

Figure S1

Temporal trajectories

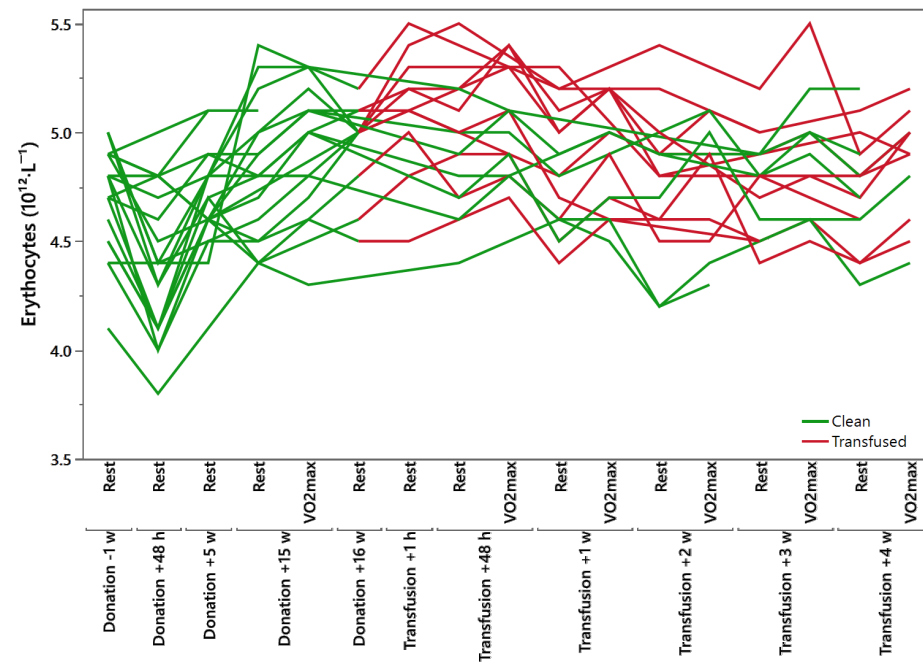
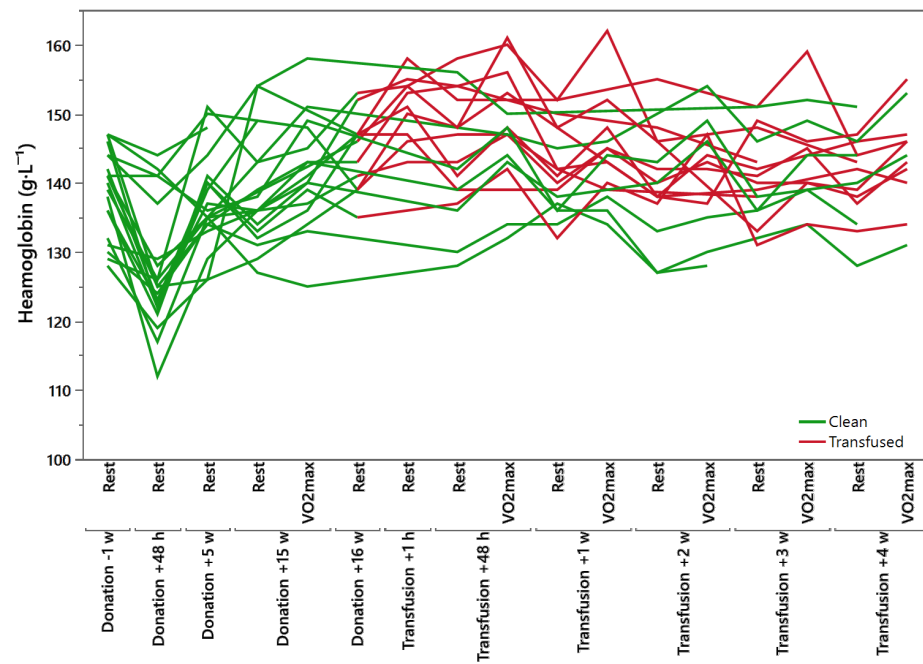
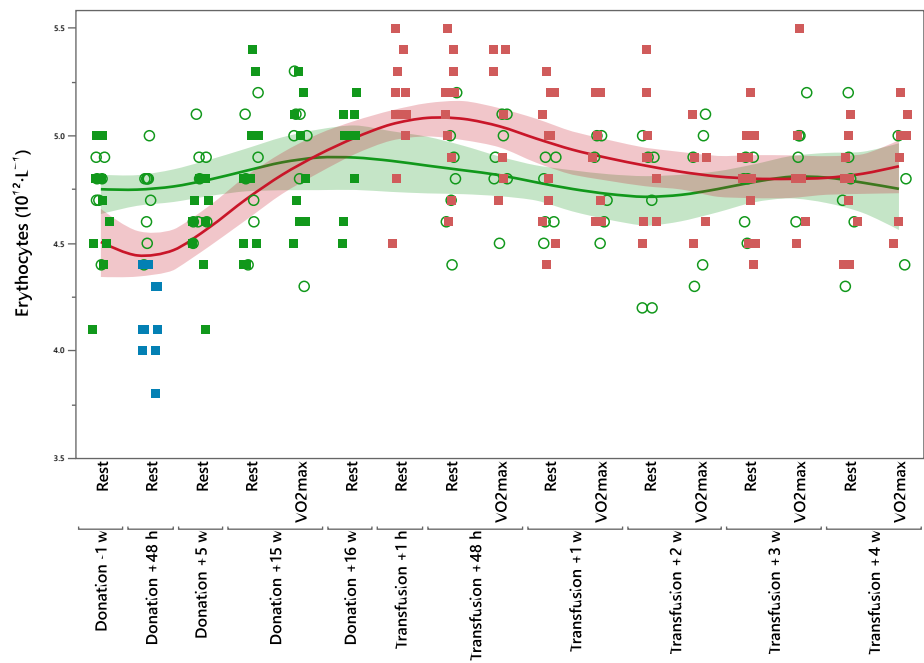
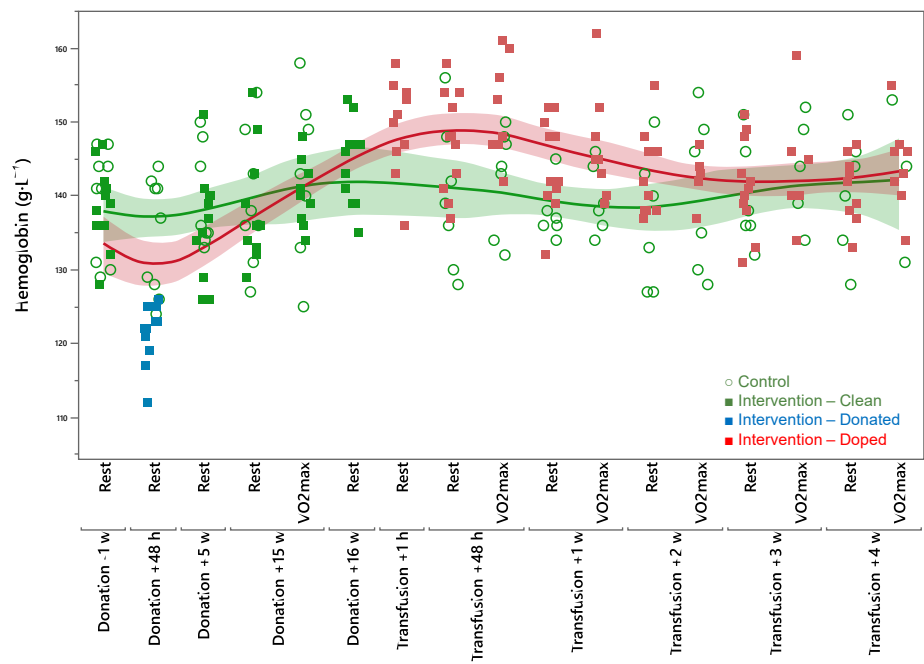


