

Table S1 Ovid Medline search strategy

Search number	Search term	Results
1	exp Heart Transplantation/	39877
2	((heart or cardiac) adj3 (transplant* or graft* or allograft* or homograft*)).ti,ab,kw.	43857
3	1 or 2	53092
4	((circulatory or cardiocirculatory or cardiac) adj3 (dead or death)) and (donat* or donor*).ti,ab,kw.	3099
5	((non beating heart or non-beating heart or no beating heart or no heart beating) and (donat* or donor*)).ti,ab,kw.	24
6	4 or 5	3122
7	exp Perfusion/ and (heart and machine).ti,ab,kw.	217
8	((hypothermic or normothermic or extracorporeal or extra-corporeal) adj3 (perfusion or reperfusion)).ti,ab,kw.	3850
9	(machine adj3 perfusion).ti,ab,kw.	1547
10	(("ex situ" or ex-situ or "in situ" or <i>in-situ</i>) adj3 (reperfusion or perfusion)).ti,ab,kw.	2288
11	((ex-vivo or "ex vivo") and perfusion).ti,ab,kw.	3807
12	("heart in a box" or XVIVO or Langendorff rig or Organ Care System* or Steen Heart Preservation System or LifeCradle Heart Perfusion System or Heartport System or Paragonix Sherpa Perfusion).ti,ab,kw.	102
13	((thoracoabdominal or thoraco-abdominal) and normothermic regional perfusion) or taNRP).ti,ab,kw.	32
14	h?emodynamic*.ti,ab,kw.	184675
15	or/7-14	194007
16	3 and 6 and 15	196

Table S2 Embase search strategy

Search number	Search term	Results
1	exp heart transplantation/	78174
2	((heart or cardiac) adj3 (transplant* or graft* or allograft* or homograft*)).ti,ab,kw.	77002
3	1 or 2	95929
4	non heart beating donor/	1984
5	((circulatory or cardiocirculatory or cardiac) adj3 (dead or death)) and (donat* or donor*).ti,ab,kw.	7231
6	((non beating heart or non-beating heart or no beating heart or no heart beating) and (donat* or donor*)).ti,ab,kw.	36
7	or/4-6	7843
8	exp heart perfusion/ and machine*.ti,ab,kw.	262
9	((hypothermic or normothermic or extracorporeal or extra-corporeal) adj3 (perfusion or reperfusion)).ti,ab,kw.	5592
10	(machine adj3 perfusion).ti,ab,kw.	3361
11	((("ex situ" or ex-situ or "in situ" or <i>in-situ</i>) adj3 (reperfusion or perfusion)).ti,ab,kw.	2963
12	((ex-vivo or "ex vivo") and perfusion).ti,ab,kw.	7336
13	("heart in a box" or XVIVO or Langendorff rig or Organ Care System* or Steen Heart Preservation System or LifeCradle Heart Perfusion System or Heartport System or Paragonix Sherpa Perfusion).ti,ab,kw,dv.	477
14	((thoracoabdominal or thoraco-abdominal) and normothermic regional perfusion) or taNRP).ti,ab,kw.	81
15	h?emodynamic*.ti,ab,kw.	280682
16	or/8-15	295474
17	3 and 7 and 16	532

Table S3 Cochrane search strategy

Search number	Search term	Results
1	MeSH descriptor: [Heart Transplantation] explode all trees	832
2	((heart or cardiac) near/3 (transplant* or graft* or allograft* or homograft*)):ti,ab,kw	3276
3	#1 or #2	3276
4	((circulatory or cardiocirculatory or cardiac) near/3 (dead or death)) and (donat* or donor*)):ti,ab,kw	209
5	((non beating heart or non-beating heart or no beating heart or no heart beating) and (donat* or donor*)):ti,ab,kw	93
6	#4 or #5	278
7	((hypothermic or normothermic or extracorporeal or extra-corporeal) near/3 (perfusion or reperfusion)):ti,ab,kw	326
8	(machine near/3 perfusion):ti,ab,kw	243
9	((("ex situ" or ex-situ or "in situ" or <i>in-situ</i>) near/3 (reperfusion or perfusion)):ti,ab,kw	31
10	((ex-vivo or "ex vivo") and perfusion):ti,ab,kw	167
11	("heart in a box" or XVIVO or Langendorff rig or Organ Care System* or Steen Heart Preservation System or LifeCradle Heart Perfusion System or Heartport System or Paragonix Sherpa Perfusion):ti,ab,kw	3494
12	((thoracoabdominal or thoraco-abdominal) and normothermic regional perfusion) or taNRP):ti,ab,kw	1
13	h*modynamic*:ti,ab,kw	44811
14	{or #7-#13}	48519
15	#3 and #6 and #14	26

