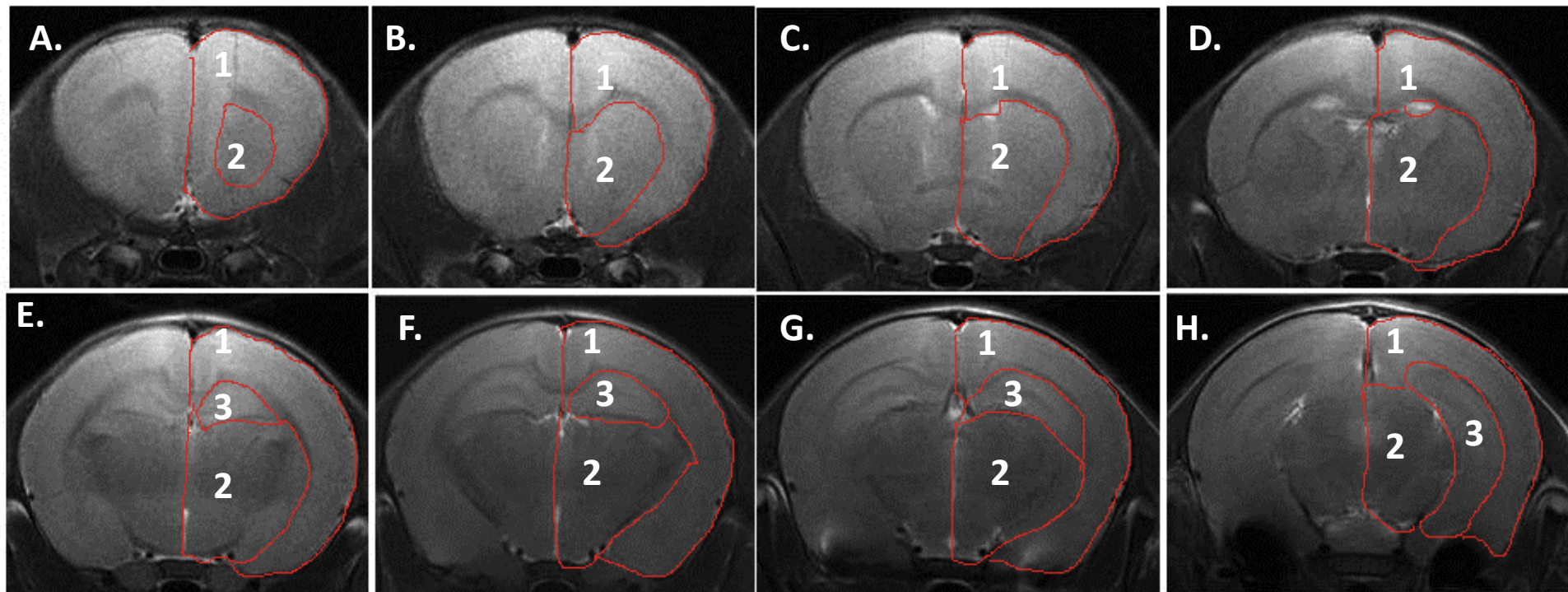
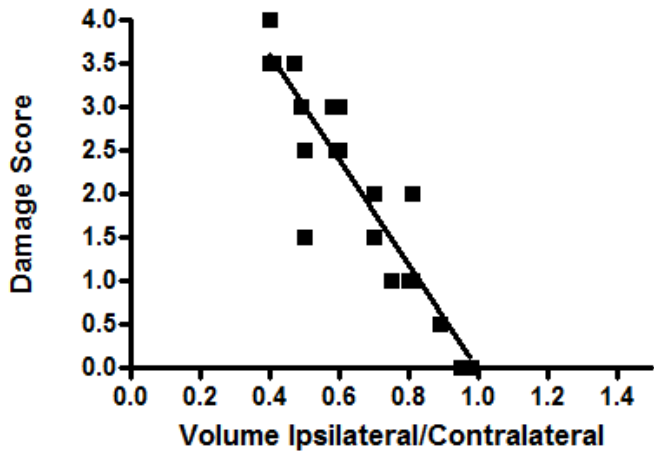


Supplemental Figure 2A, online: **Damage Score (DS) and Volume determinations from MRI.** 8 MRI images, 1 mm apart, from Bregma 2.52 to -5.40 were assigned a gross damage score based on an ordinal scale of 0-4, and the 8 scores were averaged to obtain the overall score for the brain. Shown are representative images from Bregma – 3.3. DS is assigned as: 0 = no damage; 1 = mild atrophy only; 2 = increased atrophy with ventriculomegaly; 3 = 1-25% infarct; 4 = 25-100% infarct.

