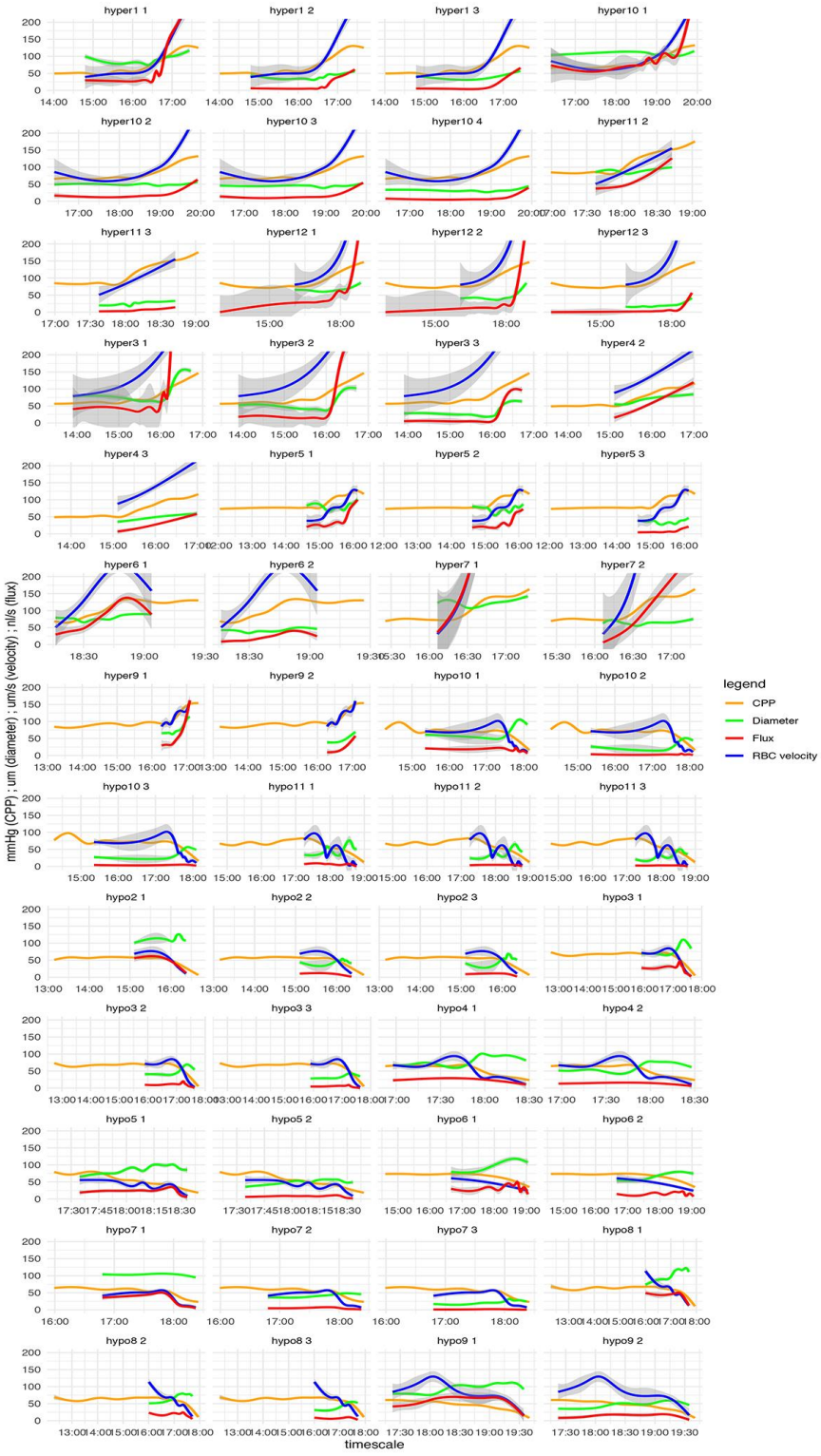
SUPPLEMENTAL MATERIAL

Figure S1. Experimental timeline per arteriole demonstrating the changes over time (hours:minutes) of cerebral perfusion pressure (CPP, mmHg), arteriolar diameter (µm), red blood cell (RBC) velocity (µm/s), and RBC flux (nl/s) using a generalized additive model (GAM) smoothing function per arteriole (n=52).



Grey shading: standard error.

Figure S2. Relationship between intracranial pressure (ICP, mmHg) and cerebral perfusion pressure (CPP, mmHg) per experiment (n=20).

