Figure S1. The average differences in f_v (delta f_v) between normoxia and hypoxia, and normoxia and recovery in larval zebrafish (data based on Figure 1). Larvae at 4 days post fertilization (dpf) (A-C), 7 dpf (D-F), 10 dpf (G-I) and 15 dpf (J-L) were exposed to 25 Torr (A,D,G,J), 45 Torr (B,E,H,K) and 60 Torr (C,F,I,L). Estimates are presented with 95% credible interval based on Bayesian analysis. Each point represents the mode and the 95% CI of the posterior distribution associated with the difference in f_v of hypoxia and recovery relative to normoxia. Shown are mode (filled squares) and 95% CI (black lines) of the posterior distribution. Data are significant if the 95% CI do not intersect zero (dotted horizontal line).
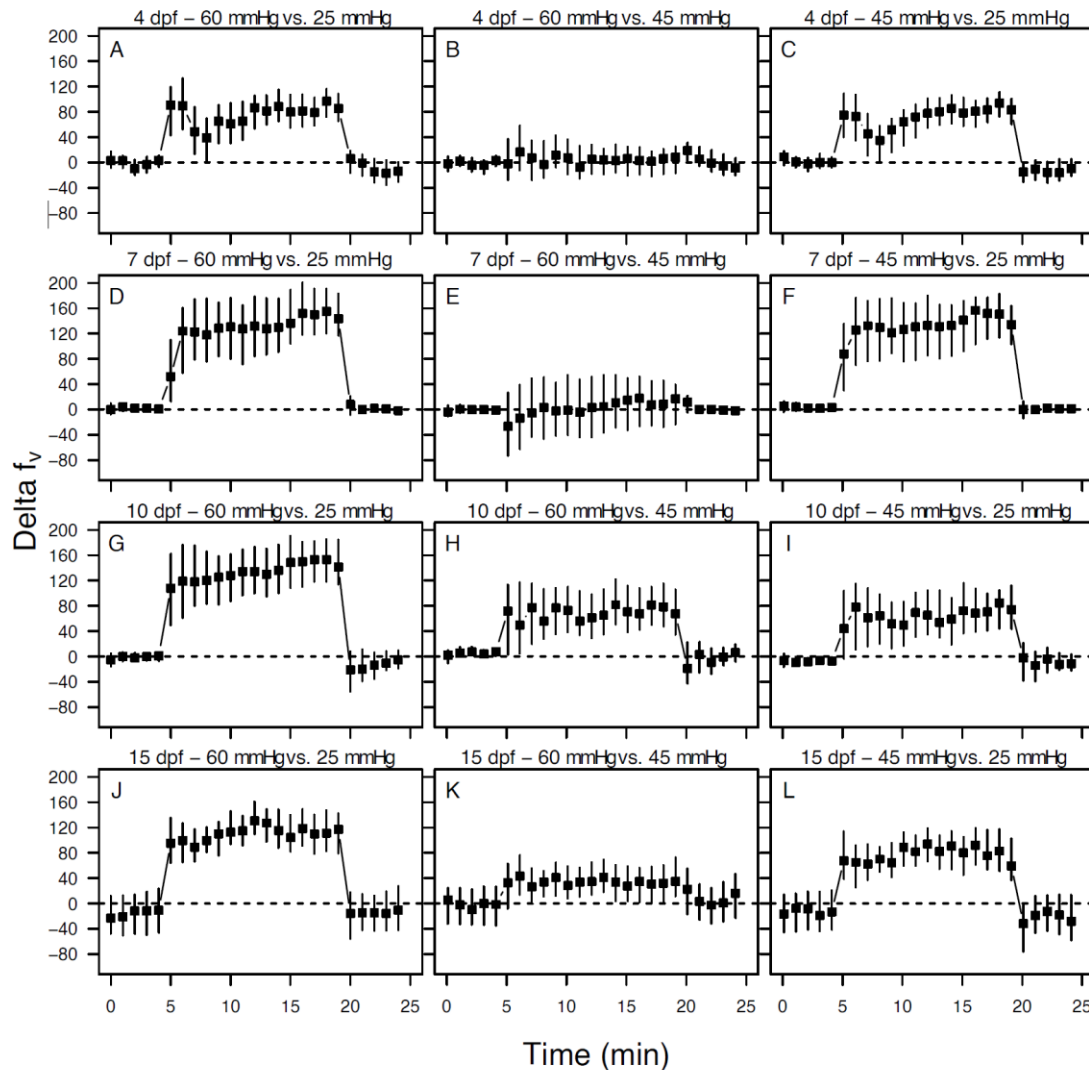
Figure S2. **The average difference in f_V (delta f_V) in larvae at 25 and 45 Torr relative to 60 Torr and at 25 Torr relative to 45 Torr (data based on Figure 1).