	10
Cognitive Impairment	Study name		Statistic	s for e	ach stud	У		Od	ds rat	io an	d 95°	% CI	
		Odds L ratio	ower limit		7.Value	p-Value							
	Baba, 2007	0.752	0.161	3.504	-0.363		Î	1	Ĩ	- 1		- 1	
	Mu, 2013	1.241	0.463	3.329	0.430					-03			
										17	-53		
	Silbert, 2008	0.898	0.455	1.774	-0.309								
	Trubnikova, 2014		0.680	3.654	1.060				33			-0	
		1.108	0.709	1.730	0.449	0.653				Þ			
							0.1	0.2	0.5	1	2	5	10
Depression	Study name	Sta	tistics	for eac	h study			Odd	s rati	o and	d 95%	% CI	
	Od	ds Lov	ver Up	per									
	rat				-Value p	o-Value							
	Kadoi, 2011b 6.2	17 2.	1 <mark>99 1</mark> 7	.580	3.446	0.001			83.03	1	1-		H
	Slater, 2009 1.9	85 0.	791 4	.980	1.461	0.144						_	32
			119 10		2.157	0.031							-
											1.2	2201223	

Diabetes	Study name		Statisti	cs for ea	ch study	5	Odds ratio and 95% Cl
		Odds ratio	Lower limit	Upper limit	Z-Value	p-Value	
	Baba, 2007	1.148	0.570	2.312	0.387	0.698	-+++
	Boodhwani, 2006	1.089	0.723	1.642	0.409	0.682	
	Colak, 2015	1.149	0.607	2.176	0.427	0.669	
	deToumay-Jette, 2011	0.933	0.237	3.674	-0.099	0.921	
	Dong, 2014	2.810	1.151	6.860	2.268	0.023	
	Goto, 2000	1.717		4.299	1.155	0.248	
	Harmon, 2005	0.619		10.775	-0.329	0.742	
	Kadoi, 2005	1.683	1.016	2.788	2.020	0.043	
	Kumpaitiene, 2019 Mu, 2013	0.794	1.244	4.609	-0.366 2.614	0.714 0.009	
	Norkiene, 2011	1.367		4.009	0.567	0.571	
	Oh, 2008	1.676	0.404	6.966	0.711	0.477	
	Reents, 2002	1.901		6.675	1.003	0.316	
	Restrepo, 2002	0.750		11.311	-0.208	0.835	
	Slater, 2009	0.834		1.442	-0.648	0.517	
	Suksompong, 2002	1.260	0.479	3.314	0.468	0.639	
	Toeg, 2013	1.950	1.391	2.733	3.878	0.000	
		1.443	1.211	1.719	4.104	0.000	
							0.1 0.2 0.5 1 2 5 10
Dyslipidemia/Hyperlipidemia	Study name		Statist	ics for e	ach stud	ly	Odds ratio and 95% Cl
		Odds ratio	Lower	Upper limit	Z-Value	p-Value	
	Dobo 2007					S and a second	T T T 🛏 T T T
	Baba, 2007	1.079			0.214		
	deTournay-Jette, 2011	0.630					
	Dong, 2014	1.071					│ │ ┼ <u></u> ■┼ │ │
	Goto, 2000	0.719					
	Mu, 2013	1.038					
	Suksompong, 2002	4.730		14.371			
		1.164	0.739	1.835	0.655	0.512	
Hypertension	Study name	Odda			ach stud	ly	Odds ratio and 95% Cl
		ratio	Lower limit		Z-Value	p-Value	
	Baba, 2007	0.929			-0.176		
	Colak, 2015	1.541	0.629	3.774	0.946	0.344	│ │ │-┼■┼──│ │
	deTournay-Jette, 2011	4.000		15.895			│ │ │ │ <mark></mark> → → → → →
	Dong, 2014	2.063					
		2 005	0.641	6.268	1.196	0.232	
	Goto, 2000	2.005				and the second second	
	Harmon, 2005	1.926	0.496	7.485			
	Harmon, 2005 Kadoi, 2001	1.926 1.100	0.496 0.074	7.485 16.316	0.069	0.945	
	Harmon, 2005 Kadoi, 2001 Kadoi, 2005	1.926 1.100 6.183	0.496 0.074 2.962	7.485 16.316 12.907	0.069 4.852	0.945 0.000	
	Harmon, 2005 Kadoi, 2001 Kadoi, 2005 Kadoi, 2011a	1.926 1.100 6.183 1.400	0.496 0.074 2.962 1.043	7.485 16.316 12.907 1.878	0.069 4.852 2.244	0.945 0.000 0.025	
	Harmon, 2005 Kadoi, 2001 Kadoi, 2005 Kadoi, 2011a Kadoi, 2011b	1.926 1.100 6.183 1.400 2.059	0.496 0.074 2.962 1.043 0.887	7.485 16.316 12.907 1.878 4.778	0.069 4.852 2.244 1.681	0.945 0.000 0.025 0.093	
	Harmon, 2005 Kadoi, 2001 Kadoi, 2005 Kadoi, 2011a Kadoi, 2011b Mu, 2013	1.926 1.100 6.183 1.400 2.059 2.283	0.496 0.074 2.962 1.043 0.887 1.178	7.485 16.316 12.907 1.878 4.778 4.425	0.069 4.852 2.244 1.681 2.446	0.945 0.000 0.025 0.093 0.014	
	Harmon, 2005 Kadoi, 2001 Kadoi, 2005 Kadoi, 2011a Kadoi, 2011b Mu, 2013 Norkiene, 2011	1.926 1.100 6.183 1.400 2.059 2.283 1.239	0.496 0.074 2.962 1.043 0.887 1.178 0.372	7.485 16.316 12.907 1.878 4.778 4.425 4.134	0.069 4.852 2.244 1.681 2.446 0.349	0.945 0.000 0.025 0.093 0.014 0.727	
	Harmon, 2005 Kadoi, 2001 Kadoi, 2005 Kadoi, 2011a Kadoi, 2011b Mu, 2013 Norkiene, 2011 Restrepo, 2002	1.926 1.100 6.183 1.400 2.059 2.283 1.239 0.500	0.496 0.074 2.962 1.043 0.887 1.178 0.372 0.029	7.485 16.316 12.907 1.878 4.778 4.425 4.134 8.706	0.069 4.852 2.244 1.681 2.446 0.349 -0.475	0.945 0.000 0.025 0.093 0.014 0.0727 0.634	
	Harmon, 2005 Kadoi, 2001 Kadoi, 2005 Kadoi, 2011a Kadoi, 2011b Mu, 2013 Norkiene, 2011 Restrepo, 2002 Slater, 2009	1.926 1.100 6.183 1.400 2.059 2.283 1.239 0.500 1.498	0.496 0.074 2.962 1.043 0.887 1.178 0.372 0.029 0.808	7.485 16.316 12.907 1.878 4.778 4.425 4.134 8.706 2.775	0.069 4.852 2.244 1.681 2.446 0.349 -0.475 1.284	0.945 2.0.000 4.0.025 0.093 5.0.014 0.727 5.0.634 4.0.199	
	Harmon, 2005 Kadoi, 2001 Kadoi, 2005 Kadoi, 2011a Kadoi, 2011b Mu, 2013 Norkiene, 2011 Restrepo, 2002	1.926 1.100 6.183 1.400 2.059 2.283 1.239 0.500 1.498 3.750	0.496 0.074 2.962 1.043 0.887 1.178 0.372 0.029 0.808 1.158	7.485 16.316 12.907 1.878 4.778 4.425 4.134 8.706 2.775 12.141	0.069 4.852 2.244 1.681 2.446 0.349 -0.475 1.284 2.205	9 0.945 2 0.000 4 0.025 0.093 0.014 9 0.727 5 0.634 4 0.199 5 0.027	
	Harmon, 2005 Kadoi, 2001 Kadoi, 2005 Kadoi, 2011a Kadoi, 2011b Mu, 2013 Norkiene, 2011 Restrepo, 2002 Slater, 2009	1.926 1.100 6.183 1.400 2.059 2.283 1.239 0.500 1.498	0.496 0.074 2.962 1.043 0.887 1.178 0.372 0.029 0.808 1.158	7.485 16.316 12.907 1.878 4.778 4.425 4.134 8.706 2.775	0.069 4.852 2.244 1.681 2.446 0.349 -0.475 1.284 2.205	9 0.945 2 0.000 4 0.025 0.093 0.014 9 0.727 5 0.634 4 0.199 5 0.027	