Figure S2

Temporal trajectories

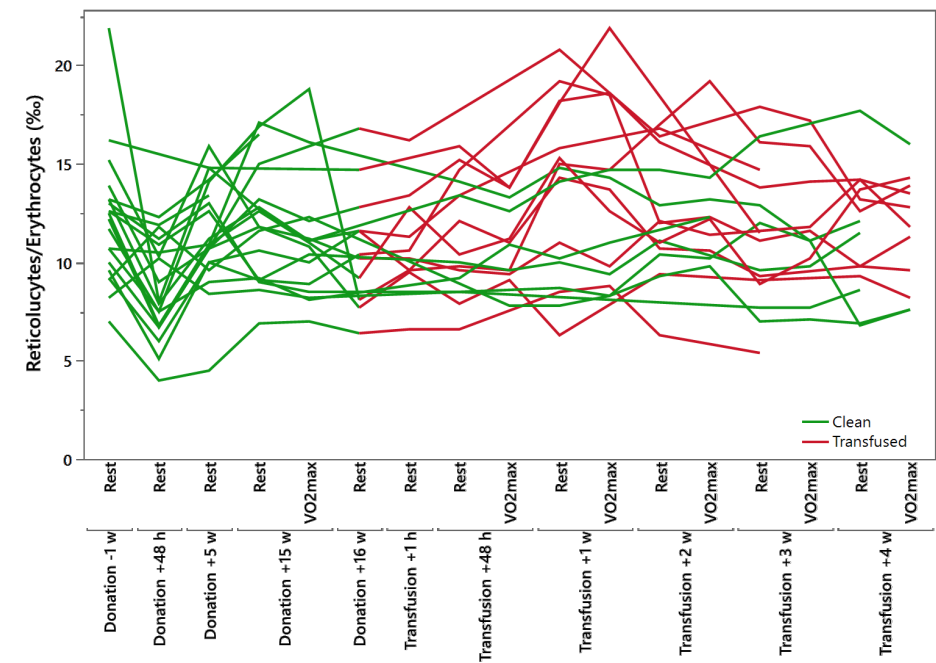
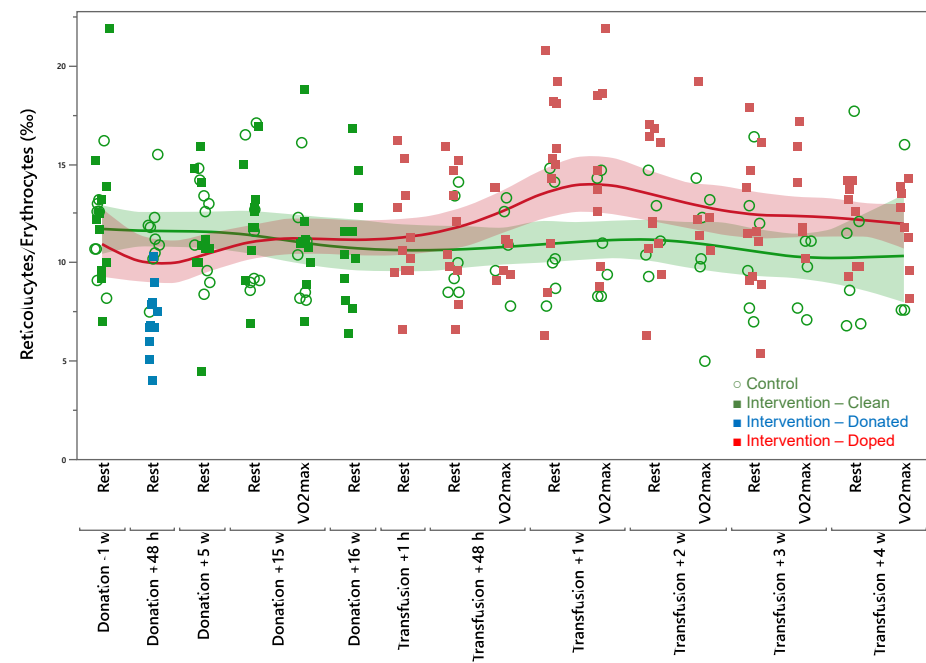
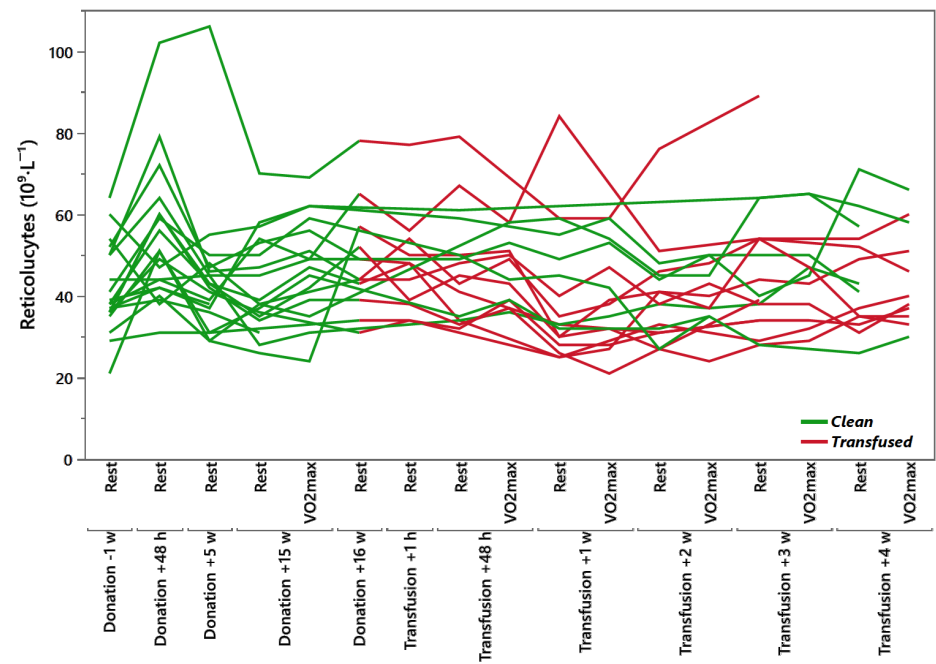
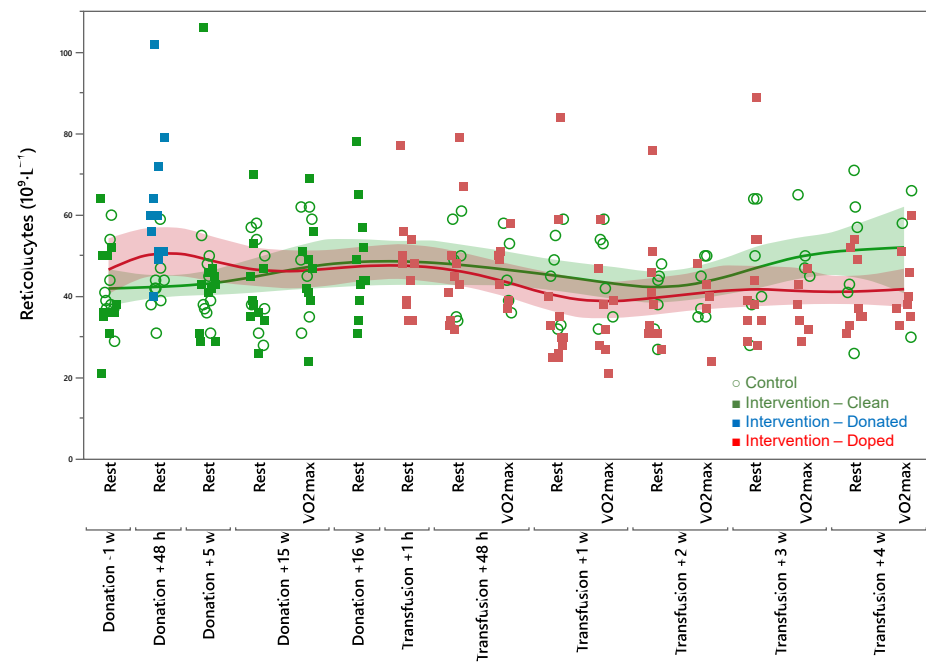


