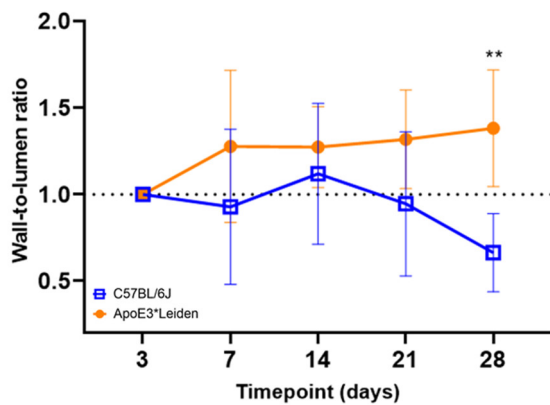


Index Supplemental Appendix

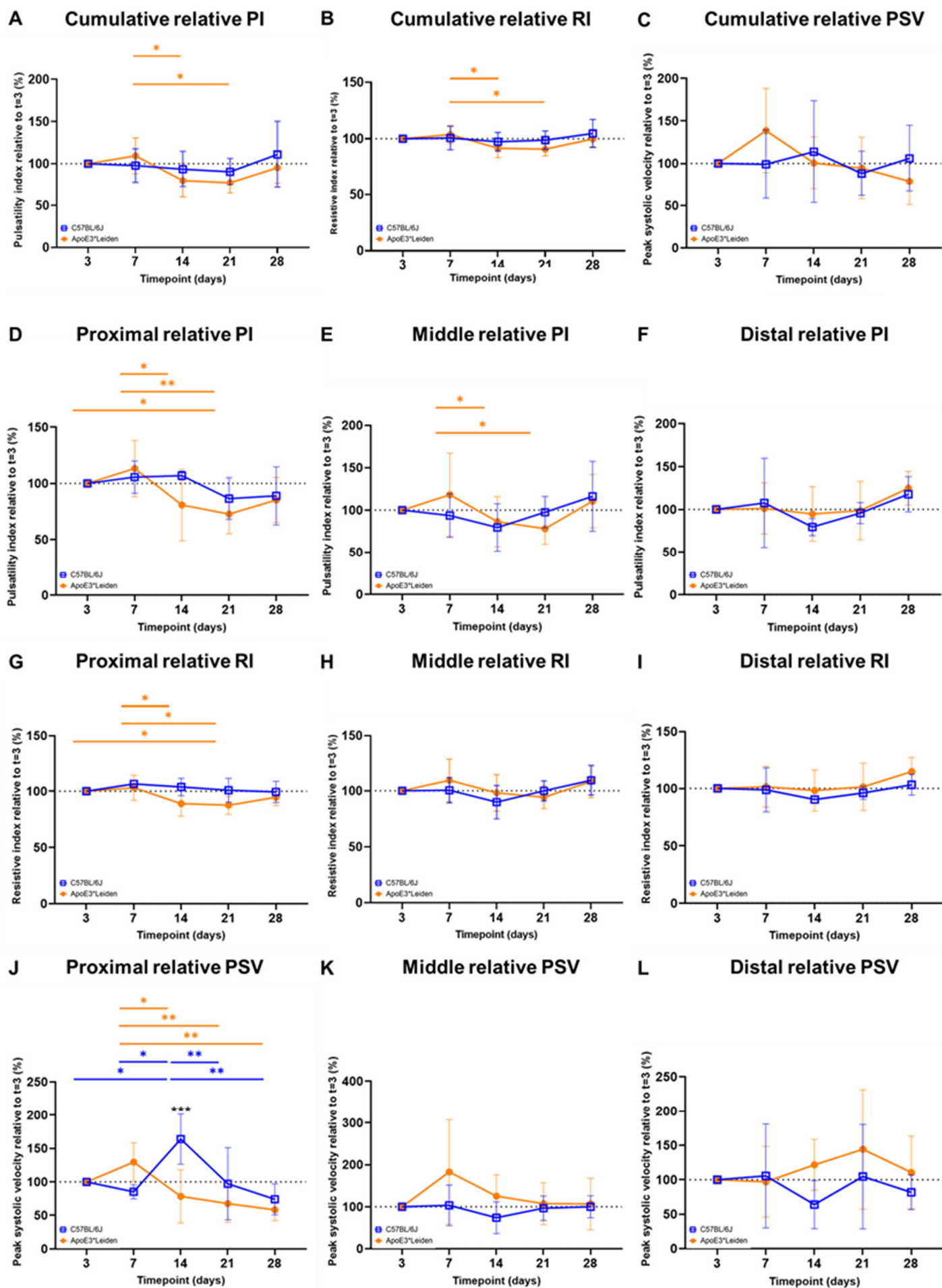
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A Wall-to-lumen ratio