Study name		Statist	tics for e	ach study		Odds ratio and 95% CI
	Odds ratio	Lower limit	Upper limit	Z-Value	p-Value	
Baba, 2007	0.972		2.060	-0.074	0.941	
Boodhwani, 2006			Contraction of the second	0.660	0.509	
Goto, 2000			3.607	0.548	0.584	
Hall, 1999	0.574	0.117	2.810	-0.685	0.494	
Harmon, 2005			4.760	-0.305	0.760	
				-0.027	0.979	
Norkiene, 2011				0.522	0.602	
Reents, 2002			6.375	0.039	0.969	
Suksompolig, 2002						
	10.00				00000	0.1 0.2 0.5 1 2 5 10
Study name		Statisti	cs for ea	ach study	<u></u>	Odds ratio and 95% Cl
9	Odds ratio	Lower limit	Upper limit	Z-Value	p-Value	
Baba 2007	0.860	0 278	2 662	-0.262	0 793	
and a second second second						
Suksompony, 2002						
	1.213	0.396	3./10	0.338	0.735	
						0.1 0.2 0.5 1 2 5 10
Study name		Statistic	s for ea	ch study	h.	Odds ratio and 95% Cl
				Z-Value	p-Value	
					0.801	I I I 🛏 I I I
GOIGN, 2013	1.100	0.570	J.JJZ	0.202	0.001	
Norkiene 2011	1 621	0.528	1 075	0.844	0 300	
A CONTRACTOR DE LA CONTRACTÓRIA DE LA CONTRA	1.621	0.528	4.975	0.844	0.399	
Suksompong, 2002	0.750	0.240	2.342	-0.495	0.620	
Suksompong, 2002						
Suksompong, 2002	0.750	0.240	2.342	-0.495	0.620	0.1 0.2 0.5 1 2 5 10
Suksompong, 2002	0.750	0.240 0.586	2.342 2.156	-0.495	0.620 0.724	0.1 0.2 0.5 1 2 5 10 Odds ratio and 95% Cl
Suksompong, 2002	0.750 1.124 Odds	0.240 0.586 Statistic	2.342 2.156 cs for ea	-0.495 0.353 ch study	0.620 0.724	
Suksompong, 2002	0.750 1.124 Odds ratio	0.240 0.586 Statistic Lower limit	2.342 2.156 cs for ea Upper limit	-0.495 0.353 ach study Z-Value	0.620 0.724 p-Value	
Suksompong, 2002 Study name Dong, 2014	0.750 1.124 Odds ratio 1.831	0.240 0.586 Statistic Lower limit 0.800	2.342 2.156 cs for ea Upper limit 4.191	-0.495 0.353 ach study Z-Value 1.431	0.620 0.724 p-Value 0.152	
Suksompong, 2002 Study name Dong, 2014 Harmon, 2005	0.750 1.124 Odds ratio 1.831 1.246	0.240 0.586 Statistic Lower limit 0.800 0.312	2.342 2.156 cs for ea Upper limit 4.191 4.977	-0.495 0.353 ach study Z-Value 1.431 0.311	0.620 0.724 p-Value 0.152 0.755	
Suksompong, 2002 Study name Dong, 2014 Harmon, 2005 Liu, 2009	0.750 1.124 Ddds ratio 1.831 1.246 1.776	0.240 0.586 Statistic Lower limit 0.800 0.312 1.046	2.342 2.156 cs for ea Upper limit 4.191 4.977 3.015	-0.495 0.353 ach study Z-Value 1.431 0.311 2.127	0.620 0.724 p-Value 0.152 0.755 0.033	
Suksompong, 2002 <u>Study name</u> Dong, 2014 Harmon, 2005 Liu, 2009 Mu, 2013	0.750 1.124 Ddds ratio 1.831 1.246 1.776 0.698	0.240 0.586 Statistic Lower limit 0.800 0.312 1.046 0.369	2.342 2.156 cs for ea Upper limit 4.191 4.977 3.015 1.322	-0.495 0.353 ach study Z-Value 1.431 0.311 2.127 -1.103	0.620 0.724 p-Value 0.152 0.755 0.033 0.270	
Suksompong, 2002 Study name Dong, 2014 Harmon, 2005 Liu, 2009 Mu, 2013 Norkiene, 2011	0.750 1.124 Ddds ratio 1.831 1.246 1.776 0.698 0.719	0.240 0.586 Statistic Lower limit 0.800 0.312 1.046 0.369 0.354	2.342 2.156 cs for ea Upper limit 4.191 4.977 3.015 1.322 1.458	-0.495 0.353 ach study Z-Value 1.431 0.311 2.127 -1.103 -0.915	0.620 0.724 p-Value 0.152 0.755 0.033 0.270 0.360	
Suksompong, 2002 Study name Dong, 2014 Harmon, 2005 Liu, 2009 Mu, 2013 Norkiene, 2011 Slater, 2009	0.750 1.124 Ddds ratio 1.831 1.246 1.776 0.698 0.719 1.345	0.240 0.586 Statistic Lower limit 0.800 0.312 1.046 0.369 0.354 0.590	2.342 2.156 cs for ea Upper limit 4.191 4.977 3.015 1.322 1.458 3.063	-0.495 0.353 ach study Z-Value 1.431 0.311 2.127 -1.103 -0.915 0.705	0.620 0.724 p-Value 0.152 0.755 0.033 0.270 0.360 0.481	
Suksompong, 2002 Study name Dong, 2014 Harmon, 2005 Liu, 2009 Mu, 2013 Norkiene, 2011 Slater, 2009 Suksompong, 2002	0.750 1.124 Ddds ratio 1.831 1.246 1.776 0.698 0.719 1.345 1.030	0.240 0.586 Statistic Lower limit 0.800 0.312 1.046 0.369 0.354 0.590 0.352	2.342 2.156 cs for ea Upper limit 4.191 4.977 3.015 1.322 1.458 3.063 3.011	-0.495 0.353 ach study Z-Value 1.431 0.311 2.127 -1.103 -0.915 0.705 0.054	0.620 0.724 p-Value 0.152 0.755 0.033 0.270 0.360 0.481 0.957	
Suksompong, 2002 Study name Dong, 2014 Harmon, 2005 Liu, 2009 Mu, 2013 Norkiene, 2011 Slater, 2009 Suksompong, 2002	0.750 1.124 Ddds ratio 1.831 1.246 1.776 0.698 0.719 1.345	0.240 0.586 Statistic Lower limit 0.800 0.312 1.046 0.369 0.354 0.590	2.342 2.156 cs for ea Upper limit 4.191 4.977 3.015 1.322 1.458 3.063	-0.495 0.353 ach study Z-Value 1.431 0.311 2.127 -1.103 -0.915 0.705	0.620 0.724 p-Value 0.152 0.755 0.033 0.270 0.360 0.481	
	Baba, 2007 Boodhwani, 2006 Christiansen, 2016 Colak, 2015 deTournay-Jette, 201 Dong, 2014 Goto, 2000 Hall, 1999 Harmon, 2005 Kadoi, 2005 Kadoi, 2015 Kadoi, 2011b Kumpaitiene, 2019 Mu, 2013 Norkiene, 2011 Reents, 2002 Restrepo, 2002 Slater, 2009 Suksompong, 2002 Study name Baba, 2007 Colak, 2015 Slater, 2009 Suksompong, 2002	Odds ratio Baba, 2007 0.972 Boodhwani, 2006 1.206 Christiansen, 2016 1.667 Colak, 2015 1.322 deTournay-Jette, 2011 0.475 Dong, 2014 0.811 Goto, 2000 1.324 Hall, 1999 0.574 Hall, 1999 0.574 Harmon, 2005 0.750 Kadoi, 2011b 0.786 Kumpaitiene, 2011 1.270 Reents, 2002 1.037 Restrepo, 2002 3.267 Slater, 2009 0.795 Suksompong, 2002 0.913 1.026 1.026 Study name Odds Slater, 2009 0.411 Suksompong, 2002 4.200 1.213 1.213	Odds Lower ratio Baba, 2007 0.972 0.459 Boodhwani, 2006 1.206 0.692 Christiansen, 2016 1.667 0.048 Colak, 2015 1.322 0.651 deTournay-Jette, 2011 0.475 0.053 Dong, 2014 0.811 0.317 Goto, 2000 1.324 0.486 Hall, 1999 0.574 0.117 Harmon, 2005 0.750 0.118 Kadoi, 2011b 0.786 0.299 Kumpaitiene, 2019 1.488 0.504 Mu, 2013 0.988 0.415 Norkiene, 2011 1.270 0.517 Reents, 2002 1.037 0.169 Restrepo, 2002 3.267 0.307 Slater, 2009 0.795 0.387 Suksompong, 2002 0.913 0.297 1.026 0.818 Dodds Lower ratio limit Baba, 2007 0.860 0.278 Colak, 2015 3.6	Odds Lower Upper Imit Baba, 2007 0.972 0.459 2.060 Boodhwani, 2006 1.206 0.692 2.102 Christiansen, 2016 1.667 0.048 58.281 Colak, 2015 1.322 0.651 2.685 deTournay-Jette, 2011 0.475 0.053 4.255 Dong, 2014 0.811 0.317 2.074 Goto, 2000 1.324 0.486 3.607 Hall, 1999 0.574 0.117 2.810 Harmon, 2005 0.750 0.118 4.760 Kadoi, 2015 0.896 0.429 1.871 Kadoi, 2011b 0.786 0.299 2.061 Kumpaitiene, 2019 1.488 0.504 4.393 Mu, 2013 0.988 0.415 2.355 Norkiene, 2011 1.270 0.517 3.121 Reents, 2002 1.037 0.169 6.375 Restrepo, 2002 3.267 0.387 1.634 Suksompong, 2002	Odds Lower Upper ratio limit z-Value Baba, 2007 0.972 0.459 2.060 -0.074 Boodhwani, 2006 1.206 0.692 2.102 0.660 Christiansen, 2016 1.667 0.048 58.281 0.282 Colak, 2015 1.322 0.651 2.685 0.772 deTournay-Jette, 2011 0.475 0.053 4.255 0.665 Dong, 2014 0.811 0.317 2.074 0.437 Goto, 2000 1.324 0.486 3.607 0.548 Hall, 1999 0.574 0.117 2.810 -0.685 Hall, 1999 0.574 0.118 4.760 -0.305 Kadoi, 2005 0.896 0.429 1.871 -0.292 Kadoi, 2011b 0.786 0.299 2.061 -0.490 Kumpaitiene, 2011 1.270 0.517 3.121 0.522 Reents, 2002 1.037 0.169 6.375 0.039	Odds Lower Upper limit Limit Z-Value p-Value Baba, 2007 0.972 0.459 2.060 -0.074 0.941 Boodhwani, 2006 1.206 0.692 2.102 0.660 0.509 Christiansen, 2016 1.667 0.048 58.281 0.282 0.772 0.440 deTournay-Jette, 2011 0.475 0.053 4.255 -0.665 0.506 Dong, 2014 0.811 0.317 2.074 -0.437 0.662 Goto, 2000 1.324 0.486 3.607 0.548 0.584 Hall, 1999 0.574 0.117 2.810 -0.685 0.494 Harmon, 2005 0.750 0.118 4.760 -0.305 0.760 Kadoi, 2011b 0.786 0.299 2.061 -0.490 0.624 Kumpaitiene, 2011 1.270 0.517 3.121 0.522 0.602 Reents, 2002 1.037 0.169 6.375 0.039 0.969 Reestrep