Table S4 CINAHL search strategy

Search number	Search term	Number
S15	S3 AND S6 AND S14	26
S14	S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13	
S13	TI h#emodynamic* OR AB h#emodynamic*	
S12	TI (((thoracoabdominal or thoraco-abdominal) and normothermic regional perfusion) or taNRP) OR AB (((thoracoabdominal or thoraco-abdominal) and normothermic regional perfusion) or taNRP)	
S11	TI ("heart in a box" or XVIVO or Langendorff rig or Organ Care System* or Steen Heart Preservation System or LifeCradle Heart Perfusion System or Heartport System or Paragonix Sherpa Perfusion) OR AB ("heart in a box" or XVIVO or Langendorff rig or Organ Care System* or Steen Heart Preservation System or LifeCradle Heart Perfusion System or Heartport System or Paragonix Sherpa Perfusion)	
S10	TI ((ex-vivo or "ex vivo") and perfusion) OR AB ((ex-vivo or "ex vivo") and perfusion)	
S9	TI ("ex situ" or ex-situ or "in situ" or <i>in-situ</i>) N3 (reperfusion or perfusion) OR AB ("ex situ" or ex-situ or "in situ" or <i>in-situ</i>) N3 (reperfusion or perfusion)	
S8	TI machine N3 perfusion OR AB machine N3 perfusion	
S7	TI ((hypothermic or normothermic or extracorporeal or extra-corporeal) N3 (perfusion or reperfusion)) OR AB ((hypothermic or normothermic or extracorporeal or extra-corporeal) N3 (perfusion or reperfusion))	
S6	S4 OR S5	
S5	TI ((non beating heart or non-beating heart or no beating heart or no heart beating) and (donat* or donor*)) OR AB ((non beating heart or non-beating heart or no beating heart or no heart beating) and (donat* or donor*))	
S4	TI (((circulatory or cardiocirculatory or cardiac) N3 (dead or death)) and (donat* or donor*)) OR AB (((circulatory or cardiocirculatory or cardiac) N3 (dead or death)) and (donat* or donor*))	
S3	S1 OR S2	
S2	TI ((heart or cardiac) N3 (transplant* or graft* or allograft* or homograft*)) OR AB ((heart or cardiac) N3 (transplant* or graft* or allograft* or homograft*))	
S1	(MH "Heart Transplantation+")	

Table S5 Evaluation of Clinical Trial Registries

Registry name	Search term	Registry result
Clinical Trials.Gov	(perfusion or reperfusion) and (heart or cardiac) and (transplantation or transplant)	1
Australia New Zealand Clinical Trials Registry (ANZCTR)	(perfusion or reperfusion) and (heart or cardiac) and (transplant or transplantation)	1
International Clinical Trials Registry Platform (ICTRP)	(perfusion or reperfusion) and (heart or cardiac) and (transplant or transplantation)	1

Table S6 Risk of Bias Assessment utilising the ROBINS-I Tool

Author	Bias Due to Confounding	Bias of Selection of Participants	Bias in Classification of Interventions	Bias due to Deviations in Interventions	Bias due to Missing Data	Bias in Measurement of Outcomes	Reporting Bias	Overall Bias
Chen <i>et al.</i> (2022)	Moderate	Low	Low	Low	Low	Low	Moderate	Low
Coniglio <i>et al.</i> (2023)	Critical	Low	Low	Low	Low	Moderate	Low	High
Joshi <i>et al.</i> (2022)	High	Low	Low	Low	Low	Moderate	Low	Moderate
Mehta <i>et al.</i> (2019)	Critical	High	Low	Low	Low	Moderate	Low	High
Louca <i>et al.</i> (2023)	High	Low	Low	Low	High	Moderate	High	High
Messer <i>et al.</i> (2020)	Critical	Low	Low	Low	Low	Low	Low	High
Siddiqi <i>et al.</i> (2023)	High	Low	Low	Moderate	Low	Low	High	High

Table S7 Risk of Bias Assessment of Randomised Control Trials utilising the ROB-2 Tool

Author	Bias due to Randomisation	Bias due to Deviations in Interventions	Bias due to Missing Outcome Data	Bias in Measurement of Outcome	Bias in Reporting of Outcomes	Overall
Schroder <i>et al.</i> (2023)	High	High	Some Concerns	Low	Low	High

