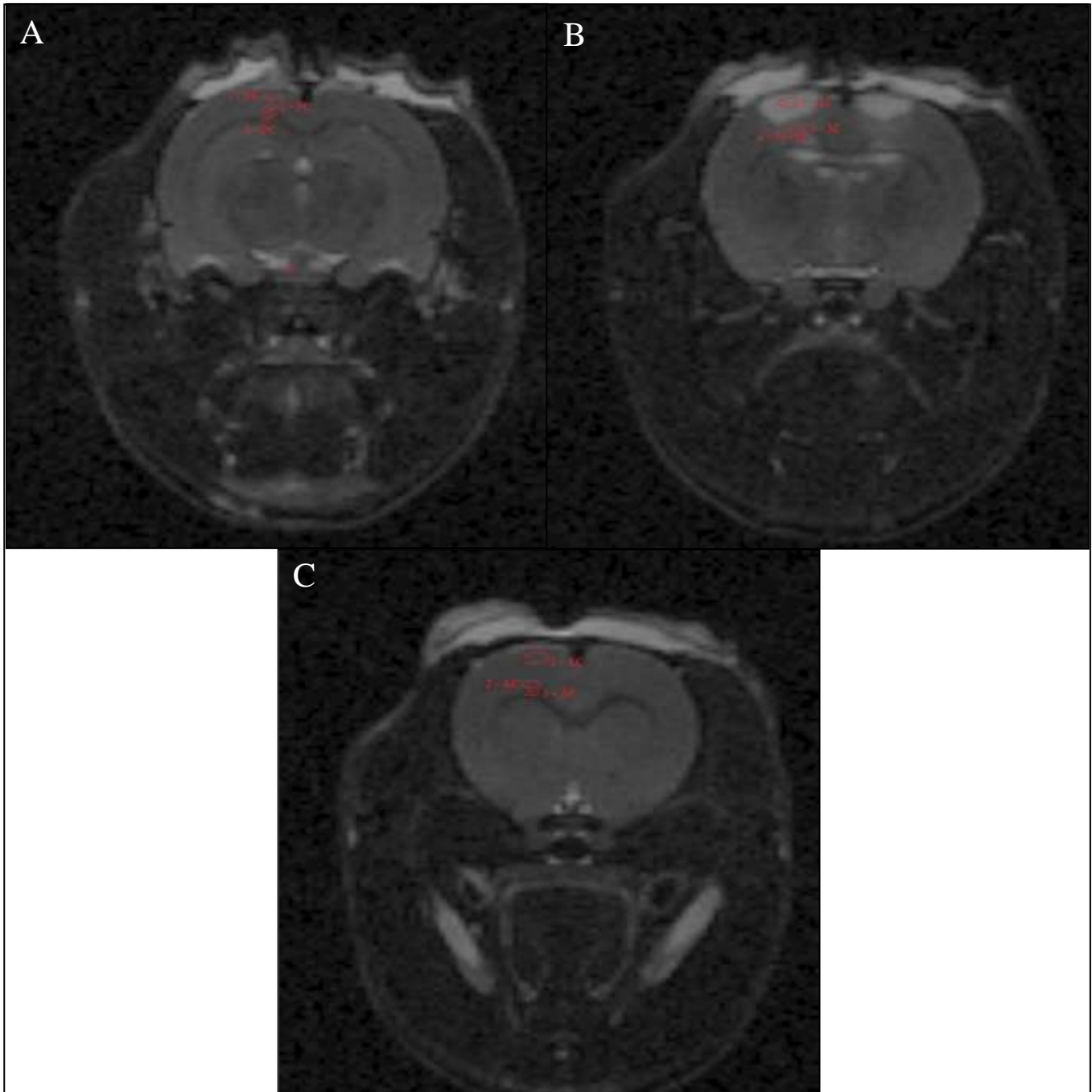