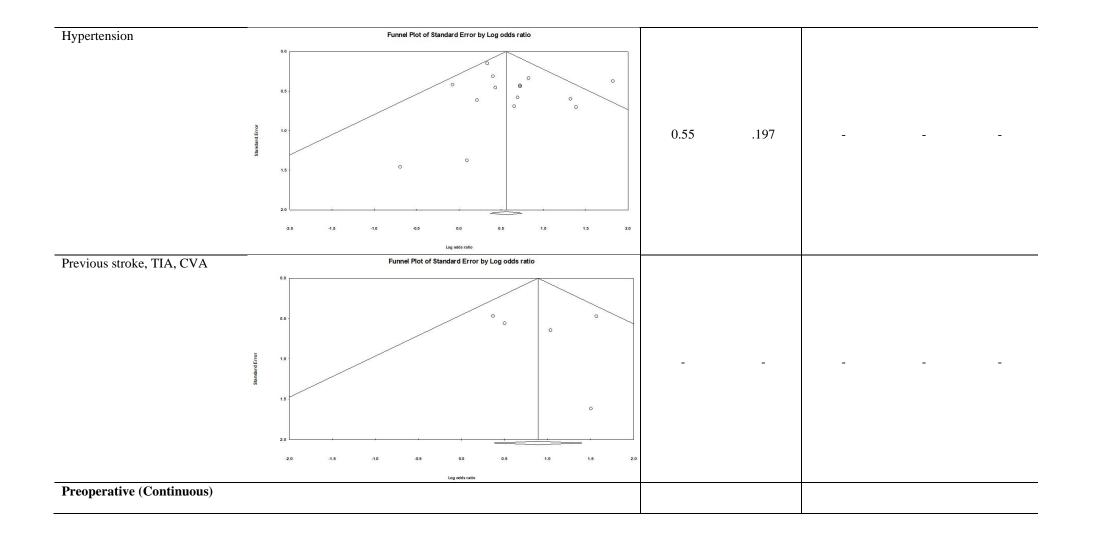
Previous stroke, TIA, CVA	Study name		Statisti	ics for ea	ch study	(Odds ratio and 95% Cl
		Odds ratio	Lower limit		Z-Value	p-Value	
		4.799	1.899	12.129	3.315	0.001	
		2.814	0.795	9.959	1.604	0.109	
		1.445	0.576	3.623	0.785	0.433	
	Restrepo, 2002			106.823	0.931	0.352	
	12.1	1.652	0.553	4.938	0.899	0.369	
		2.435	1.468	4.038	3.447	0.001	
		2.100	1.100	1.000	0.111	0.001	
							0.1 0.2 0.5 1 2 5 10
PVD	Study name		Statis	tics for e	ach stud	У	Odds ratio and 95% CI
		Odds ratio		Upper	7.Valuo	p-Value	
	Baba 2007	0.414				-	
	Baba, 2007 Boodbwani, 2006						
	Boodhwani, 2006						
	Goto, 2000	4.353		5 15.987 8 12.929			
	Restrepo, 2002	0.486		7 2.831			
		1.001	0.41	2.001	0.170	0.000	
							0.1 0.2 0.5 1 2 5 10
moking current/history	Study name		Statis	tics for e	ach study	v	Odds ratio and 95% CI
		Odds ratio		Upper			
	Daha 2007	0.902		limit 5 1.826		p-Value	
	Baba, 2007 Dong, 2014	1.075					
	Kadoi, 2001	0.100					
	Kadoi, 2005	1.033					Ĩ│ │_ ╈_│ │ │
	Liu, 2009	0.337					╵└┲┼Т╵╵╵
	Mu, 2013	1.382					
	Norkiene, 2011	1.693	0.755	5 3.798	1.278	0.201	
	Restrepo, 2002			7 376.696	1.647	0.100	
	Slater, 2009	1.729	0.997			0.051	
		1.033	0.642	2 1.664	0.135	0.892	0.1 0.2 0.5 1 2 5 10
							0.1 0.2 0.5 1 2 5 10
Pre-Operative (Continuous)							
Age (years)	Study name	rence St	Statist	tics for each stu Lower	Upper		Difference in means and 95% CI
	inn	neans	error Varia	ance limit	limit Z-Value		
	Baba, 2007 Boodhwani, 2006	0.700		0.973 -1.234 0.001 0.425	2.634 0.710 0.575 13.005		
	Christiansen, 2016 Colak, 2015	1.900		0.882 -18.739 1.191 5.161	22.539 0.180 9.439 6.689		
	deTournay-Jette, 2011	-3.010	1.539 2	2.368 -6.026	0.006 -1.956	0.050	│ ┼▰┤ │_╸│
	Dong, 2014 Goto, 2000	6.000	1.168 1	2.330 3.008 1.364 -0.789	8.992 3.931 3.789 1.284	4 0.199	
	Hall, 1999 Hamon, 2005	3.300 8.300		0.460 -3.039 5.883 3.546	9.639 1.020 13.054 3.422		
	Kadoi, 2005 Kadoi, 2011b	7.000	1.500 2	2.251 4.060	9.940 4.666	0.000	
	Kumpaitiene, 2019	4.000	2.176 4	.736 -0.265	8.265 1.838	8 0.066	
	Liu, 2009 Mu, 2013	2.000		1.247 -0.188 1.996 -0.769	4.188 1.791 4.769 1.416		
	Newman, 1987 Norkiene, 2011	6.800 2.400	2.045 4	180 2.793 1.665 -0.129		0.001	
	Reents, 2002	1.000	2,465 6	0.075 -3.831	5.831 0.406	0.685	
	Restrepo, 2002	0.570		1.315 -12.028 0.153 5.132	13.168 0.089		
	Scott, 2002	5.900	0.392 0	1.103 0.132	6.668 15.055	a. a.a.a.	
	Scott, 2002 Slater, 2009	-0.020	1.313 1	.724 -2.593	2.553 -0.015	5 0.988	
	Scott, 2002		1.313 1 1.810 3 2.776 7			5 0.988 5 0.269 9 0.313	

