SUPPLEMENTARY TABLE S1. PIG FEM MATERIAL MODELS AND PROPERTIES[1]

Anatomical part	Material model	Material properties	References
Brain tissue matrix (White matter, corpus callosum, whole brain)	HGO hyperelastic & quasilinear viscoelastic	$G = 3.0478$ kPa $K = 2.19$ GPa $k_1 = 35.767$ kPa $k_2 \rightarrow 0$ $G_1 = 0.8909$kPa $G_\infty = 0.109$ kPa $\tau_1 = 0.035$ s$\rho = 1.04$ g/cm^3	Coefficients were calibrated based on the experimental tests performed by Rashid, B., Destrade, M., Gilchrist, M.D. [8]
Axonal fibers	HGO Hyperelastic & quasilinear viscoelastic	$k_1 = 43.432$ kPa $k_2 \rightarrow 0$ κ depending on FA values	Properties were determined based on the volume fraction ratio and the stiffness ratio of axonal fiber bundle to the brain tissue matrix experimentally identified by Arbogast, K.B. and Margulies, S.S. [9]
Falx	Elastic	$E = 15000$ kPa $\upsilon = 0.45$ $\rho = 1.13$ g/cm3	Sullivan, S., et al. [10]
Lateral ventricle	Kelvin–Maxwell linear viscoelastic	$G_0 = 0.5$ kPa $G_\infty = 0.1$ kPa $\tau_1 = 0.0125$ s $K = 2.19$ GPa $\rho = 1.04$ g/cm^3	Mao, H., et al. [11]
Brain-skull connector	Elastic spring	$k = 3460$N/mm	Sullivan, S., Eucker, S.A., Gabrieli, D., Bradfield, C., Coats, B., Maltese, M.R., Lee, J., Smith, C., Margulies, S.S. [10]