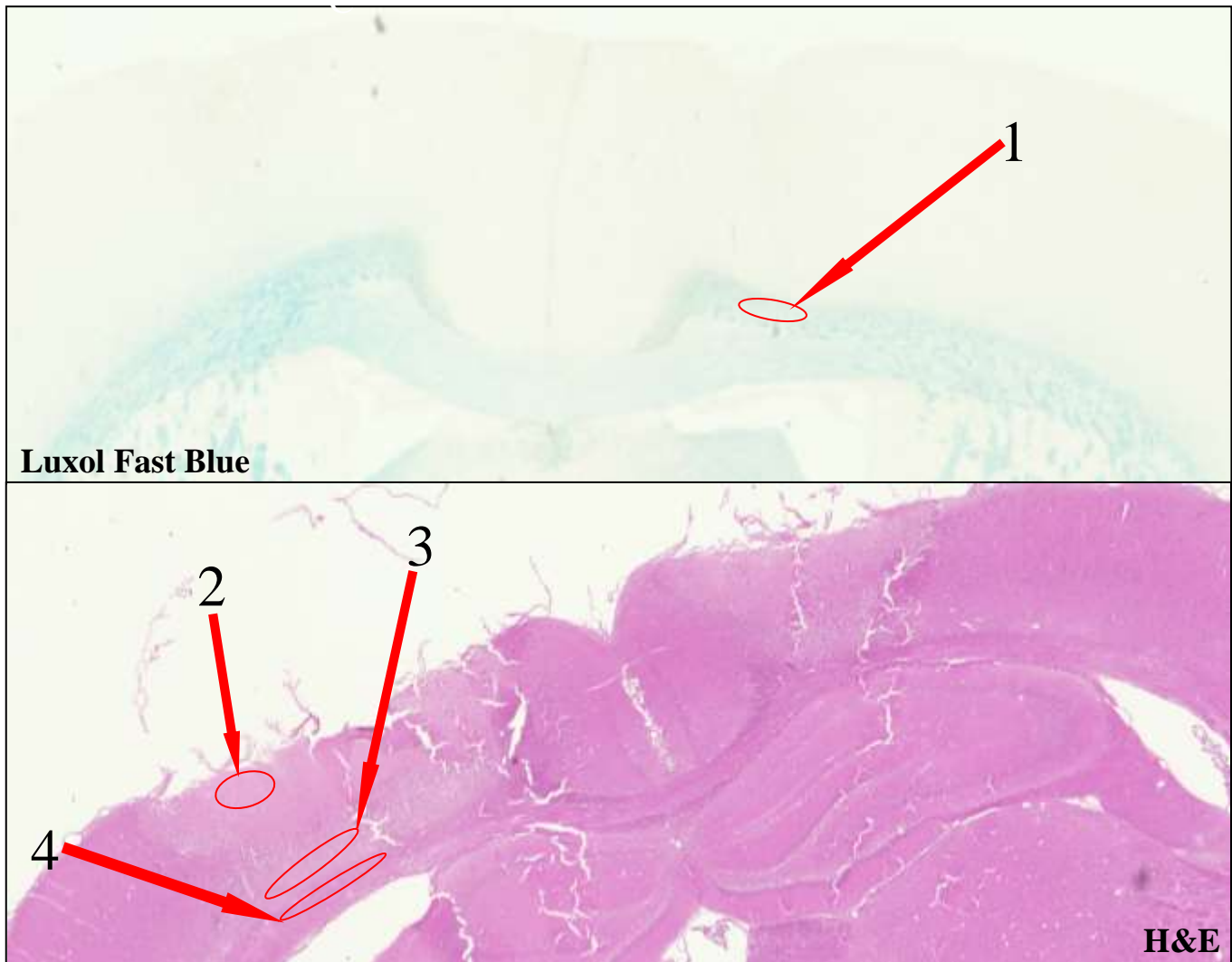