Figure S3

Temporal trajectories

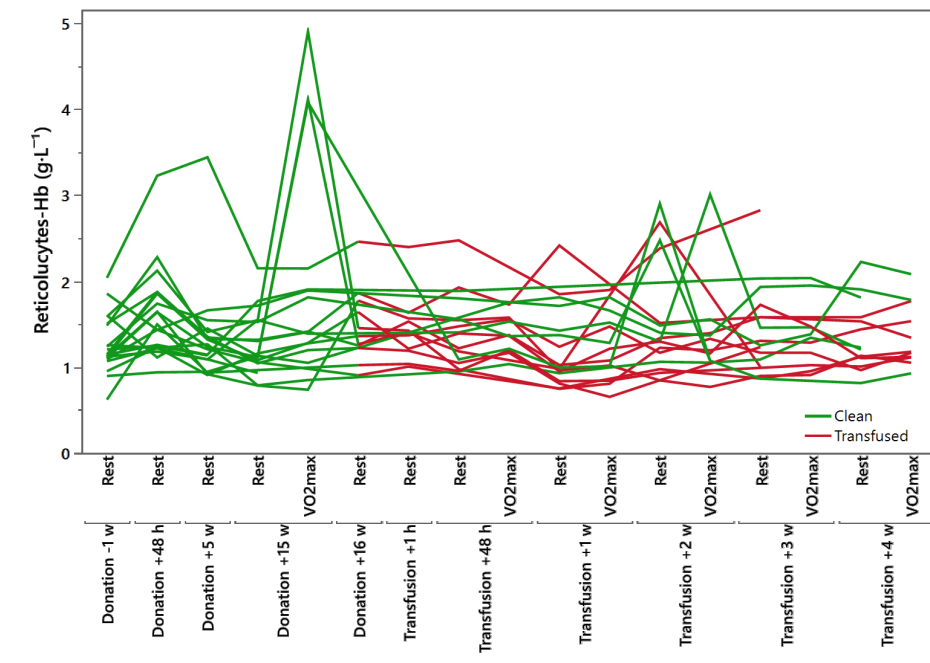
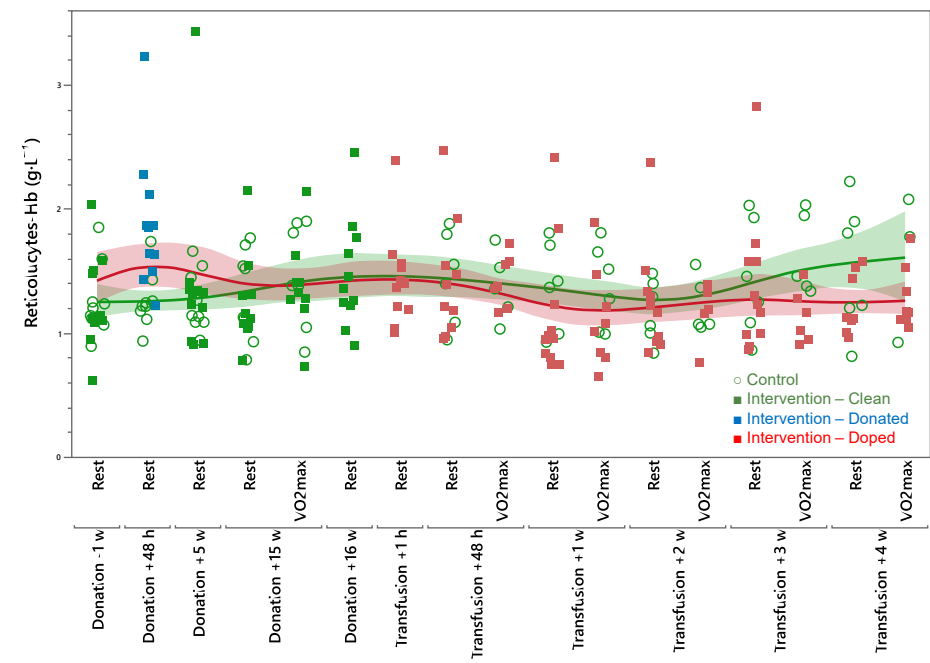
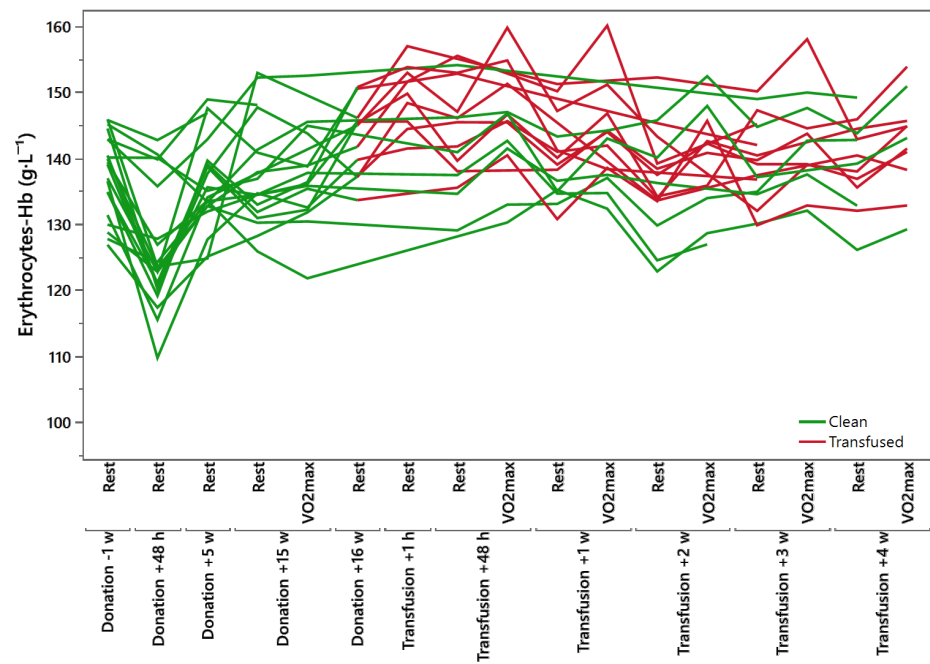
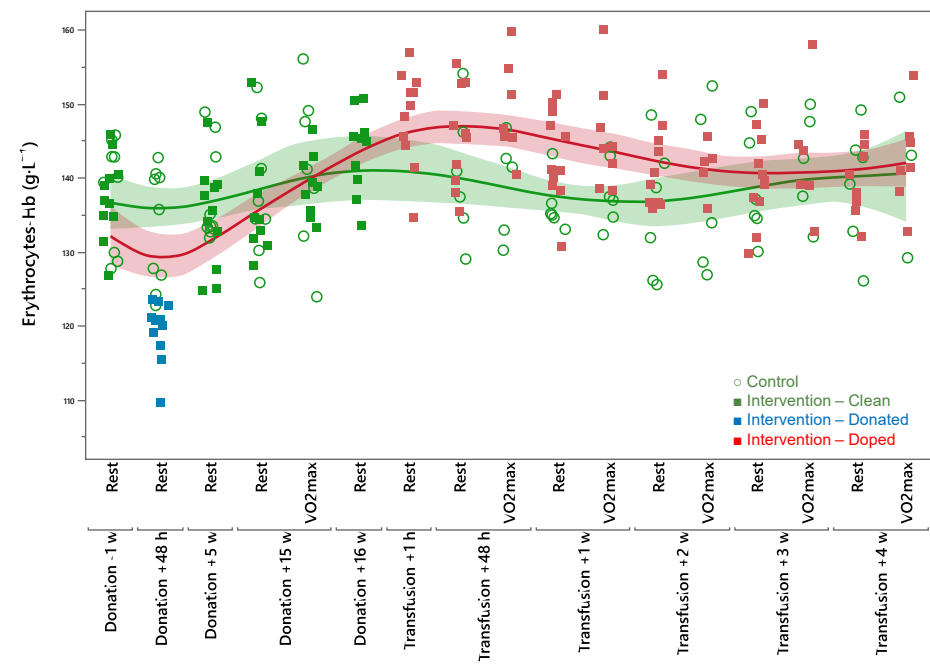


