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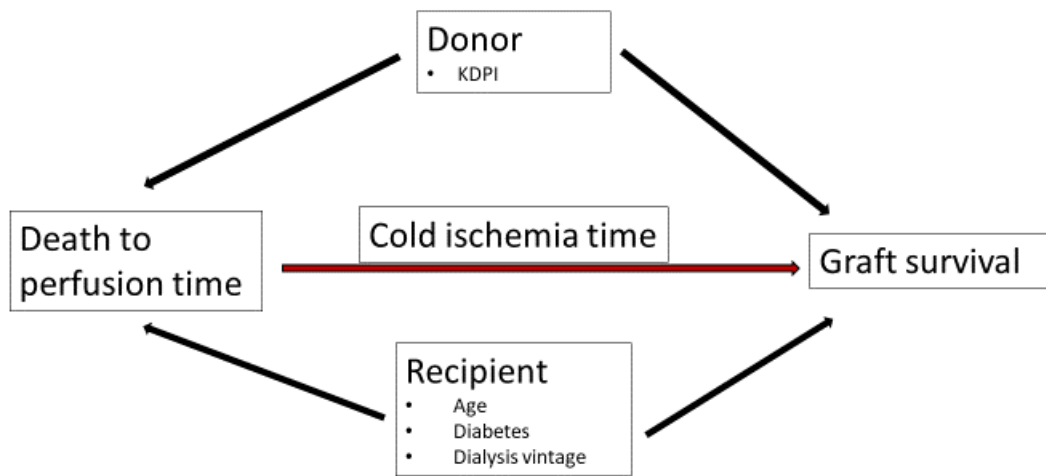
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Directed acyclic graph (DAG)

Supplemental Figure 1: Graphical presentation of confounding and mediators in our study



Sensitivity analyses

Supplemental Table 1. US cohort, time dependent hazard ratio

In the US cohort, the association between procurement delay and hazard attenuated over time. We accounted for non-proportionality by splitting the follow-up time and assessing time-varying HRs of DTPT by three follow-up periods (0-1.5, 1.5-4, >4 years) without and with adjustment for confounders. Time-dependent variation of the confounder's regression coefficients was accounted for by introducing to the model interactions between confounders and follow-up time.

Univariate (FUT = follow-up time)

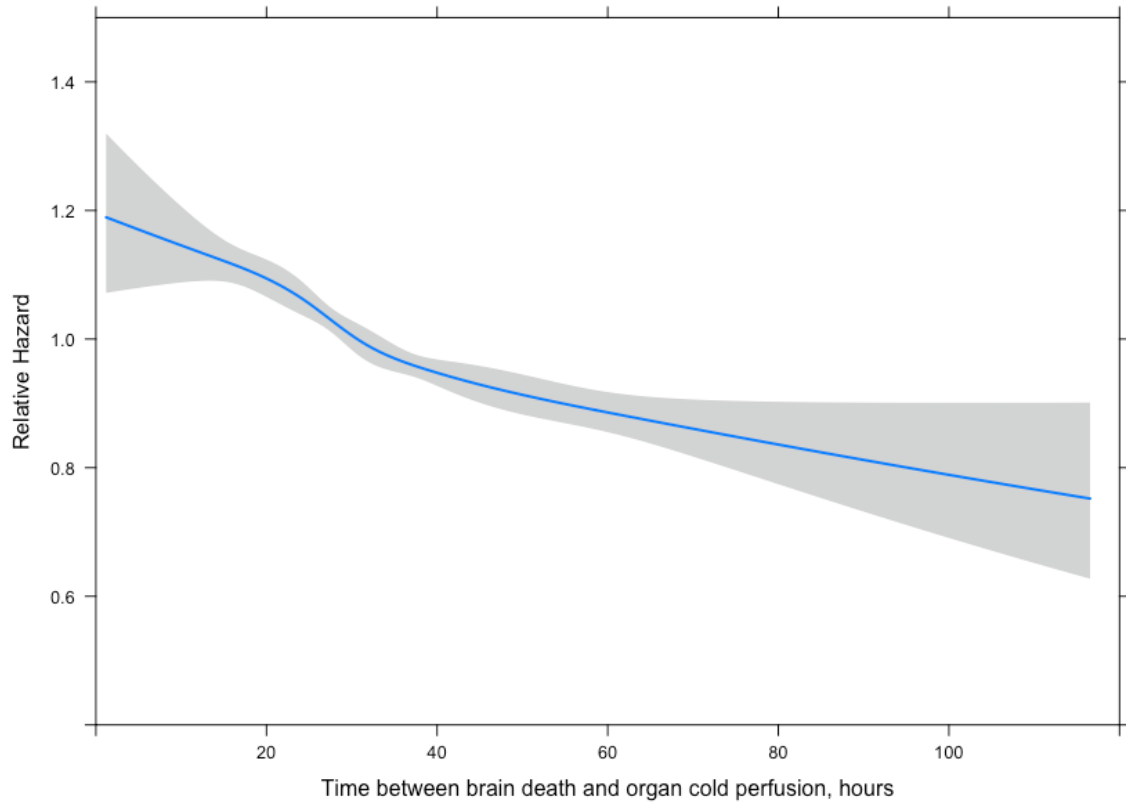
| <u>FUT</u> | <u>HR</u> | <u>95% CI</u> | <u>p-val</u> |
|---------------|---------------|----------------------|-----------------|
| 0-1.5y | 0.9930 | 0.9914-0.9946 | <2e-16 |
| 1.5-4y | 0.9968 | 0.9951-0.9986 | 0.000386 |
| <u>>4y</u> | <u>0.9973</u> | <u>0.9954-0.9993</u> | <u>0.008500</u> |

