Online Appendix for the following *JACC* article

TITLE: Cardiac Size and Sex Matching in Heart Transplantation

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APPENDIX

Supplemental Material

Table S1: Survival by quantiles of difference in weight versus difference in predicted cardiac mass

	Survival 1 Yr Weight-Difference		Survival 1 yr Cardiac Mass-Difference		Survival 5 Yr Weight-Difference		Survival 5 yr Cardiac Mass-Difference	
	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P
Unadjusted Models								
Quantiles								
1 (undersized donor)	1.07 (0.95 to 1.21)	0.2	1.27 (1.13 to 1.43)	<0.001	1.02 (0.93 to 1.11)	0.7	1.18 (1.09 to 1.28)	<0.001
2	1.07 (0.95 to 1.21)	0.3	1.10 (0.98 to 1.24)	0.1	0.98 (0.90 to 1.07)	0.6	1.07 (0.98 to 1.17)	0.1
3	1.06 (0.94 to 1.20)	0.3	0.96 (0.85 to 1.09)	0.5	1.04 (0.95 to 1.13)	0.4	0.94 (0.86 to 1.03)	0.2
4 (best fit)	Referent		Referent					
5	1.05 (0.93 to 1.18)	0.4	1.00 (0.88 to 1.13)	1.0	1.03 (0.94 to 1.12)	0.6	1.01 (0.92 to 1.10)	0.9
6	1.09 (0.96 to 1.23)	0.2	1.06 (0.94 to 1.19)	0.4	1.03 (0.94 to 1.12)	0.5	1.03 (0.94 to 1.12)	0.5
7 (oversized donor)	1.06 (0.94 to 1.19)	0.9	1.08 (0.96 to 1.22)	0.2	0.98 (0.90 to 1.07)	0.6	1.05 (0.96 to 1.15)	0.3
Gender Categories (unadjusted)								
Male Recipient Male Donor	Referent				Referent			
Male Recipient Female Donor	1.32 (1.22 to 1.43)	<0.001			1.21 (1.14 to 1.28)	<0.001		
Female Recipient Female Donor	1.17 (1.06 to 1.29)	0.002			1.14 (1.06 to 1.23)	0.001		
Female Recipient Male Donor	1.17 (1.06 to 1.30)	0.002			1.17 (1.09 to 1.26)	<0.001		
Female Recipient Male Donor†	1.00 (0.88 to 1.14)	1.0			1.03 (0.94 to 1.13)	0.5		
Adjusted Models‡								
Quantiles								
1 (undersized donor)	1.08 (0.91 to 1.29)	0.4	1.25 (1.02 to 1.54)	0.03	1.01 (0.89 to 1.15)	0.8	1.20 (1.04 to 1.39)	0.01
2	1.10 (0.93 to 1.31)	0.3	1.14 (0.95 to 1.36)	0.1	0.99 (0.88 to 1.13)	0.9	1.10 (0.97 to 1.25)	0.1
3	0.96 (0.81 to 1.14)	0.7	1.02 (0.85 to 1.23)	0.8	0.98 (0.87 to 1.11)	0.7	1.04 (0.91 to 1.2)	0.6
4 (best fit)	Referent		Referent		Referent		Referent	
5	0.94 (0.79 to 1.12)	0.5	1.06 (0.89 to 1.26)	0.5	0.95 (0.84 to 1.08)	0.4	1.06 (0.93 to 1.20)	0.4
6	0.96 (0.81 to 1.14)	0.7	1.03 (0.86 to 1.24)	0.7	0.94 (0.83 to 1.06)	0.3	1.06 (0.94 to 1.21)	0.3
7 (oversized donor)	0.85 (0.71 to 1.01	0.07	0.95 (0.78 to 1.16)	0.6	0.85 (0.75 to 0.96)	0.01	0.96 (0.84 to 1.11)	0.6
Gender Categories								
Male Recipient Male Donor	Referent		Referent		Referent		Referent	
Male Recipient Female Donor	1.12 (0.98 to 1.27)	0.09	1.00 (0.85 to 1.17)	1.0	1.04 (0.95 to 1.14)	0.4	0.95 (0.85 to 1.07)	0.4
Female Recipient Female Donor	1.26 (1.08 to 1.47)	0.003	1.26 (1.08 to 1.47)	0.003	1.18 (1.06 to 1.32)	0.003	1.18 (1.06 to 1.32)	0.003
Female Recipient Male Donor	1.55 (1.34 to 1.79)	<0.001	1.62 (1.36 to 1.92)	<0.001	1.39 (1.25 to 1.55)	<0.001	1.44 (1.27 to 1.63)	<0.001
Female Recipient Male Donor†	1.22 (1.02 to 1.47)	0.03	1.28 (1.04 to 1.57)	0.02	1.18 (1.03 to 1.35)	0.02	1.22 (1.05 to 1.41)	0.008

