Supplement

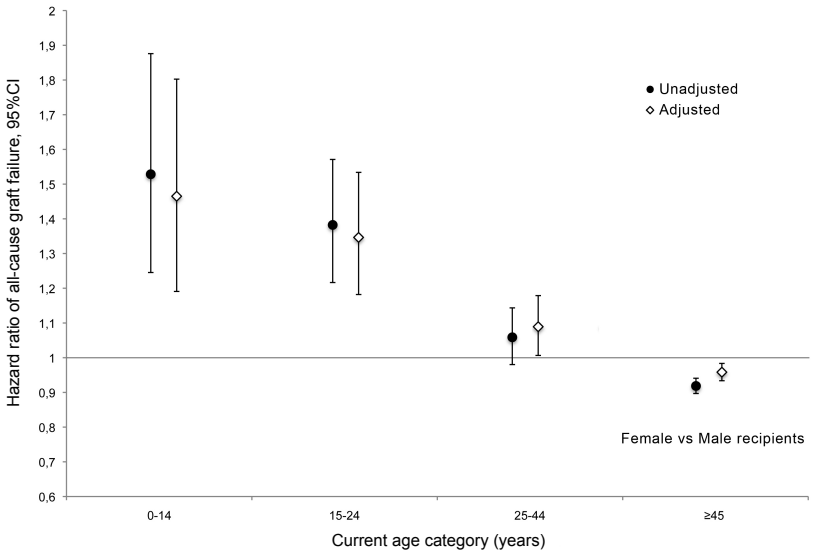
Table S1: Crude death-censored and all-cause graft failure rates (failures per 100 person-years) by recipient age, recipient sex, and donor sex

Recipient current age (years)	Female donor		Male donor	
	Female recipient	Male recipient	Female recipient	Male recipient
Death-censored graft failure rates (95% CI)				
0-14	5.0 (3.3, 6.7)	4.2 (2.9, 5.5)	5.9 (4.6, 7.3)	3.9 (3.0, 4.9)
15-24	7.2 (5.6, 8.7)	6.4 (5.1, 7.6)	6.8 (5.6, 7.9)	5.3 (4.4, 6.2)
25-44	4.6 (4.1, 5.1)	4.4 (4.0, 4.9)	4.1 (3.7, 4.5)	3.9 (3.6, 4.2)
≥45	3.3 (3.0, 3.5)	3.7 (3.5, 3.9)	2.9 (2.7, 3.1)	2.9 (2.8, 3.1)
All cause graft failure rates (95% CI)				
0-14	5.6 (3.8, 7.5)	4.6 (3.3, 6.0)	6.5 (5.1, 7.9)	4.3 (3.3, 5.3)
15-24	7.9 (6.3, 9.5)	6.9 (5.5, 8.2)	7.3 (6.1, 8.5)	5.8 (4.9, 6.7)
25-44	5.8 (5.3, 6.4)	5.8 (5.4, 6.3)	5.3 (4.9, 5.8)	5.3 (4.9, 5.7)
≥45	7.3 (6.9, 7.7)	8.5 (8.2, 8.8)	6.7 (6.4, 7.1)	7.4 (7.1, 7.7)

All-cause graft survival

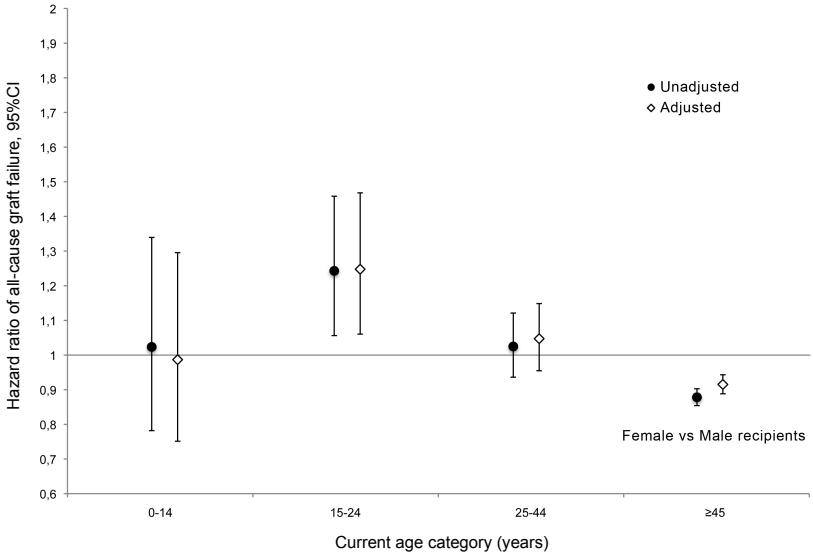
The results of Cox models comparing all-cause graft failure rates (defined as death, retransplantation, or return to dialysis) between female and male recipients, stratified by donor sex, were similar to those described for death-censored graft failure (Figure S1). The only substantial difference was that among those ≥45 years, female recipients had significantly lower all-cause graft failure rates compared with male recipients regardless of donor sex: the aHR for female recipients (vs. male) was 0.96 [95% CI, 0.93-0.98] when the donor was male and 0.92 [95% CI, 0.89-0.94] when the donor was female. Differences in the results of analyses examining all-cause graft failure, compared with death-censored graft failure, are likely driven primarily by the well-known longer life expectancy of females than males.[1]