Supplementary Figure S1 | Wall-to-lumen ratio of vein grafts in C57BL/6J and ApoE3*Leiden mice over time.

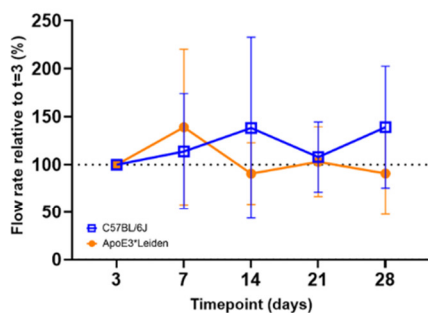
(A) Wall-to-lumen ratio of C57BL/6J (n=7) and ApoE3*Leiden (n=7) mice over the course of 28 days post-surgery. The data are shown relative to baseline t=3 days after surgery, with lumen and wall size being 100% (ratio=1.0). Statistics: ANOVA mixed model, corrected for multiple testing; ** p<0.01.



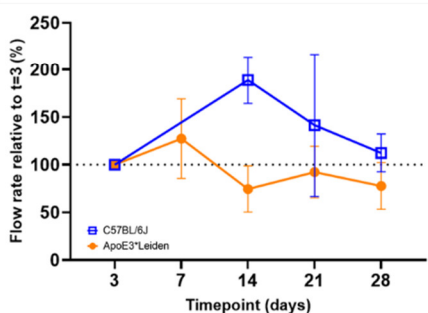
Supplementary Figure S2 | Velocity measurements of vein grafts in C57BL/6J and ApoE3*Leiden mice over time, as split per proximal, middle, and distal location.

(A, B, C) Cumulative values for respectively the PI, RI, and peak systolic velocity (PSV) of vein grafted C57BL/6J (n=7, chow diet) and ApoE3*Leiden mice (n=7, high fat diet) over time. Pulsatility index (PI) (D, E, F), resistive index (RI) (G, H, I), and peak systolic velocity (PSV) (J, K, L) of vein grafts in C57BL/6J and ApoE3*Leiden mice during 28 days after surgery. The data are shown relative to baseline t=3 days after surgery, with lumen and wall size being 100%. Statistics: ANOVA mixed model, corrected for multiple testing; * p<0.05, ** p<0.01.