Figure S4

Temporal trajectories

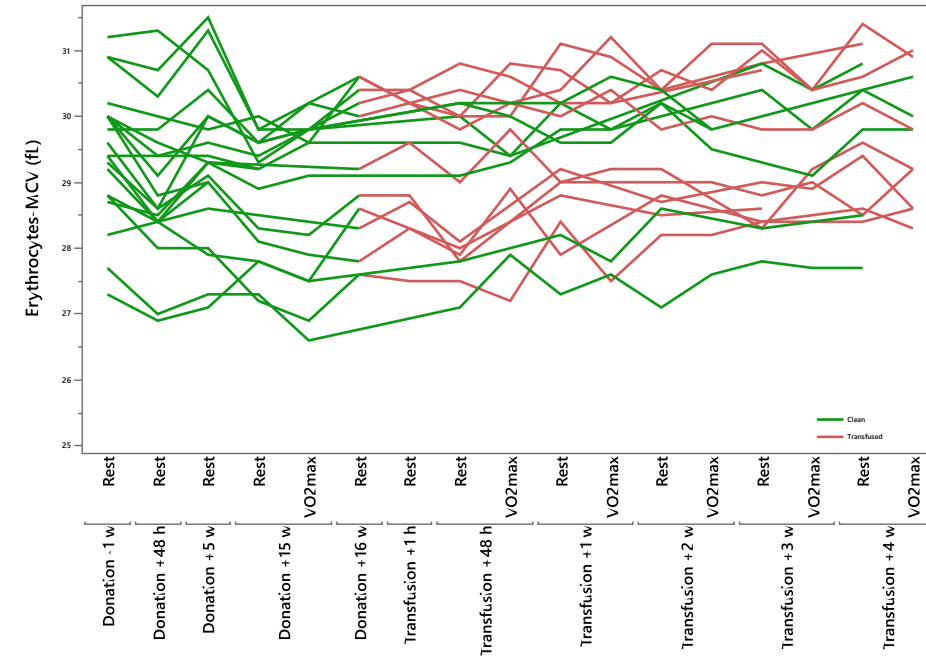
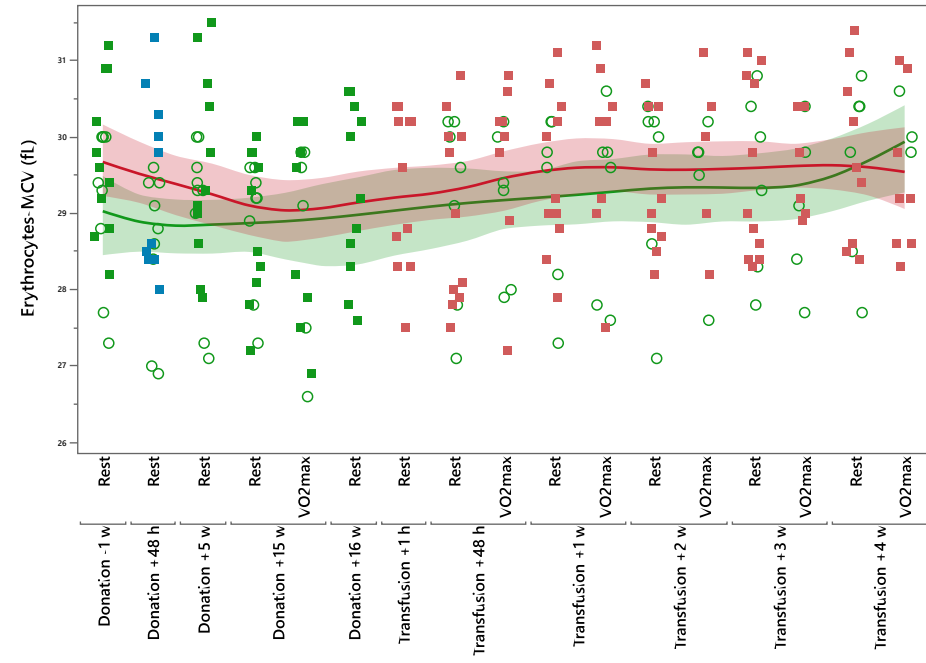
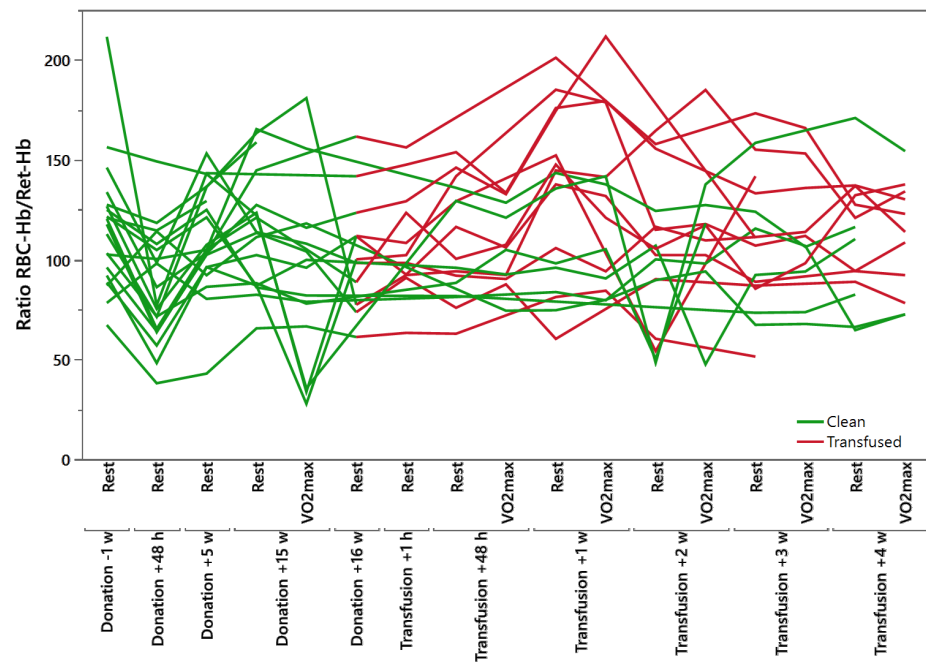
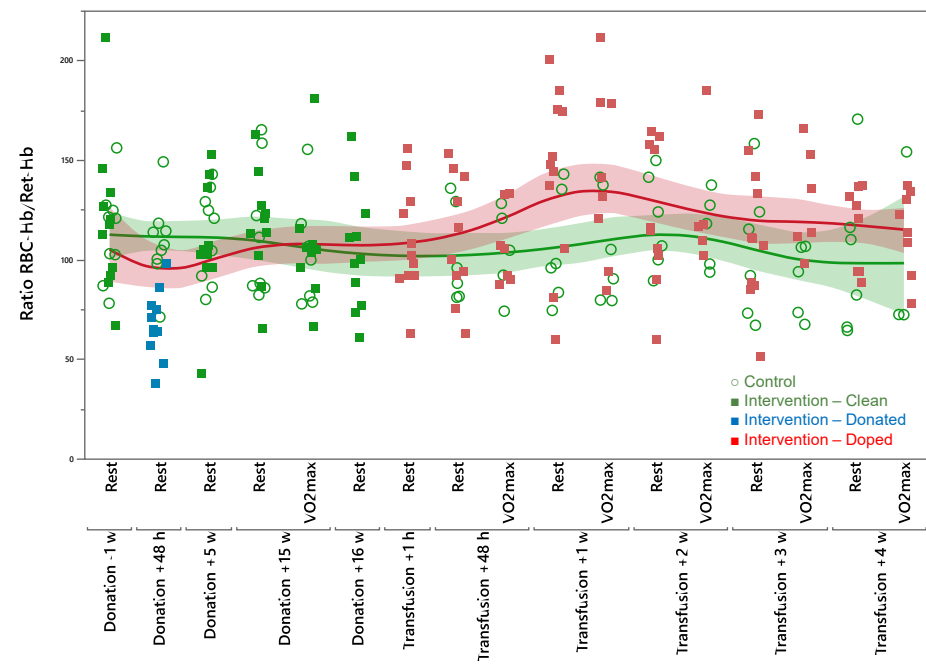