Table S8 DCD recipient demographic weighted averages

Authors	Patient Number	Perfusion Strategies Evaluated	Age	Gender (Female)	Pre-op Mechanical Support	LVAD	IABP	ICM	DCM	RCM	Caucasian	BMI	Prior Transplant	Re-Sternotomy
Louca <i>et al.</i> (2023)	157	NRP and DPP	55.7±1.0	34 (21.7%)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Schroder <i>et al.</i> (2023)	90	DPP	51.3±1.3	24 (27%)	58 (64%)	44 (49%)	14 (16%)	NR	NR	NR	62 (69%)	NR	NR	NR
Messer <i>et al.</i> (2020)	79	DPP + NRP	55±1.3	18 (22.8%)	22 (28%)	NR	NR	17 (22%)	43 (54%)	1 (1%)	NR	NR	NR	NR
Coniglio <i>et al.</i> (2023)	31	DPP	51.7±1.9	10 (32.3%)	NR	13 (42%)	NR	6 (19.4%)	NR	NR	20 (65%)	30.5±0.9	2 (6.5%)	16 (51.6%)
Siddiqi <i>et al.</i> (2023)	122	DPP + NRP + CS	57.2±1.0	20 (16%)	22 (18.0%)	44 (36.0%)	NR	44 (36.0%)	NR	NR	97 (80.0%)	30.4±0.63	3 (2.5%)	NR
Mehta <i>et al.</i> (2019)	7	DPP	48.7±5	1 (1.4%)	3 (42.9%)	2 (28.6%)	1 (14%)	NR	NR	NR	NR	26.29±1.13	NR	NR
Chen <i>et al.</i> (2022)	266	NRP + OCS and DPP	57±0.7	61 (23%)	99 (56.6%)	115 (43.2%)	27 (10.2%)	75 (28.2%)	NR	NR	181 (68.1%)	29.4±0.31	5 (1.9%)	118 (44.5%)
Joshi <i>et al.</i> (2022)	74	DPP	53±1.5	12 (16.2)	30 (41%)	2 (3%)	N/A	7 (10%)	20 (27%)	4 (5%)	NR	NR	NR	39 (53%)
Duran <i>et al.</i> (2023)	72	DPP or NRP + OCS	62±1.4	14 (19.4%)	7 (9.7%)	14 (19.4%)	7 (9.7%)	NR	NR	NR	NR	NR	NR	NR
Mohite <i>et al.</i> (2022)	25	DPP	42.6±2.6	4 (12)%	8 (32%)	6 (24%)	2 (8%)	6 (24%)	19 (64%)	0	NR	NR	NR	NR
I ² Score		NR	86.6%	77.9%	91.28%	91.8%	0%	76.1%	NR	NR	NR	NR	NR	NR
Total/Weighted Average	923	NR	53.5±1.5	25.8% (95% CI: 19.2-32.9)	33% (95% CI: 21.2-45.8)	29.64% (95% CI: 17.6-43.4)	11.4% (95% CI: 8.7-14.4)	24.32% (95% CI: 16.8-32.7)	NR	NR	NR	NR	NR	NR

BMI, body mass index; CS, cold storage; DCD, donation after circulatory death; DCM, dilated cardiomyopathy; DPP, direct procurement and perfusion; IABP, intra-aortic balloon pump; ICM, ischaemic cardiomyopathy; LVAD, left ventricular assist device; NR, not reported; NRP, normothermic reperfusion; OCS, Organ Care System; RCM, restrictive cardiomyopathy.

Table S9 DBD recipient demographic weighted averages

Authors	Patient Number	Age	Gender (Female)	Pre-op Mechanical Support	LVAD	IABP	ICM	DCM	RCM	Caucasian	BMI	Prior Transplant	Re-Sternotomy
Louca <i>et al.</i> (2023)	673	54±0.52	184 (27.3%)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Schroder <i>et al.</i> (2023)	90	55±1.2	24 (27%)	NR	27 (30%)	38 (42%)	NR	NR	NR	66 (73%)	NR	NR	NR
Messer <i>et al.</i> (2020)	79	55±0.9	15 (19%)	22 (28%)	NR	NR	17 (22%)	43 (55%)	4 (5%)	NR	NR	NR	NR
Coniglio <i>et al.</i> : OCS Group (2023)	16	51.8±3.8	4 (25%)	NR	2 (12.5%)	NR	0	NR	NR	12 (75%)	28.0±1.3	0	4 (25%)
Coniglio <i>et al.</i> : Cold Storage (2023)	38	49.3±2.24	25 (39.5%)	NR	10 (26.3%)	NR	6 (15.8%)	NR	NR	17 (45%)	28.5±1.5	17 (44.7%)	19 (50%)
Siddiqi <i>et al.</i> (2023)	263	56±0.7	80 (30%)	83 (32.0%)	68 (26.0%)	N/A	82 (31.0%)	NR	NR	182 (69.0%)	28.8±0.34	21 (8.0%)	NR
Chen <i>et al.</i> (2022)	5998	57±2.3	1582 (26.4%)	4095 (68.3%)	2026 (33.8%)	1709 (28.5%)	1790 (29.8%)	NR	NR	3584 (59.8%)	27.4±1	176 (2.9%)	2274 (39.3%)
Duran <i>et al.</i> (2023)	79	55±0.93	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
I ² Score		63.7%	91.2%	NR	66.8%	NR	80.7%	NR	NR	81.5%	NR	95.2%	40.4%
Total/Weighted Average	7236	54.14±0.8	33.7% (95% CI: 26.8-41)	NR	28.9% (95% CI: 23.6-34.7)	NR	23.2% (95% CI: 16.8-30.4)	NR	NR	64.2% (95% CI: 56.3-71.8)	NR	10.4% (95% CI: 2.6-22.5)	39.1% (95% CI: 30.6-47.9)