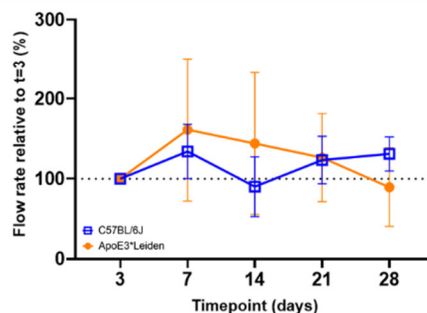
A Cumulative relative flow rate



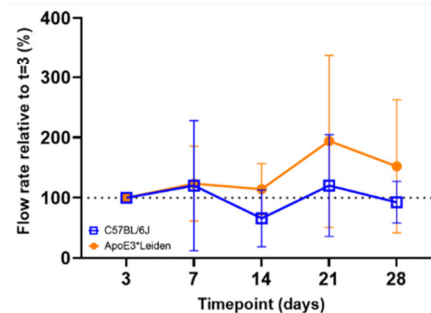
B Proximal relative flow rate



C Middle relative flow rate

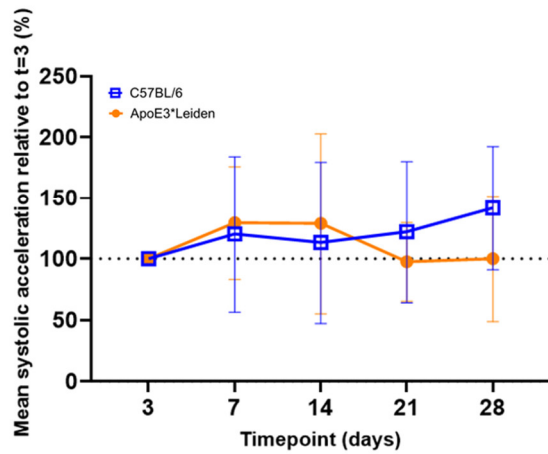
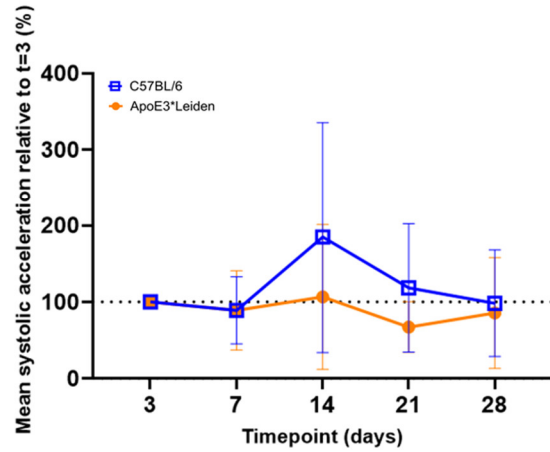
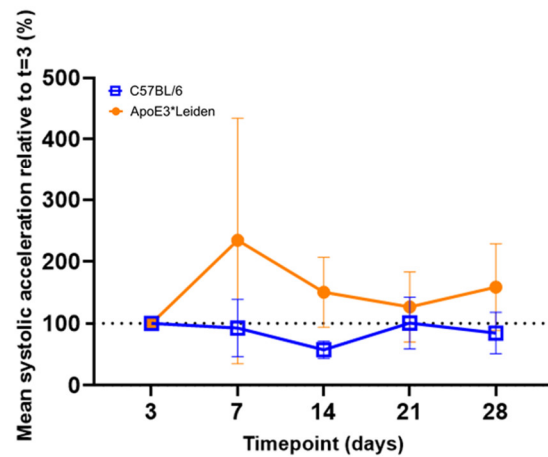
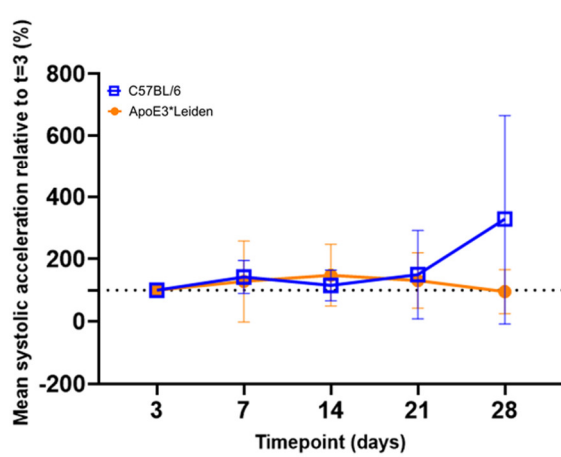


