

Appendix Figure Legends

Appendix Figure 1. Kaplan-meier plots for (A) women and (B) men, stratified by quartiles of treadmill exercise time. (A) Women (N=602) Quartile 1: 21-315 seconds, Quartile 2: 317-478 seconds, Quartile 3: 480-600 seconds, Quartile 4: 603-1320 seconds. (B) Men (N=1629) Quartile 1: 35-357 seconds, Quartile 2: 360-480 seconds, Quartile 3: 484-657 seconds, Quartile 4: 660-1415 seconds.

Appendix Figure 2. Kaplan-meier plots for (A) women and (B) men with peak $VO_2 \geq 14$, stratified by tertiles of increasing treadmill exercise time. (A) Women: Tertile 1: < 518 seconds, Tertile 2: 518- 639 seconds , Tertile 3: ≥ 640 seconds. (B) Men: Tertile 1: < 511 seconds, Tertile 2: 511-682 seconds, Tertile 3: ≥ 683 seconds. Peak VO_2 = peak oxygen consumption

Appendix Figure 3. Change in out-of-bagging determined prediction error. Only the 10 most important variables are shown. Results are based on 100 bootstrapped samples

Appendix Figure 4. Reclassification: One year low-risk (<15%) and high-risk ($\geq 15\%$) survival categories are cut-offs based on the observed national 1-year survival after heart transplantation. The improvement of classification to predict death or need for UNOS status 1 heart transplantation is expressed as net reclassification improvement (NRI) which is dependent on the pre-defined cut-offs and integrated discrimination improvement (IDI) which is not limited to pre-determined risk categories. If a variable adds no predictive value to the model, all points fall on the dark line of identity within each figure. Spread around the line indicates

modulation of predicted risk; if the variable correctly modulates predicted risk, there should be a greater preponderance of events (red open circles) above the line of identify. A. Model with clinical variables and peak VO₂ compared to model with only clinical variables. Peak VO₂ with cardiac risk factors improved classification in 150 patients (14 who died, 136 who survived) but worsened it in 120 patients (10 who died, 110 who survived) with an IDI of 4.7% B. Model with clinical variables and treadmill exercise time compared to model with only clinical variables. Treadmill exercise time with cardiac risk factors improved classification in 143 patients (15 who died, 128 who survived) but worsened it in 120 patients (8 who died, 112 who survived) with an IDI of 3.8% C. Model with clinical variables and treadmill exercise time compared to model with clinical variables and peak VO₂ improved classification in 85patients (11 who died, 74 who survived) but worsened it in 72 patients (9who died, 63 who survived) with an IDI of -0.8% which was not statistically significant.

Appendix Table 1. Treadmill Exercise Time and Outcome: Cox Proportional Hazards Analyses

Model: <i>Death or UNOS 1 Transplant</i>	Hazard Ratio (95% CI)	P
<u>Treadmill exercise time as a continuous variable*</u>		
Unadjusted	2.26 (2.05 to 2.49)	<.0001
Adjusted for age and sex	2.33 (2.11 to 2.58)	<.0001
Adjusted for age, sex, history of CAD, and peak VO ₂	1.37 (1.13 to 1.67)	.002
Multivariable adjusted	1.34 (1.10 to 1.63)	.004
<u>Treadmill exercise time as a dichotomous variable^</u>		
Unadjusted	5.20 (4.20 to 6.43)	<.0001
Multivariable adjusted	1.75 (1.15 to 2.66)	.009

* Comparisons are between the 25th percentile (317 seconds in women, 360 seconds in men) and 75th percentile (600 seconds in women, 657 seconds in men)

^ Comparisons between quartile 1 (<316 seconds in women, <358 seconds in men) and quartile 4 (>602 seconds in women, >659 seconds in men)