Figure S5

Temporal trajectories

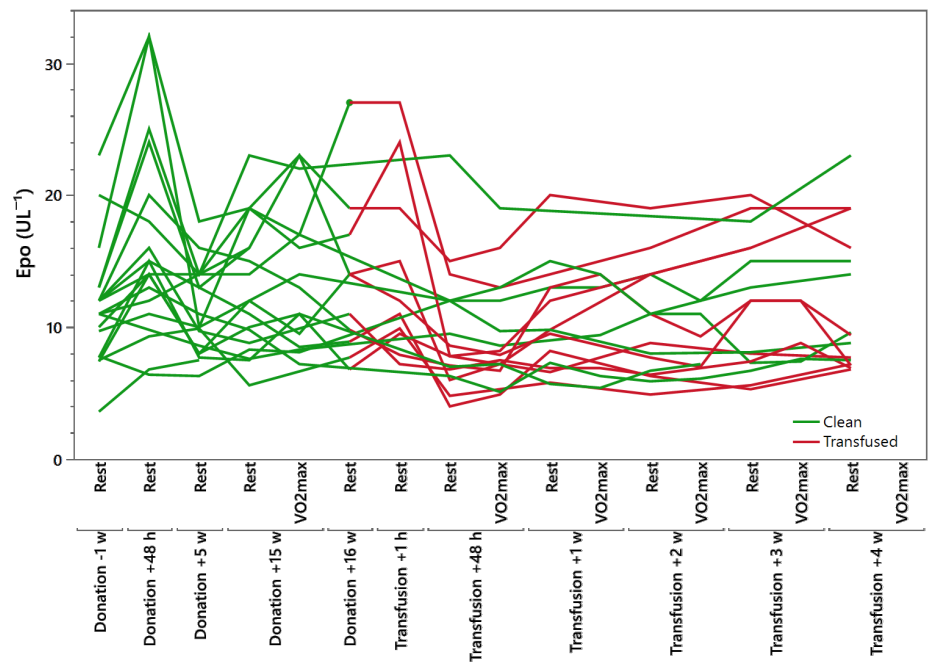
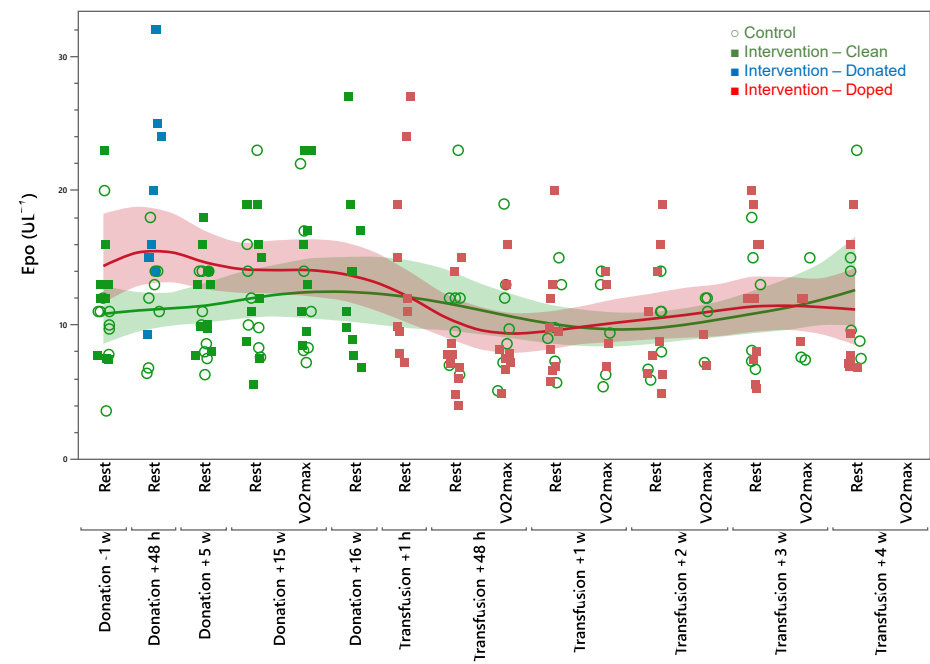


