Supplemental figure 1. Two-photon imaging of local changes in blood flow and dendritic structure before, during, and after MCAO.

A) Two-photon projection images of vasculature and dendritic structure. Each image was made from a projection derived from 6 different Z series, which were taken during 30 to 55 min after MCAO. They are oriented with the right side being more lateral, which is further into the MCA territory. Occluded capillaries are colored blue and flowing capillaries are colored red. The dashed line in the middle of the lower part of panel A shows the structural damage border. As one moves to the left away from the MCA core, the structure improves indicating a transition zone or border. While to the right towards the MCA core, degradation of the structure was observed. B) Close-images of dendritic structure within the dashed area in panel A indicating intact structure before MCAO. To the right a projection image is shown 49 min after MCAO and extensive dendritic blebbing is observed. In the lower panel the animal was reperfused and a significant recovery of dendritic structure was observed. C) Laser speckle image before MCAO and 15 min after occlusion. Two artery segments running nearly vertical are indicated by white arrows (also indicated on the two-photon image in panel A). Partial blood flow is apparent in both artery segments. Towards the medial side of the laser speckle image under MCAO darker tones are apparent indicating more local blood flow.

Supplemental figure 2. Quantification of dendritic blebbing data from confocal images of animals following histological perfusion.

The data shown is from 5 animals and taken 155±30 min after confirmed reperfusion. In these animals we scored dendrites as either being intact or blebbed within the first 400 μm of cortex. We compared areas of cortex centered at the indicated distances from the dendritic damage border and observed a significant increase in blebbing 0.5 and 1mm from the border as assessed by a one-way ANOVA followed by Bonferronis correction.