

**Supporting information for:**

**Correlation of transient adenosine release and oxygen changes in the caudate-  
putamen**

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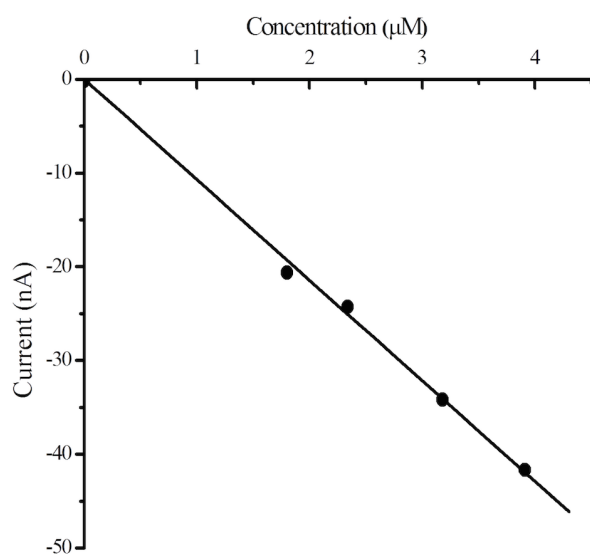


Figure S1. Calibration of oxygen. The oxygen concentration was calibrated using nitrogen- and air-saturated PBS buffer with volume ratio of 1:0, 2:1, 5:1, 10:1, and 15:1. Nitrogen saturated PBS buffer without oxygen was used as running buffer. The linear equation is  $y = -0.34x$  ( $R^2 = 0.99$ ). This graph allows calculation of oxygen concentration.

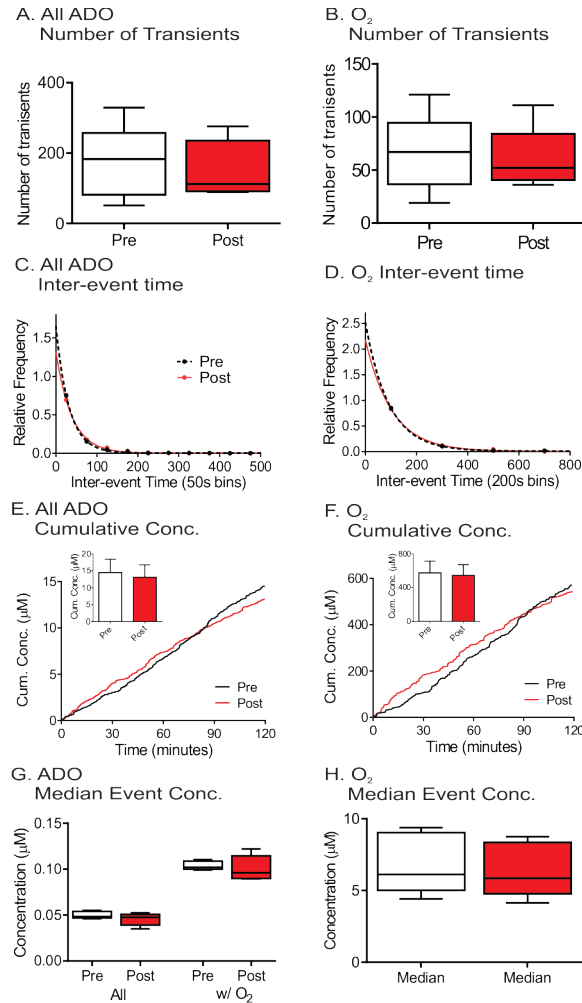


Figure S2. DMSO. All data and statistics are for  $n = 5$  animals. (A) Number of adenosine transients did not significantly change after DMSO (student's paired  $t$ -test,  $p = 0.75$ ). (B) Number of oxygen transients did not significantly change after DMSO ( $p = 0.62$ ). (C) Inter-event time of all adenosine transients. The exponential fit (dashed black line) before DMSO is  $y = 1.6e^{-0.0031x}$  ( $R^2 = 0.99$ ) and after DMSO (solid red line) is  $y = 1.3e^{-0.0030x}$  ( $R^2 = 0.99$ ). There was no significant difference between the underlying distributions before and after DMSO (KS-test,  $p = 0.99$ ). (D) Inter-event time of oxygen. The exponential fit before DMSO (dashed black line) is  $y = 2.5e^{-0.010x}$  ( $R^2 = 0.99$ ) and after DMSO (solid red line) is  $y = 2.2e^{-0.0075x}$  ( $R^2 = 0.99$ ). The underlying distributions before and after DMSO were not significantly different (KS-test,  $p = 0.99$ ). (E) Cumulative concentration traces for adenosine, with an inset plotting the maximum cumulative concentrations. The maximum cumulative adenosine concentration did not change after DMSO (paired  $t$ -test,  $p = 0.48$ ). (F) Maximum cumulative oxygen concentration did not change after DMSO ( $p = 0.74$ ). (G) Median event concentration of adenosine transients. The median event concentrations of all adenosine and Ad w/O<sub>2</sub> were not significantly change after DMSO (student's paired  $t$ -test,  $p = 0.13$  and  $p = 0.56$ , respectively). (H) The median event concentration of oxygen transients was not significantly change after DMSO ( $p = 0.22$ ).