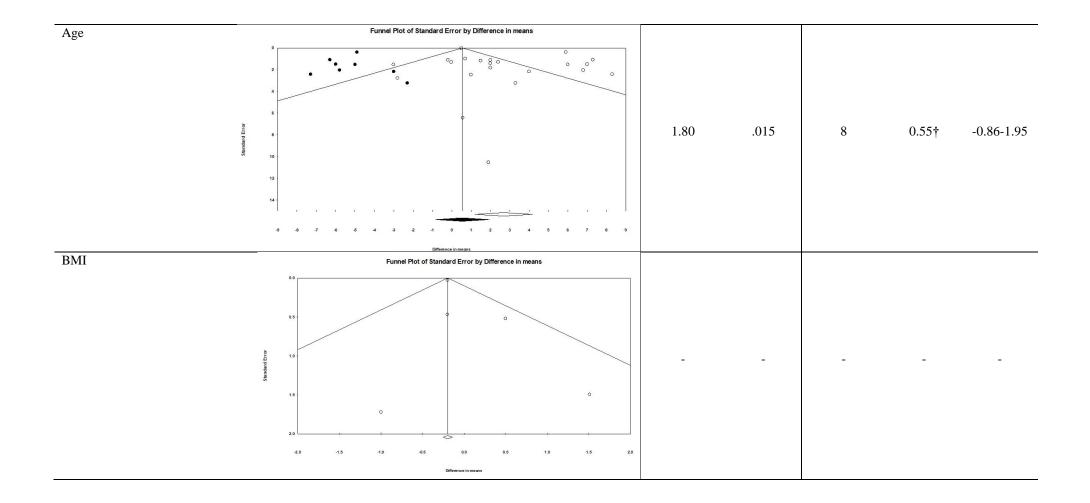
BMI	Study name			Statistics for	oreachst	tudy				Differenc	e in means a	and 95% CI	
		Difference in means	Standard error	Variance	Lower	Upper limit	Z-Value	p-Value					
	Boodhwani, 2006	-0.200		0.001	-0.257	-0.143	-6.936	0.000	Т.	1	1	12	1
	deTournay-Jette, 2011	1.510		2.234	-1.420	4.440	1.010	0.312		-			
	Dong, 2014	0.500		0.271	-0.521	1.521	0.960	0.337		:	_		
	Mu, 2013	-0.200		0.220	-1.120	0.720	-0.426	0.670		-	•		
	Norkiene, 2011	-1.000		2.963	-4.374	2.374	-0.581	0.561	<				~
		-0.197	0.029	0.001	-0.254	-0.141	-6.874	0.000	L.	I.	• 1	L.	1
									-2.00	-1.00	0.00	1.00	2.00
Cognition: All tests	Study name			Statistics f	oreachs	tudy				Std diff	f in means a	nd 95% CI	
		Std diff	Standard		Lower	Upper							
		in means		Variance	limit	limit	Z-Value		1	1	1	-	. 1
	deTournay-Jette, 2011	0.823	0.344	0.119	0.148	1.498	2.390	0.017			_	-	-
	Hall, 1999	0.237	0.346	0.120	-0.441	0.916	0.685	0.493					
	Kumpaitiene, 2019	0.230	0.271	0.073	-0.824	0.236	-1.086	0.277					
		0.230	0.354	0.112	-0.425	0.004	0.007	0.432	1	1	_		1
									-2.00	-1.00	0.00	1.00	2.0
Cognition: MMSE only	Study name		-	Statistics fo	oreach st	tudy				Differen	ce in means	and 95% Cl	
		Difference in means	Standard	Variance	Lower	Upper limit	Z-Value	p-Value					
	deTourses latte 2014		0.453						1	1	1		L
	deTournay-Jette, 2011 Kumpaitiene, 2019	-0.600	0.453	0.205	0.223	1.997	2.452	0.014				-	
	numpatiene, zu ta	0.283	0.855	0.302	-1.391	1.958		0.275			-		
		9.203	0.000	0.150	-1.001	1.300	9. JUE	0.140	1	1.		1	1
									-4.00	-2.00	0.00	2.00	4.0
Depression: All tests	Study name		Stati	stics for ea	ach study					Std diff in	n means an	d 95% CI	
-	Std	l diff Stan	dard	Lov	wer Up	per						8	
	in m	eans en	ror Vari	ance lir	mit lir	nit Z-	Value p	Value					
	Harmon, 2004 -	0.310	0.340	0.116 -0	.976 0	.357	-0.910	0.363	1	1			
	Harmon, 2005 -	0.039	0.342	0.117 -0.	.709 0	.632	-0.113	0.910					
	Kadoi, 2011b	2.024	0.259	0.067 1	.516 2	.532	7.807	0.000				-	
	(5.5 C) 55 (51.2 C) 93 (50.0 C)			0.023 -0		.571	1.807	0.071					
		0.501	0.499	0.249 -0	.478 1.	.479	1.003	0.316				►	
									-4.00	-2.00	0.00	2.00	4.00
Education (years)	Study name			Statistics f						Differen	nce in means	and 95% CI	
		Difference in means	Standard	Variance	Lower	Upper limit	Z-Value	p-Value					
	Colak, 2015	-1.200	0.492	0.242	-2.164	-0.236			Ť	+		1	1
	deTournay-Jette, 2011	1.070	1.436	2.063				0.456		-			
	Hall, 1999	-1.600	0.913	0.834	-3.390								
	Harmon, 2005	-1.300	1.217	1.480	-3.684				-			- 1	
	Kumpaitiene, 2019 Mu, 2013	0.500	1.327	1.761	-2.101			0.706		20			
	mu, 2015	-0.435	0.534	0.265							-		
			1.1998		10000				-4.00	-2.00	0.00	2.00	4.
EuroSCORE	Study name			tistics for e						Differen	ice in mean	s and 95% Cl	<u>E</u> .,
			andard error Va		ower U limit		Z-Value	p-Value					
	Colak, 2015	1.000	0.245	0.060	0.519	1.481	4.075	0.000			1		-
	Dong, 2014	0.600	0.214	0.046	0.181	1.019	2.806	0.005			÷		
	Mu, 2013	0.459	0.311	0.097	-0.151	1.068	1.475	0.140			-		
	Norkiene, 2011	1.000	0.382	0.146	0.252	1.748	2.621	0.009			1	+	
		0.742	0.134	0.018	0.480	1.005	5.540	0.000					
		1.511.57											
									-2.00	-1.00	0.00	1.00	2

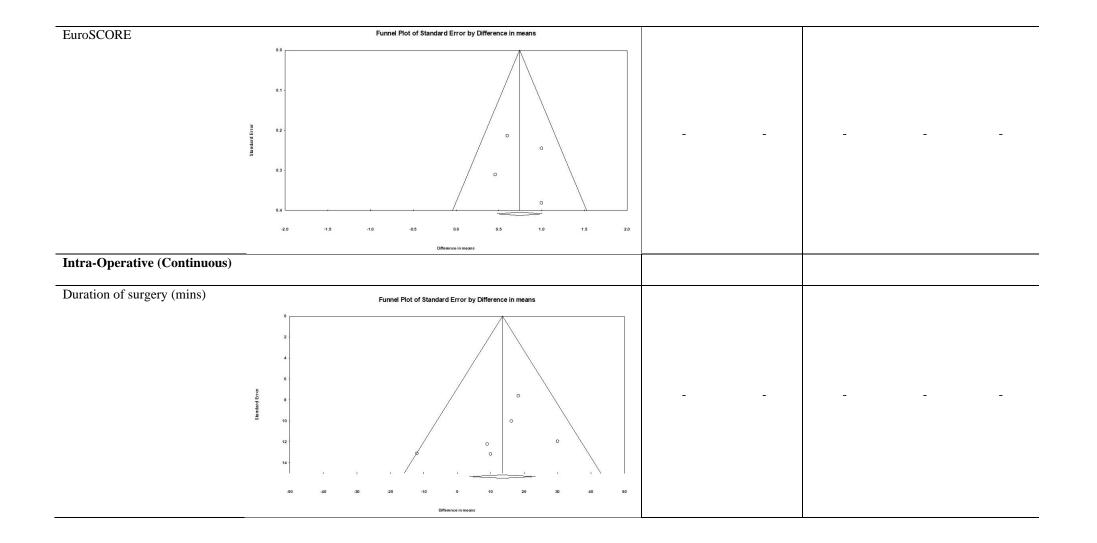
	Harmon, 2005	Difference in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value					
	Harmon, 2005		error.	. ar marce			E state	p . unoc					
		-9.000	2.336	5.459	-13.579	-4.421	-3.852	0.000	k	1	- 1	1	T
	Kadoi, 2011b	-2.000	1,585	2.511	-5.106	1.106	-1.262	0.207	<		_	-	
	Kadoi, 2005	-3.000	1.775	3.150	-6.479	0.479	-1.690	0.091	<		-		
	Mu, 2013	2.900	1.682	2.829	-0.396	6.196	1.724	0.085		_ <u>_</u>	-		\rightarrow
	Norkiene, 2011 Reents, 2002	-2.000	1.462 3.109	2.137 9.665	-4.865	0.865	-1.368 -3.217	0.171	C .	1			
	Kumpaitiene, 2019	1.000	2.193	4.810	-3.298	5.298	0.456	0.648	Ì -		-+		
	Colak, 2015	0.100	1.458	2.125	-2.757	2.957	0.069	0.945		-	_ _		
	Slater, 2009	0.100	1.551	2.406	-2.940	3.140	0.064	0.949		-			-
		-1.966	1.147	1.315	-4.213	0.281	-1.715	0.086	K-				
									-4.00	-2.00	0.00	2.00	4.0
Intra-Operative (Continuous)													
												1054 01	
ACC time (mins)	Study name	Difference	- Standard	Statistics for	CONTRACT NOTICE	Upper				Difference	e in means a	Ind 95% CI	
		in means	error	Variance	limit	limit	Z-Value	p-Value					
	Dong, 2014	-4.000	3.672	13.485	-11.197	3.197	-1.089	0.276	K		+	- 1	
	Hall, 1999	-18.000	5.889	34.679	-29.542	-6.458	-3.057	0.002	ķ.	_			
	Jonsson, 2004 Norkiene, 2010	-6.500 4.000	7.258 2.682	52.681 7.195	-20.726 -1.257	7.726 9.257	-0.896 1.491	0.370	< Contraction of the second se				8
	Restrepo, 2002	2.000	3.657	13.374	-5.168	9.257	0.547	0.136					
	Robson, 2000	-2.000	6.786	46.052	-15.301	11.301	-0.295	0.768	<		• +		
	Stump, 1996	2.700	1.814	3.290	-0.855	6.255	1.489	0.137			_+-	∎┼╴	1
		-1.337	2.333	5.441	-5.909	3.234	-0.573	0.566		-+		⊢	
									-10.00	-5.00	0.00	5.00	10.0
CPB time (mins)	Study name			Statistics	for each	study				Difference	ce in means	and 95% CI	
		Difference			Lower			n Value					
		in means	error	Variance		limit	Z-Value		182	26	2250		
	Boodhwani, 2006 Colak, 2015	-0.10						0.521				-	- 28
	Goto, 2000	-6.10									⊢		
	Harmon, 2005	9.400										_	
	Kadoi, 2005 Kadoi, 2011b	-3.20											
	Kumpaitiene, 2019									10	-		
	Newman, 1987	18.60									22	1052	
	Norkiene, 2011	6.00							1		5	-	12
	Reents, 2002 Slater, 2009	3.900											
	Smith, 1986	13.00									3 . 0 0		
	Sylivris, 1998	30.00									100		\rightarrow
		3.390	0 1.77	8 3.162	2 -0.09	5 6.87	5 1.907	0.057	1	1	0.00	10.00	20.0
									-20.00	-10.00	0.00	10.00	20.0
Duration of surgery (mins)	Study name		- 6	Statistics for	reach stu	dy				Difference	in means an	d 95% Cl	
		Difference in means	Standard	Variance	Lower I		Z-Value p-	Value					
	Baba, 2007	9.000	12.219	149.307				0.461	i i	L	1		
	deTournay-Jette, 201		13.167	173.366				0.448					~
	Dong, 2014	30.000	11.954	142.898	6.571			0.012			<u> </u>		1
	Mu, 2013	16.200	10.029		-3.457			0.106					\rightarrow
	Norkiene, 2011	18.300	7.616	58.003	3.373	33.227	2.403	0.016			3		\rightarrow
	Reents, 2002	-12.000	13.111	171.891		13.697		0.360	÷		_		
		13.525	5.027	25.266	3.673	23.377	2.691	0.007	1	100			۰ I
									-30.00	-15.00	0.00	15.00	30.0
Intubation time (hours)				D						D:**	- 1		
Intubation time (hours)	Study name	Difference	Standard	Statistics fo	Lower	Upper				Difference	e in means a	ind 95% Cl	
	10.000	in means	error	Variance	limit	limit	Z-Value	p-Value				0.24	
	Boodhwani, 2006	2.300	0.064	0.004	2.174	2.426	35.907	0.000			1		
	Colak, 2015 Liu, 2009	1.800	0.581	0.337	0.661	2.939 3.336	3.099	0.002					
	Mu, 2013	0.224	0.784	0.614	-1.449	1.898	0.263	0.022			_		1
	Norkiene, 2011	2.082	1.511	2.282	-0.879	5.043	1.378	0.168			_)
									1				5
	Reents, 2002	2.200	1.736	3.015	-1.203	5.603	1.267	0.205			_	1	1
	Reents, 2002	2.200 1.946	1.736 0.292	3.015 0.085	-1.203	2.517	1.267 6.672	0.205		1-		•	-1

