



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Erin R. Duralde	Project Number J1407
Project Title Is Acetaminophen or Ibuprofen More Effective for Treating Musculoskeletal Pain in Middle-Aged Athletes?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals To determine whether Acetaminophen or Ibuprofen is more effective for treating musculo-skeletal pain in athletes between the ages of 40-55.</p> <p>Methods/Materials Each participant received 8 packages of pills. In these packages were 2 pills (500 mg each of Acetaminophen, or 200 mg each of Ibuprofen.) The participants could take the drugs at any time during the 3-week period of study. Using the "Pill Evaluation Forms" each participant recorded their pain level using a scale of 1-5 before taking the pills. Then, 2 hours later, they recorded their pain level again.</p> <p>Results With 24 participants responding, it was found that both drugs were equally effective when the average pain decrease from taking each drug was compared. Interestingly, some individuals showed a strong preference for one or the other drug. Of twelve participants showing a strong preference, 6 liked Ibuprofen, and 6 liked Acetaminophen. Males seemed to prefer Acetaminophen while females seemed to like Ibuprofen.</p> <p>Conclusions/Discussion The results of this experiment show that both medicines are effective for treating musculoskeletal pain, and the average pain decrease from taking the two drugs was basically the same. This is a good and important finding because some people can't take Ibuprofen due to its side effect of stomach discomfort. These people should be encouraged to take Acetaminophen, which will be just as effective and much milder on their stomachs.</p>	
Summary Statement This project is meant to determine whether Acetaminophen or Ibuprofen is more effective for treating musculoskeletal pain in middle-aged athletes.	
Help Received Father determined dosages, purchased meds, and reviewed my questions re: medical eligibility to participate. Mother helped find some of the participants and drove me to participants' homes so that I could explain the study, determine whether they qualified, and explain how to complete the paperwork.	