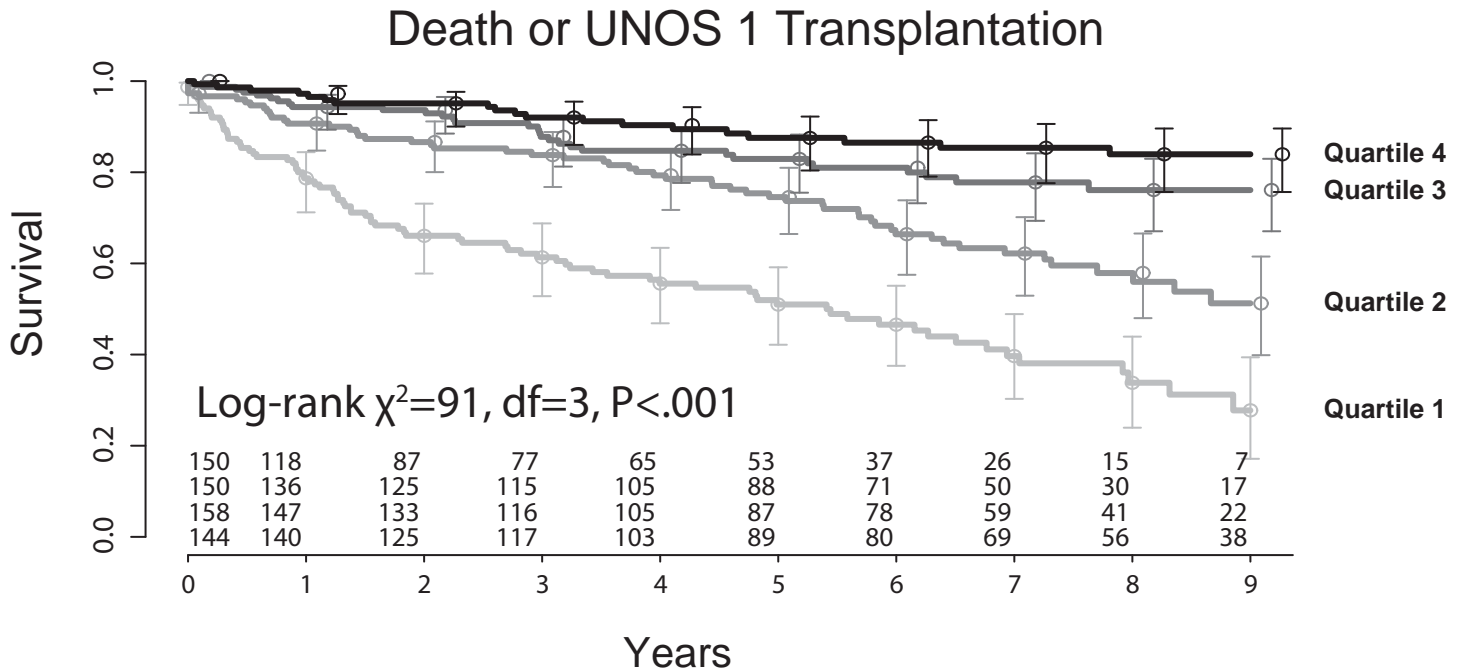
Appendix Table 2. Out of Bag (OOB) Concordance Index Values For Cox Regression