BMI, body mass index; OCS, Organ Care System; DBD, donation after brain death; DCM, dilated cardiomyopathy; IABP, intra-aortic balloon pump; ICM, ischaemic cardiomyopathy; LVAD, left ventricular assist device; NR, not reported; RCM, restrictive cardiomyopathy.

Table S10 DCD donor demographic weighted averages

Authors	Patient Number	Age	Gender (Female)	BMI	Cause of Death Anoxia	Cause of Death Head Trauma	Cause of Death CVA	Cause of Death Other
Louca <i>et al.</i> (2023)	157	32±1.2	26 (16.6%)	NR	NR	NR	NR	NR
Schroder <i>et al.</i> (2023)	90	29.3±0.8	6 (7%)	27.3±0.65	NR	NR	NR	NR
Messer <i>et al.</i> (2020)	79	35±1.1	13 (16%)	NR	30 (38%)	22 (28%)	20 (25%)	7 (9%)
Coniglio <i>et al.</i> (2023)	31	28.0±1	NR	NR	10 (32.3%)	16 (51.6%)	4 (12.9%)	1 (3.2%)
Siddiqi <i>et al.</i> (2023)	122	26±0.8	39 (32%)	26.4±0.5	6 (5.0%)	31 (25.0%)	6 (5.0%)	33 (27%)
Mehta <i>et al.</i> (2019)	7	30.6±1.2	0	22.4±1.1	4 (57%)	0	2 (28.6%)	1 (14.3%)
Chen <i>et al.</i> (2022)	266	29±0.6	35 (13.2%)	26.8±0.3	123 (46.2%)	122 (45.9%)	12 (4.5%)	9 (3.4%)
Joshi <i>et al.</i> (2022)	74	32±1.3	12 (16.2%)		28 (38%)	22 (31%)	22 (31%)	1 (1%)
Duran <i>et al.</i> (2023)	226	NR	NR	NR	NR	NR	NR	NR
Mohite <i>et al.</i> (2022)	36	30.6±1.8	4 (12%)	NR	NR	NR	NR	NR
I ² Score		82.8%	75.53%	NR	94.7%	85.7%	90.42%	90.4%
Total/Weighted Average	1142	30.01±0.81	15.96% (95% CI: 10.8-21.9)	NR	33.3% (95% CI: 16.5-52.6)	32.3% (95% CI: 22.1-43.4)	15.5% (95% CI: 6.4-27.6)	8.7% (95% CI: 2.3-18.7)

BMI, body mass index; CVA, cerebrovascular accident; DCD, donation after circulatory death; NR, not reported.

Table S11 DBD donor demographic weighted averages

Authors	Patient Number	Age	Gender (Female)	BMI	Cause of Death Anoxia	Cause of Death Head Trauma	Cause of Death CVA	Cause of Death Other
Louca <i>et al.</i> (2023)	673	36±0.54	226 (33.6%)	NR	NR	NR	NR	NR
Schroder <i>et al.</i> (2023)	90	33.2±1.2	21 (23%)	NR	NR	NR	NR	NR
Messer <i>et al.</i> (2020)	79	35±1.8	15 (19%)	NR	19 (24%)	13 (17%)	33 (42%)	14 (18%)
Coniglio <i>et al.</i> : OCS Group (2023)	16	32.2±2.9	NR	NR	9 (56.3%)	6 (37.5%)	1 (6.25%)	0.00%
Coniglio <i>et al.</i> : Cold Storage Group (2023)	38	31.4±1.2	NR	NR	22 (57.9%)	10 (26.3%)	5 (13.2%)	2 (5.3%)
Siddiqi <i>et al.</i> (2023)	263	31±0.7	121 (46%)	26.1 (22.6-31.2)	10 (4%)	38 (14.0%)	28 (11.0%)	150 (57%)
Chen <i>et al.</i> (2022)	5998	32±0.15	1696 (28.3%)	26.9 (23.7-31.3)	2716 (45.3%)	2357 (39.3%)	761 (12.7%)	164 (2.7%)
I ² Score		90.5%	91.4%	NR	98.7%	96.1%	99.3%	99.2%
Total/Weighted Average	7157	32.8±08	30.7% (95% CI: 24.4-37.5)	NR	34.3% (95% CI: 11.2-62.3)	26% (95% CI: 12.9-41.8)	16.9% (95% CI: 0.19-5)	13.2% (95% CI: 0.02-44.6)

BMI, body mass index, CVA, cerebrovascular accident; DBD, donation after brain death.

