

Table S1 – Two-way analysis of variance for repeated measures.

Normality of distribution was checked through the Shapiro-Wilk normality test. Non-normally distributed variables (fHb, MFIs, De Backer score, PVD, StO₂ downslope, AUC StO₂, HR, PaO₂/FiO₂) were normalized whenever possible through logarithmic or reciprocal transformation as appropriate. Data were analyzed through a two-way analysis of variance for repeated measures with Bonferroni post-hoc test. A p value <0.05 was used to indicate statistical significance. The variables Microcirculatory Flow Index and Flow Heterogeneity Index could not be normalized and the parametric statistics was not applied in these cases.

	<i>p for interaction</i>	<i>p for time point</i>	<i>p for type of RBCs</i>	<i>Bonferroni post-hoc test</i>
Hemoglobin	0.366	<0.001	0.966	n.s.
Hematocrit	0.436	<0.001	0.719	n.s.
Heart rate	0.413	0.162	0.255	n.s.
Mean Arterial Pressure	0.197	0.135	0.005	p<0.01, fresh Vs. old RBCs before transfusion
Urine Output	0.317	0.612	0.979	n.s.
Temperature	0.578	0.130	0.496	n.s.
White Blood Cells	0.547	0.898	0.341	n.s.
Platelets	0.114	0.171	0.601	n.s.
pH	0.590	0.007	0.503	n.s.
PaO ₂	0.614	0.053	0.178	n.s.
PaCO ₂	0.731	0.590	0.625	n.s.
PaO ₂ /FiO ₂	0.878	0.403	0.087	n.s.
Base Excess	0.505	0.002	0.648	n.s.
Lactate	0.802	0.241	<0.001	p<0.01, fresh Vs. old RBCs before or after transfusion
Free Hemoglobin	0.0396	0.545	0.670	n.s.
Microcirculatory Flow Index (small vessels)	n.a.	n.a.	n.a.	n.a.
De Backer score	0.623	0.491	0.714	n.s.
Total small Vessel Density	0.695	0.223	0.247	n.s.
Perfused small Vessel Density	0.863	0.080	0.356	n.s.
Proportion of Perfused small Vessels	0.324	0.053	0.248	n.s.
Flow Heterogeneity Index	n.a.	n.a.	n.a.	n.a.
Perfused Boundary Region	0.652	0.352	0.693	n.s.
StO ₂	0.543	0.067	0.161	n.s.
StO ₂ downslope	0.521	0.019	0.517	n.s.
StO ₂ upslope	0.838	0.021	0.705	n.s.
Area under the curve StO ₂	0.971	0.574	0.765	n.s.
Tissue Hemoglobin Index	0.086	<0.001	0.618	n.s.

n.s. not significant, n.a. not applicable