

CWSF 2013 - Lethbridge, Alberta



Elizabeth Suen

Effect of Soft Tissue on Torsional and Compressional Strength of Porcine Spines

Challenge: Health

Category: Intermediate

Region: Greater Vancouver

City: Richmond, BC

School: York House School

Abstract: The aim of this experiment was to determine if the presence of soft tissue affects the strength and stiffness of cervical porcine spines from C1-C6. Currently, testing on porcine spines does not standardize the amount of soft tissue surrounding the vertebrae. The spines were mounted in dental cement and loaded into a hydraulic testing machine. Results suggested possible significant effects ($p=0.12$).

Biography

My name is Elizabeth and I attend York House School. My favourite subjects include Biology and Math. Last year, I received the science award at my school. In addition, I won the Pythagoras, Gauss, and Pascal math contests. I am also an avid swimmer, having been a member of my school swim team since Gr. 3. To give back to my school, I coach the junior swim team during their season. Furthermore, I swim competitively outside of school during the summer. I have competed at BCSSA provincials for many years and recently the 2013 BC AAA Short Course Championships. Music is another one of my passions, playing the piano and bassoon. I received my ARCT Performers in piano and I accompany our school choirs. While looking at previous spinal research studies, I realized the amount of soft tissue on the spine was not recorded for each experiment, provoking my interest on the effect of soft tissue on spinal strength. If I were to investigate further, I would test varying amounts of soft tissue on the spine. Some advice I would give to others include having patience when preparing the spine and making sure to record everything in a lab book.

Awards

Value

Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	\$300
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$2 300