Table S12 DPP donor demographic data

Authors	Patient Number	Age	Gender (Female)	BMI	Cause of Death Anoxia	Cause of Death Head Trauma	Cause of Death CVA	Cause of Death Other
Coniglio <i>et al.</i> (2023)	31	28.0±1	NR	NR	10 (32.3%)	16 (51.6%)	4 (12.9%)	1 (3.2%)
Schroder <i>et al.</i> (2023)	90	29.3±0.8	6 (7%)	27.3±0.7	NR	NR	NR	NR
Messer <i>et al.</i> (2020)	57	34±1.2	8 (14%)	N/A	27 (47%)	15 (26%)	9 (16%)	6 (11%)
Mehta <i>et al.</i> (2019)	7	30.6±1.2	0	22.4±1.1	4 (57%)	0	2 (28.6%)	1 (14.3%)
Chen <i>et al.</i> (2022)	175	30±0.71	23 (13%)	26.6 (24-30.8)	80 (45.7%)	82 (46.9%)	7 (4%)	6 (3.4%)
Joshi <i>et al.</i> (2022)	74	32±1.3	12 (16.2%)	NR	28 (38%)	22 (31%)	22 (31%)	1 (1%)
Mohite <i>et al.</i> (2022)	36	30.6±1.8	4 (12%)	NR	NR	NR	NR	NR
Duran <i>et al.</i> (2023)	16	NR	NR	NR	NR	NR	NR	NR
I ² Score		67.2%	15.5%		0%	80.9%	87.9%	45.7%
Total/Weighted Average	486	30.5±0.73	12.6% (95% CI: 9.2-16.3)	NR	43.4% (95% CI: 38.2-48.6)	33.7% (95% CI: 21.2-47.2)	16.5% (95% CI: 5.9-31.1)	5.1% (95% CI: 2.1-9.2)

BMI, body mass index; CVA, cerebrovascular accident; DPP, direct procurement and perfusion.

Table S13 NRP donor demographic data

Authors	Patient Number	Age	Gender (Female)	BMI	Cause of Death Anoxia	Cause of Death Head Trauma	Cause of Death CVA	Cause of Death Other
Chen <i>et al.</i> (2022)	65	28±1.1	9 (14%)	27.4 (24.8-30.1)	29 (44.6%)	30 (46.2%)	3 (4.6%)	3 (4.6%)
Louca <i>et al.</i> (2023)	157	32±1.2	26 (16.6%)	NR	NR	NR	NR	NR
Duran <i>et al.</i> (2023)	56	NR	NR	NR	NR	NR	NR	NR
Messer <i>et al.</i> (2022)	19	38±2.6	5 (26%)	NR	3 (16%)	6 (32%)	8 (42%)	2 (10%)
I ²		86.5%	0%	NR	NR	NR	NR	NR
Total/Weighted Average	297	32.1±2.8	16.9% (95% CI: 12.5-21.9)	NR	NR	NR	NR	NR

BMI, body mass index; CVA, cerebrovascular accident; NR, not reported; NRP, normothermic reperfusion.

Authors	Patient Number	Age	Gender (Female)	Pre-op Mechanical Support	LVAD	IABP	Caucasian	BMI	Prior Transplant	Re-Sternotomy
Louca <i>et al.</i> (2023)	157	55.65±0.94	34 (21.7%)	NR	NR	NR	NR	NR	NR	NR
Chen <i>et al.</i> (2022)	65	60±1.22	14 (21.5%)	28 (43.1%)	26 (40%)	2 (3.1%)	44 (67.7%)	29.1 (26.7-32.7)	1 (1.5%)	32 (49.2%)
Duran <i>et al.</i> (2023)	56	62±1.23	13 (23.2%)	NR	NR	NR	NR	NR	NR	NR
Messer <i>et al.</i> (2020)	19	55±3.3	4 (21%)	2 (11%)	NR	NR	NR	NR	NR	NR
I ² Score		94.9%	0%	NR	NR	NR	NR	NR	NR	NR
Total/Weighted Average	297	58.5±1.7	22.3% (95% CI: 17.7-27.1)	NR	NR	NR	NR	NR	NR	NR

BMI, body mass index; IABP, Intra-aortic Balloon Pump; LVAD, left ventricular assist device; NRP, normothermic reperfusion.