** The larvae are compared at normoxia (5 min), hypoxia (15 min) and recovery (5 min) at 4 days post fertilization (dpf) (A,B,C), 7 dpf (D,E,F), 10 dpf (G,H,I) and 15 dpf (J,K,L). Estimates are presented with 95% credible interval based on Bayesian analysis. Each point represents the mode and the 95% CI of the posterior distribution associated with the difference in f_V of larvae either at 25 Torr or 45 Torr relative to 60 Torr, or 25 Torr relative to 45 Torr larvae. Shown are mode (filled squares) and 95% CI (black lines) of the posterior distribution. Data are significant if the 95% CI do not intersect zero (dotted horizontal line).
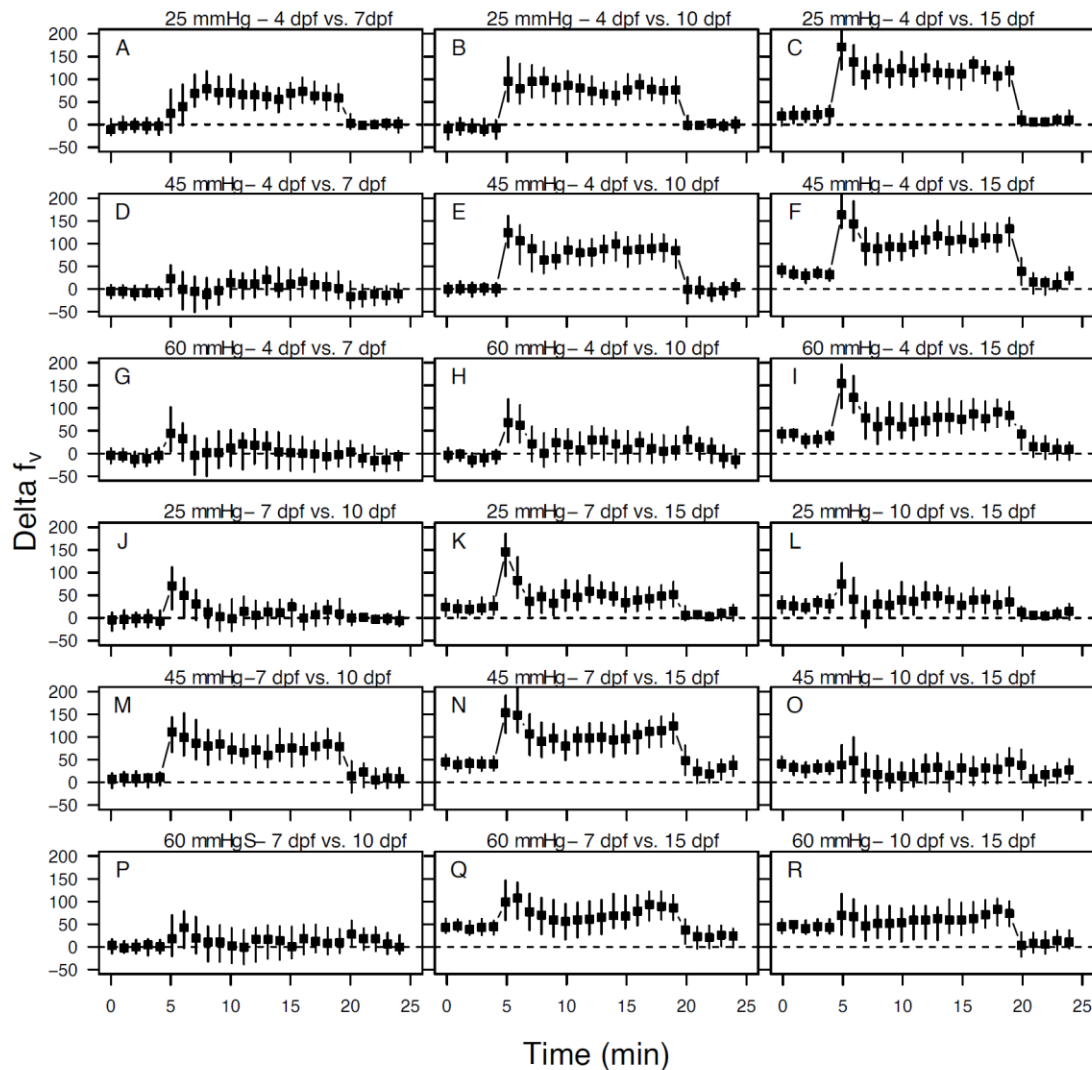
Figure S3. **The average difference in f_V (delta f_V) in larvae at 7, 10 and 15 days post fertilization (dpf) relative to 4 dpf, at 10 and 15 dpf relative to 7 dpf, and at 10 dpf relative to 15 dpf (data based on Figure 1).