Figure S6

Temporal trajectories - Other Scores

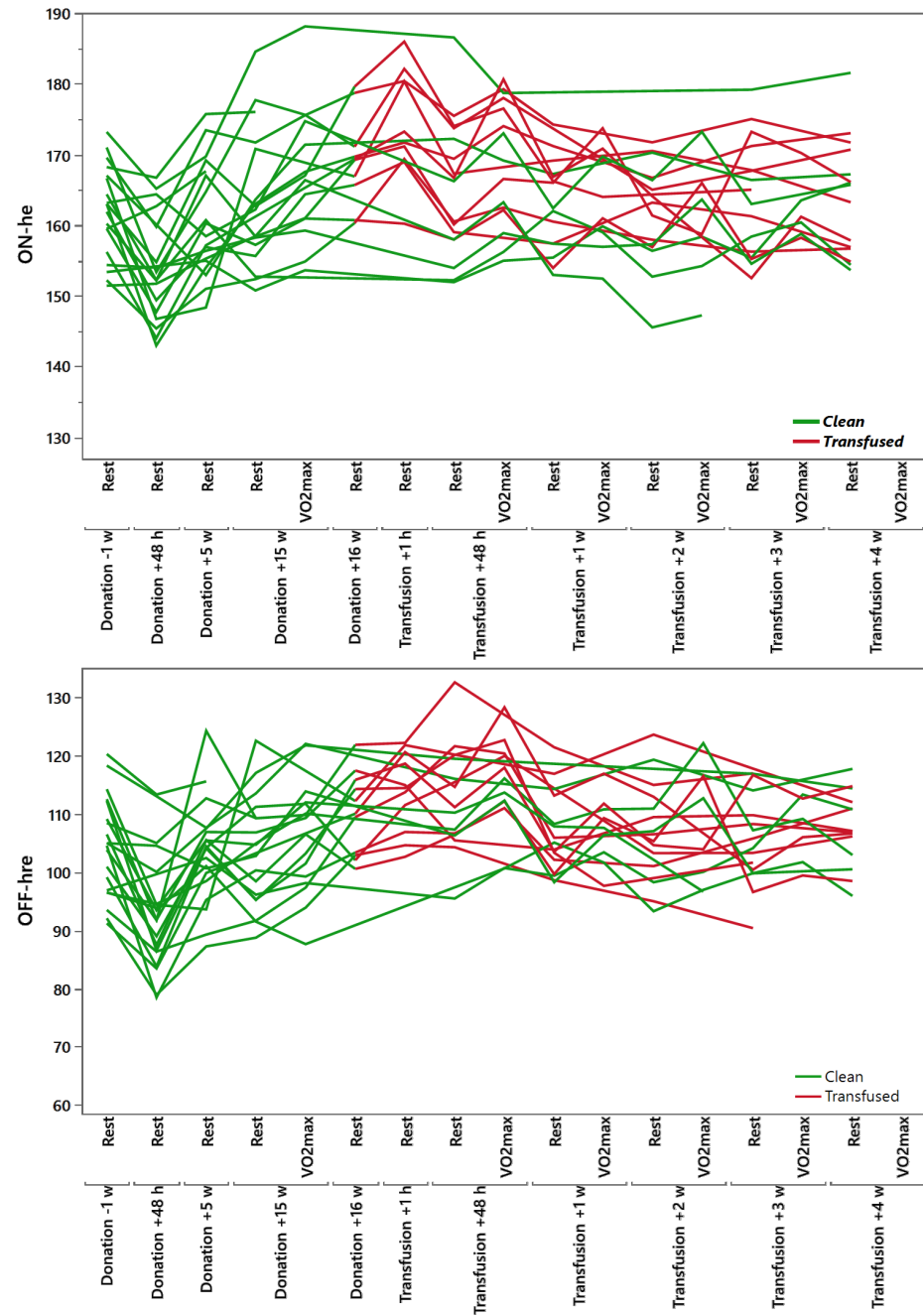
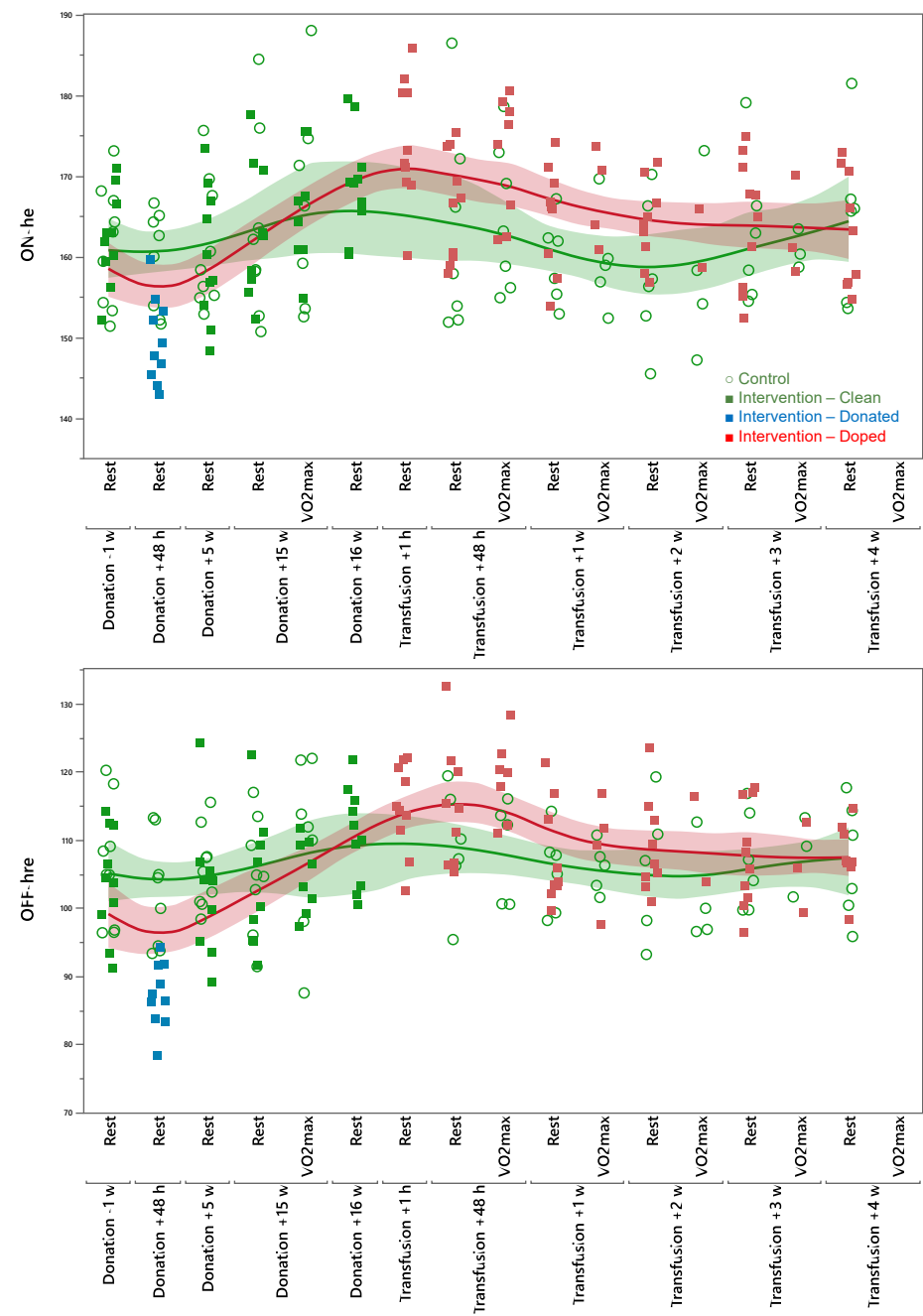
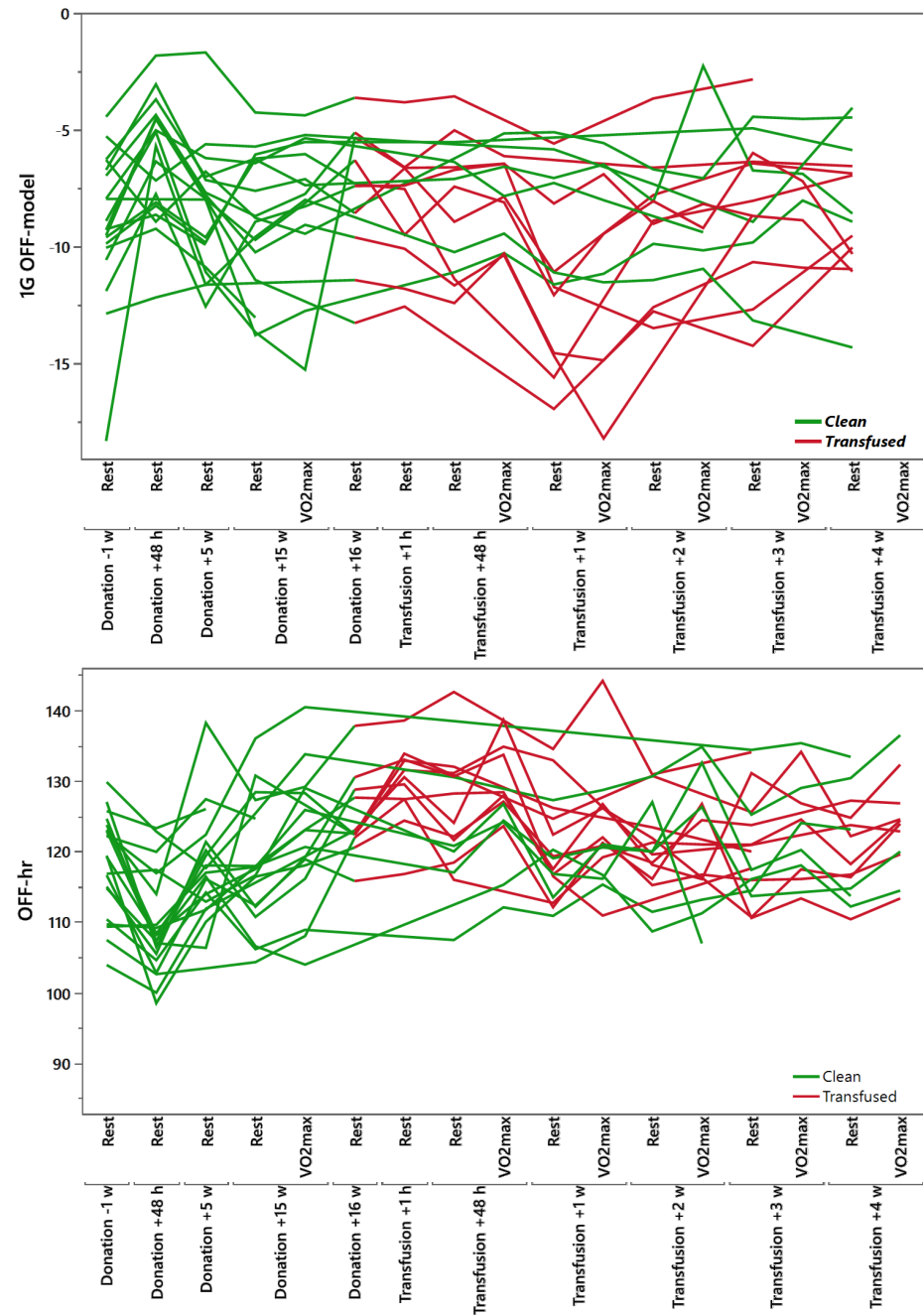
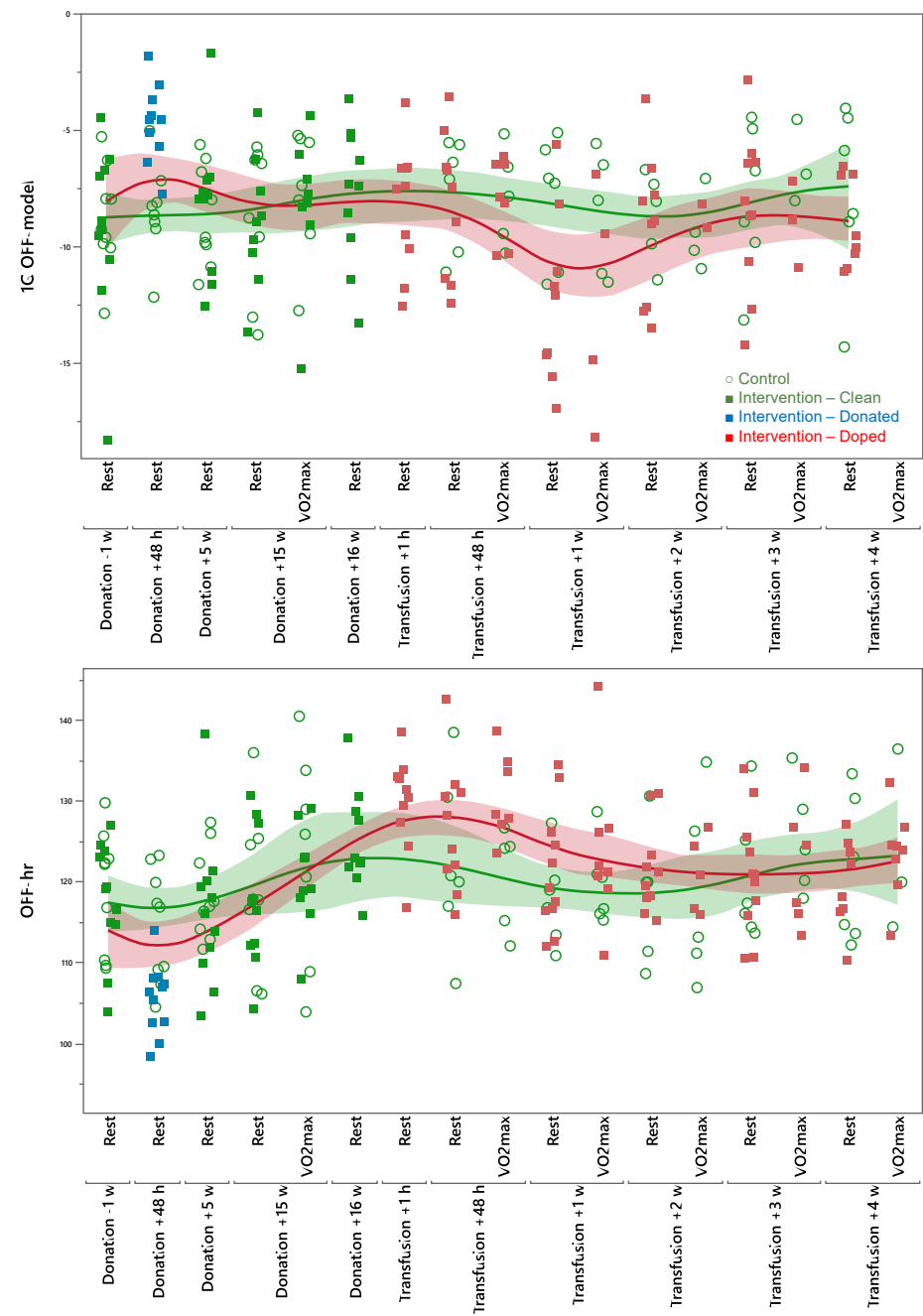