Models

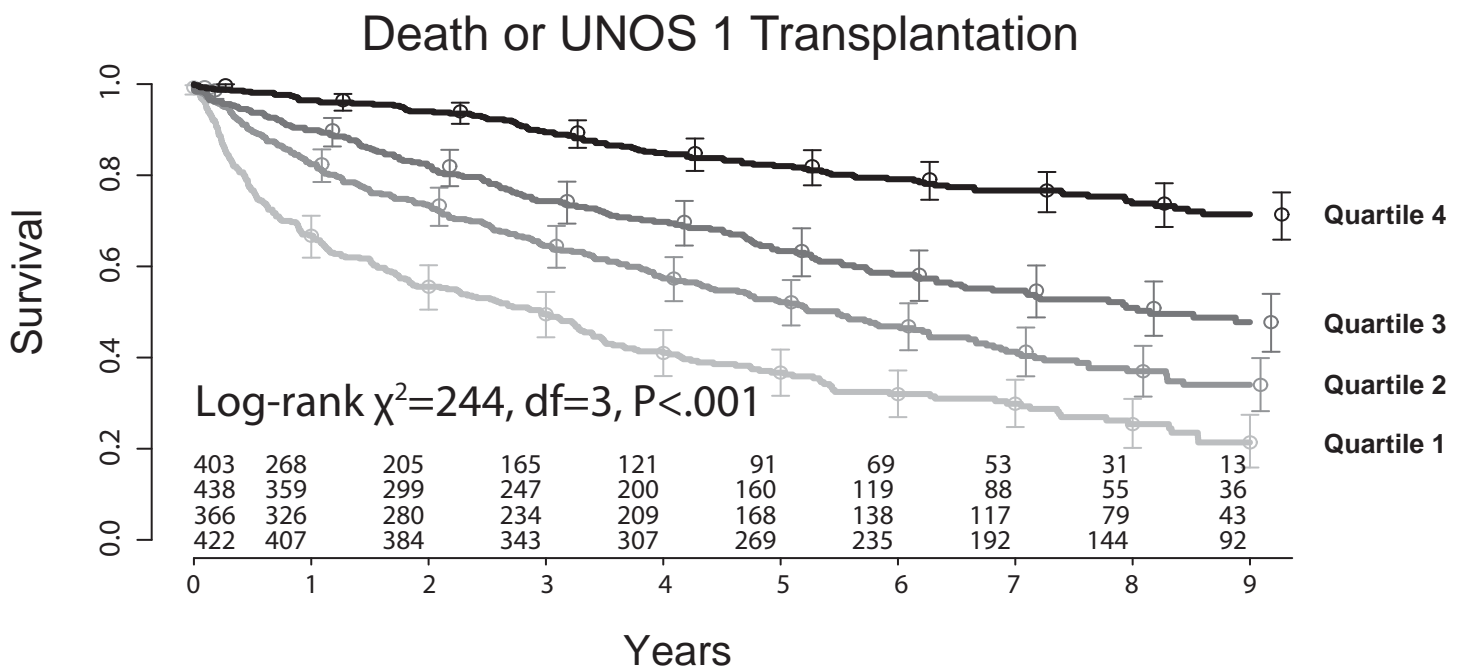
	Death or UNOS 1 transplantation	
	Concordance Index (95% Confidence Intervals)	
Clinical variables only	0.699	(0.679 to 0.719)
Clinical variables + Peak VO ₂	0.726	(0.702 to 0.750)
Clinical variables + Time	0.722	(0.698 to 0.746)
Clinical variables + Peak VO ₂ + Time	0.727	(0.703 to 0.751)

Appendix Figure 1.