Multivariable

| <u>FUT</u> | <u>HR</u> | <u>95% CI</u> | <u>p-val</u> |
|---------------|---------------|----------------------|----------------|
| 0-1.5y | 0.9951 | 0.9936-0.9967 | 8.01e-10 |
| 1.5-4y | 0.9982 | 0.9965-1.0000 | 0.04759 |
| <u>>4y</u> | <u>0.9993</u> | <u>0.9974-1.0013</u> | <u>0.50743</u> |

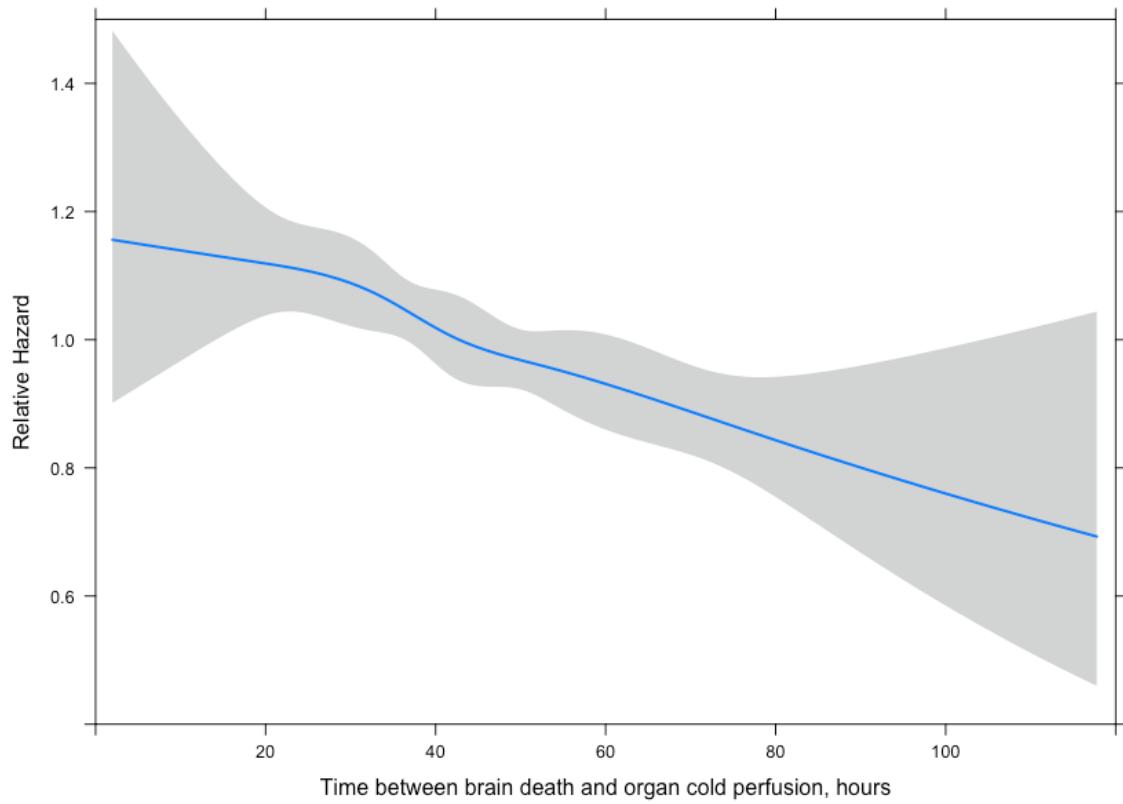
Cox regression model by KAS

Before KAS (55401 transplantations, 16686 events): $p=0.100$ for non-linearity in the univariate model (Figure 1), adjusted HR= 0.948 (95% CI 0.931–0.965, $p<0.0001$)
US cohort, before KAS



Supplemental Figure 2. The relative hazard predicted from the univariate model with a restricted cubic spline.