Figure S1 (a): Male donor



Unadjusted HR (95% CI)	1.53 (1.25 to 1.88)	1.38 (1.22 to 1.57)	1.06 (0.98 to 1.14)	0.92 (0.90 to 0.94)
Adjusted HR (95% CI)	1.47 (1.19 to 1.80)	1.35 (1.18 to 1.53)	1.09 (1.01 to 1.18)	0.96 (0.93 to 0.98)

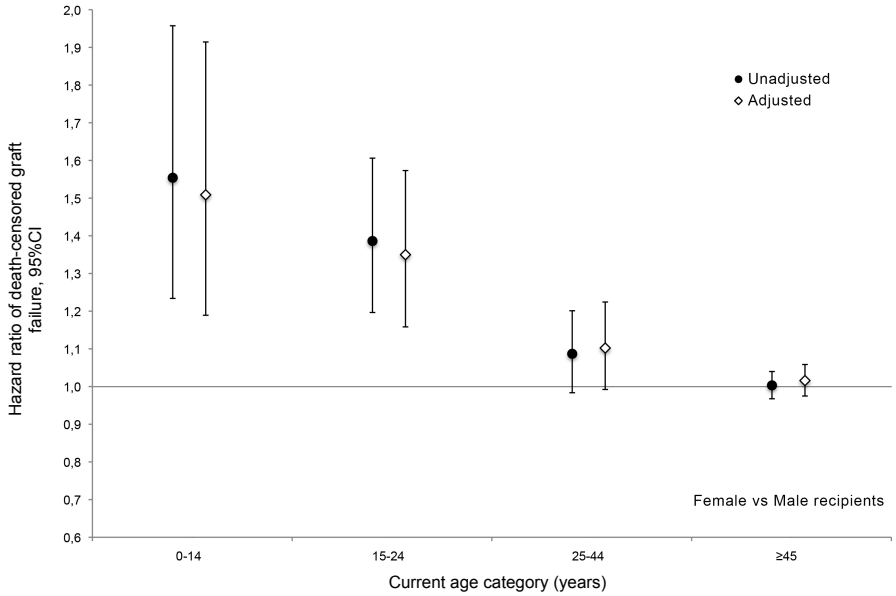
Figure S1 (b): Female donor



Unadjusted HR (95% CI)	1.02 (0.78 to 1.34)	1.24 (1.06 to 1.46)	1.02 (0.94 to 1.12)	0.88 (0.85 to 0.90)
Adjusted HR (95% CI)	0.99 (0.75 to 1.30)	1.25 (1.06 to 1.47)	1.05 (0.95 to 1.15)	0.92 (0.89 to 0.94)