A. Women

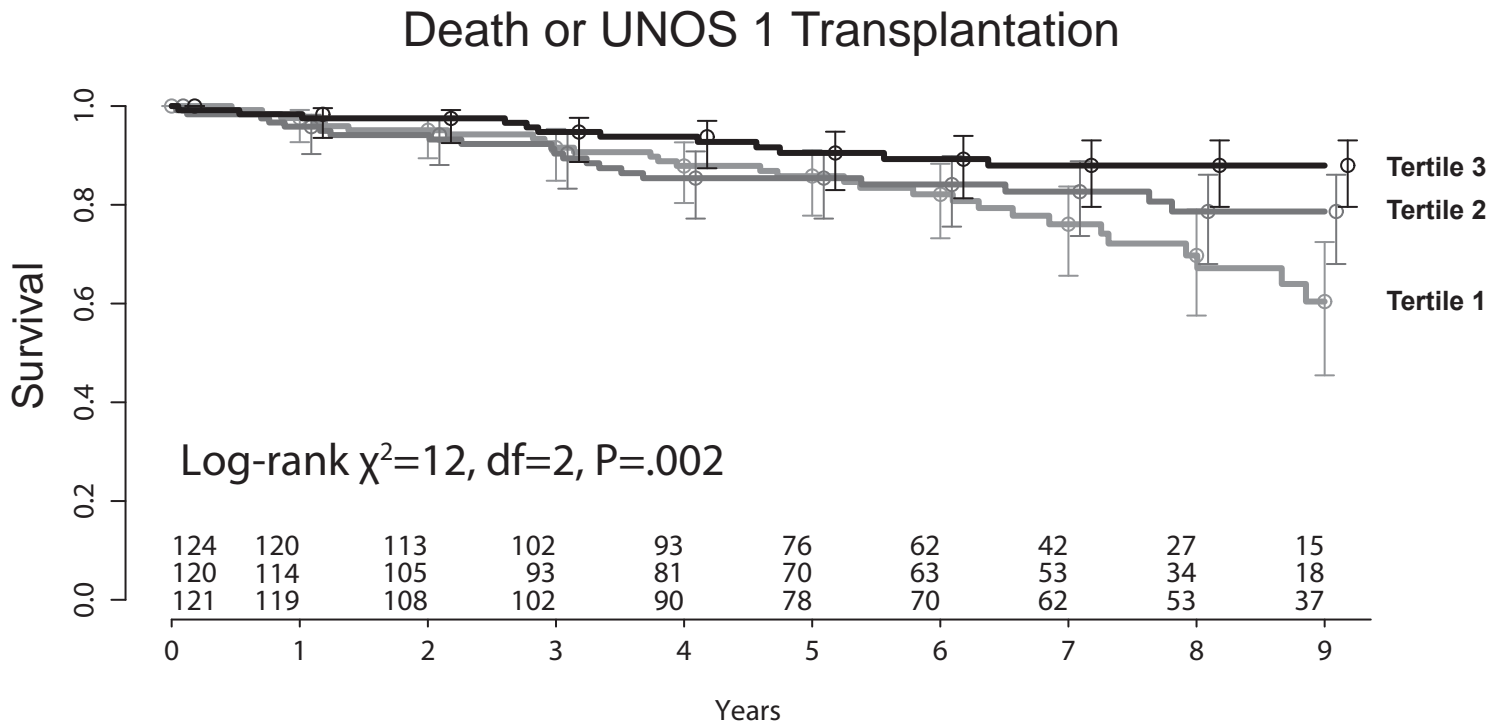


B. Men