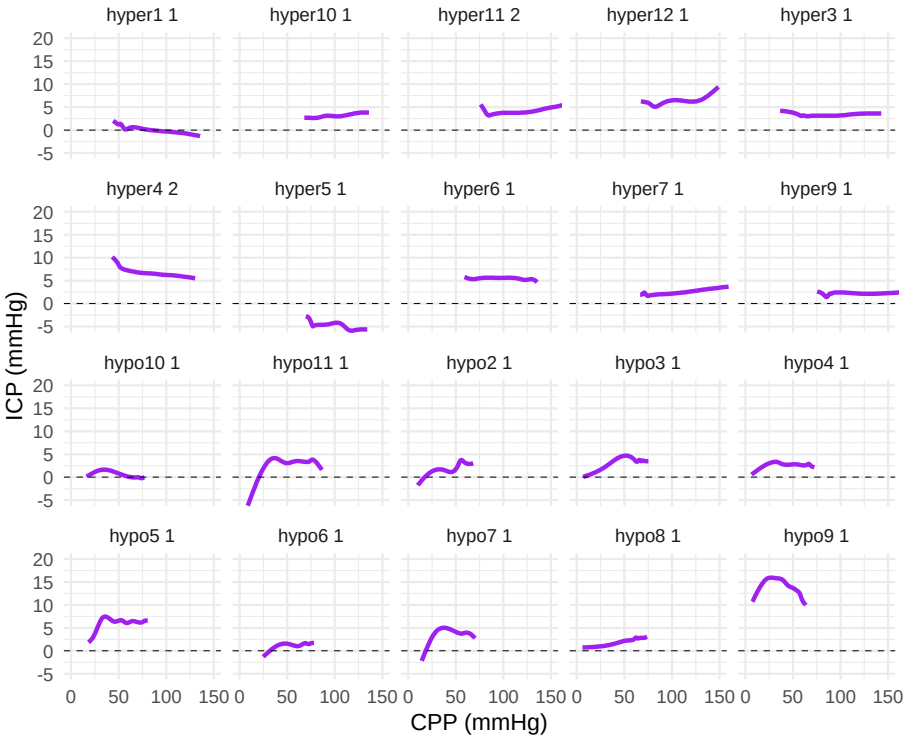
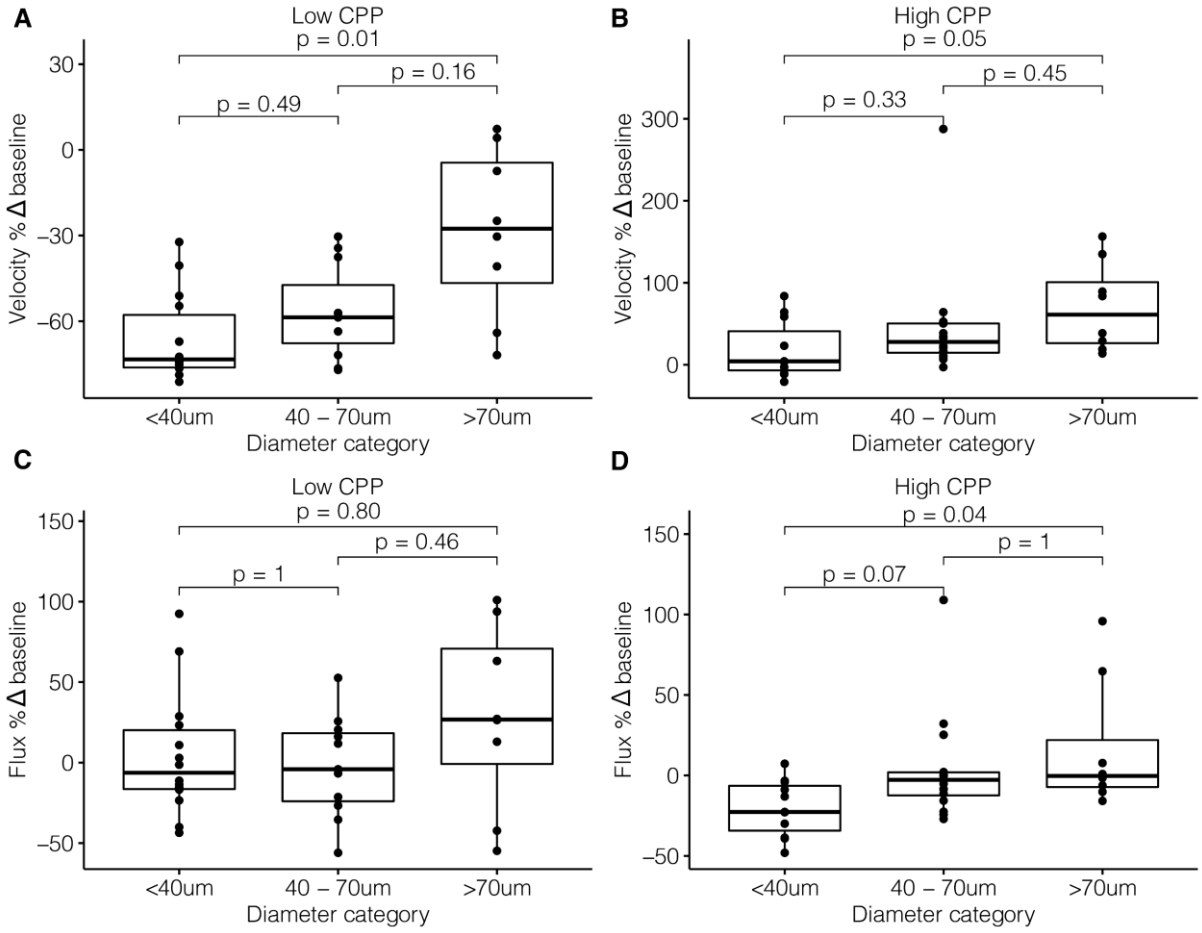


Figure S3. Relative differences compared to baseline in pial arteriolar red blood cell (RBC) velocity and flux adjustment to changes in cerebral perfusion pressure (CPP) according to size category.



(A) RBC velocity changes relative to baseline (delta %) at the point of maximal vasodilation per arteriole during hypotension. **(B)** RBC velocity changes relative to baseline (delta %) at the point of maximal vasoconstriction per arteriole during hypertension. **(C)** RBC flux changes relative to baseline (delta %) at the point of maximal vasodilation per arteriole during hypotension. **(D)** RBC flux changes relative to baseline (delta %) at the point of maximal vasoconstriction per arteriole during hypertension. Bonferroni adjusted significance levels for the Wilcoxon signed-rank test are shown above the boxplots.