After KAS (34413 transplantations, 2737 events): $p=0.958$ for non-linearity in the univariate model (Figure 2), adjusted HR= 0.949 (95% CI 0.904–0.997, $p=0.037$)
US cohort, post KAS

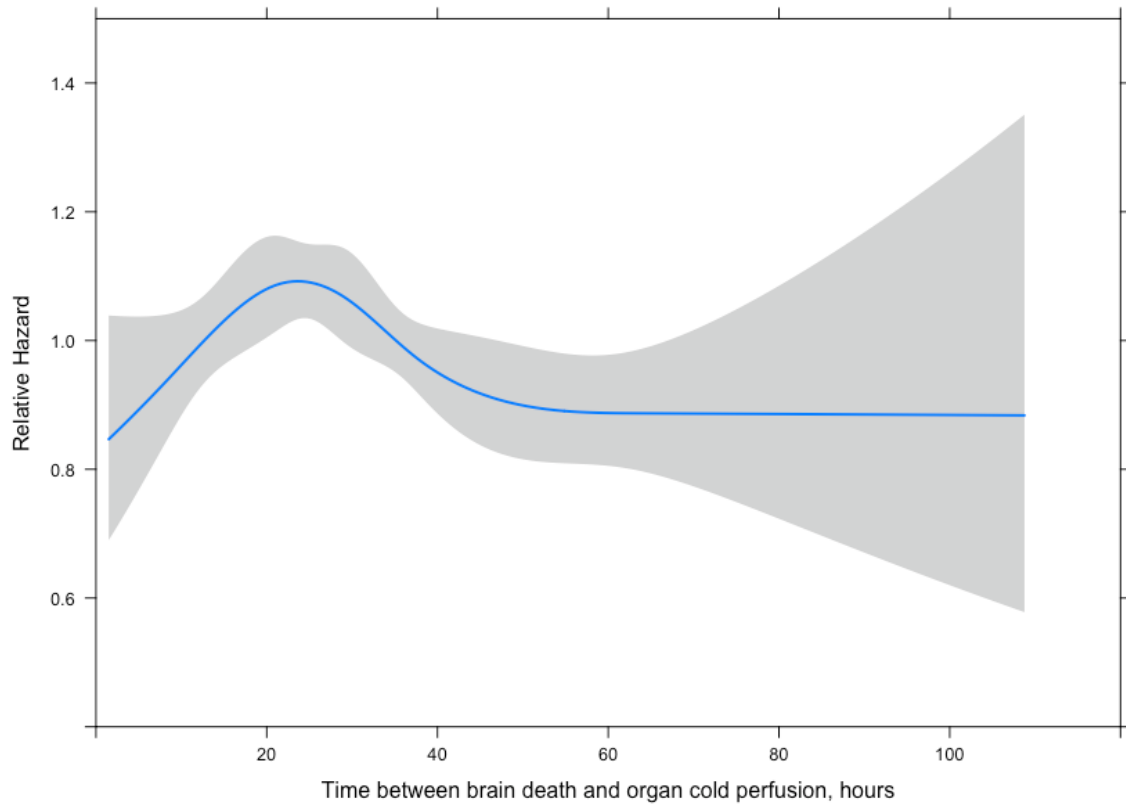


Supplemental Figure 3. The relative hazard predicted from the univariate model with a restricted cubic spline.

Cox regression model by organ yield

Procurement of kidney(s) only (9204 transplantations, 2410 events): $p = 0.030$ for non-linearity in the univariate model (Figure 3) and $p = 0.429$ in multivariable model; adjusted HR= 0.946 (95% CI 0.898–0.997, 0.040)

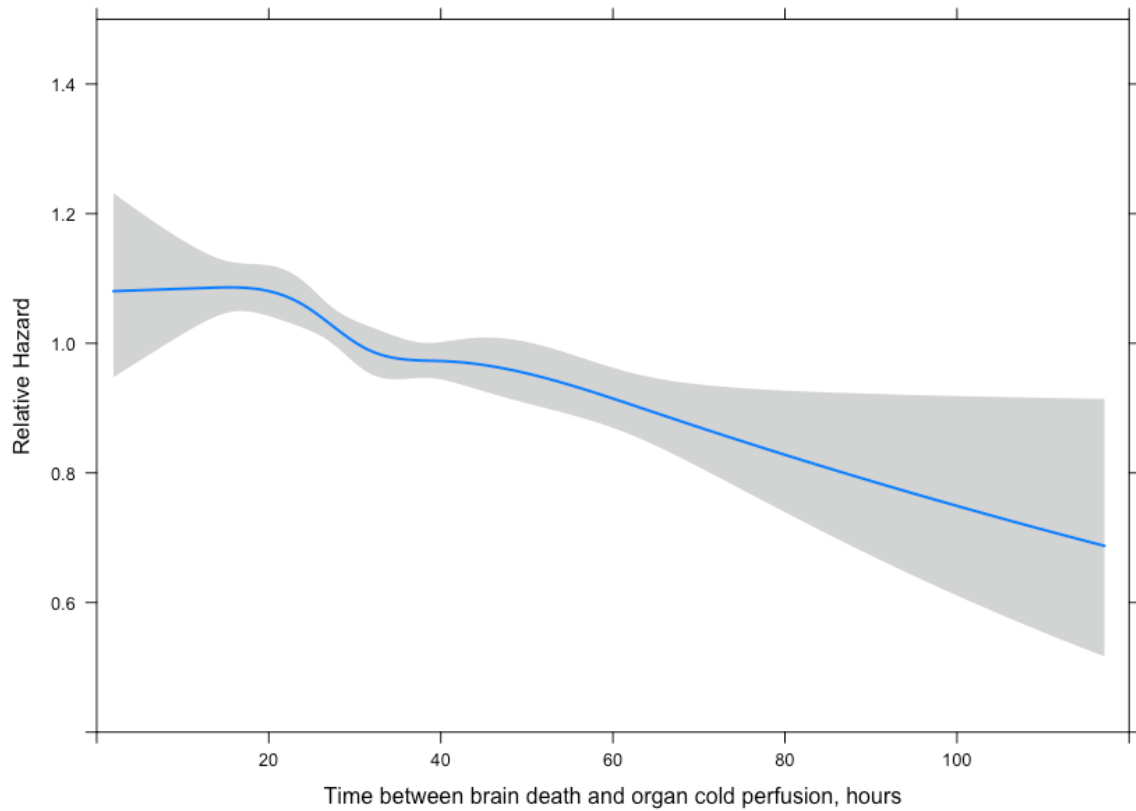
US cohort, procurement of kidney(s) only