†Hazard ratio referent to Female Recipient / Female Donor pairings

‡Additional variables in the models included: recipient age, serum creatinine, total bilirubin, presence of diabetes, pulmonary vascular resistance index, hospitalized status, localization in intensive care unit, mechanical assistance through ventricular assist or extra-corporeal membranous oxygenation, inotrope use, primary indication for transplant, donor age, donor cause of death, ischemic time, and transplant era.

Table S2: Thirty Day and Time-Uncensored Survival

	Survival 30 Day Weight-Difference		Survival 30 Day Cardiac Mass-Difference		Survival Uncensored Weight-Difference		Survival Uncensored Cardiac Mass-Difference	
	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P
Unadjusted Models								
Quantiles								
1 (undersized donor)	1.11 (0.92 to 1.34)	0.3	1.36 (1.14 to 1.62)	0.001	1.05 (0.99 to 1.12)	0.1	1.18 (1.11 to 1.26)	<0.001
2	1.04 (0.86 to 1.25)	0.7	1.15 (0.96 to 1.38)	0.1	1.02 (0.96 to 1.09)	0.5	1.11 (1.04 to 1.18)	0.003
3	1.07 (0.89 to 1.29)	0.5	0.92 (0.76 to 1.12)	0.4	1.04 (0.98 to 1.12)	0.2	0.99 (0.92 to 1.06)	0.8
4 (best fit)	Referent		Referent					
5	1.15 (0.96 to 1.38)	0.1	0.94 (0.78 to 1.14)	0.5	1.02 (0.95 to 1.09)	0.6	1.05 (0.98 to 1.12)	0.2
6	1.13 (0.94 to 1.36)	0.2	1.03 (0.86 to 1.25)	0.7	1.05 (0.98 to 1.12)	0.2	1.06 (0.99 to 1.13)	0.1
7 (oversized donor)	1.02 (0.84 to 1.23)	0.9	1.01 (0.83 to 1.22)	0.9	1.00 (0.94 to 1.07)	0.9	1.03 (0.96 to 1.10)	0.4
Gender Categories (unadjusted)								
Male Recipient / Male Donor	Referent				Referent			
Male Recipient / Female Donor	1.56 (1.38 to 1.77)	<0.001			1.15 (1.10 to 1.20)	<0.001		
Female Recipient / Female Donor	1.26 (1.08 to 1.47)	0.004			1.06 (1.00 to 1.13)	0.04		
Female Recipient / Male Donor	1.19 (1.01 to 1.39)	0.04			1.03 (0.97 to 1.09)	0.3		
Female Recipient / Male Donor†	0.94 (0.77 to 1.15)	0.6			0.97 (0.90 to 1.05)	0.4		
Adjusted Models‡								
Quantiles								
1 (undersized donor)	1.22 (0.93 to 1.61)	0.2	1.11 (0.80 to 1.52)	0.5	1.07 (0.97 to 1.18)	0.2	1.20 (1.07 to 1.35)	0.002
2	1.06 (0.80 to 1.40)	0.7	1.18 (0.90 to 1.55)	0.2	1.05 (0.95 to 1.16)	0.4	1.11 (1.00 to 1.23)	0.046
3	1.19 (0.90 to 1.56)	0.2	1.03 (0.78 to 1.37)	0.8	1.04 (0.94 to 1.14)	0.5	1.03 (0.93 to 1.14)	0.6
4 (best fit)	Referent		Referent		Referent		Referent	
5	1.12 (0.85 to 1.47)	0.4	0.98 (0.74 to 1.30)	0.9	0.98 (0.89 to 1.09)	0.7	1.07 (0.97 to 1.18)	0.2
6	1.09 (0.83 to 1.43)	0.5	1.01 (0.77 to 1.34)	0.9	1.00 (0.90 o 1.10)	0.9	1.07 (0.97 to 1.19)	0.2
7 (oversized donor)	0.88 (0.66 to 1.18)	0.4	0.92 (0.68 to 1.25)	0.6	0.95 (0.86 to 1.05)	0.3	1.01 (0.90 to 1.13)	0.8
Gender Categories								
Male Recipient / Male Donor	Referent		Referent		Referent		Referent	
Male Recipient / Female Donor	1.20 (0.99 to 1.46)	0.06	1.13 (0.89 to 1.44)	0.3	1.03 (0.96 to 1.11)	0.4	0.96 (0.87 to 1.05)	0.3
Female Recipient / Female Donor	1.25 (0.98 to 1.61)	0.07	1.26 (0.98 to 1.61)	0.07	1.18 (1.08 to 1.29)	<0.001	1.19 (1.08 to 1.30)	<0.001
Female Recipient / Male Donor	1.67 (1.32 to 2.10)	<0.001	1.76 (1.34 to 2.32)	<0.001	1.25 (1.15 to 1.37)	<0.001	1.27 (1.15 to 1.41)	<0.001
Female Recipient / Male Donor†	1.33 (0.98 to 1.79)	0.06	1.40 (1.01 to 1.95)	0.045	1.06 (0.95 to 1.18)	0.3	1.07 (0.95 to 1.21)	0.3

