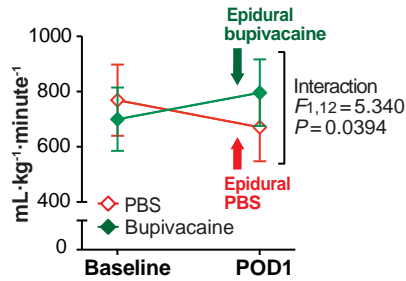
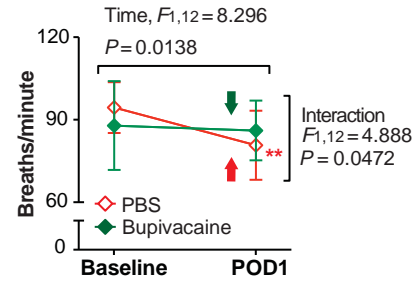


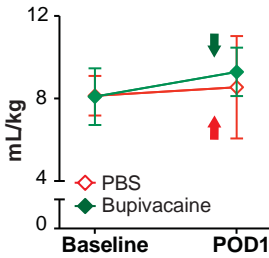
A. Minute ventilation



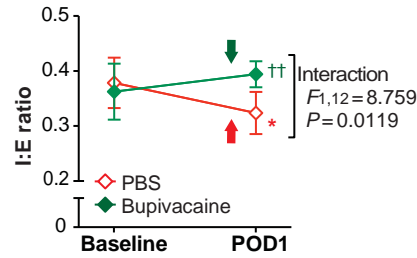
B. Breathing frequency



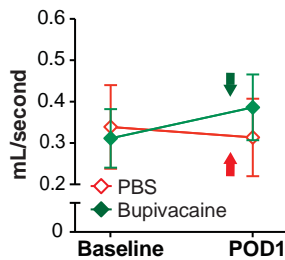
C. Tidal volume



D. I:E ratio



E. EF50



F. Body weight

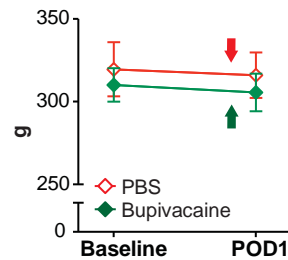


Figure S5. Raw (non-normalized) data for the Protocol E, the effect of epidural bupivacaine vs. PBS on ventilatory parameters 1 day after the abdominal incision (POD 1). **(A)** There was a significant time-group interaction for minute ventilation. **(B)** For breathing frequency, there was a significant decrease from baseline after the abdominal incision in the PBS group ($P = 0.0073$). On the other hand, the mean breathing frequency of the Bupivacaine group on POD 1 was not significantly different from baseline ($P = 0.8736$). **(C)** There was no significant difference in tidal volume between the two groups. **(D)** The mean inspiratory-to-expiratory time ratio (I:E ratio) decreased significantly from baseline in the PBS group ($P = 0.0421$), but not in the Bupivacaine group ($P = 0.2777$). On POD 1, the mean I:E of the Bupivacaine group was significantly greater than that of the PBS group ($P = 0.0074$). **(E)** The expiratory flow at 50% expired volume (EF50) values were not significantly different between the Bupivacaine and PBS groups. **(F)** There was no significant difference in body weight between the groups or between before and after the incision. Data are presented as mean \pm SD. $N = 7$ per group. * $P < 0.05$; ** $P < 0.01$ vs. Baseline, and ++ $P < 0.01$ vs. PBS by two-way ANOVA with repeated measured in one factor, followed by Sidak's multiple comparison tests.