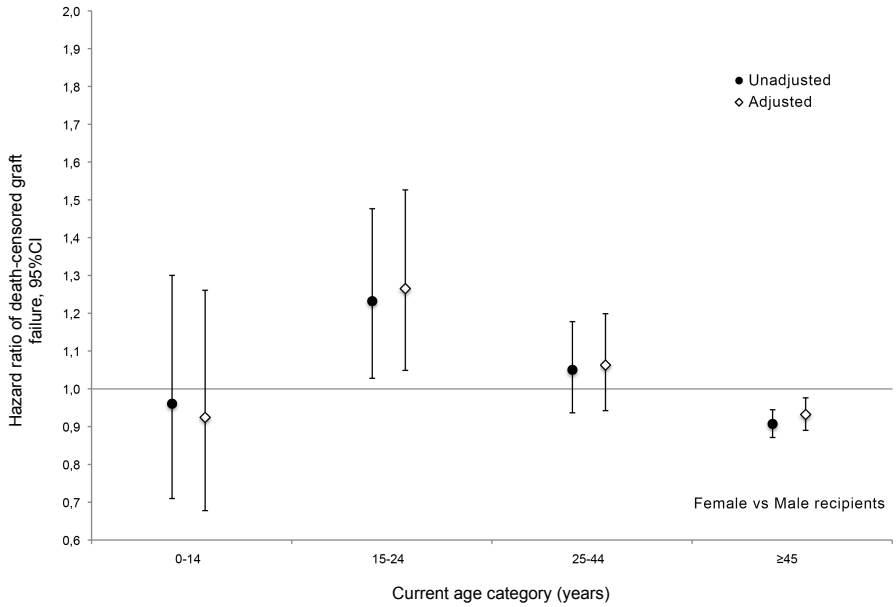
Figure S1: Relative hazards of all-cause graft failure in female compared with male recipients of (a) male and (b) female donors. Hazard ratios are shown with 95% confidence intervals (95% CI) for female recipients with male as the reference. Final models were adjusted for race, primary cause of renal disease, duration of dialysis pre-transplant, donor age, donor weight, recipient weight and panel reactive antibody.

Figure S2 (a): Male donor



Unadjusted HR (95% CI)	1.55 (1.23 to 1.96)	1.39 (1.20 to 1.61)	1.09 (0.98 to 1.20)	1.00 (0.97 to 1.04)
Adjusted HR (95% CI)	1.51 (1.19 to 1.91)	1.35 (1.16 to 1.57)	1.10 (0.99 to 1.22)	1.02 (0.97 to 1.06)

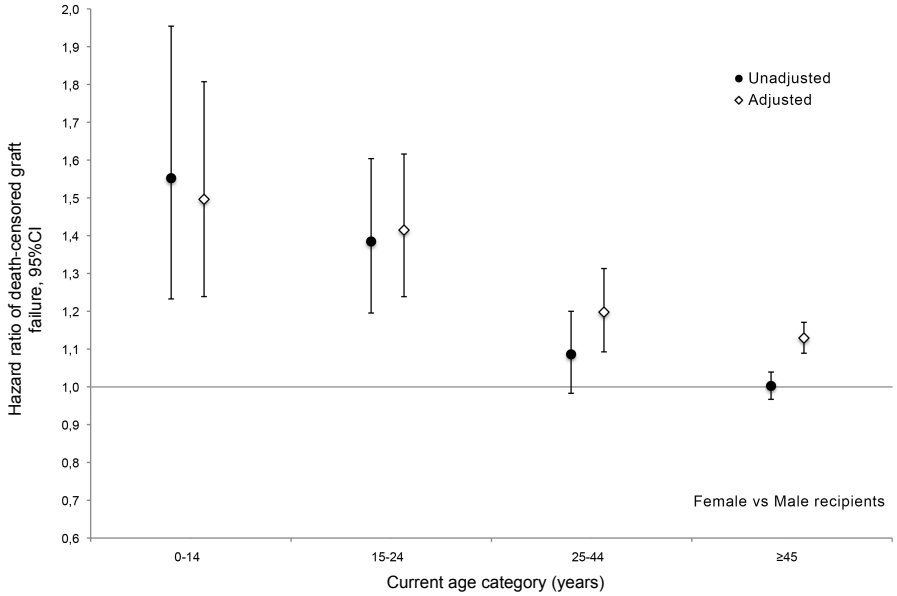
Figure S2 (b): Female donor



Unadjusted HR (95% CI)	0.96 (0.71 to 1.30)	1.23 (1.03 to 1.48)	1.05 (0.94 to 1.18)	0.91 (0.87 to 0.94)
Adjusted HR (95% CI)	0.92 (0.68 to 1.26)	1.27 (1.05 to 1.53)	1.06 (0.94 to 1.20)	0.93 (0.89 to 0.98)