Authors	Patient Number	Age	Gender (Female)	Pre-op Mechanical Support	LVAD	IABP	Ischaemic Cardiomyopathy	Caucasian	BMI	Prior Transplant	Re-Sternotomy
Coniglio <i>et al.</i> (2023)	31	51.7±2	10 (32%)	NR	13 (41.9%)	NR	2 (6.5%)	20 (64.5%)	30.5±4.9	2 (6.5%)	16 (51.6%)
Schroder <i>et al.</i> (2023)	90	51.3±1.3	24 (27)	NR	14 (16%)	44 (49%)	NR	62 (69%)	NR	NR	NR
Messer <i>et al.</i> (2020)	57	55±1.3	14 (25%)	19 (33%)	NR	NR	15 (26%)	NR	NR	NR	NR
Mehta <i>et al.</i> (2019)	7	48.7±5	1 (14%)	NR	2 (2.8%)	1 (1.4%)	NR	NR	26.29±1.13	NR	NR
Chen <i>et al.</i> (2022)	175	55±5.6	42 (24%)	90 (51%)	77 (44%)	12 (21%)	45 (25.7%)	118 (67.4%)	29.4±1.7	4 (2.3%)	74 (42.5%)
Joshi <i>et al.</i> (2022)	74	53±1.5	12 (16.2)	30 (41%)	2 (3%)	N/A	7 (10%)	NR	NR	NR	NR
Mohite <i>et al.</i> (2022)	25	42.6±2.6	4 (12%)	NR	NR	NR	NR	NR	NR	NR	NR
Duran <i>et al.</i> (2023)	16	62.5±5.4	1 (6.7%)	0	2 (12.5%)	0	NR	NR	NR	NR	NR
I ² Score		69.59%	11.18%	93.5%	93.22%	95.85%	80.23%	NR	NR	NR	NR
Total/Weighted Average	475	51.9±1.7	22.8% (95% CI: 18.8-27.04)	28.8% (95% CI: 10.9-51.03)	22.83% (95% CI: 8-42.2)	15.03% (95% CI: 0.5-44.2)	17.3% (95% CI: 8.7-28.2)	NR	NR	NR	NR

BMI, body mass index; DPP, direct procurement and perfusion; IABP, intra-aortic balloon pump; LVAD, left ventricular assist device; NR, not reported.

Table S16 Weighted average post-operative outcomes post DCD														
Authors	ECMO	IABP	LOS	ICU LOS	30-day survival	3-month survival	6-month survival	12-month survival	5-year survival	LVEF <6 months	LVEF >6 months	Acute rejection	PGD	Temp Dialysis
Louca <i>et al.</i> (2023)	9 (5.7%)	13 (8.3%)	19.0±1	8±0.4	153 (98%)	NR	NR	67 (93.2%)	84.30%	63.0 [60.0, 65.0]	62.0 [59.5, 65.0]	15.0 (9.7%)	20 (12.8%)	NR
Schroder <i>et al.</i> (2023)	NR	NR	NR	NR	NR	NR	84 (93%)	84 (93%)	NR	NR	NR	NR	18 (22%)	NR
Messer <i>et al.</i> (2020)	12 (15%)	25 (32%)	24±1.02	7±0.9	77 (97%)	70 (95%)	NR	53 (91%)	NR	60% (54-63)	NR	20 (25%)	12 (15%)	40 (51%)
Coniglio <i>et al.</i> (2023)	NR	NR	18.4±2.1	NR	NR	NR	30 (3.2%)	NR	NR	NR	68.2±8.7	6 (19.4%)	8 (25.8%)	2 (6.5%)
Siddiqi <i>et al.</i> (2023)	NR	NR	17±0.9	NR	118 (97%)	NR	115 (94%)	115 (94%)	NR	NR	NR	16 (13%)	7 (6%)	NR
Mehta <i>et al.</i> (2019)	3 (42.9%)	2 (28.6%)	34.1±6	19.3±3.2	7 (100%)	7 (100%)	6 (85.7%)	NR	NR	NR	NR	NR	NR	4 (57.1 %)
Chen <i>et al.</i> (2022)	NR	NR	16±0.5	N/A	261 (98.1%)	254 (95.5%)	246 (92.6%)	NR	NR	NR	NR	38 (14%)	N/A	48 (18.1%)
Joshi <i>et al.</i> (2022)	12 (16%)	NR	20±1.8	6±0.53	73 (98.6%)	NR	NR	70 (94%)	65 (88%)	NR	NR	NR	12 (16%)	23 (31%)
Duran <i>et al.</i> (2023)	NR	NR	16.5±1.0	5±2	71 (98.6%)	NR	NR	NR	NR	NR	NR	NR	17 (23.6%)	9 (12.5%)
Mohite <i>et al.</i> (2022)	NR	NR	17.8±3.3	45±6.7	22 (88%)	NR	NR	NR	NR	NR	NR	NR	NR	20 (80%)
I ² Score	NR	NR	87.2%	85.5%	0%	NR	0%	0%	NR	NR	NR	61.7%	24.1%	92.8%
Total/Weighted Average	NR	NR	19.03±1.3	8.5±1.9	97.2% (95% CI: 96.01-98.3)	NR	92.9% (95% CI: 90.5-94.9)	92.8% (95% CI: 90-95.1)	NR	NR	NR	15.4% (95% CI: 10.9-20.5)	17% (95% CI: 13.7-20.5)	33.3% (95% CI: 18.2-50.4)
DCD, donation after circulatory death; ECMO, extra-corporeal membrane oxygenation; IABP, intra-aortic balloon pump; ICU, intensive care unit; LOS, length of stay; LVEF, left ventricular ejection fraction; PGD, primary graft dysfunction.														