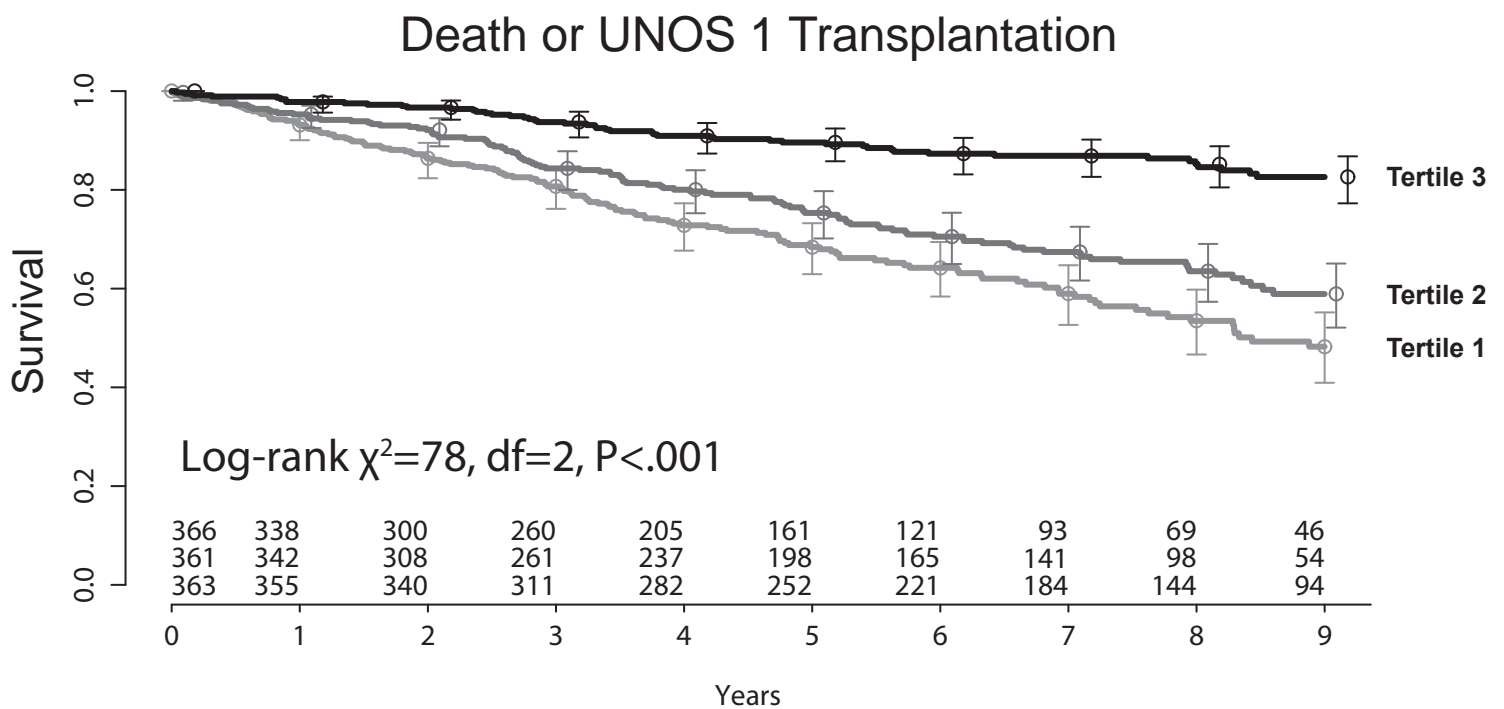


Appendix Figure 2.