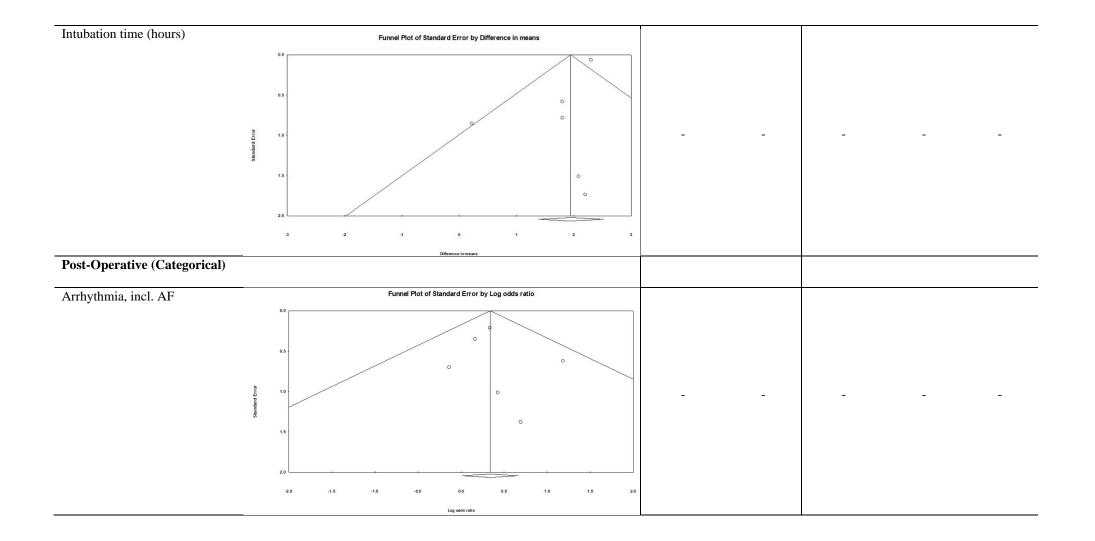
Number of grafts	Study name				tics for ea	1.71 88	Berne 1				Di	fference	in mean	ns and 95	5% CI	
		Difference in mean			Lov ance lir		imit Z	-Value	p-Value							
	Boodhwani, 2006	0.0	00 0.0	04	D.000 -0	800	0.008	0.000	1.000						1	Ē
	Colak, 2015	0.1					0.278	1.100	0.271			8	+	<u> </u>		
	Dong, 2014 Harmon, 2005	0.2					0.643 1.050	0.884	0.377			-		- 10. 		
	Mu, 2013	0.2					0.524	1.212	0.226						1	1
	Norkiene, 2011	0.3	00 0.1				0.684	1.533	0.125				-		-	
	Reents, 2002	-0.2					0.366	-0.693	0.489				<u> </u>			
		0.0	25 0.0	030	D.001 -0	034	0.085	0.842	0.400				•			
										-1.00	8	-0.50	0.00	0	.50	1.00
Total Microemboli	Study name	00000000	50000000000	Statistic	cs for eac	a ustats					S	td diff in	means	and 95%	6 CI	
	1	Std diff n means	Standard error	Varian	ce limi			/alue p	-Value							
	Liu, 2009	0.236	0.134	0.0	18 -0.02	6 0.4	499	1.763	0.078			1	+	-	-	1
	Rodriguez, 2010	-0.055	0.107	0.0	11 -0.26	4 0.1	154 -(0.512	0.608			-		-		
	Royse, 2000	0.681	0.550	0.3	02 -0.39	7 1.7	758	1.238	0.216			-	_	10000		
	Stump, 1996	0.295	0.170	0.0	29 -0.03	8 0.0	627	1.736	0.082				- 0	-8-	+	
		0.157	0.113	0.0	13 -0.06	6 0.3	379	1.381	0.167				-			
										-1.00	4	0.50	0.00	0.	.50	1.00
Post-Operative (Categorical)	_															
Arrhythmia, incl. AF	Study name		-		tics for		study	<u>/</u>			Od	ds rati	io and	95%	CI	
		1	Odds L ratio	limit	Uppe		Value	p-Va	alue							
	Boodhwani, 20	06	1.398	0.922	2.12	2	1.576	0	115	1	1	1	1	4	1	1
		00	1.176	0.591					644					•		
	Colak, 2015						0.462					-		Т		2
	Mu, 2013		1.531	0.210			0.421		674					•		7
	Norkiene, 2011		3.265	0.966			1.905		057					-	-	\rightarrow
	Restrepo, 2002	2	2.000	0.134	29.80	8	0.503	0.	615	-	+		-	+	-	-
	Suksompong, 2	2002	0.870	0.220	3.43	5 -	0.199	0.	842		-		-		-	
			1.402	1.013	1.94	1	2.038	0.	042							
										0.1	0.2	0.5	1	2	5	10
Daliaium	-			. Some			etud	v			Odd	ds rat	io an	d 95%	% CI	
Delirium	Study name		St	tatistic	s for	ach	Suuu	¥.								
Delirium	Study name	Od	ds Lo	wer	Upper	0										
Delirium		Od ra	ds Lo tio li	wer mit	Upper limit	Z -'	Value	p-V			-	1			_	
Delirium	Colak, 2015	Od ra 4.	ds Lo tio li 171 1	wer mit .458	Upper limit 11.93	z-		p-V	alue .008	1	<u> </u>	I	-	+	-	-
Delirium		Od ra 4.	ds Lo tio li 171 1	wer mit .458	Upper limit	z-	Value	p-V		1		1	_	+	-	
Delirium	Colak, 2015 Norkiene, 201	Od ra 4. 11 9.0	ds Lo tio li 171 1 019 1	wer mit .458 .076	Upper limit 11.93 75.62	z- ` 5	Value 2.662 2.027	p-V 2 0 7 0	.008 .043			1	-	+		┲╺
Delirium	Colak, 2015	Od ra 4. 11 9.0 2 39.0	ds Lo tio li 171 1 019 1 000 2	wer mit .458 .076 .021	Upper limit 11.93 75.62 752.63	Z- 5 1 6	Value 2.662 2.027 2.426	p-V 2 0 7 0 6 0	.008 .043 .015				-			
Delirium	Colak, 2015 Norkiene, 201	Od ra 4. 11 9.0 2 39.0	ds Lo tio li 171 1 019 1 000 2	wer mit .458 .076 .021	Upper limit 11.93 75.62	Z- 5 1 6	Value 2.662 2.027	p-V 2 0 7 0 6 0	.008 .043				-	+		┱┓┺
Delirium	Colak, 2015 Norkiene, 201	Od ra 4. 11 9.0 2 39.0	ds Lo tio li 171 1 019 1 000 2	wer mit .458 .076 .021	Upper limit 11.93 75.62 752.63	Z- 5 1 6	Value 2.662 2.027 2.426	p-V 2 0 7 0 6 0	.008 .043 .015	0.1	0.2	0.5	1	2	5	10
	Colak, 2015 Norkiene, 201	Od ra 4. 11 9.0 2 39.0	ds Lo tio li 171 1 019 1 000 2	wer mit .458 .076 .021	Upper limit 11.93 75.62 752.63	Z- 5 1 6	Value 2.662 2.027 2.426	p-V 2 0 7 0 6 0	.008 .043 .015	0.1			-	2	5	10
Post-Operative (Continuous)	Colak, 2015 Norkiene, 201	Od ra 4. 11 9.0 2 39.0	ds Lo tio li 171 1 019 1 000 2	wer mit .458 .076 .021	Upper limit 11.93 75.62 752.63	Z- 5 1 6 9	Value 2.662 2.027 2.426 3.657	p-V 2 0 7 0 6 0	.008 .043 .015	0.1	0.2		1			10
Post-Operative (Continuous)	Colak, 2015 Norkiene, 20 Reents, 2002	Od ra 4.19.0 11 9.0 2 39.0 6.2	ds Lo tio li 171 1 019 1 000 2 147 2	wer mit .458 .076 .021 .322	Upper limit 11.93 75.62 752.63 16.26 16.26	Z- 5 1 6 9	Value 2.662 2.027 2.426 3.657	e p-V 2 0 7 0 6 0 7 0	.008 .043 .015 .000	0.1	0.2	0.5	1			10
Post-Operative (Continuous)	Colak, 2015 Norkiene, 20 Reents, 2002	Od ra 4. 11 9.0 2 39.1 6. Differe in me.	ds Lo tio li 171 1 019 1 0000 2 147 2	wer mit .458 .076 .021 .322	Upp er limit 11.93 75.62 752.63 16.26 stics for et iance	Z-1 5 1 6 9	Value 2.662 2.027 2.426 3.657	e p-V 2 0 6 0 7 0 6 0	.008 .043 .015 .000	0.1	0.2	0.5	1			10
Delirium Post-Operative (Continuous) LOS in ICU (days)	Colak, 2015 Norkiene, 20 Reents, 2002	Od ra 4. 11 9.0 2 39.1 6. Differe in me	rce Standans erro 2290 (1000)	wer mit .458 .076 .021 .322	Upp er limit 11.93 75.62 752.63 16.26 stics for en iance li 0.000	Z- 5 1 6 9 9	Value 2.662 2.027 2.426 3.657	e p-V 2 0 7 0 6 0 7 0	.008 .043 .015 .000	0.1	0.2	0.5	1			10
Post-Operative (Continuous)	Colak, 2015 Norkiene, 20 Reents, 2002 <u>Study name</u> Boodhwani, 2006	Od ra 4. 11 9.0 2 39.0 6. Differe in mea	ds Lo tio li 171 1 019 1 000 2 147 2 147 2 1290 C 0300 C	wer mit .458 .076 .021 .322 <u>Stati</u> ard or Var	Upp er limit 11.93 75.62 752.63 16.26 stics for er iance	Z- 5 1 6 9 9 	Value 2.662 2.027 2.426 3.657	e p-V 2 0 3 0 4 0 5 0 0 7 0	.008 .043 .015 .000	0.1	0.2	0.5	1			10
Post-Operative (Continuous)	Colak, 2015 Norkiene, 20 Reents, 2002 Study name Boodhwani, 2006 Colak, 2015 deTournay-Jette, 2011 Harmon, 2005	Od ra 4. 11 9.0 2 39.0 6. 0	ds Lo tio li 171 1 019 1 000 2 147 2 1200 2 000 2 147 2 0200 0 0300 0 0.075 0	wer mit .458 .076 .021 .322 .322 .322 .322 .008 .146 .1479 .188	Upp er limit 11.93 75.62 752.63 16.26 stics for er iance li 0.021 0.021 - 0.036 -	Z-1 5 1 6 9 9	Value 2.662 2.027 2.426 3.657 <u>v</u> <u>pper</u> 1 2 3.657	2 00 2 00 3 00 4 00 5 00 4 00 2060 -1.481 0.398	.008 .043 .015 .000 .000 .039 .038 .691	0.1	0.2	0.5	1			10
Post-Operative (Continuous)	Colak, 2015 Norkiene, 20 Reents, 2002 Study name Boodhwani, 2006 Colak, 2015 deTournay-Jette, 2011 Harmon, 2005 Mu, 2013	Od ra 4. 11 9.0 2 39.1 6. Differe in mea	ds Lo tio li 171 1 019 1 019 1 019 2 147 2 147 2 0.000 2 0.290 0 0.710 0 0.075 0 0.242 0	wer mit .458 .076 .021 .322 .322 .322 .008 .146 .479 .148 .240	Upp er limit 11.93 75.62 752.63 16.26 stics for er lince 0.021 0.020 0.021 0.036 0.036	Z-1 5 1 6 9 9 <u>ch stuc</u> wer U 0 10 15 6.49 9.294 0.712	Value 2.662 2.027 2.426 3.657 3.657	 P-V 0 1 4 0 -1 0 -1 0 	.008 .043 .015 .000 .000 .039 0.138 0.691 0.312	0.1	0.2	0.5	1			10
Post-Operative (Continuous)	Colak, 2015 Norkiene, 20 Reents, 2002 Study name Boodhwani, 2006 Colak, 2015 deTournay-Jette, 2011 Harmon, 2005	Od ra 4. 11 9.0 2 39.1 6. Differe in me. 0 4	ds Lo tio li 171 1 019 1 019 1 019 2 147 2 147 2 000 2	wer mit .458 .076 .021 .322 .322 .322 .322 .008 .146 .1479 .188	Upp er limit 11.93 75.62 752.63 16.26 stics for er iance lin 0.000 0.021 0.030 - 0.036 - 0.058 - 0.058 - 0.058 -	Z-1 5 1 6 9 9 <u>ch stuc</u> wer 9 .274 .075 .649 .274 .0712 .274 .0712 .176	Value 2.662 2.027 2.426 3.657 <u>v</u> <u>pper</u> 1 2 3.657	2 00 2 00 3 00 4 00 2 000 -1.481 0.398	.008 .043 .015 .000 .000 .039 .038 .691	0.1	0.2	0.5	1			10
Post-Operative (Continuous)	Colak, 2015 Norkiene, 20 Reents, 2002 Study name Boodhwani, 2006 Colak, 2015 deTournay-Jette, 2011 Harmon, 2005 Mu, 2013 Norkiene, 2011	Od ra 4. 11 9.0 2 39.0 6. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	nce Stand 171 1 171 1 171 1 1019 1 1000 2 147	wer mit .458 .076 .021 .322 .322 .322 	Upp er limit 11.93 75.62 752.63 16.26 stics for er iance li 0.000 0.021 0.021 0.023 0.036 - 0.057	Z-' 5 1 6 9 9 <u>ch stuc</u> wer U .274 .015 .649 .224 .029 .224 .015 .224 .029 .224 .025 .029 .029 .021 .021 .021 .021 .021 .021 .021 .021	Value 2.662 2.027 2.426 3.657 <u>by</u> <u>pper</u> 2.426 3.657	 P-V 0 1 481 0.396 -1.010 2.774 	.008 .043 .015 .000 .000 0.039 0.138 0.691 0.312 0.006	0.1	0.2	0.5	1			10