Table S17 Weighted average post-operative outcomes post DBD																
Authors	ECMO	IABP	LOS	ICU LOS	30-day survival	3-month survival	6-month survival	12-month survival	5-year survival	LVEF <6 months	LVEF >6 months	RV <6 months	RV >6 months	Acute rejection	PGD	Temporary Dialysis
Louca <i>et al.</i> (2023)	36(5.4%)	15 (2.2%)	NR	NR	600 (94.5%)	NR	NR	381 (89.9%)	55 (78.3%)	NR	NR	NR	NR	NR	85 (12.7%)	NR
Schroder <i>et al.</i> (2023)	NR	NR	NR	NR	NR	NR	75 (89%)	NR	NR	NR	NR	NR	NR	NR	8 (10%)	NR
Messer <i>et al.</i> (2020)	5 (6%)	25 (32%)	24±1	7 (4-14)	78 (99%)	74 (94%)	N/A	65/73 (89%)	NR	60 (55–63)	NR	NR	NR	18 (23%)	5 (6%)	30 (38%)
Coniglio <i>et al.</i> OCS Group (2023)	NR	NR	13.9 ± 1.8	NR	NR	NR	16 (100%)	NR	NR	68.6±7.1	NR	Preserved	NR	3 (18.8%)	0/16	0
Coniglio <i>et al.</i> Cold Storage Group (2023)	NR	NR	17.6±2.7	NR	NR	NR	36 (95%)	NR	NR	67.6±6.9	NR	Preserved	NR	13 (34.2%)	2 (5.3%)	1 (2.6%)
Siddiqi <i>et al.</i> (2023)	NR	NR	18±0.64	NR	250 (95%)	NR	244 (93%)	243 (92.4%)	NR	NR	NR	NR	NR	48 (18.0%)	15 (6.0%)	NR
Chen <i>et al.</i> (2022)	NR	NR	17±0.1	NR	5806 (96.8%)	5677 (94.6%)	3096 (92.9%)	N/A	NR	NR	NR	NR	NR	525 (8.8%)	N/A	952 (16%)
I ² Score	NR	NR	92.5%	NR	71.5%	NR	0%	0%	NR	NR	NR	NR	NR	92%	68.2%	91.1%
Total/Weighted Average	NR	NR	18.3±1.7		95.9% (95% CI: 94.2-97.4)	NR	92.8% (95% CI: 92-93.6)	90.5% (95% CI: 88.4-92.5)	NR	NR	NR	NR	NR	19.4% (95% CI: 10.8-29.7)	8% (95% CI: 4.8-12)	13% (95% CI: 3.5-27.4)
DBD, donation after brain death; ECMO, extra-corporeal membrane oxygenation; IABP, intra-aortic balloon pump; ICU, intensive care unit; LOS, length of stay; LVEF, left ventricular ejection fraction; PGD, primary graft dysfunction.																

Table S18 Weighted average post-operative outcomes post NRP DCD

Authors	ECMO	IABP	LOS	ICU LOS	30-day survival	3-month survival	6-month survival	12-month survival	5-year survival	Acute rejection	PGD	Temporary Dialysis
Chen <i>et al.</i> (2022)	NR	NR	NR	16±0.5	64 (98.5%)	62 (95.4%)	NR	NR	NR	8 (12.3%)	NR	15 (23.1%)
Louca <i>et al.</i> (2023)	9 (5.7%)	13 (8.3%)	19.0±1	8±0.42	150 (96.8%)	NR	NR	67 (93.2%)	11 (84.3%)	15.0 (9.7%)	20 (12.8%)	NR
Duran <i>et al.</i> (2023)	NR	NR	16.5±1.03	5±2	55 (98.5%)	NR	NR	NR	NR	N/A	11(9.6%)	9 (12.5%)
Messer <i>et al.</i> (2020)	1 (5%)	5 (26%)	20±2.02	5±0.3	19 (100%)	19 (100%)	NR	19 (100%)	NR	3 (6%)	1 (5%)	3 (16%)
I ² Score	NR	NR	51.2%	99.2%	0%	NR	NR	NR	NR	10.6%	12.9%	0%
Total/Weighted Average	NR	NR	18.19±1.01	8.6±2.6	96.9% (95% CI: 94.6-98.5)	NR	NR	NR	NR	9.4% (95% CI: 6.1-13.4)	14.3% (95% CI: 9.6-19.9)	19.8% (95% CI: 13.7-26.7)