Supplemental Figure 4. The relative hazard predicted from the univariate model with a restricted cubic spline.

Procurement of kidney(s) and one other organ (34996 transplantations, 8669 events): $p=0.576$ for non-linearity in the univariate model (Figure 4) and $p=0.897$ in multivariable model; adjusted HR= 0.933 (95% CI 0.907-0.960, $p<0.0001$)

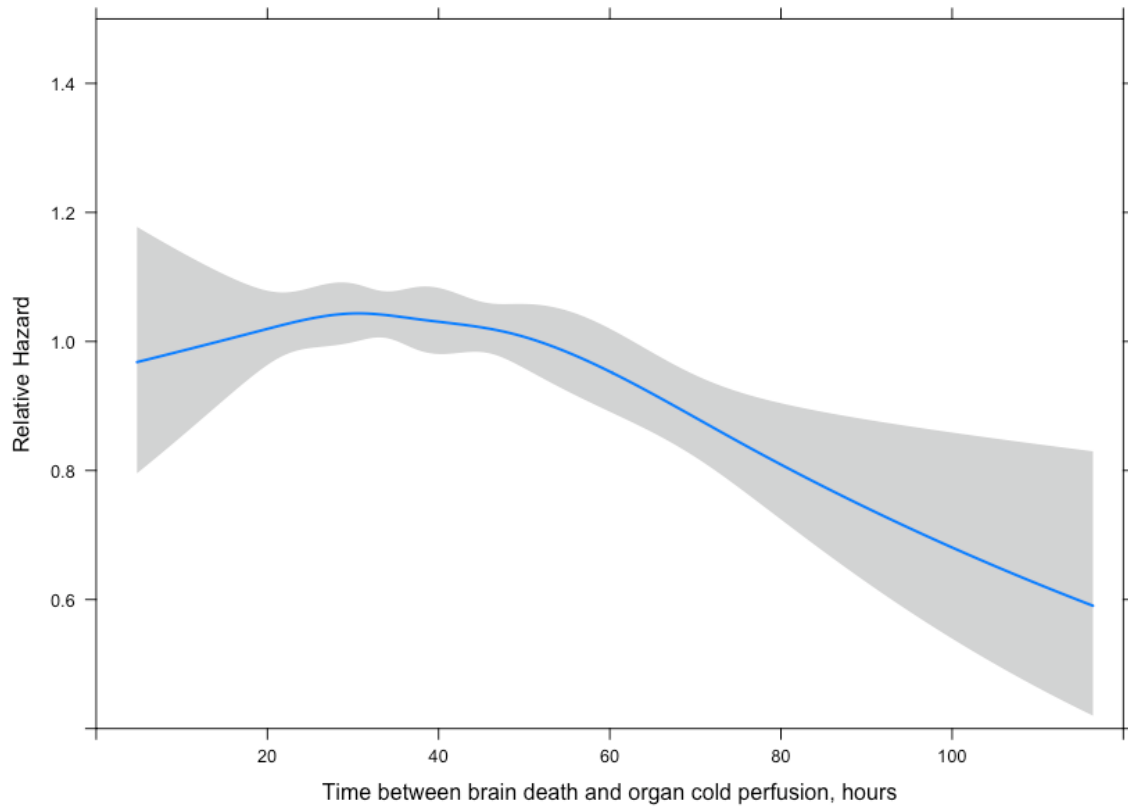
US cohort, procurement of kidney(s) and one other organ



Supplemental Figure 5. The relative hazard predicted from the univariate model with a restricted cubic spline.