Figure S7

Temporal trajectories - Other Scores



Bayesian adaptive model: OFF-hr

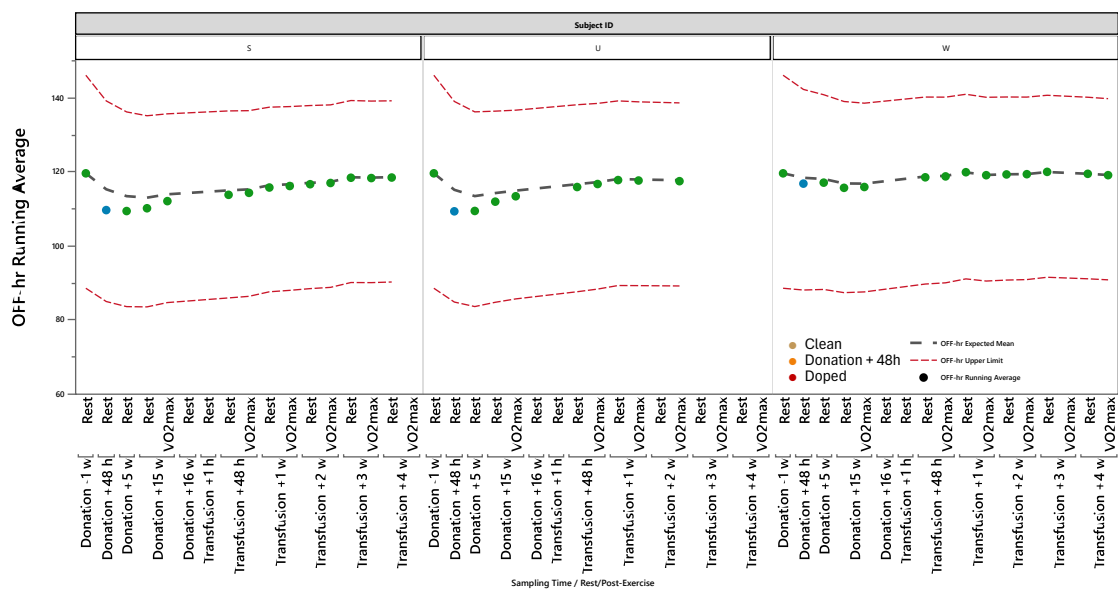


Figure S9 Bayesian adaptive model: Erythrocytes

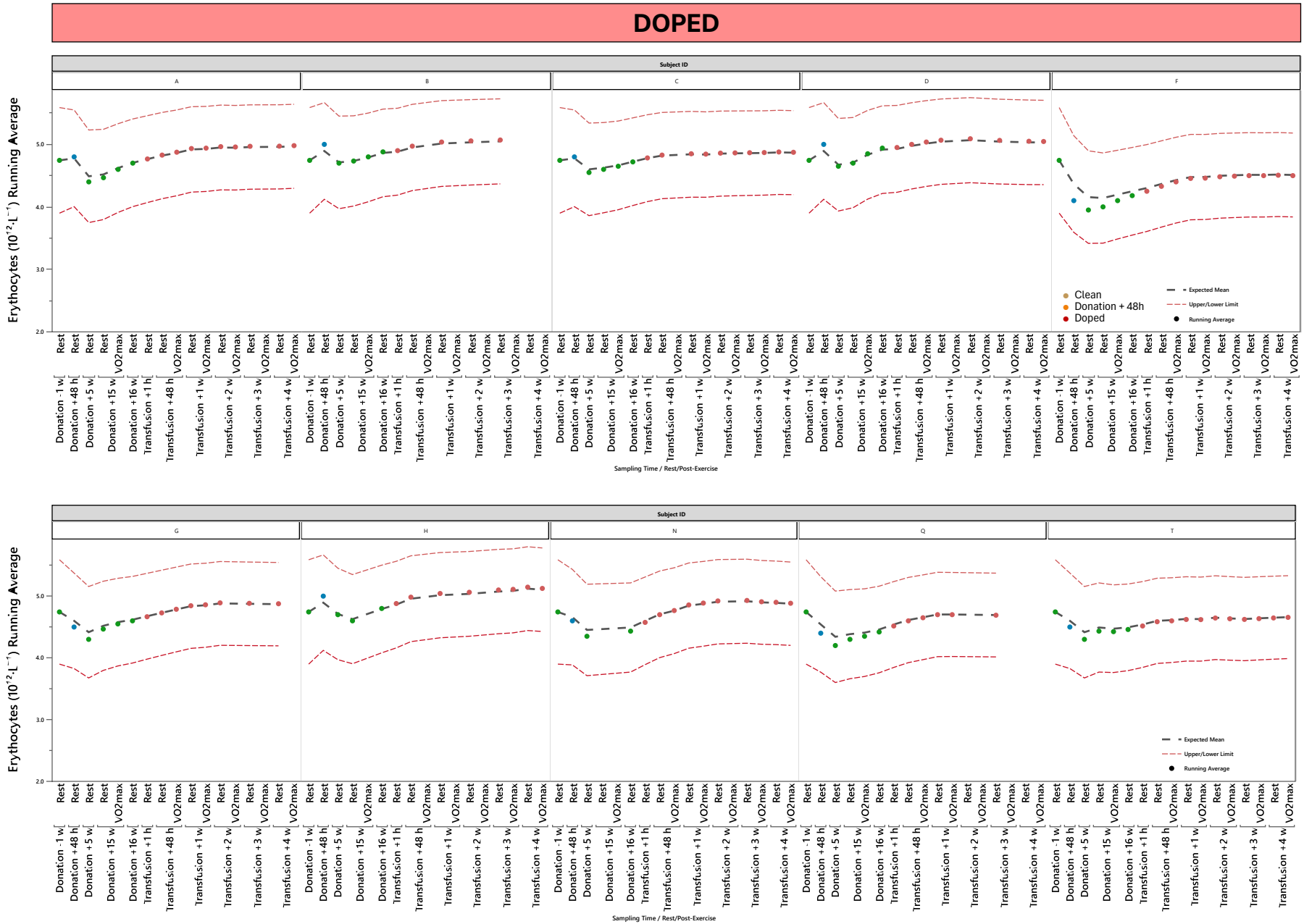
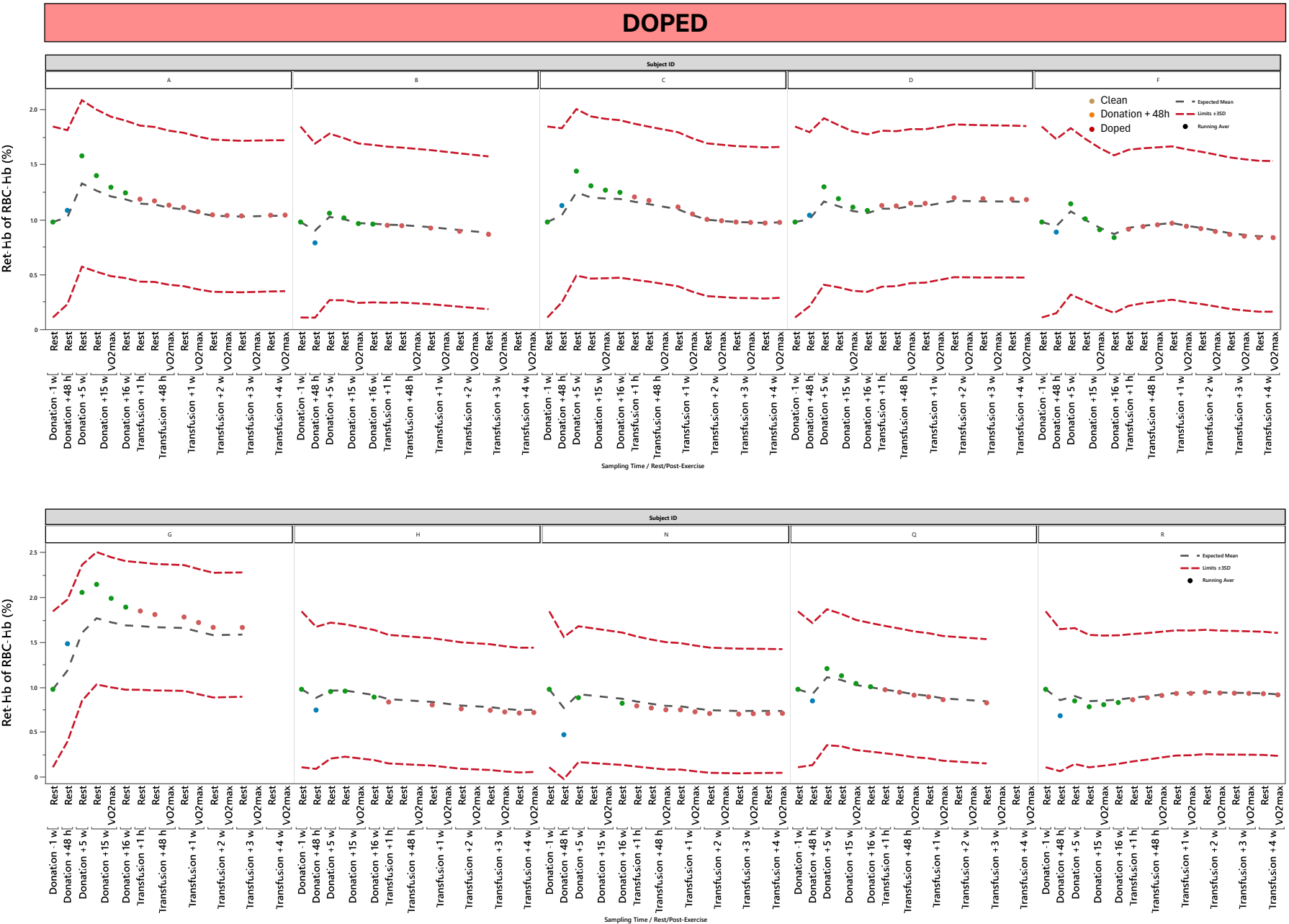


Figure S11 Bayesian adaptive model: Ret-Hb of RBC-Hb (%)

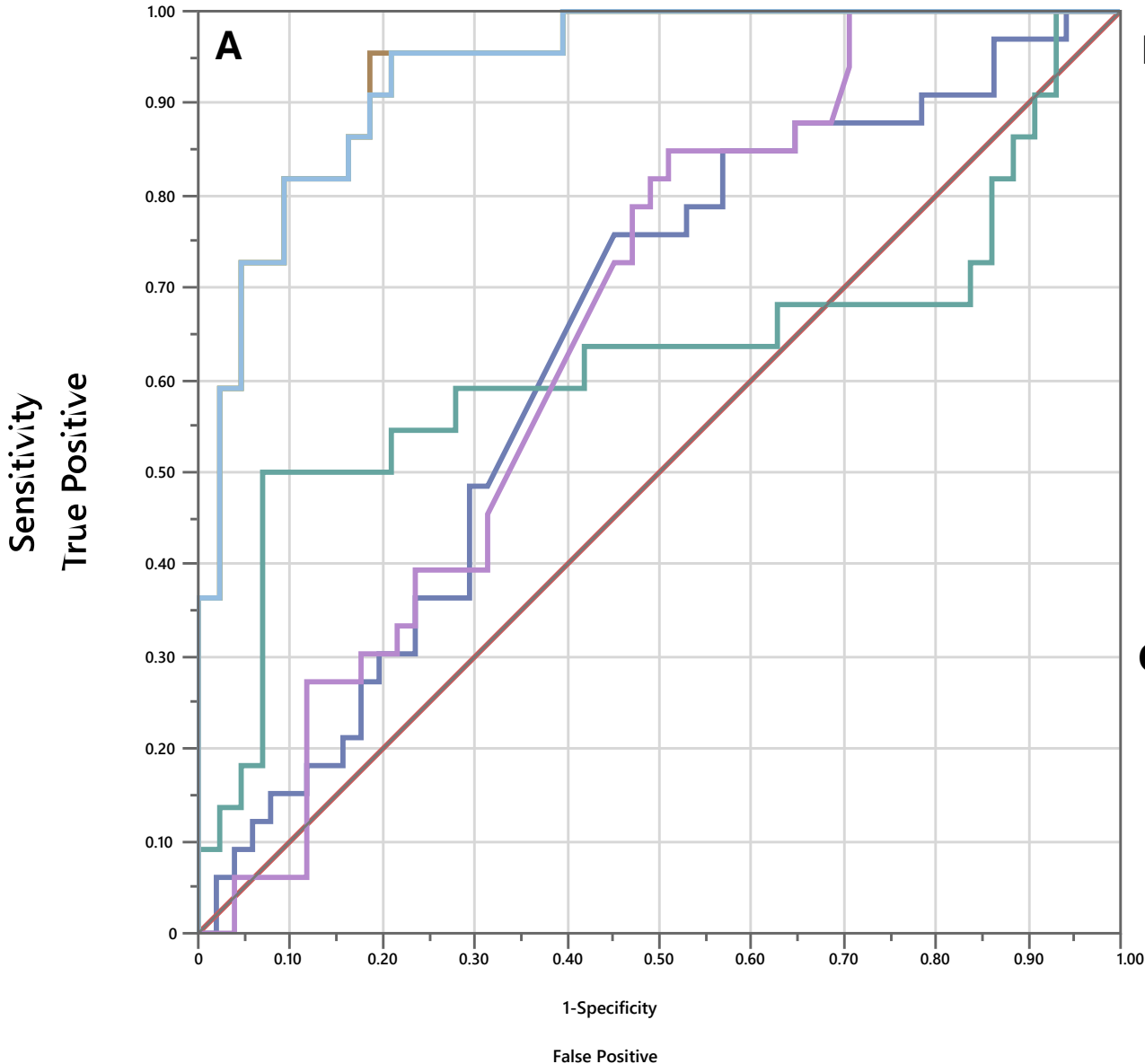


Bayesian adaptive model: Ret-Hb of RBC-Hb (%)



