**Suppl 3.** Multivariate model of time to death, first transplant only.

| **Variable** | **Category (vs. reference group)** | **Hazard ratio (95% CI)** | **P value** |
| --- | --- | --- | --- |
| Age group | 2-12 years | 0.374 (0.127, 1.098) | 0.0734 |
|  | 12-16 years | 0.731 (0.297, 1.802) | 0.4965 |
|  | 16-21 years | 1.27 (0.528, 3.052) | 0.5934 |
| Ethnicity | White | 1.149 (0.431, 3.065) | 0.7809 |
|  | Other | 0.416 (0.127, 1.362) | 0.1473 |
| Cell source | PBSC | 13.14 (1.583, 109.094) | 0.0171 |
|  | Marrow | 0.448 (0.131, 1.537) | 0.2018 |
| Donor source | Matched Rel | 0.267 (0.064, 1.11) | 0.0694 |
|  | Other | 0 (0, 0) | <0.0001 |
| Disease status | CR2 | 1.79 (0.716, 4.476) | 0.2134 |
|  | N/A | 1.248 (0.409, 3.802) | 0.6970 |
|  | Other | 1.278 (0.401, 4.075) | 0.6778 |
| Conditioning/TBI | No | 0.76 (0.323, 1.787) | 0.5298 |
| CMV pair | Rec+/Don- | 0.738 (0.299, 1.821) | 0.5096 |
|  | Rec-/Don+ | 0.695 (0.254, 1.898) | 0.4772 |
|  | Rec-/Don- | 0.977 (0.394, 2.422) | 0.9608 |

P values are obtained using a Fine-Grey regression model of time to death with a competing event for second transplant. Cell source and donor source are significantly assocaited with time to death.