D Distal relative flow rate



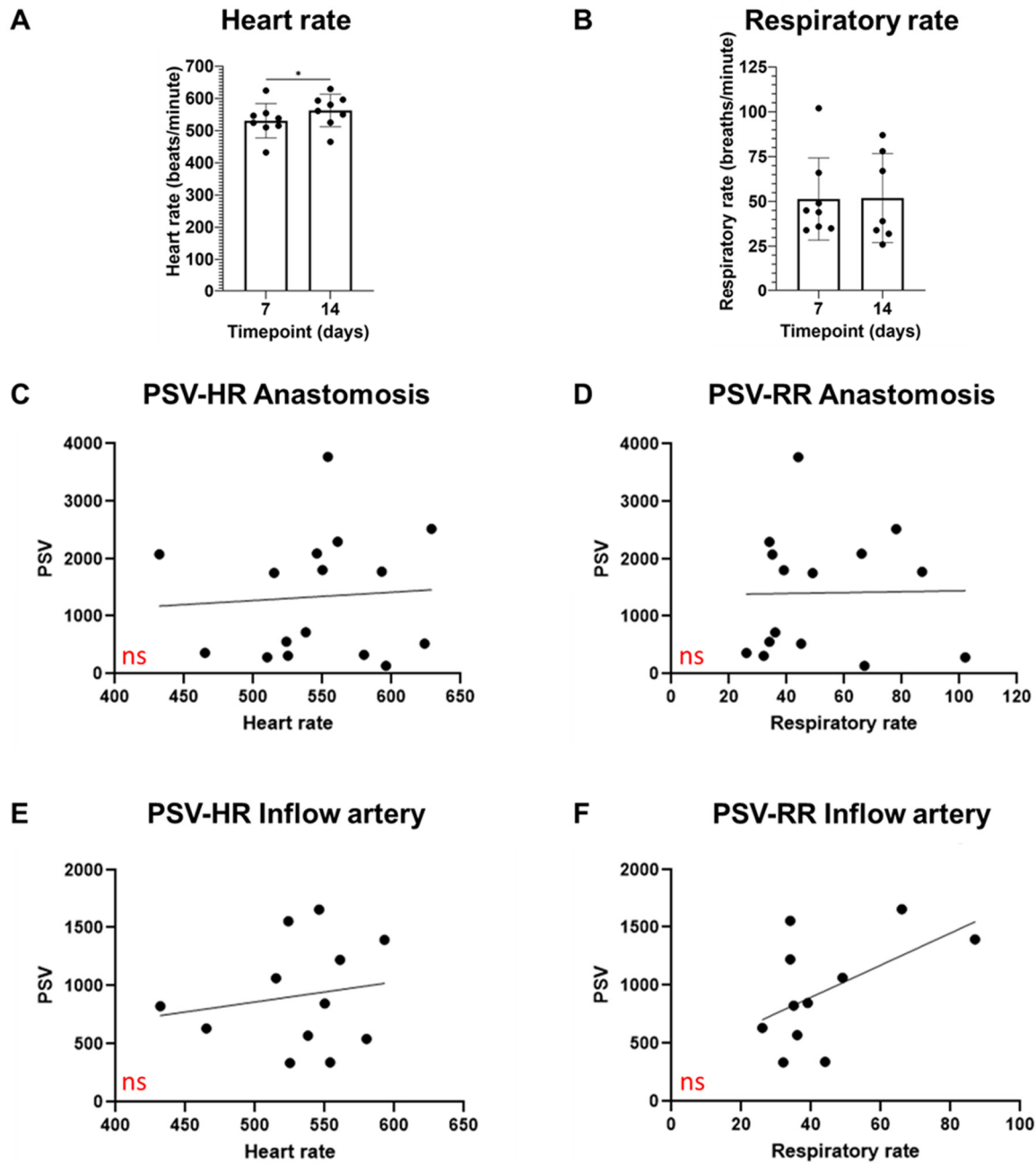
Supplementary Figure S3 | Relative blood flow rate of vein grafts in C57BL/6J and ApoE3*Leiden mice over time, as split per proximal, middle, and distal location.