Procurement of kidney(s) and two other organs (25892 transplantations, 4911 events): $p=0.083$ for non-linearity in the univariate model (Figure 5) and $p=0.109$ in multivariable model; adjusted HR= 0.935 (95% CI 0.900-0.971, $p=0.0005$)

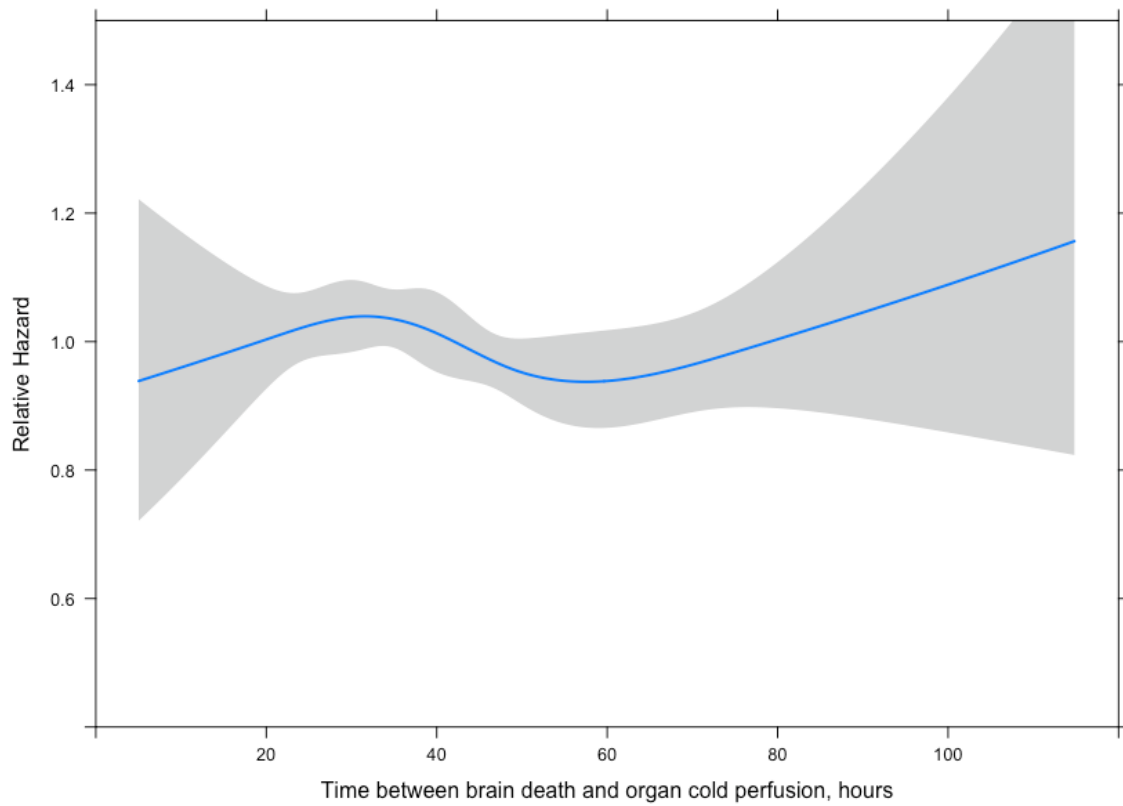
US cohort, procurement of kidney(s) and two other organs



Supplemental Figure 6. The relative hazard predicted from the univariate model with a restricted cubic spline.

Procurement of kidney(s) and more than two other organs (19722 transplantations, 3433 events): $p=0.576$ for non-linearity in the univariate model (Figure 6) and $p=0.897$ in multivariable model; adjusted HR=0.958 (95% CI 0.914-1.005, $p=0.0770$)