†Hazard ratio referent to Female Recipient / Female Donor pairings

‡Additional variables in the models included: recipient age, serum creatinine, total bilirubin, presence of diabetes, pulmonary vascular resistance index, hospitalized status, localization in intensive care unit, mechanical assistance through ventricular assist or extra-corporeal membranous oxygenation, inotrope use, primary indication for transplant, donor age, donor cause of death, ischemic time, and transplant era.

Table S3: Rejection Treated in First Year by septiles of difference in weight versus difference in predicted cardiac mass

	Rejection treated in 1st yr Weight-Difference		Rejection treated in 1st yr Cardiac Mass-difference	
	OR (95% CI)	P	OR (95% CI)	P
Unadjusted Models				
Quantiles				
1 (undersized donor)	1.29 (1.15 to 1.44)	<0.001	1.33 (1.19 to 1.49)	<0.001
2	1.15 (1.03 to 1.29)	0.01	1.04 (0.93 to 1.17)	0.5
3	1.01 (0.91 to 1.13)	0.8	1.02 (0.91 to 1.14)	0.7
4 (best fit)	Referent		Referent	
5	0.93 (0.83 to 1.04)	0.2	1.00 (0.89 to 1.11)	1.0
6	0.93 (0.83 to 1.04)	0.2	0.98 (0.88 to 1.10)	0.7
7 (oversized donor)	0.80 (0.71 to 0.89)	<0.001	0.99 (0.88 to 1.11)	0.8
Gender Categories (unadjusted)				
Male Recipient Male Donor	Referent			
Male Recipient Female Donor	1.20 (1.10 to 1.30)	<0.001		
Female Recipient Female Donor	1.43 (1.31 to 1.58)	<0.001		
Female Recipient Male Donor	1.51 (1.37 to 1.66)	<0.001		
Female Recipient Male Donor†	1.05 (0.93 to 1.19)	0.4		
Adjusted Models‡				
Quantiles				
1 (undersized donor)	1.16 (1.00 to 1.36)	0.06	1.19 (0.99 to 1.44)	0.07
2	1.12 (0.96 to 1.30)	0.2	1.01 (0.86 to 1.18)	0.9
3	1.04 (0.89 to 1.21)	0.6	1.01 (0.87 to 1.18)	0.9
4 (best fit)	Referent		Referent	
5	0.87 (0.75 to 1.02)	0.09	0.90 (0.77 to 1.05)	0.2
6	1.01 (0.86 to 1.18)	0.9	0.91 (0.77 to 1.06)	0.2
7 (oversized donor)	0.80 (0.68 to 0.93)	0.005	0.70 (0.59 to 0.84)	<0.001
Gender Categories				
Male Recipient Male Donor	Referent		Referent	
Male Recipient Female Donor	1.15 (1.02 to 1.30)	0.02	1.00 (0.86 to 1.16)	1.0
Female Recipient Female Donor	1.38 (1.20 to 1.58)	<0.001	1.38 (1.20 to 1.59)	<0.001
Female Recipient Male Donor	1.31 (1.15 to 1.50)	<0.001	1.55 (1.33 to 1.82)	<0.001
Female Recipient Male Donor†	0.95 (0.80 to 1.12)	0.6	1.13 (0.94 to 1.35)	0.2