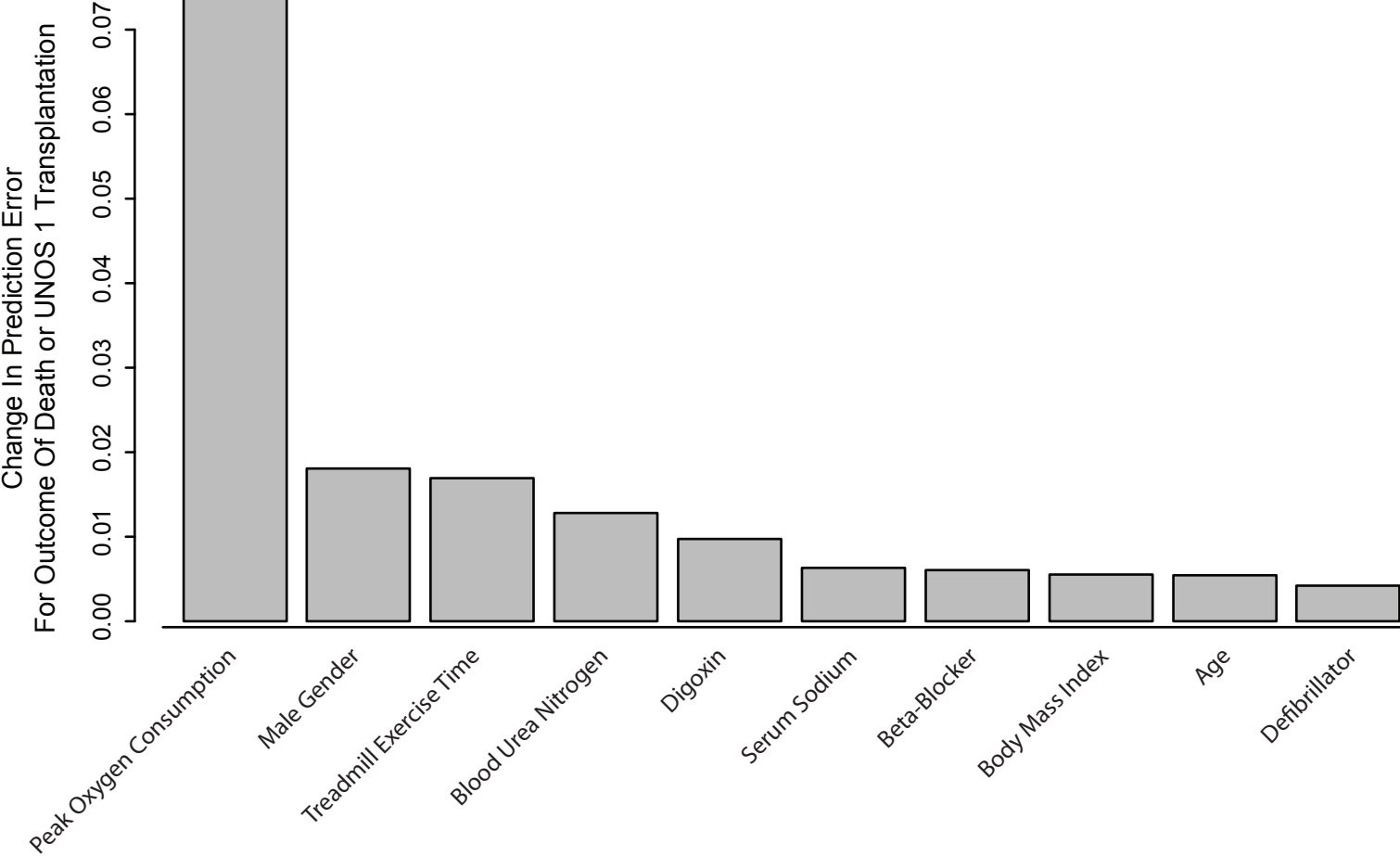
A. Women, Peak $VO_2 \geq 14$



B. Men, Peak $VO_2 \geq 14$

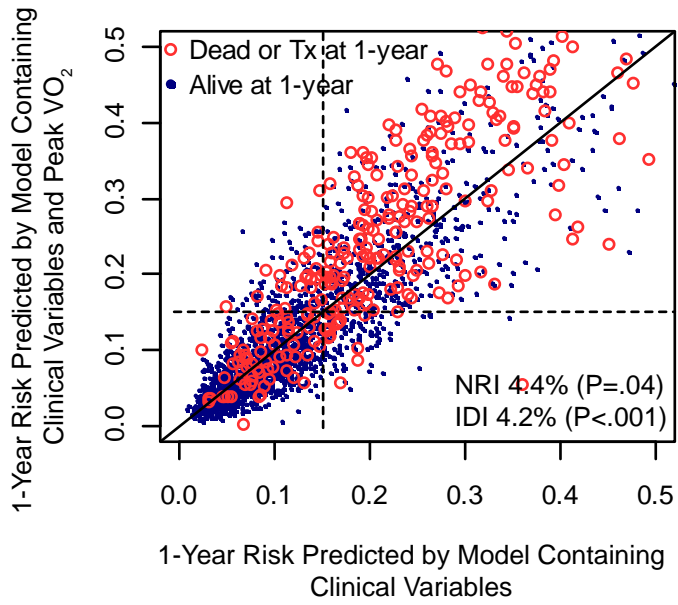


Appendix Figure 3.

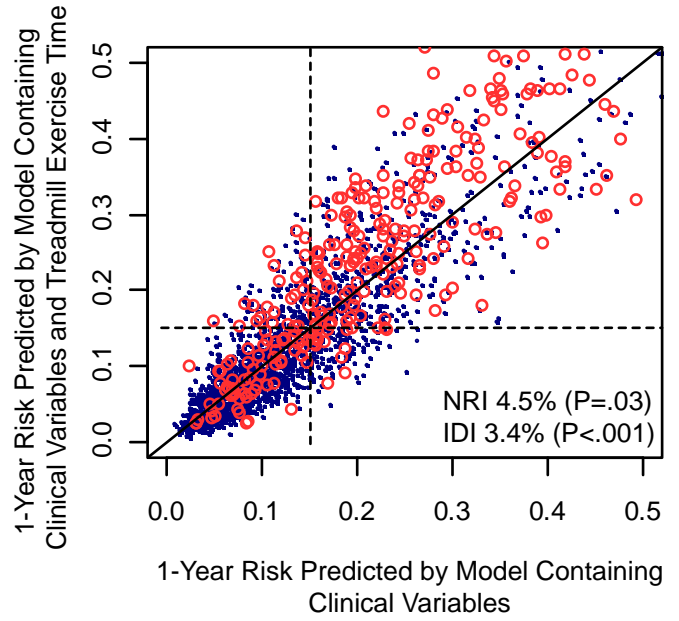


Appendix Figure 4.

A.



B.



C.