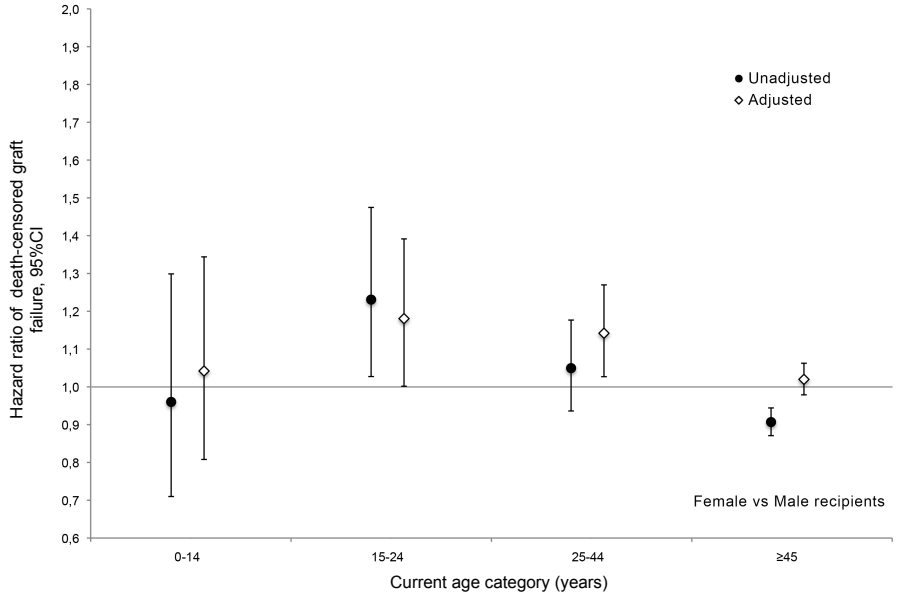
Figure S2: Relative hazards of death-censored graft failure (adjusted for donor and recipient height, rather than weight) in female compared with male recipients of (a) male and (b) female donors. Hazard ratios are shown with 95% confidence intervals (95% CI) for female recipients with male as the reference. Final models were adjusted for race, primary cause of renal disease, duration of dialysis pre-transplant, donor age, donor height, recipient height and panel reactive antibody.

Figure S3 (a): Male donor



Unadjusted HR (95% CI)	1.55 (1.23 to 1.96)	1.39 (1.20 to 1.61)	1.09 (0.98 to 1.20)	1.00 (0.97 to 1.04)
Adjusted HR (95% CI)	1.50 (1.24 to 1.81)	1.42 (1.24 to 1.62)	1.20 (1.09 to 1.31)	1.13 (1.09 to 1.17)

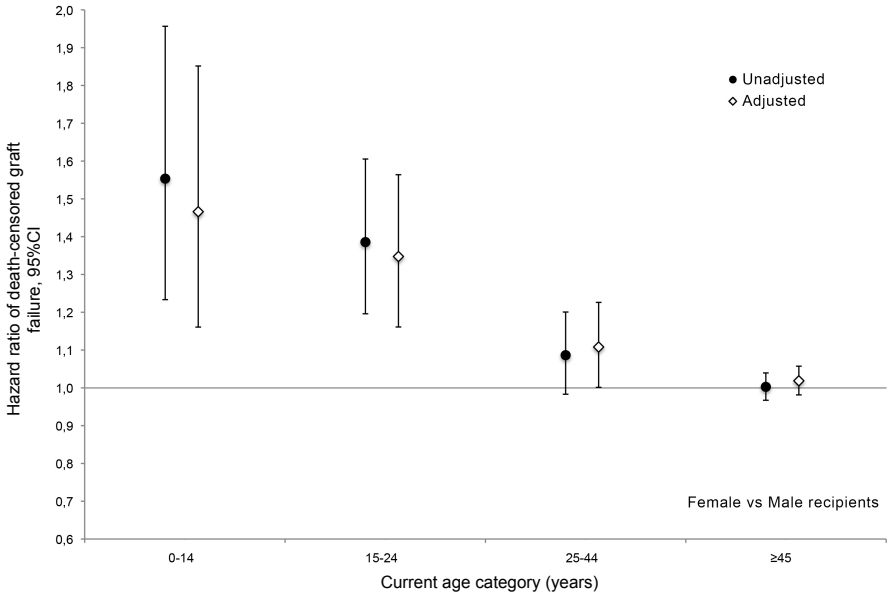
Figure S3 (b): Female donor



Unadjusted HR (95% CI)	0.96 (0.71 to 1.30)	1.23 (1.03 to 1.48)	1.05 (0.94 to 1.18)	0.91 (0.87 to 0.94)
Adjusted HR (95% CI)	1.04 (0.81 to 1.35)	1.18 (1.00 to 1.39)	1.14 (1.03 to 1.27)	1.02 (0.98 to 1.06)