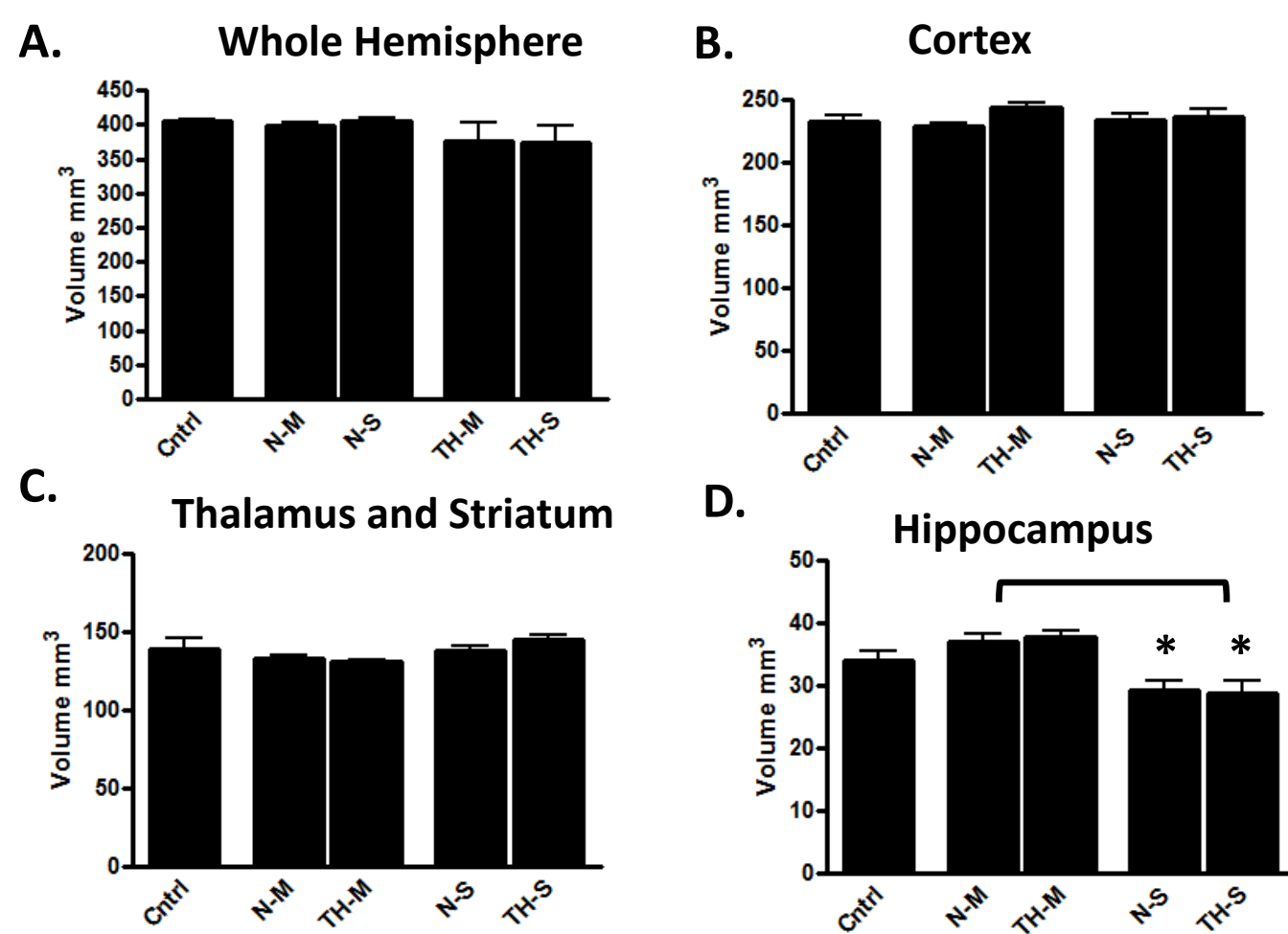


Supplemental Figure 2B. Individual regional areas were measured in the same 8 sequential images, 1 mm apart by tracing regions of interest (ROI) with Image J software (NIH, Bethesda, MD). ROI definitions are: 1) cortex; 2) Thalamus and striatum, including hypothalamus; 3) hippocampus. The volume represented by the areas from each set of 8 sections was calculated as:
Volume = (1 mm) x (Sum of area normal tissue).