Figure S13

Model Screening



B

Predictor	Clean/Transfused	
	Contribution	Portion
Erythrocytes-Hb (g·L ⁻¹)	18.0	0.111
Erythrocytes-MCV (fL)	15.0	0.092
Heamoglobin (g·L ⁻¹)	14.4	0.089
Erythrocytes-MCH (pg)	12.8	0.078
Epo (UL ⁻¹)	12.8	0.078
S-Transferrin (g·L ⁻¹)	11.3	0.069
Erythrocytes-MCHC (g·L ⁻¹)	11.0	0.068
OFF-hre	8.2	0.050
Hematocrit	7.5	0.046
Reticulocytes-Hb (g·L ⁻¹)	7.4	0.045
OFF-hr	7.1	0.044
ON-he	6.9	0.042
Reticulocytes/Erythrocytes (‰)	6.4	0.039
Reticulocytes (10 ⁹ ·L ⁻¹)	6.4	0.039
1G OFF-model	6.2	0.038
Erythrocytes (10 ¹² ·L ⁻¹)	5.9	0.036
Ret-Hb of RBC-Hb (%)	3.0	0.018
Ratio RBC-Hb/Ret-Hb	2.9	0.018

C

	Method	AUC	
		Training	Validation
✓	Bootstrap Forest	0.92	0.64
✓	Neural Boosted	0.50	0.50
✓	Support Vector Machines	0.83	0.62
✓	Discriminant	0.65	0.94
✓	XGBoost	0.95	0.66
✓	Nominal Logistic	0.65	0.94
✓	Generalized Regression Lasso	0.65	0.94

Figure S14

Logistic Regression on Validation data

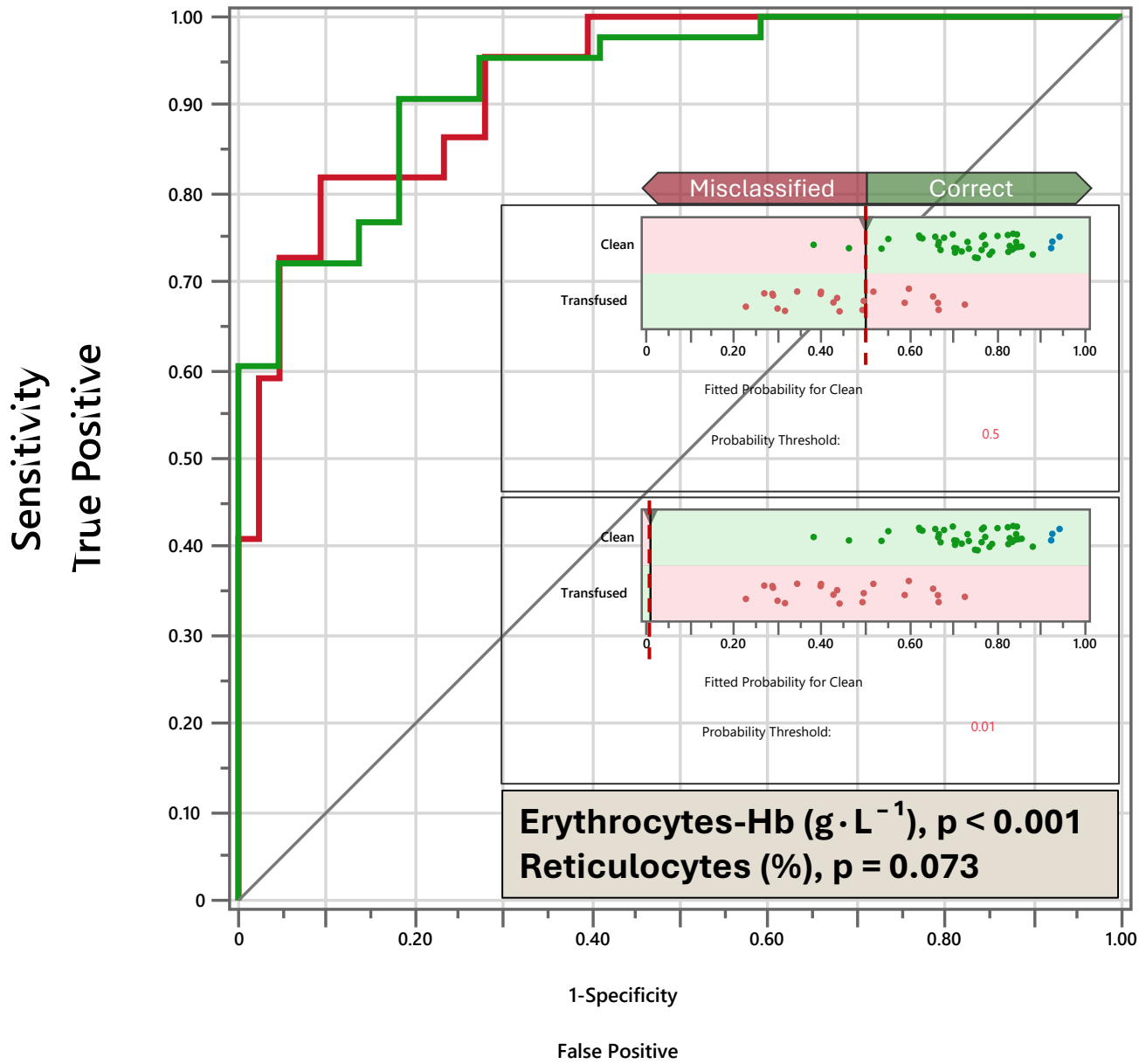
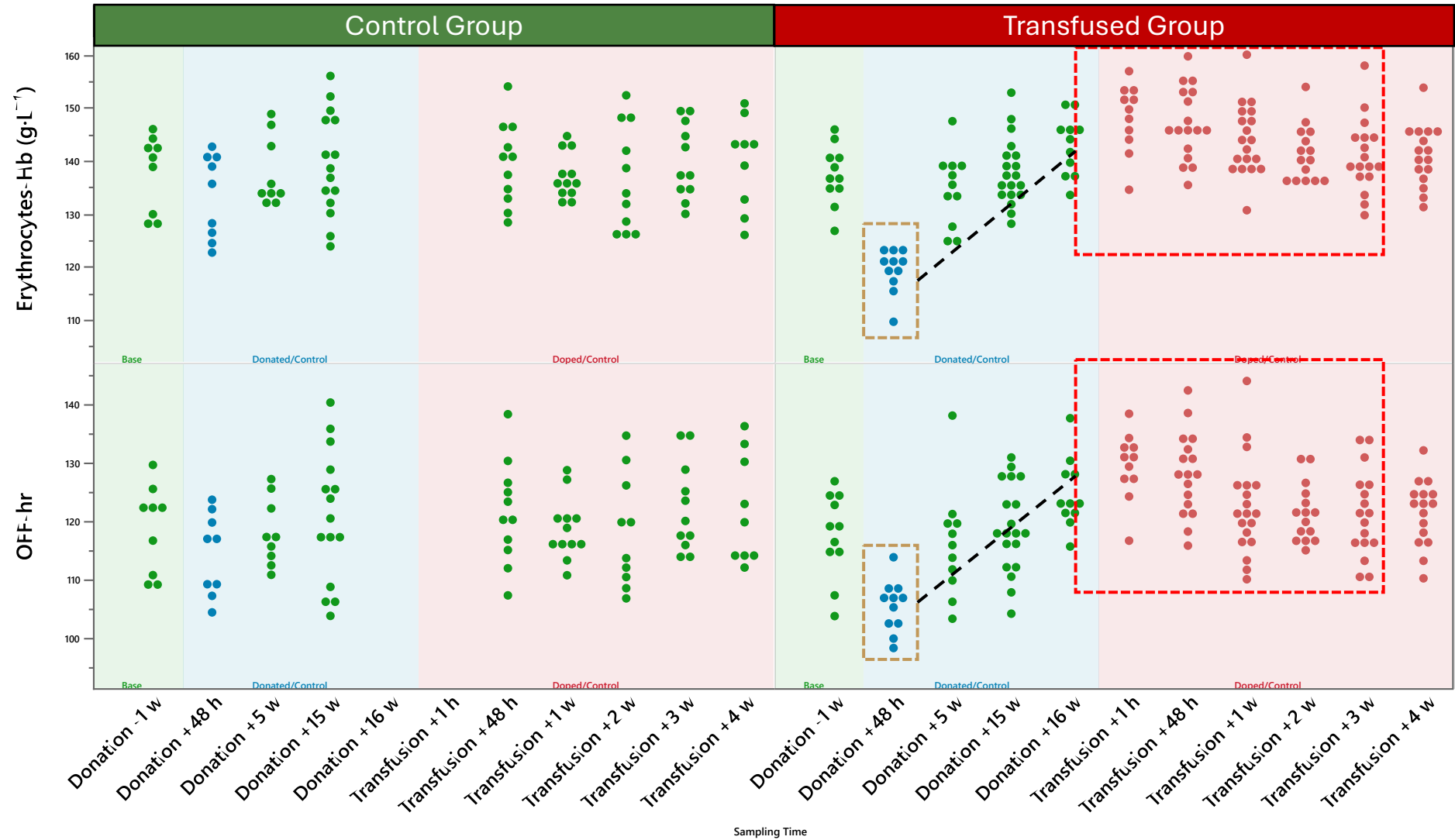


Figure S15

The Timing and Logistical Vulnerability

OFF-hr & Erythrocytes-Hb (g·L⁻¹) vs. Sampling Time



Only if you take a sample 48 after blood donation, and then one sample one (1) to three (3) weeks after re-infusion, can ABD be detected.