Figure S4. Funnel plot	ts for statistically significant analyses in regard to acute	Egger'	s Test	ר	Frim and Fill	
	CABG, and results of publication bias/small-study effect ore than 10 studies were available.	Intercept	p value (1-tailed)	No. imputed studies	OR/MD† /SMD‡	95%CI
Preoperative (Categorical))					
Depression	Only 2 studies, could not produce funnel plot			-	-	-
Diabetes	Funde Plot of Standard Error by Log odds ratio	-0.39	.232	_	-	-









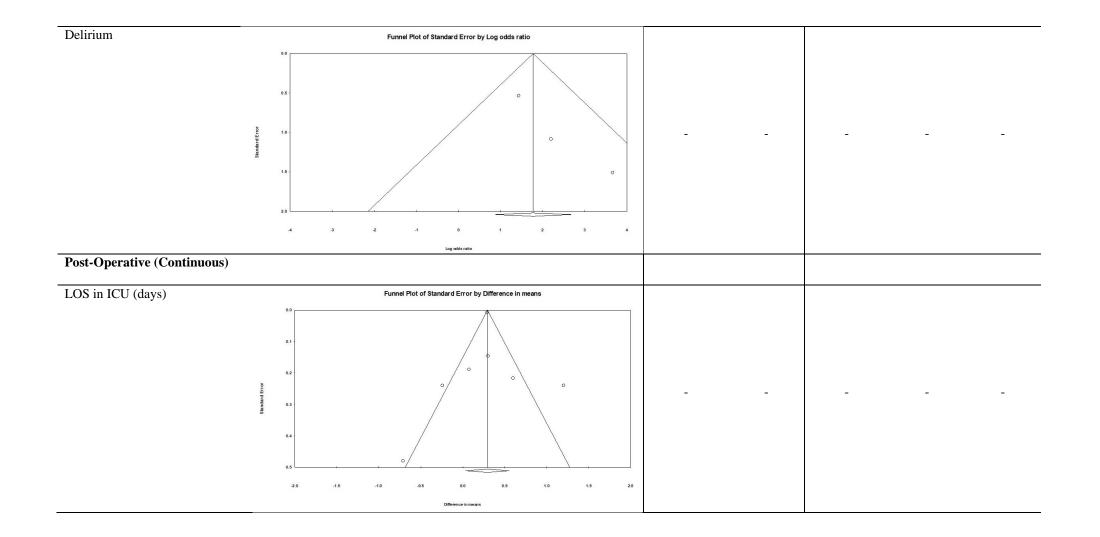


Figure S5. Forest plots for mid-term cognitive decline post-CABG analyses.