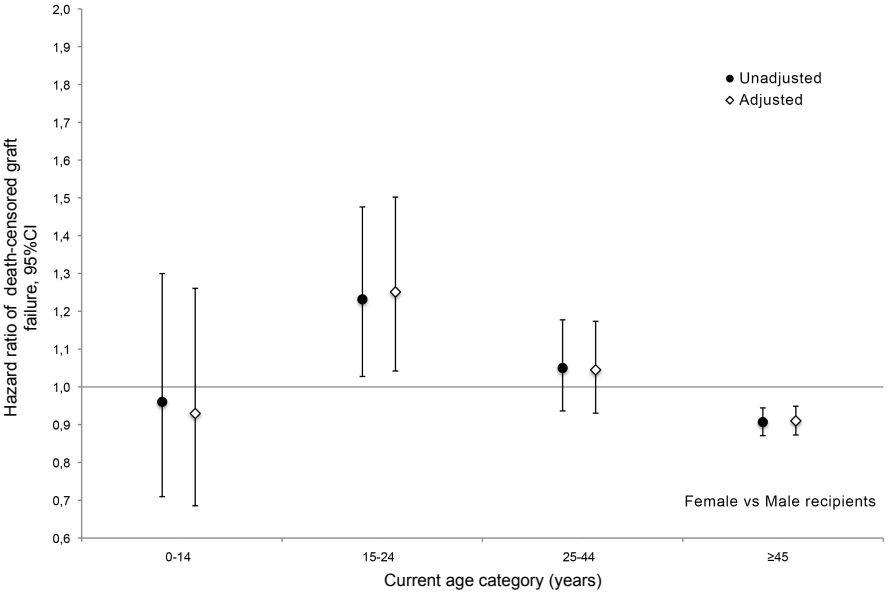
Figure S3: Relative hazards of death-censored graft failure (adjusted for donor and recipient body surface area, rather than weight) in female compared with male recipients of (a) male and (b) female donors. Hazard ratios are shown with 95% confidence intervals (95% CI) for female recipients with male as the reference. Final models were adjusted for race, primary cause of renal disease, duration of dialysis pre-transplant, donor age, donor body surface area, recipient body surface area and panel reactive antibody.

Figure S4 (a): Male donor



Unadjusted HR (95% CI)	1.55 (1.23 to 1.96)	1.39 (1.20 to 1.61)	1.09 (0.98 to 1.20)	1.00 (0.97 to 1.04)
Adjusted HR (95% CI)	1.47 (1.16 to 1.85)	1.35 (1.16 to 1.56)	1.11 (1.00 to 1.23)	1.02 (0.98 to 1.06)

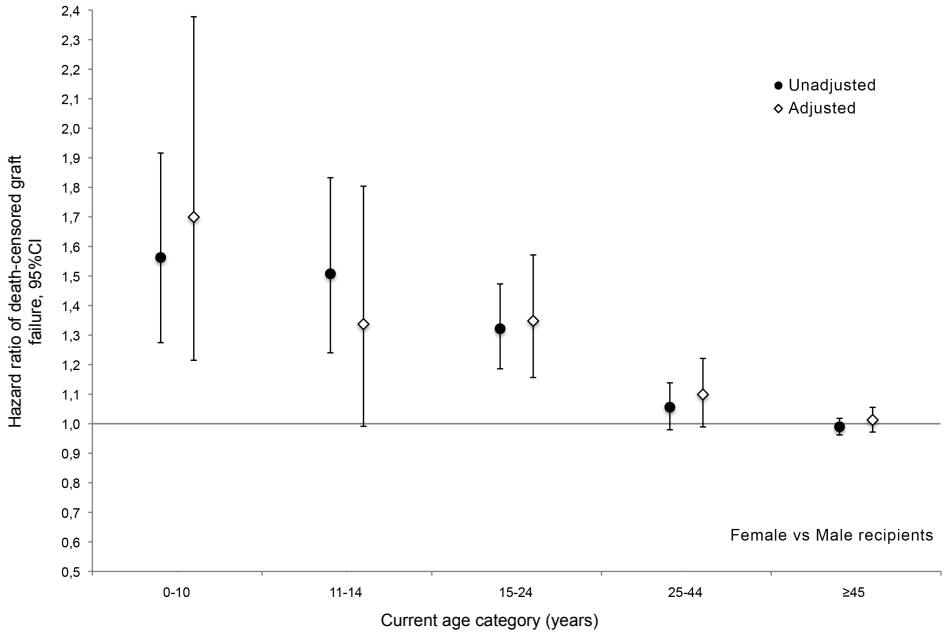
Figure S4 (b): Female donor



Unadjusted HR (95% CI)	0.96 (0.71 to 1.30)	1.23 (1.03 to 1.48)	1.05 (0.94 to 1.18)	0.91 (0.87 to 0.94)
Adjusted HR (95% CI)	0.93 (0.69 to 1.26)	1.25 (1.04 to 1.50)	1.05 (0.93 to 1.17)	0.91 (0.87 to 0.95)