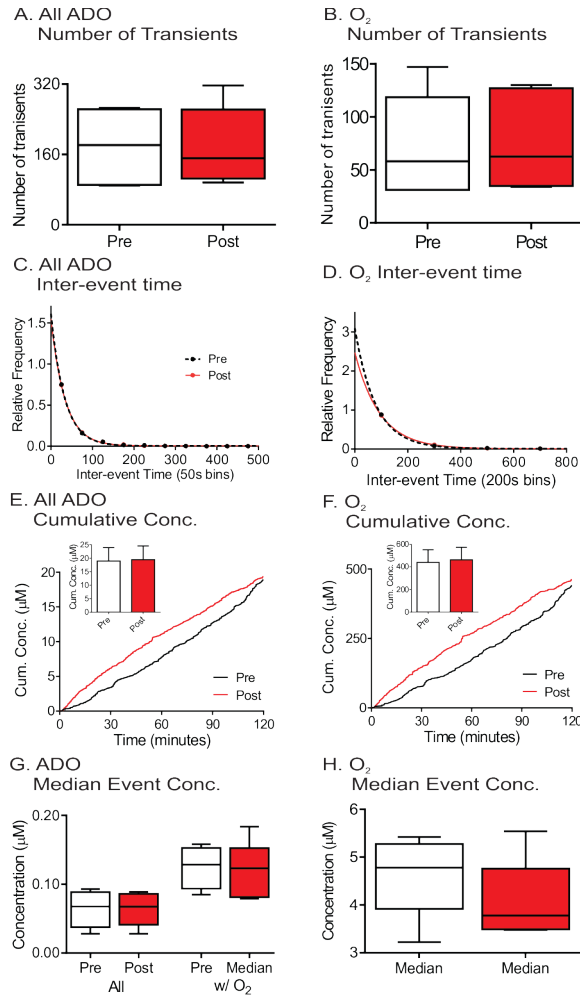


Figure S3. L-NAME. All data and statistics are for  $n = 6$  animals. (A) Number of adenosine transients did not significantly change after L-NAME (paired  $t$ -test,  $p = 0.98$ ). (B) Number of oxygen transients did not significantly change after L-NAME ( $p = 0.75$ ). (C) Inter-event time of all adenosine transients. The exponential fit (dashed black line) before L-NAME is  $y = 1.6e^{-0.0037x}$  ( $R^2 = 0.99$ ) and after L-NAME (solid red line) is  $y = 1.5e^{-0.0033x}$  ( $R^2 = 0.99$ ). There was no significant difference between the underlying distributions before and after L-NAME (KS-test,  $p = 0.50$ ). (D) Inter-event time of oxygen. The exponential fit before L-NAME (dashed black line) is  $y = 3.1e^{-0.011x}$  ( $R^2 = 0.99$ ) and after L-NAME (solid red line) is  $y = 2.4e^{-0.0050x}$  ( $R^2 = 0.99$ ). The underlying distributions before and after L-NAME were not significantly different (KS-test,  $p = 0.98$ ). (E) Cumulative concentration trances for adenosine, with an inset plotting the maximum cumulative concentrations. The cumulative adenosine concentration did not change after L-NAME (Student's paired  $t$ -test,  $p = 0.66$ ). (F) Maximum cumulative oxygen concentration did not change after L-NAME ( $p = 0.32$ ). (G) Median event concentration of adenosine transients. The median concentrations of all adenosine and Ad w/O<sub>2</sub> were not significantly change after L-NAME (and oxygen transients had no significant differences between before and after L-NAME (unpaired  $t$ -test,  $p = 0.95$  and  $p = 0.84$ , respectively). (H) The median event concentration of oxygen transients was not significantly difference after L-NAME ( $p = 0.32$ ).