



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Natalie A. Walzer	Project Number J1224
Project Title How Can Knee Injuries Be Prevented in Female Athletes?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this experiment is to determine if the same inclinations for the knee to go into the valgus position that has been proven to occur in older athletes is present in populations younger than 13 years old.</p> <p>Methods/Materials Used 4 cones to direct test subjects during the 45 degree hop test, recorded and measured the three other movements that occur in sports with an iPhone with the Hudl technique application.</p> <p>Results Female athletes had larger knee abduction angles than male athletes. However, it was not as significant of a difference as studies that tested high school and collegiate athletes.</p> <p>Conclusions/Discussion One can conclude from the experiment that the differences thought to occur at the age of thirteen are happening at a younger age and need to be acted upon at this age with injury prevention training. It is believed that this will help decrease the amount of ACL injuries if given before these differences become more prevalent.</p>	
Summary Statement I showed that degrees of knee valgus thought to occur at puberty are beginning to appear in younger athletes.	
Help Received My dad helped me get access to scientific texts, and my science teacher helped provide me with a way to organize and present my project. I performed and measured the trials of my experiment.	