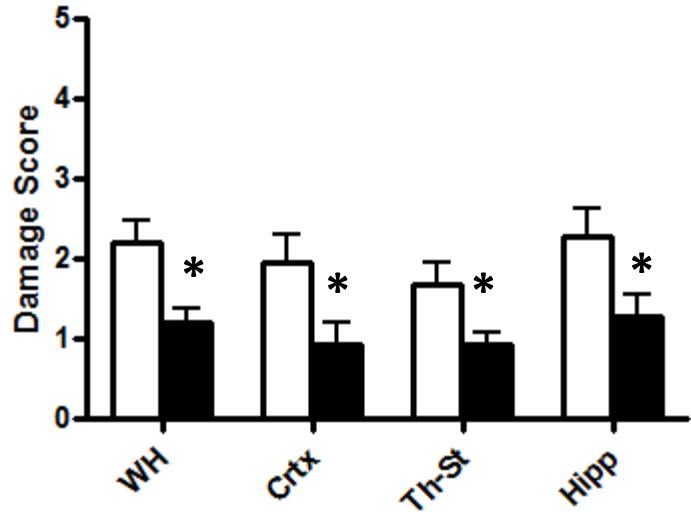
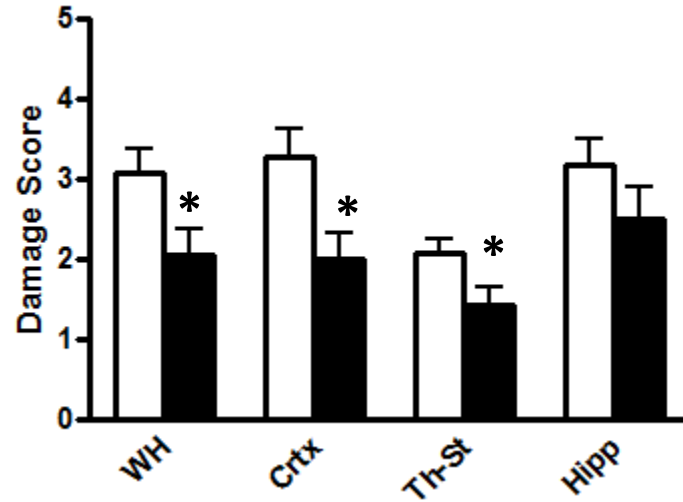


Supplemental Figure 2 (online): **Damage score (DS) and volume determinations from T₂-weighted images.**

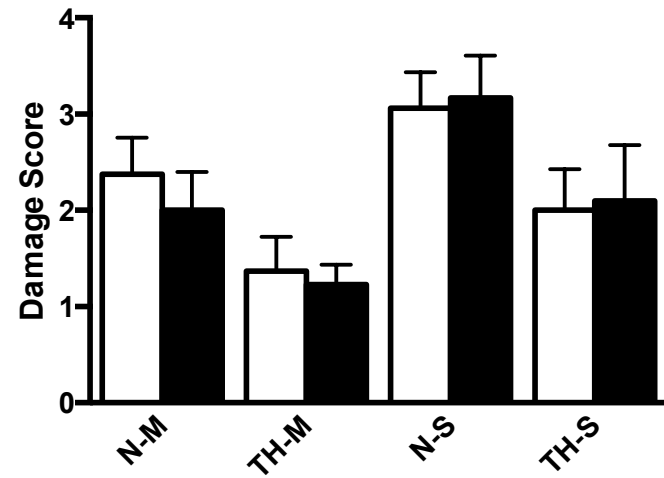
C. Comparison of volume measurements and gross damage scores from MRIs of each animal at 2 weeks of recovery, plotted as linear regression of hemispheric volume ratio, Ipsilateral (I)/Contralateral (C) vs DS. N=25, $r^2 = 0.847$.



Supplemental Figure 3 (online): **Effect of hypoxia-ischemia and therapeutic hypothermia on the volume of the contralateral hemisphere in moderately and severely damaged animals at 2 weeks of recovery.** Hemispheric and regional volumes were determined from the summation of areas from 8 coronal sections of T₂-weighted images as described in Methods and depicted in supplemental figure 2B (online) and depicted with the corresponding volumes for age-matched naïve controls: A, whole hemisphere; B, cortex; C, Thalamus/striatum (includes hypothalamus), D, Hippocampus. Contralateral hippocampal volume in severe animals was significantly less than in corresponding moderate animals, * $p < 0.001$ (unpaired t test). Cntrl, naïve control, $n=3$; N-M, normothermia-moderate, $n=22$; TH-M, therapeutic hypothermia-moderate, $n=22$; N-S, normothermia severe, $n=11$; TH-S, therapeutic hypothermia-severe, $n=11$.

A.**B.**

Supplemental Figure 4 (Online): **Regional DS determined at 2 weeks from T₂-MRI.** Ordinal values for whole hemisphere (WH) and individual regions were determined from 2 week MRIs as detailed in Methods for **A:** Moderate and **B:** Severe cohorts. Crtx, Cortex; Th-St, Thalamus +hypothalamus and striatum; Hipp, Hippocampus. For Normothermic (white bars) and Hypothermic (black bars). * $p < 0.05$, unpaired t-test.



Supplemental Figure 5 (online): **Sex does not affect HI-induced damage or protection with hypothermia.** Two week damage scores determined from T_2 -weighted MRI images depicted separately for male (white bars) and female (black bars) rats with no significant differences observed by sex (ANOVA). N-M, normothermia-moderate, male, $n=12$, female, $n=9$; TH-M, therapeutic hypothermia-moderate, male, $n=9$, female, $n=12$; N-S, normothermia-severe, male, $n=6$, female, 3; TH-S, therapeutic hypothermia-severe, male, $n=6$, female, $n=5$.