†Hazard ratio referent to Female Recipient / Female Donor pairings

‡Additional variables in the models included: recipient age, serum creatinine, total bilirubin, presence of diabetes, pulmonary vascular resistance index, hospitalized status, localization in intensive care unit, mechanical assistance through ventricular assist or extra-corporeal membranous oxygenation, inotrope use, primary indication for transplant, donor age, donor cause of death, ischemic time, and transplant era.

Alternate Analysis

An alternate analytical plan was developed prior to full data analysis. For this analysis, quantiles of predicted heart mass were compared against the "best matched" quantile 4 according to survival censored at one year post transplant. Quantiles 1, 7, and quantiles differing from quantile 4 with a p-value ≤ 0.2 were to be maintained as independent categories, whereas other quantiles were to be combined. Quantiles 3-6 were similar (all p-values > 0.35) and so were consolidated into a "best matched" category. Quantiles 2 (HR 1.10, P=0.1) and 7 (HR 1.08, P=0.2) were maintained as independent categories. This resulted in 4 sizing categories which were used in the alternate analysis presented in subsequent tables. **Table S4** provides heart mass data from the septiles approach, whereas **Table S5** provides the same data according to the sizing categories of the alternate approach. **Table S6** presents demographic data of the alternate size categories comparable to **Table 1**. **Table S7** presents survival and rejection data in unadjusted and fully adjusted models using the alternate sizing categories.

Table S4: Size Comparison Across Selected Septiles

	Undersized Median(IQR)	Best Fit Median(IQR)	Oversized Median(IQR)	p
pHeart mass donor	143 (131 to 160)	187 (170 to 202)	196 (178 to 221)	0.0001
pHeart mass recip	189 (174 to 208)	187 (169 to 201)	147 (130 to 167)	0.0001
pHeart mass-ratio	0.78 (0.73 to 0.81)	1.00 (0.99 to 1.02)	1.30 (1.25 to 1.40)	0.0001
pHeart mass diff (g)	-42 (-51 to -35)	0.7 (-1.7 to 3.2)	47 (39 to 57)	0.0001
pRV mass donor	23 (21 to 26)	28 (26 to 32)	31 (28 to 34)	0.0001
pRV mass recip	24 (22 to 27)	24 (22 to 26)	21 (19 to 23)	0.0001
pRVM-ratio	0.95 (0.87 to 1.06)	1.20 (1.09 to 1.34)	1.47 (1.31 to 1.64)	0.0001
pRV mass diff (g)	-1 (-3 to 1)	5 (2 to 8)	10 (7 to 13)	0.0001
pLV mass donor	119 (109 to 135)	158 (142 to 171)	166 (149 to 188)	0.0001
pLV mass recip	164 (151 to 181)	163 (146 to 176)	126 (111 to 145)	0.0001
pLV mass-ratio	0.75 (0.70 to 0.78)	0.97 (0.95 to 1.00)	1.29 (1.23 to 1.38)	0.0001
pLV mass diff (g)	-42 (-50 to -35)	-4 (-7 to -1)	37 (30 to 47)	0.0001
%Heart mass difference	-22 (-27 to -19)	0 (-1 to 2)	30 (25 to 40)	0.0001
%Weight Difference	-18 (-28 to -9)	-4 (-9 to 1)	31 (15 to 46)	0.0001