Variable	Forest Plot														
Pre-Operative (Categorical)															
Depression	Study name Compa	arison		Stati	stics fo	oreach	study			_	Odds ra	atio a	nd 95%	CI	
			Odds ratio	Lower limit	r Upp lin		Value	p-Value							
	Kadoi, 2011b Blank		3.365	1.21	8 9	298	2.340	0.019	- I	1	1	1.	1	1	_1
	State of the second sec							0.125				-	- - - '		
	Smith, 2000 Blank		2.000			851	1.533					T			
			2.504	1.28	4 4.	883	2.693	0.007				1	-		30
									0.1	0.2	0.5	1	2	5	10
Diabetes	Study name	Comp	arison		Statist	ics for e	ach stud	ly		3	Odds ra	atio ar	nd 95% C	1	
				Odds L ratio	ower	Upper limit	7-Value	e p-Value							
	deTournay-Jette, 2011	Blank		0.719	0.237	2.179								E.	1
	Dieleman, 2009	Blank		1.403	0.384	5.131				100	_	-		3	
	Dijk, 2004	Blank		1.096	0.463	2.595						-	-22		
	Kadoi, 2002	Blank		3.500	0.645							Ē			~
	Kadoi, 2005	Blank		3.163	1.562	6.405							-		
	Kadoi, 2007	Blank		6.894	2.511	18.924	3.74	7 0.000					-		
	Liu, 2009	Blank		0.375	0.104	1.347	-1.50	3 0.133	-	_	-	_			
	Mathew, 2006	Blank		1.050	0.366	3.014	0.09	1 0.927			-		1 12		
	Mathew, 2007	Blank		1.138	0.762	1.701	0.63	2 0.527				-	E I		
	Swaminathan, 2002	Blank		1.765	0.975	3.196						H		0	
				1.536	0.984	2.396	1.89	0 0.059		I	1	H			I
									0.1	0.2	0.5	1	2	5	10
Sex (male)	Study name	Compa	arison	4	Statisti	cs for ea	ach stud	У			Odds ra	tio an	d 95% C	<u>L</u>	
				Odds L ratio	ower limit		Z-Value	p-Value							
	deTournay-Jette, 2011	Blank		1.556	0.359	6.739	0.591	0.555	Ĩ.		-	_	-	-	1
	Dieleman, 2009	Blank		0.679	0.256	1.802	-0.777						_		
	Dijk, 2004	Blank		1.000	0.531	1.884	-0.000	1.000				+	_		
	Kadoi, 2007	Blank		0.806	0.324	2.007	-0.464				-	-			
	Kadoi, 2011b	Blank		1.046	0.333	3.283	0.077					-	-		
	Kadoi, 2005	Blank		0.676	0.318	1.436	-1.018				-		-0 -		
	Khatri, 1999	Blank		0.670	0.331	1.354	-1.116				-				
	Mathew, 2007	Blank		1.204	0.805	1.801	0.906								
	Mathew, 2006 Smith, 2000	Blank		1.000	0.363	2.757	0.000				00 0 20 0	-			
	Swaminathan, 2002	Blank Blank		0.862 1.490	0.420	1.769	-0.405								
	Slater, 2009	Blank		0.860	0.359	2.062	-0.338								
	Citicol, 2000	Diamit		1.005	0.818	1.234	0.043						5		
				1000000000	0.00000000	100 G (C (m))	0.000	6 65000	0.1	0.2	0.5	1	2	5	10

Hypertension	Study name	Statist	ics for each study	y	Odds ratio and 95% CI
		Odds Lower ratio limit	Upper limit Z-Value	p-Value	
	deTournay-Jette, 2011	1.016 0.341			
	Dieleman, 2009	0.901 0.342		0.833	
	Kadoi, 2001	0.200 0.100		0.000	┝╇─╽│││
	Kadoi, 2002 Kadoi, 2003	0.500 0.129 0.300 0.087			
	Kadoi, 2005	0.925 0.438			
	Kadoi, 2007	1.195 0.478		0.703	│ │ ├─┬∎┼─ │ │
	Kadoi, 2011b	1.222 0.456			
	Mathew, 2006 Mathew, 2007	2.092 0.626 1.000 0.689			
	Smith, 2000	1.000 0.581			
	Swaminathan, 2002	2.083 1.282			
		0.887 0.594	1.324 -0.586	0.558	
					0.1 0.2 0.5 1 2 5 10
Previous MI history/ever	Study name	Statistics	or each study		Odds ratio and 95% CI
	Odds ratio	Lower Up limit li	per nit Z-Value p	-Value	
	Mathew, 2006 0.643	0.246 1	676 -0.904	0.366	+∎+
	Mathew, 2007 0.721		103 -1.509	0.131	│ │ ┼╋┽ │ │ │
	Smith, 2000 1.310		229 0.995	0.320	
	0.883		373 -0.553	0.580	
					0.1 0.2 0.5 1 2 5 10
Previous stroke, TIA, CVA	Study name Compariso	n Stat	stics for each study	L	Odds ratio and 95% CI
		Odds Lowe ratio limit		p-Value	
	Dijk, 2004 Blank	0.742 0.14		100 A 100 A	
	Mathew, 2007 Blank	0.922 0.14			
		0.827 0.20	0 2.628 -0.322	0.748	
					0.1 0.2 0.5 1 2 5 10
PVD	Study name Compariso	on Stat	istics for each stud	v	Odds ratio and 95% Cl
		Odds Lowe		2	
		ratio limi		p-Value	1992 ab 100 av 1000 av 100
	Dijk, 2004 Blank	1.000 0.3	47 2.885 0.000	1.000	
	Mathew, 2007 Blank	0.628 0.3			
		0.708 0.4	14 1.213 -1.256	0.209	
					0.1 0.2 0.5 1 2 5 10
Smoking (current)	Study name	Statistics f	or each study		Odds ratio and 95% Cl
	Odds ratio	Lower Up	oer nit Z-Value p	-Value	
	Djaiani, 2003 0.982	0.657 1.	467 -0.089	0.929	
	Kadoi, 2001 0.900		656 -0.147	0.883	
	Kadoi, 2002 0.700		322 -0.583	0.560	
	Kadoi, 2003 0.700		770 -0.415	0.678	
	Kadoi, 2005 1.275		445 0.733	0.464	│ │ │-┼╋┼ │ │
	1.003	0.733 1.	374 0.021	0.983	♦
					0.1 0.2 0.5 1 2 5 10
	1				and a second

Age (years)	Study name		5	tatistics for	each stu	kdy_				Difference i	n means and	95% CI	
	8-2		Standard	Variance		Upper	71/-1	Mahara					
	Braekken, 1996	in means 7.605	error 6.935	48.090	limit -5.987	limit 21.197	Z-Value p 1.097	-Value 0.273	1 -	1			
	deTournay-Jette, 2011	-1.480	1,238	1.529	-3.903	0.943	-1.197	0.231	1 -		<u> </u>		-
	Dieleman, 2009	0.200	2.171	4.713	4.055	4.455	0.092	0.927	1		_	-	
	Dijk, 2004	0.000	1,320	1.742	-2.587	2.587	0.000	1.000	1	-	*		
	Kadol, 2005 Kadol, 2007	1.000	1.775	3.149 6.267	-2.478	4.478	0.564	0.573 0.017	1	-		—	
	Kadoi, 2011b	1.900	1.501	2.253	-1.042	4.842	1.268	0.206	1	3		-	1
	Liu, 2009	4.300	1.935	3.746	0.507	8.093	2.222	0.026	1			-	-
	Mathew, 2008	3.000	2.507	6.283	-1.913	7.913	1,197	0.231	1			-	_
	Mathew, 2007	0.400	0.955	0.914	-1.474	2.274	0.418	0.576	1		_	1	
	Robson, 2000 Swaminathan, 2002	4.000	2.847	8.103 1.615	-1.579 -2.491	9.579	1.405	0.160	1		-		-1
		1.093	0.589	0.346	-0.060	2.247	1.858	0.063			1		
									8.00	-4.00	0.00	4.00	8.00
Cognition: All tests	Study name			Statistics	for each	study				Std diff i	n means an	195% CI	
e og maron i m dests		Std diff	Standard	_	Lower	Upper				10		23	
		in means	error	Variance		limit		p-Value					
	deTournay-Jette, 2011	-0.256	0.267	0.071	-0.779	0.26	6 -0.96	1 0.336	1			1	1
	Mathew, 2007	0.396									-		
	Swaminathan, 2002	0.483										_	8
	on annandh, 2002	0.303										T	
		0.303	0.140	0.022	0.013	0.55	3 2.040	0.041	1	1			1
									-1.00	-0.50	0.00	0.50	1.00
Cognition: CI only	Study name		-	Statistics f	or each s	study				Differenc	e in means	and 95% Cl	
<i>.</i>	1	Difference	Standard		Lower	Upper							
		in means	error	Variance	limit	limit	Z-Value	e p-Value					
	Mathew, 2007	0.189	0.044	0.002	0.103	0.27	5 4.29	7 0.000	1	1		F 1	
	Swaminathan, 2002	0.880	0.222	0.049	0.445	1.31	5 3.96	6 0.000			-	` 	
		0.500	0.344	0.118							100		
		0.000	0.54	0.110	-0.114		4 1.40	5 0.145	-1.00	-0.50	0.00	0.50	1.00
Depression: All tests	Study name		St	atistics for	each st	udy				100000	n means an	2383	
I.	5	Std diff Sta	andard	l	Lower	Upper							
	62.5			ariance	limit	limit	Z-Value	p-Value					
	Harmon, 2004	0.000	0.333	0.111	-0.653	0.653	0.000	1.000	Ĩ	Î	_	Î	1
	Contraction of Association (Association												L
	Kadoi, 2011b	2.532	0.313	0.098	1.919	3.144	8.098						
	Silbert, 2006	0.060	0.172	0.029	-0.277	0.396	0.348	0.728			.	10	
		0.856	0.781	0.610	-0.675	2.386	1.096	0.273					I
									-4.00	-2.00	0.00	2.00	4.00
									-1.00	-2.00	0.00	2.00	-1.01
Education (years)	Study name			Statistics	foreach	study				Difference	e in means a	nd 95% CI	
		Difference		d Variance	Lowe			e p-Value					
	Den el la comp	in means							Ŀ		3		1
	Braekken, 1998	-5.34			1 -11.91				K		-		
	deTournay-Jette, 2011											_	
	Mathew, 2006	-1.00											
	Mathew, 2007 Swaminathan, 2002	0.40											
	Swallinduran, 2002	0.50											
		0.13	0.35	0.12	, -0.50	. U.8	LF 0.30	2 U.115	1			1	1
									-4.00	-2.00	0.00	2.00	4.00
LVEF %	Study name		St	atistics for e	each stud	hr.				Odds r	atio and 95%	CI	
/v		Difference S	itandard	L	ower U	pper	-Value p-	Value					
	Kadoi, 2005	-2.000	1.589			1.114	-1.259	0.208	k		_	1	1
	Kadoi, 2005	1.000	2.431		-3.785	5.765	0.411	0.681	<u> </u>	I		_	
	Kadoi, 2011b	0.900	1.518			3.875	0.593	0.553					
	Mathew, 2006	2.000	2.608			7.112	0.767	0.443	-	_		-	
	Mathew, 2007	1.100	1.085			3.226	1.014	0.311		-	-	_	- 1
	Braekken, 1998	7.043	13.513			33.529	0.521	0.602	k	-	-		2
	Swaminathan, 2002	1.000	1.444	2.085	-1.830	3.830	0.893	0.489	1000	<u></u>	-		
		0.610	0.635	0.403	-0.634	1,855	0.961	0.336	1			-	
									4.00	-2.00	0.00	2.00	