DCD, donation after cardiac death; ECMO, extra-corporeal membrane oxygenation; IABP, intra-aortic balloon pump; ICU, intensive care unit; LOS, length of stay; NR, not reported; NRP, normothermic reperfusion; PGD, primary graft dysfunction.

Table S19 Weighted average post-operative outcomes post DPP DCD

Authors	ECMO	IABP	LOS	ICU LOS	30-day survival	3-month survival	6-month survival	12-month survival	5-year survival	LVEF <6 months	Acute rejection	PGD	Temporary Dialysis
Schroder <i>et al.</i> (2023)	NR	NR	NR	NR	NR	NR	84 (93%)	84 (93%)	NR	NR	NR	18 (22%)	NR
Mehta <i>et al.</i> (2019)	3 (42.9%)	2 (28.6%)	34.14±6	19.3±3.2	7 (100%)	685.7%	NR	NR	NR	NR	NR	NR	4 (57.1%)
Messer <i>et al.</i> (2020)	10 (18%)	19 (33%)	25±1.3	8±1.1	55 (96%)	48 (92%)	N/A	32 (86%)	NR	60% (54-63)	17 (30%)	10 (18%)	40 (51%)
Coniglio <i>et al.</i> (2023)	NR	NR	18.4±2.1	NR	N/A	N/A	30 (96.8%)	NR	NR	68.2±8.7	8 (25.8%)	6 (19.4%)	2 (6.5%)
Chen <i>et al.</i> (2022)	NR	NR	15±0.5	NR	172 (98.3%)	167 (95.4%)	NR	NR	NR	NR	28 (16%)	NR	28 (16%)
Joshi <i>et al.</i> (2022)	12 (16%)		20±1.8	6±0.53	73 (98.6%)	NR	NR	70 (94%)	65 (88%)	NR	NR	12 (16%)	23 (31%)
Mohite <i>et al.</i> (2022)	NR	NR	45±6.7	17.8±3.3	22/25 (88%)	NR	NR	NR	NR	NR	NR	N/A	20 (80%)
Duran <i>et al.</i> (2023)	NR	NR	16.5±2.3	6±0.4	16 (100%)	NR	NR	NR	NR	NR	NR	6 (37.5%)	1 (6.7%)
I ² Score	NR	NR	92.7%	87.5%	12.5%	NR	NR	NR	NR	NR	NR	0%	54.5%
Total/Weighted Average	NR	NR	22.3±3.5	8.8±2.4	97% (95% CI: 94.7-98.7)	NR	NR	NR	NR	NR	NR	20.5% (95% CI: 15.9-25.6)	33.3% (95% CI: 13.7-56.4)

DCD, donation after circulatory death; DPP, direct procurement and perfusion; ECMO, extra-corporeal membrane oxygenation; IABP, intra-aortic balloon pump; ICU, intensive care unit; LOS, length of stay; LVEF, left ventricular ejection fraction; NR, not reported; PGD, primary graft dysfunction.

Table S20 Summary of DPP and NRP asystolic and functional warm ischaemic times

Study	DPP aWIT (Min)	NRP aWIT (Min)	DPP FWIT (Min)	NRP FWIT (Min)
Louca <i>et al.</i> (2023)	NR	NR	NR	16.7±9.3 (Mean and SD)
Joshi <i>et al.</i> (2022)	13 (11-14) (median and IQR)	NR	20±6 (Mean and SD)	NR
Messer <i>et al.</i> (2020)	22 (21-24) (median and IQR)	14 (12-15) (median and IQR)	25 (23-27) median and IQR	18 (15-19) (median and IQR)
Duran <i>et al.</i> (2023)	NR	NR	24.5 (18-29.75) median and IQR	24 (20-40) (median and IQR)
Mehta <i>et al.</i> (2019)	NR	NR	27±4.24 (Mean and SD)	NR
Mohite <i>et al.</i> (2022)	NR	NR	16.3±3.5 (Mean and SD)	NR

aWIT, asystolic warm ischaemic time; DPP, direct procurement and perfusion; FWIT, functional warm ischaemic time; IQR, interquartile range; NRP, normothermic reperfusion; SD, standard deviation.