Cumulative (A), proximal (B), middle (C), and distal (D) relative flow rate of vein grafts in C57BL/6J and ApoE3*Leiden mice during 28 days post-surgery. The data are shown relative to baseline $t=3$ days after surgery, with lumen and wall size being 100%. Statistics: ANOVA mixed model, corrected for multiple testing.

A Cumulative ACCsys**B Proximal ACCsys****C Middle ACCsys****D Distal ACCsys**

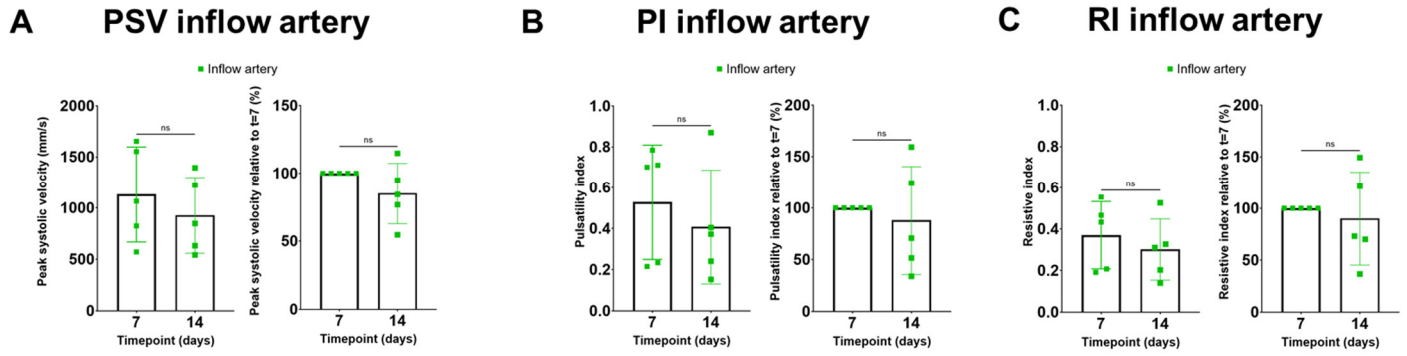
Supplementary Figure S4 | Mean systolic acceleration (ACCsys) in vein grafts of C57BL/6J and ApoE3*Leiden mice.

Cumulative (A), Proximal (B), Middle (C), and Distal (D) ACCsys in vein grafts of C57BL/6J and ApoE3*Leiden mice from 3 to 28 days post- surgery. Statistics: ANOVA mixed model, corrected for multiple testing.