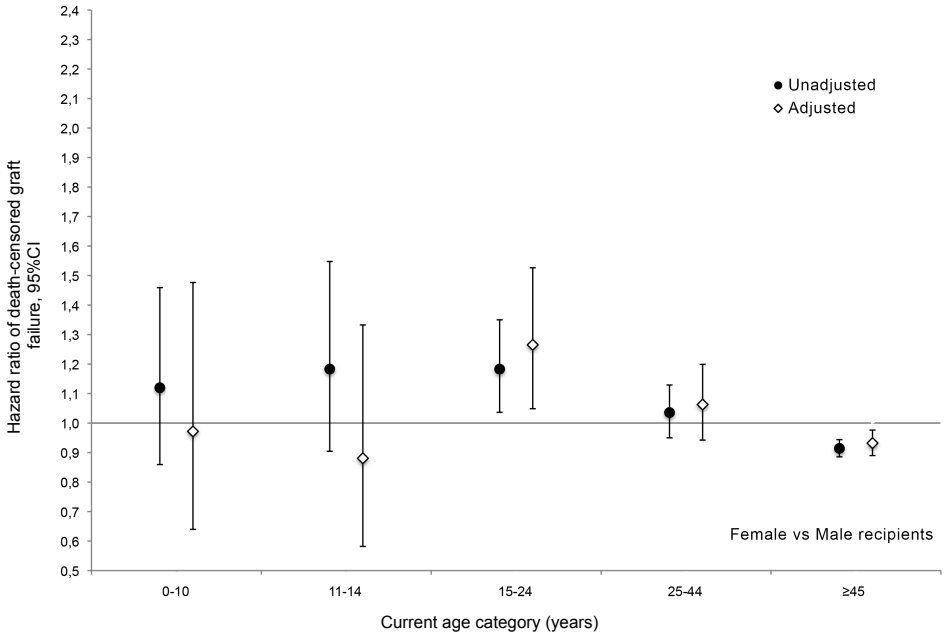
Figure S4: Relative hazards of death-censored graft failure (adjusted for donor:recipient weight ratio, rather than donor weight and recipient weight) in female compared with male recipients of (a) male and (b) female donors. Hazard ratios are shown with 95% confidence intervals for female recipients with male as reference. Final models were adjusted for race, primary cause of renal disease, duration of dialysis pre-transplant, donor age, donor:recipient weight ratio and panel reactive antibody.

Figure S5 (a):



Unadjusted HR (95% CI)	1.56 (1.27 to 1.92)	1.51 (1.24 to 1.83)	1.32 (1.19 to 1.47)	1.06 (0.98 to 1.14)	0.99 (0.96 to 1.02)
Adjusted HR (95% CI)	1.70 (1.21 to 2.38)	1.34 (0.99 to 1.80)	1.35 (1.16 to 1.57)	1.10 (0.99 to 1.22)	1.01 (0.97 to 1.06)

Figure S5 (b):



Unadjusted HR (95% CI)	1.12 (0.86 to 1.46)	1.18 (0.90 to 1.55)	1.18 (1.04 to 1.35)	1.04 (0.95 to 1.13)	0.91 (0.89 to 0.94)
Adjusted HR (95% CI)	0.97 (0.64 to 1.48)	0.88 (0.58 to 1.33)	1.27 (1.05 to 1.53)	1.06 (0.94 to 1.20)	0.93 (0.89 to 0.98)

Figure S5: Relative hazards of death-censored graft failure in female compared with male recipients of (a) male and (b) female donors, with additional age categories. Hazard ratios are shown with 95% confidence intervals for female recipients, with male as reference. Final models were adjusted for race, primary cause of renal disease, duration of dialysis pre-transplant, donor age, donor height, recipient height and panel reactive antibody.

1. Vanderbloemen L, Dorling D, Minton J: Visualising variation in mortality rates across the life course and by sex, USA and comparator states, 1933-2010. J. Epidemiol. Community Health 70: 826–831, 2016