pHeart: predicted values for entire heart, pRV: predicted values for the right ventricle, pLV: predicted values for the left ventricle

Table S5: Size Comparison Across Selected Categories

	Most Undersized Median(IQR)	Moderately Undersized Median(IQR)	Best Fit Median(IQR)	Oversized Median(IQR)	p
pHeart mass donor	143 (131 to 160)	173 (152 to 188)	189 (170 to 205)	196 (178 to 221)	0.0001
pHeart mass recip	189 (174 to 208)	195 (172 to 213)	182 (162 to 199)	147 (130 to 167)	0.0001
pHeart mass-ratio	0.78 (0.73 to 0.81)	0.89 (0.87 to 0.90)	1.04 (0.98 to 1.10)	1.30 (1.25 to 1.40)	0.0001
pHeart mass diff (g)	-42 (-51 to -35)	-22 (-26 to -18)	6 (-4 to 17)	47 (39 to 57)	0.0001
pRV mass donor	23 (21 to 26)	27 (24 to 30)	29 (26 to 32)	31 (28 to 34)	0.0001
pRV mass recip	24 (22 to 27)	25 (22 to 27)	24 (22 to 25)	21 (19 to 23)	0.0001
pRVM-ratio	0.95 (0.87 to 1.06)	1.07 (0.98 to 1.20)	1.23 (1.11 to 1.37)	1.47 (1.31 to 1.64)	0.0001
pRV mass diff (g)	-1 (-3 to 1)	2 (-1 to 5)	5 (2 to 9)	10 (7 to 13)	0.0001
pLV mass donor	119 (109 to 135)	145 (127 to 159)	159 (142 to 174)	166 (149 to 188)	0.0001
pLV mass recip	164 (151 to 181)	170 (150 to 186)	159 (140 to 173)	126 (111 to 145)	0.0001
pLV mass-ratio	0.75 (0.70 to 0.78)	0.85 (0.83 to 0.88)	1.00 (0.95 to 1.07)	1.29 (1.23 to 1.38)	0.0001
pLV mass diff (g)	-42 (-50 to -35)	-24 (-29 to -20)	1 (-9 to 11)	37 (30 to 47)	0.0001
%Heart mass difference	-22 (-27 to -19)	-11 (-13 to -10)	3 (-2 to 10)	30 (25 to 40)	0.0001
%Weight Difference	-18 (-28 to -9)	-18 (-23 to -6)	-0.6 (-10 to 12)	31 (15 to 46)	0.0001

pHeart: predicted values for entire heart, pRV: predicted values for the right ventricle, pLV: predicted values for the left ventricle