US cohort, procurement of kidney(s) and more than two other organs

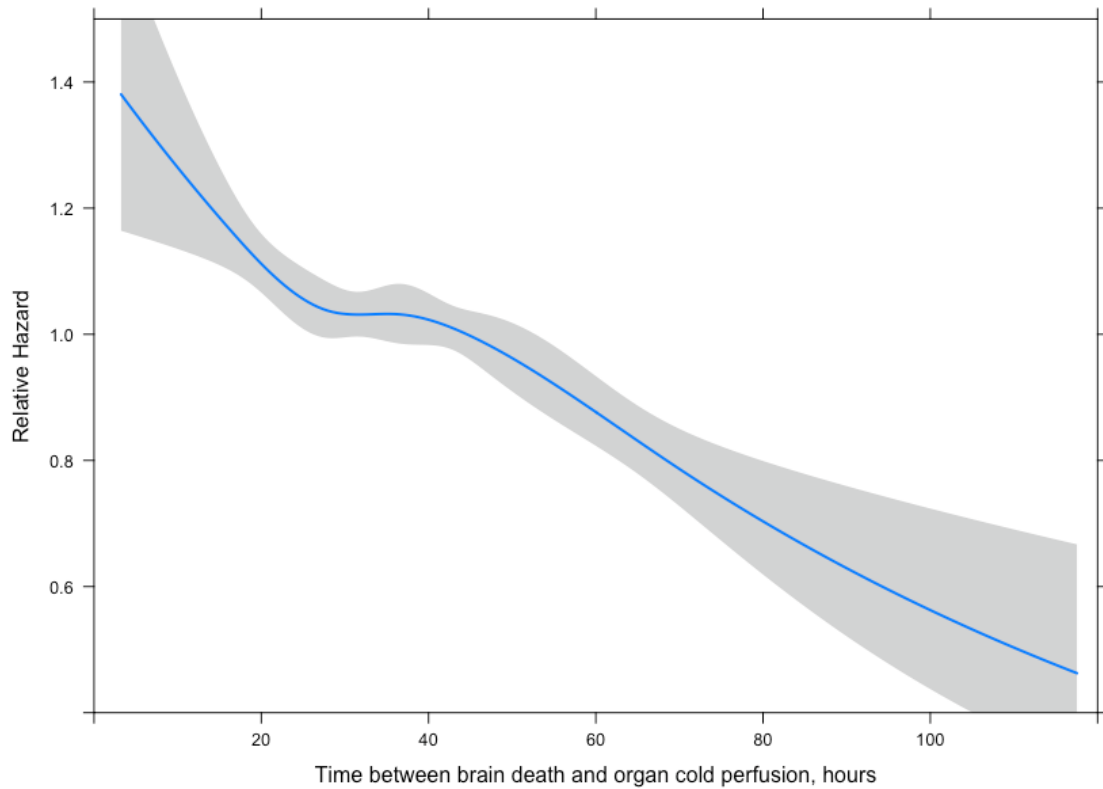


Supplemental Figure 7. The relative hazard predicted from the univariate model with a restricted cubic spline.

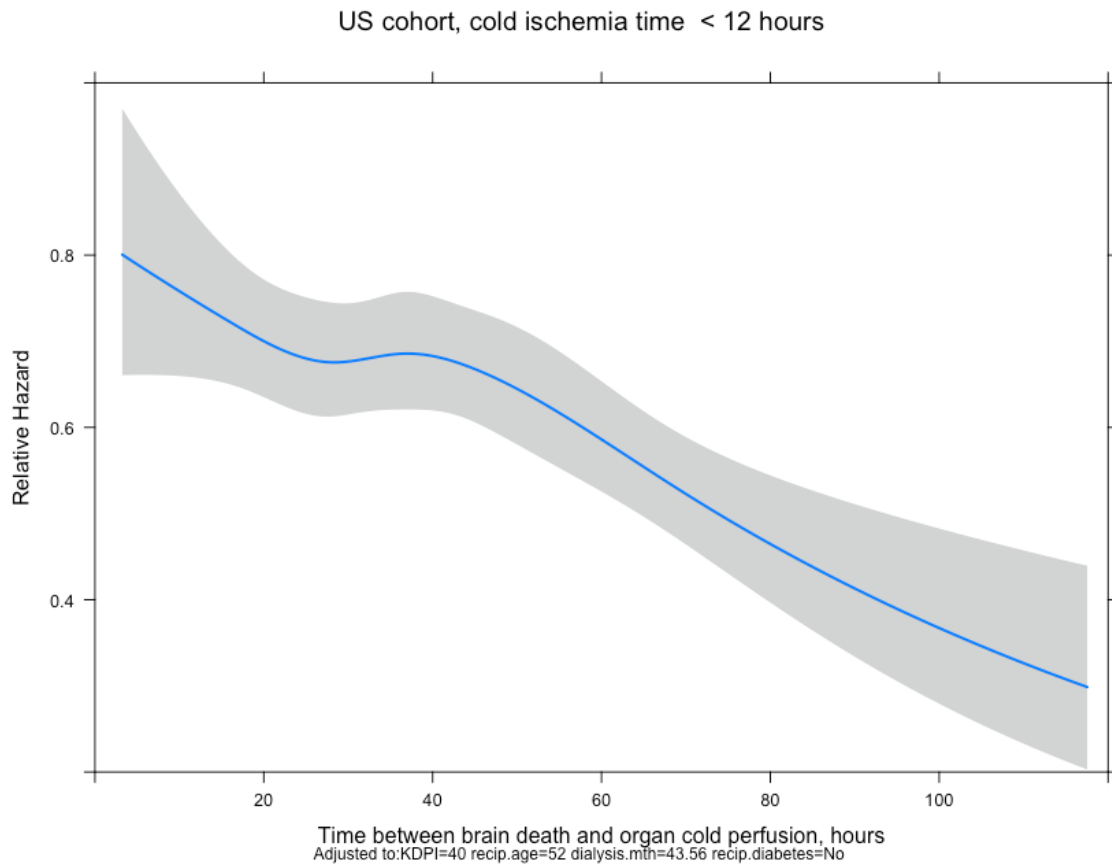
Cox regression model by cold ischemia time (CIT)

CIT < 12h (29378 transplantations, 2410 events): $p = 0.152$ for non-linearity in the univariate model (Figure 7) and $p = 0.035$ in multivariable model (Figure 8); adjusted HR= 0.905 (95% CI 0.873-0.938, $p < 0.0001$)