Intra-Operative (Continuous)													
ACC time (mins)	Study name		8	Statistics fo	or each st	tudy				Difference	e in means	and 95% Cl	
Acc time (mins)		Difference	Standard		Lower	Upper							
	127 101 - 1222	inmeans	error	Variance	limit	limit	Z-Value		E	a	11	r	
	Braekken, 1998	8.086	10.815			29.282	0.748	0.455	K.				- 1
	Mathew, 2006	-4.300			-14.324	5.724	-0.841	0.400	5	1999	-		
	Mathew, 2007	-1.900			-5.931	2.131	-0.924	0.356					
	Swaminathan, 2002	0.100	2.790		-5.368 -4.346	5.568 1.763	0.036	0.971		12.00			
		-1291	1.558	2.429	-4.340	1.703	-0.829	0.407	100	1000			
									-10.00	-5.00	0.00	5.00	10.0
CPB time (mins)	Study name			Statistics f	or each s	tudy				Difference	e in means :	and 95% Cl	
		Difference in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value					
	Braekken, 1998	5.159			-28.776	39.094		0.766	4				
	Kadoi, 2005	8.000			0.868	15.132		0.028					
	Kadoi, 2003	3.000				12.181	0.640	0.522			-		
	Kadoi, 2011b	9.900						0.101			-		
	Mathew, 2006	-5.000	7.473	55.850	-19.647	9.647	-0.669	0.503	K	-+	_	-+	0.00
	Mathew, 2007	-2.700			-8.535			0.364				-	
	Swaminathan, 2002	-3.000			-16.458	10. <mark>4</mark> 58		0.662	K			1949	1
		2.149	2.343	5.490	-2.444	6.741	0.917	0.359	1	I.			J
									-10.00	-5.00	0.00	5.00	10.0
Number of grafts	Study name			Statistics f	or each s	tudy				Difference	e in means	and 95% Cl	
		Difference	Standard		Lower	Upper							
		in means	error	Variance	limit	limit	Z-Value	p-Value					N.
	Dieleman, 2009	0.020			-0.458	0.497	0.061	0.935				_	
	Mathew, 2006	-0.200			-0.521	0.121	-1222	0.222			• +		
	Mathew, 2007	0.000			-0.163	0.163	0.000	1.000			_		
	Swaminathan, 2002	-0.100			-0.315	0.115		0.361					
		-0.055	0.059	0.004	-0.171	0.062	-0.920	0.358	1	1	-		
									-1.00	-0.50	0.00	0.50	1.0
Total Microemboli	Study name			Statistics f	oreach s	tudy				Std diff	in means a	ind 95% Cl	
		Std diff in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value					
	Braekken, 1998	-0.770	0.778	0.605	-2.294	0.753	-0.991	0.322	k	1	1	1	
	Liu, 2009	-0.076	0.244	0.059	-0.553	0.402					_		
	Rodriguez, 2010	-0.310	0.244	0.051	-0.752	0.402						0	
	Royse, 2000	-0.310	0.535	0.001	-0.752	-0.442		0.005	1				
	10356,2000	-0.459	0.555	0.287	-0.965	0.048							
	1	-0.408	0.208	0.007	-0.903	0.048	-1.119	0.070	I.	1.		1	
									-2.00	-1.00	0.00	1.00	2.
Post-Operative (Continuous)													
LOS in ICU (days)	Study name		S	tatistics for	each stu	dy				Differenc	ce in means	s and 95% Cl	_
		ifference S n means	tandard error	Variance	Lower limit	Upper limit	Z-Value	p-Value					
	Baba, 2007	0.880	0.276	0.076	0.338	1.422	3.185	0.001	1	Ĩ	l n		10
	Dieleman, 2009	-0.470	0.371	0.137	-1.197	0.257	-1.268	0.205					
													141
		0.228	0.675	0.455	-1.095	1,550	0.337	0.736					
		0.228	0.675	0.455	-1.095	1.550	0.337	0.736	12	1			

Figure S6. Funnel plots for statistically significant analyses in regard to mid-term		Egger's Test	Trim and Fill			
-	t-CABG, and results of publication bias/small-study effect nore than 10 studies were available.	p value Intercept (1-tailed	No. imputed OR/MD† 95%CI studies /SMD‡			
Preoperative (Categorica	l)					
Depression	Only 2 studies, could not produce funnel plot					
Preoperative (Continuou	s)					
Cognition: All tests	Funnel Plot of Standard Error by Std diff in means					

Figure S7. Forest plots for long-term cognitive decline post-CABG analyses.

Variable	Forest Plot	
Pre-Operative (Categorical)		
Cognitive Impairment	Study name Statistics for each study Odds ratio and 95% Cl	I
	Odds Lower Upper ratio limit limit Z-Value p-Value	
	Silbert, 2008 0.824 0.385 1.763 -0.499 0.618	1
	Trubnikova, 2014 1.339 0.563 3.189 0.660 0.509	
	1.018 0.574 1.803 0.060 0.952	
	0.1 0.2 0.5 1 2 5	10
Diabetes	Study name Statistics for each study Odds ratio and 95% CI	
	Odds Lower Upper ratio limit limit Z-Value p-Value	
	Dieleman, 2009 1.064 0.346 3.277 0.109 0.913 Lachmann, 2018 1.623 0.788 3.345 1.313 0.189	
	1.435 0.781 2.636 1.164 0.245	
	0.1 0.2 0.5 1 2 5	10
Sex (male)	Study name Statistics for each study Odds ratio and 95% CI	
Son (male)		
	Odds Lower Upper ratio limit limit Z-Value p-Value	
	Dieleman, 2009 0.819 0.365 1.837 -0.485 0.628	1
	Kok, 2017 5.230 0.271 101.100 1.095 0.274	_
	1.170 0.279 4.906 0.215 0.830	
	0.1 0.2 0.5 1 2 5	10
Hypertension	Study name Statistics for each study Odds ratio and 95% CI	
	Odds Lower Upper ratio limit limit Z-Value p-Value	
	Dieleman, 2009 1.612 0.758 3.427 1.241 0.215	1
	Lachmann, 2018 1.163 0.685 1.975 0.560 0.576	
	1.296 0.840 1.998 1.171 0.241	
	0.1 0.2 0.5 1 2 5	10
Pre-Operative (Continuous)		
	Study name Statistics for each study Difference in means and 95% Cl	
Age (years)	Difference Standard Lower Upper	
	in means error Variance limit limit Z-Value p-Value	ĩ
	Dieleman, 2009 3.300 1.730 2.992 -0.090 6.690 1.908 0.056 Kok, 2017 -1.500 3.073 9.444 -7.523 4.523 -0.488 0.625	.8
	1.572 2.304 5.308 -2.944 6.088 0.682 0.495	
	-8.00 -4.00 0.00 4.00	8.00
Intra-Operative (Continuous)		

Number of grafts	Study name	Statistics for each study					Difference	Difference in means and 95% Cl					
		Difference in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value					
	Dieleman, 2009	0.047	0.192	0.037	-0.330	0.424	0.243	0.808	1			-	
	Kok, 2017	0.008	0.249	0.062	-0.480	0.496	0.034	0.973		<u></u>	-	ŝ	
		0.032	0.152	0.023	-0.266	0.331	0.213	0.832			-	-	
									-1.00	-0.50	0.00	0.50	1.00