**Figure 1:** Sagittal view of an adult rat brain. **A** represents the anterior slice. **AM** represents anterior mild lesion slice. **C** represents the central lesion slice. **PM** represents the posterior mild lesion slice. **P** represents the posterior slice. Dark pink represents the ischemic core and light pink represents the peri-infarct zone as defined by mild T<sub>2</sub> changes.

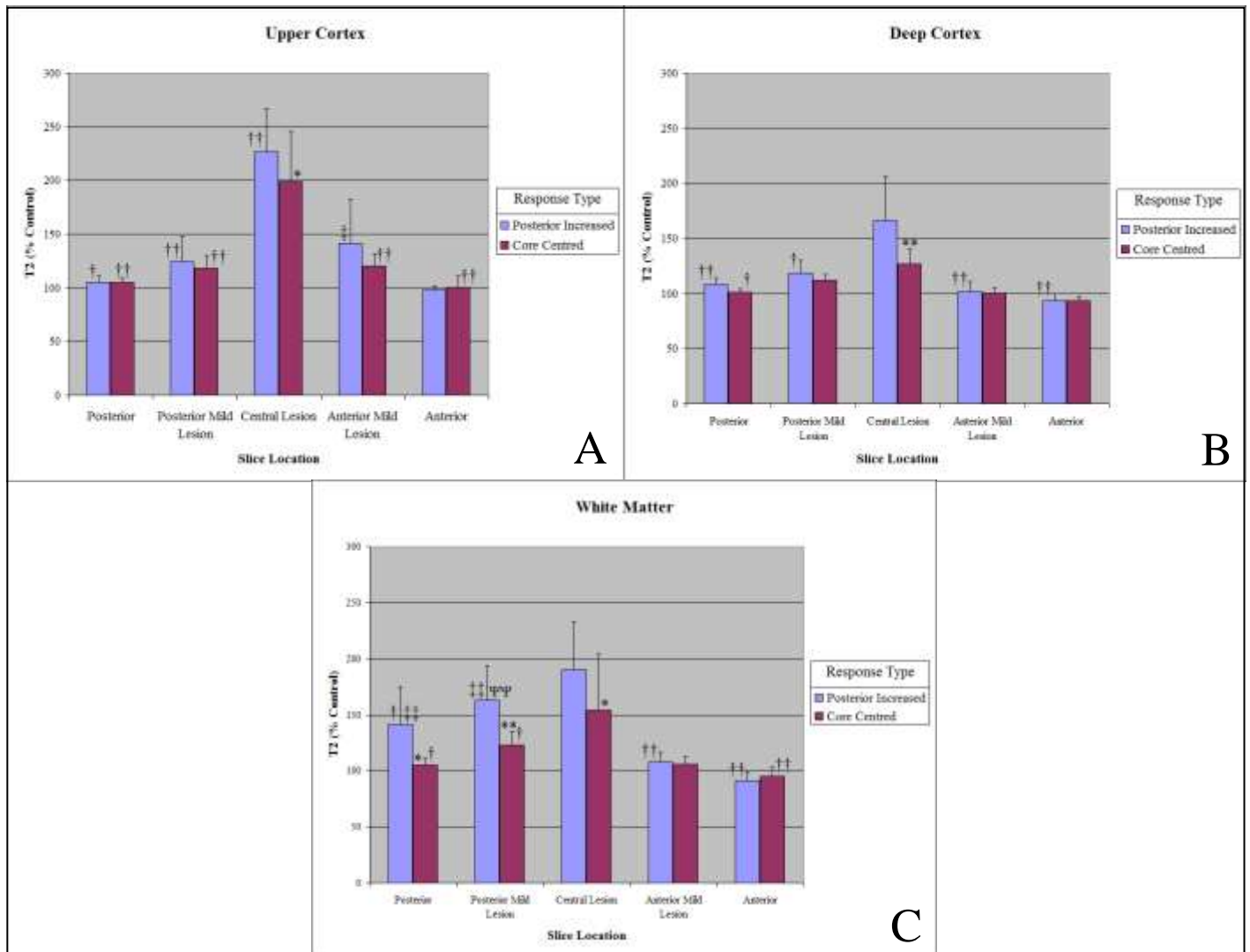


**Figure 2:** ROI regional measures. **Diagram A:** *1-PC* represents the upper cortex ROI measure of a posterior control slice, *2-PC* represents the deep cortex ROI measure of a posterior control slice, and *3-PC* represents the white matter ROI measure of a posterior control slice. **Diagram B:** *1-M* represents the upper cortex ROI measure of a central lesion slice, *2-M* represents the deep cortex ROI measure of a central lesion slice, and *3-M* represents the white matter ROI measure of a central lesion slice. **Diagram C:** *1-AC* represents the upper cortex ROI measure of an anterior control slice, *2-AC* represents the deep cortex ROI measure of an anterior control slice, and *3-AC* represents the white matter ROI measure of an anterior control slice.



**Figure 3:** Visual indicators used for assessment of histological slides. **1** represents the decrease in Luxol Fast Blue pigmentation reflective of myelination losses in white matter. **2** represents the decrease in eosin pigmentation and structural disorganization reflective of tissue injury in the upper cortex. **3** represents the decrease in eosin pigmentation and structural disorganization reflective of tissue injury in the deep cortex. **4** represents the decrease in eosin pigmentation, structural disorganization, and cellular spacing reflective of tissue injury in white matter.

<b>Table 1:</b> Averages of the controls of the posterior increased and core centered groups			
	Upper Cortex	Deep Cortex	White Matter
Posterior Increased	44.40 ( $\pm 1.76$ )	43.42 ( $\pm 1.47$ )	37.50 ( $\pm 1.04$ )
Core Centered	43.17 ( $\pm 1.50$ )	42.57 ( $\pm 1.14$ )	37.03 ( $\pm 1.61$ )



**Figure 4:** Mean T<sub>2</sub> control percentages for upper cortex, deep cortex and white matter regions of the posterior increased and core centered groups (eight animals per group or response type). Bars expressed as  $\pm$  standard deviation from the mean.

\* =  $p < 0.05$ , \*\* =  $p < 0.001$  different from Posterior Increased

† =  $p < 0.05$ , †† =  $p < 0.001$  different from Central Lesion slice of same response type

‡ =  $p < 0.05$ , ‡‡ =  $p < 0.001$  different from Anterior slice of same response type

ΨΨ =  $p < 0.001$  different from Anterior Mild Lesion slice of same response type

<b>Table 2:</b> Fraction of animals that showed signs of obvious tissue injury on H&E slides						
	Posterior Slice		Central Lesion Slice		Anterior Slice	
	Posterior Increased	Core Centered	Posterior Increased	Core Centered	Posterior Increased	Core Centered
Upper Cortex	0/5	0/3	5/5	3/3	0/5	0/3
Deep Cortex	0/5	0/3	4/5	0/3	0/5	0/3
White Matter	0/5	0/3	3/5	0/3	0/5	0/3