US cohort, cold ischemia time < 12 hours

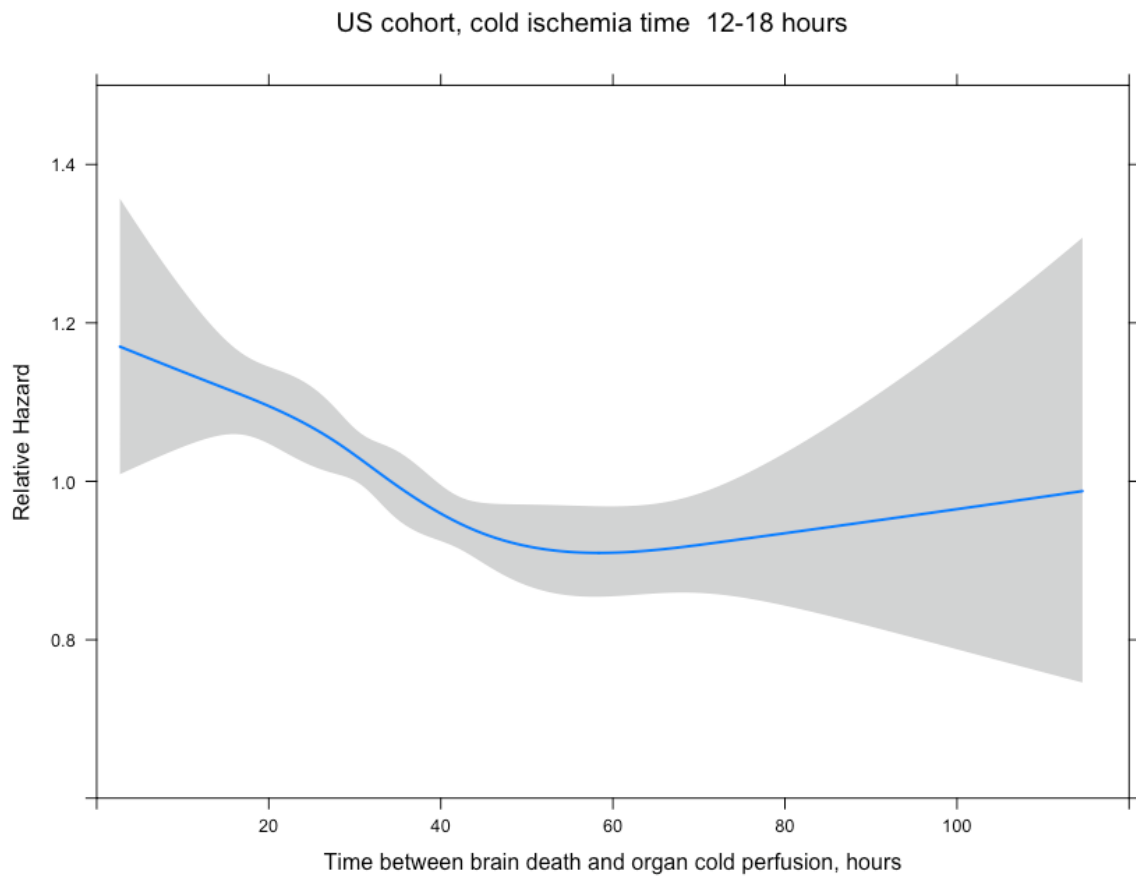


Supplemental Figure 8. The relative hazard predicted from the univariate model with a restricted cubic spline.



Supplemental Figure 9. The relative hazard predicted from the multivariable model with a restricted cubic spline. The predicted hazard was calculated by setting confounder values to their median (continuous variables) or the most frequent category (categorical variables).

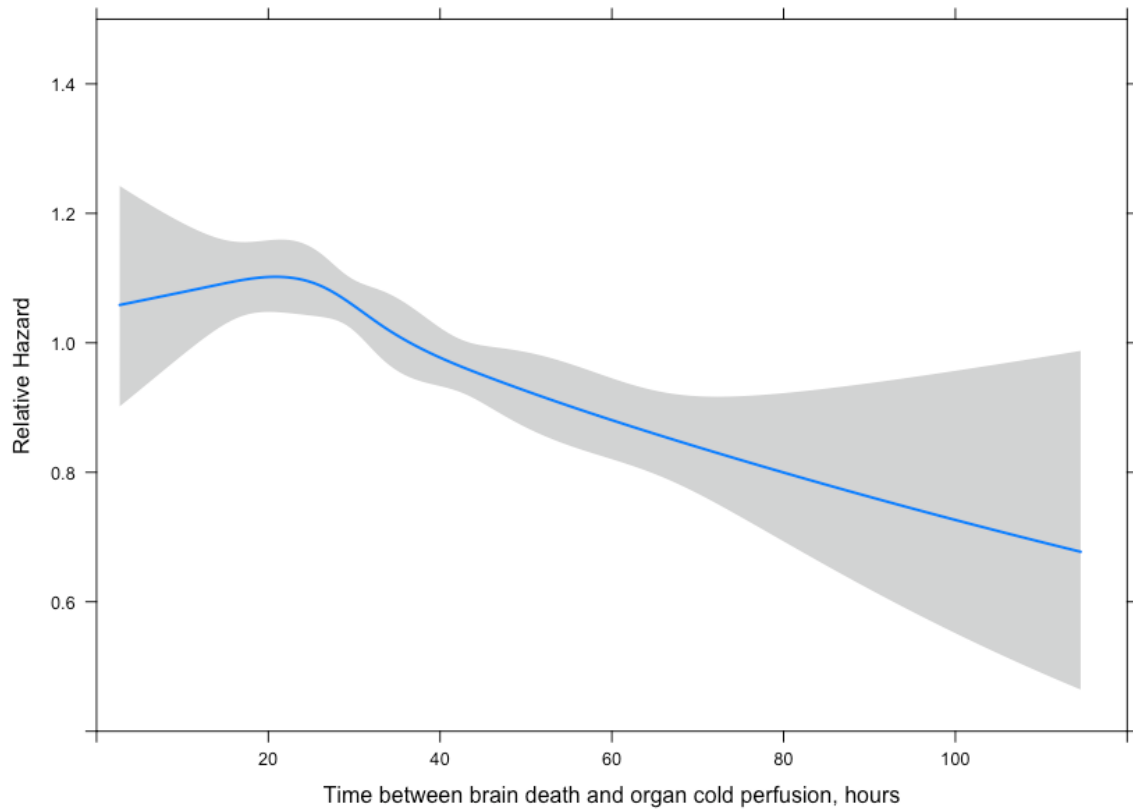
CIT 12-18 h (26799 transplantations, 5451 events): $p= 0.123$ for non-linearity in the univariate model (Figure 9) and $p= 0.543$ in multivariable model; adjusted HR= 0.963 (95% CI 0.931-0.996, $p= 0.030$)