Table S6: Demographics By Size Category

	Most Undersized (septile 1)	Moderately Undersized (septile 2)	Best Fit (septiles 3-6)	Oversized (septile 7)	P
Size Matching					
%Heart mass difference	-22 (-27 to -19)	-11 (-13 to -10)	3 (-2 to 10)	30 (25 to 40)	0.0001
%Weight Difference	-18 (-28 to -9)	-18 (-23 to -6)	-0.6 (-10 to 12)	31 (15 to 46)	0.0001
Gender Matching					<0.001
F to F (%)	3.5%	11%	14%	9%	
M to M (%)	21%	63%	73%	40%	
M to F (%)	<1%	<1%	7%	51%	
F to M(%)	75%	26%	6%	<1%	
Recipient Factors					
Male gender	96%	89%	79%	40%	<0.001
Age (years)	54 (46 to 60)	54 (46 to 61)	55 (47 to 61)	54 (45 to 60)	0.0001
Hypertension treatment	39%	39%	37%	33%	<0.001
Body Mass Index (kg/m^2)	27 (24 to 30)	27 (24 to 30)	26 (23 to 29)	23 (21 to 27)	0.0001
BSA (Mosteller formula)	2.0 (1.9 to 2.2)	2.1 (1.9 to 2.2)	2.0 (1.8 to 2.1)	1.7 (1.6 to 1.9)	0.0001
Diabetes (%)	8%	13%	11%	9%	<0.001
Creatinine (mg/dL)	1.2 (1 to 1.5)	1.2 (1 to 1.5)	1.2 (1 to 1.5)	1.1 (0.9 to 1.4)	0.0001
Bilirubin (mg/dL)	0.8 (0.6 to 1.3)	0.8 (0.6 to 1.2)	0.8 (0.5 to 1.3)	0.8 (0.5 to 1.3)	0.3
PRA peak class I	20 (5 to 43)	19 (7 to 43)	19 (7 to 49)	32 (10 to 65)	0.0001
PRA peak class II	18 (7 to 51)	16.5 (6 to 46)	18 (5 to 51)	29 (10 to 65)	0.0002
Hemodynamics					
MPAP (mm/Hg)	29 (21 to 37)	29 (21 to 36)	29 (21 to 37)	30 (22 to 37)	0.03
CI (L/min/m^2)	2.2 (1.8 to 2.6)	2.2 (1.8 to 2.6)	2.2 (1.8 to 2.7)	2.2 (1.8 to 2.7)	0.005
PVRI (Woods Units/ m^2)	0.96 (0.62 to 1.47)	0.95 (0.61 to 1.43)	1.07 (0.69 to 1.64)	1.38 (0.89 to 2.10)	0.0001
PCW (mm/Hg)	20 (13 to 27)	19 (13 to 26)	19 (13 to 26)	20 (14 to 26)	0.01
Acuity					
Hosp, count (%)	56%	52%	52%	60%	<0.001
ICU, count (%)	40%	36%	37%	45%	<0.001
Inotropes, count (%)	43%	46%	43%	50%	<0.001
Mechanical assist support or ECMO	18%	20%	20%	17%	<0.001
IABP, count (%)	5.1%	4.8%	5.2%	6.7%	<0.001
Vent, count (%)	2.9%	2.5%	2.5%	3.5%	0.002
Indication					
CAD	51%	50%	49%	37%	<0.001
DCM	77%	79%	79%	78%	0.2
DCM (nonischemic)	42%	40%	42%	51%	<0.001
Other	9%	9%	9%	13%	<0.001
Donor Factors					
Male gender donor	21%	63%	80%	91%	<0.001
Age donor	36 (23 to 46)	31 (21 to 42)	28 (20 to 39)	26 (19 to 38)	0.0001
BMI donor	24 (21 to 27)	24 (22 to 28)	25 (22 to 28)	26 (23 to 30)	0.0001
Cause of Death					<0.001
Anoxia	9%	9%	9%	9%	
Stroke	43%	29%	22%	20%	
Head Trauma	42%	56%	62%	65%	
CNS tumor	1%	1%	1%	1%	
Other	5%	5%	6%	5%	
Transplant factor					
Ischemic Time	3.1 (2.4 to 3.8)	3.1 (2.4 to 3.7)	3.0 (2.3 to 3.7)	2.9 (2.2 to 3.6)	0.0001
Transplant year					<0.001
Prior to 1994	17%	13%	14%	13%	
1995-1999	31%	26%	24%	26%	
2000-2005	26%	26%	26%	25%	
After 2005	26%	35%	36%	36%	
Rejection and Death Rates					
Treated for Acute Rejection in First Year (n=17,694)	45%	39%	39%	38%	<0.001
1 year mortality	14.1%	12.5%	11.4%	12.4%	<0.001
5 year mortality	26.2%	23.3%	22.0%	23.2%	<0.001

Data are presented as median (interquartile range) or as percentages. CAD: coronary artery disease, DCM: dilated cardiomyopathy, ECMO: extra-corporeal membranous oxygenation, IABP: intra-aortic balloon pump.