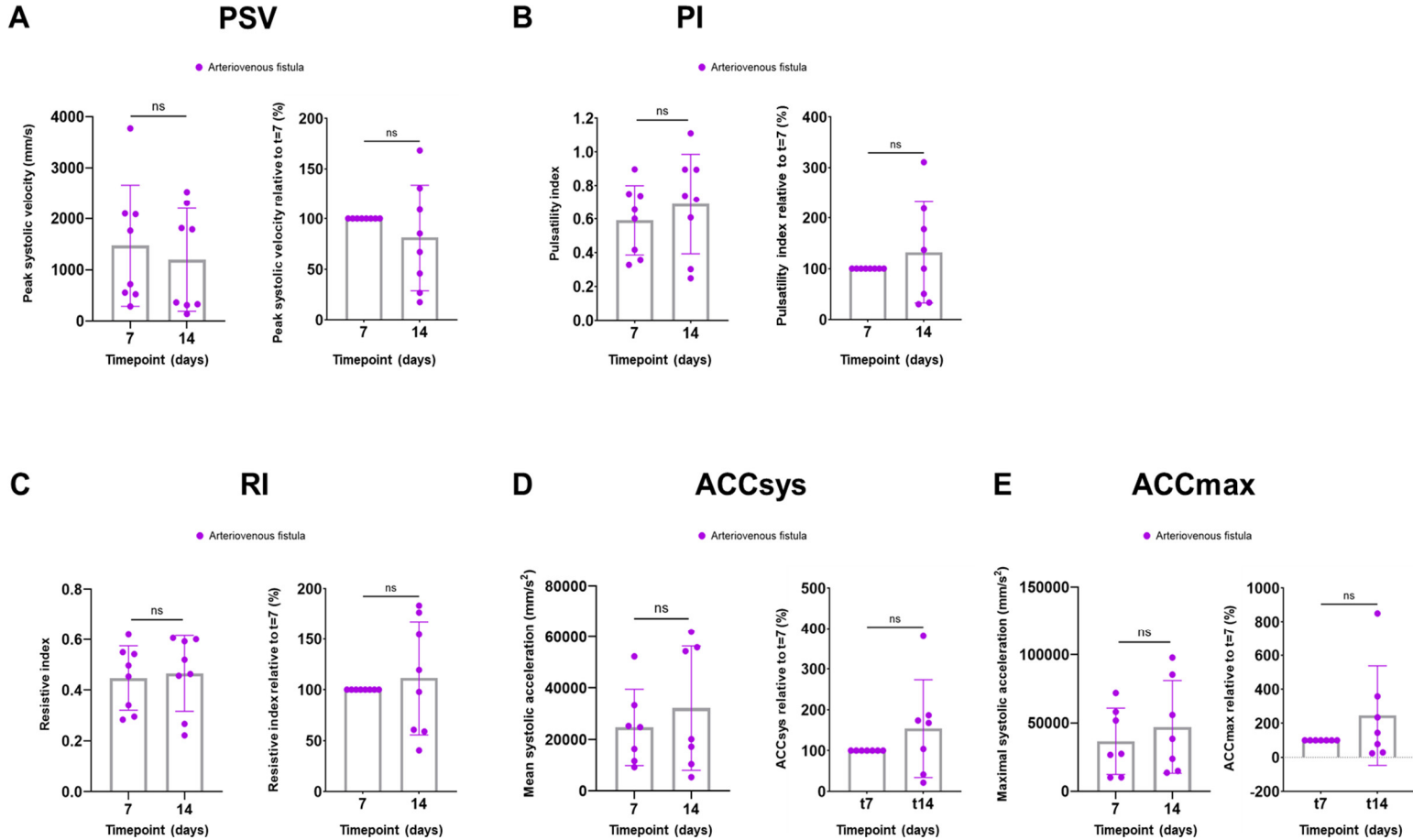
Supplementary Figure S5 | Heart and respiratory rate measures as related to the PSV in C57BL/6J mice that underwent AVF surgery.

Heart (A) and respiratory (B) rate of C57BL/6J mice (n=8) on time points 7 and 14 post AVF surgery. Correlation plots of the peak systolic velocity (PSV) at the anastomotic site of the AVF against the heart (C) and respiratory (D) rate (time point 7 and 14 days combined). Correlation plots of the PSV at the anastomotic site of the AVF against the heart (E) and respiratory (F) rate (time point 7 and 14 days combined). Statistics: Paired T-test and Pearson r; * $p < 0.05$. ns=not significant.



Supplementary Figure S6 | Absolute and relative velocities of the inflow artery of C57BL/6J AVF mice over time.

Absolute and relative peak systolic velocity (PSV) (A), pulsatility index (PI) (B), and resistive index (RI) (C) in the inflow artery of C57BL/6J AVF mice at 7 and 14 days post-surgery (n=5) in C57BL/6J mice after 7 and 14 days post-surgery. Statistics: Paired T-test. ns=not significant.



Supplementary Figure S7 | Velocity and acceleration measurements of arteriovenous fistulas in C57BL/6J mice over time.

Relative and absolute values of the peak systolic velocity (**A**), pulsatility index (**B**), resistive index (**C**), mean systolic acceleration (**D**), and maximal systolic acceleration (**E**) in AVFs in C57BL/6J mice after 7 and 14 days post-surgery (n=7). Paired T-test. ns=not significant.