Supplemental Figure 10. The relative hazard predicted from the univariate model with a restricted cubic spline.

CIT 18-24 h (29378 transplantations, 2410 events): $p=0.152$ for non-linearity in the univariate model (Figure 10) and $p=0.035$ in multivariable model; adjusted HR=0.927 (95% CI 0.891-0.965, $p=0.0002$)

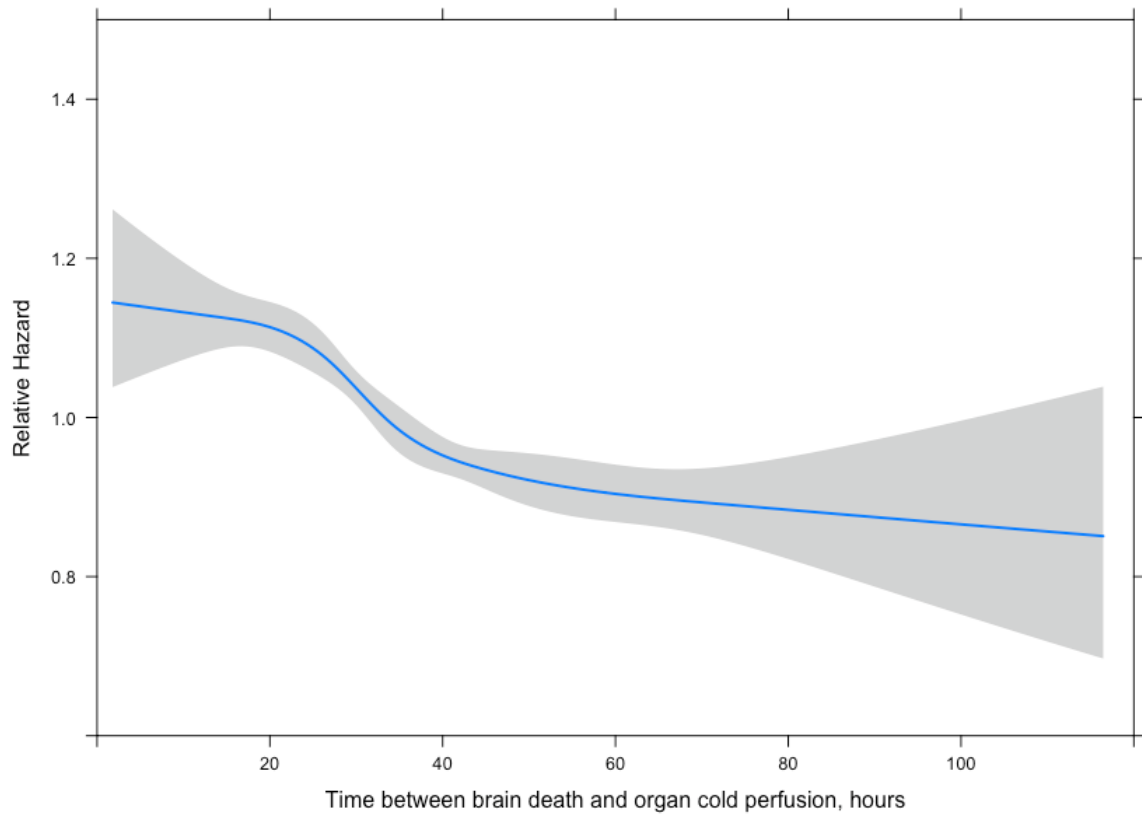
US cohort, cold ischemia time 18-24 hours



Supplemental Figure 11. The relative hazard predicted from the univariate model with a restricted cubic spline.

CIT ≥ 24 h (18537 transplantations, 3980 events): $p = 0.016$ for non-linearity in the univariate model (Figure 11) and $p = 0.489$ in multivariable model; adjusted HR = 0.944, 95% CI 0.922-0.967, $p < 0.0001$)

US cohort, cold ischemia time ≥ 24 hours



Supplemental Figure 12. The relative hazard predicted from the univariate model with a restricted cubic spline.