Table S7: One and Five Year Survival and Rejection By Sizing Categories

	Survival 1 yr		Survival 5 yr		Rejection treated in 1st yr	
	HR (95% CI)	P	HR (95% CI)	P	OR (95% CI)	P
Unadjusted Models						
Size Categories						
Best matched	Referent		Referent		Referent	
Moderately Undersized	1.10 (1.00 to 1.21)	0.05	1.08 (1.01 to 1.16)	0.03	1.04 (0.95 to 1.14)	0.4
Most Undersized	1.27 (1.16 to 1.38)	<0.001	1.19 (1.11 to 1.27)	<0.001	1.33 (1.22 to 1.46)	<0.001
Oversized	1.08 (0.98 to 1.18)	0.1	1.06 (0.99 to 1.13)	0.1	0.99 (0.91 to 1.08)	0.8
Gender Categories						
Male Recipient / Male Donor	Referent		Referent		Referent	
Male Recipient / Female Donor	1.32 (1.22 to 1.43)	<0.001	1.21 (1.14 to 1.28)	<0.001	1.20 (1.10 to 1.30)	<0.001
Female Recipient / Female Donor	1.17 (1.06 to 1.29)	0.002	1.14 (1.06 to 1.23)	0.001	1.43 (1.31 to 1.58)	<0.001
Female Recipient / Male Donor	1.17 (1.06 to 1.30)	0.002	1.17 (1.09 to 1.26)	<0.001	1.51 (1.37 to 1.66)	<0.001
Female Recipient / Male Donor†	1.00 (0.88 to 1.14)	1.0	1.03 (0.94 to 1.13)	0.5	1.05 (0.93 to 1.19)	0.4
Adjusted Models‡						
Size Categories						
Best matched	Referent		Referent		Referent	
Moderately Undersized	1.11 (0.96 to 1.27)	0.2	1.06 (0.96 to 1.18)	0.2	1.05 (0.93 to 1.19)	0.5
Most Undersized	1.22 (1.03 to 1.45)	0.02	1.16 (1.03 to 1.31)	0.02	1.24 (1.05 to 1.46)	0.009
Oversized	0.92 (0.79 to 1.08)	0.3	0.92 (0.82 to 1.03)	0.2	0.75 (0.65 to 0.86)	<0.001
Gender Categories						
Male Recipient / Male Donor	Referent		Referent		Referent	
Male Recipient / Female Donor	1.00 (0.85 to 1.17)	1.0	0.95 (0.85 to 1.07)	0.4	1.01 (0.87 to 1.17)	0.9
Female Recipient / Female Donor	1.26 (1.37 to 1.92)	0.003	1.18 (1.06 to 1.32)	0.003	1.38 (1.20 to 1.58)	<0.001
Female Recipient / Male Donor	1.62 (1.37 to 1.92)	<0.001	1.45 (1.29 to 1.64)	<0.001	1.51 (1.30 (1.77)	<0.001
Female Recipient / Male Donor†	1.29 (1.05 to 1.58)	0.02	1.23 (1.06 to 1.42)	0.005	1.10 (0.92 to 1.32)	0.3

†Hazard ratio referent to female recipient / female donor pairings

‡Additional variables in the models included: recipient age, serum creatinine, total bilirubin, presence of diabetes, pulmonary vascular resistance index, hospitalized status, localization in intensive care unit, mechanical assistance through ventricular assist or extra-corporeal membranous oxygenation, inotrope use, primary indication for transplant, donor age, donor cause of death, ischemic time, and transplant era.