

CWSF 2016 - Montreal, Quebec



Emma Morgan

Measuring Knee Stress with a Mechanical Model

Challenge: Health

Category: Intermediate

Region: East Kootenay

City: Fernie, BC

School: The Fernie Academy

Abstract: The purpose of my experiment is to discover the relative impact of different bending angles as well as different muscle tightness on the patella tendon, the medial collateral ligament, and the lateral collateral ligament by using a simple mechanical model of the knee joint.

Biography

My name is Emma Morgan and I live in Fernie, British Columbia. I am currently in Grade 9 at The Fernie Academy. My school has so many amazing things to offer! Some that I really enjoy are the sports teams and the languages including french, german, and spanish. I am a competitive athlete as I do many sports including triathlon, skiing, volleyball, wake surfing, mountain biking and swimming. I also play the piano and love travelling and exploring. I love nothing more than spending time with family and friends. I enjoy participating in school activities and volunteer work including, speech contests, debates, and science fair as well as many fundraising activities. I am the Prefect Coordinator for my school. I got my inspiration for this project primarily from online research as well as personal experiences and injuries from being a former competitive figure skater and dancer. I would absolutely love to continue on and improve this project, looking at more joints in the body. My advice for other students thinking about doing a project would be "just do it!" Have some fun with it because great things can come out of your experience creating a project!