** The larvae are compared at normoxia (5 min), hypoxia (15 min) and recovery (5 min) at 25 Torr (A-C,J-L), 45 Torr (D-F, M-O) and 60 Torr (G-I,P-R). Estimates are presented with 95% credible interval based on Bayesian analysis. Each point represents the mode and the 95% CI of the posterior distribution associated with the difference in f_V of larvae at different developmental stages relative to 4, 7 or 10 dpf larvae. Shown are mode (filled squares) and 95% CI (black lines) of the posterior distribution. Data are significant if the 95% CI do not intersect zero (dotted horizontal line).
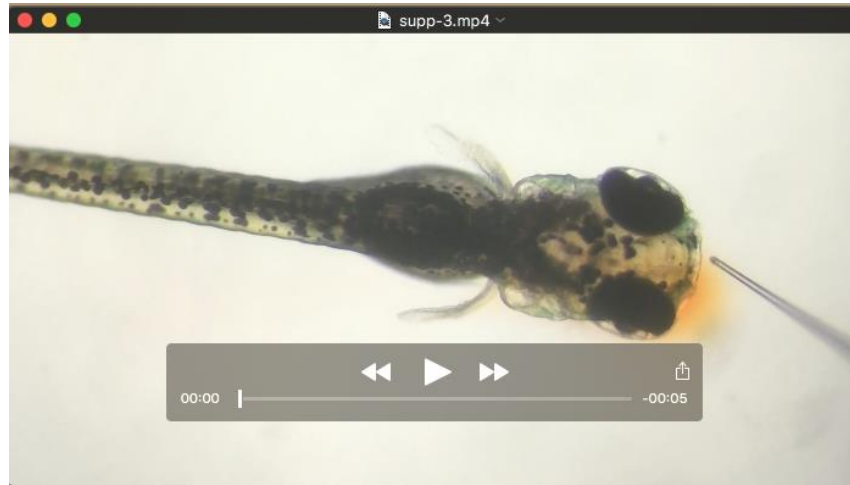
Movie 1. 4 dpf zebrafish larva inspiring water from the mouth and expiring water out of the opercula.

Movie 2. 4 dpf larva embedded in 2.5% agar with 0.5% phenol red solution. Once water is added, phenol red quickly diffuses out of the agar.

Movie 3. 7 dpf larva with its head embedded in 2.5% agar. Ventilation is prevented, but the larva is still able to move its fin.