



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Eugene Laksana	Project Number J1404
Project Title Impact of Osteophase and Herbal Extracts on BMD Levels	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals After researching a medication based on herbal components called osteophase, I have decided to conduct an experiment concerning the impact of osteophase and its herbal components (including astragalus, anbgelica sinensis, and coix seed) on a bone's BMD level and density structure using an x-ray. Then, operating a texture analyzer, I also wanted to calculate the strengths of the treated bones versus the bones that were untreated. Through this experiment, I hope to determine if osteophase may be an ideal prevention or cure to osteoporosis.</p> <p>Methods/Materials Fill fifteen cups with 175 milliliters and mix cups 1-3 with water, 4-6 with 13 grams of astragalus, 7-9 with 13 grams of angelica sinensis, 10-12 with 13 grams of coix seed, and 13-15 with 2 capsules of osteophase. Place one bone in each cup, and record observations for one month. After one month, use the x-ray to take images of each of the bone's density structure. Repeat these same procedures, but this time, extend the observation period to two months. Once the total submersion period has reached three months, take another x-ray of each of the bone to base on for your results. Finally, use a texture analyzer to test the strengths of the bones. This step will terminate the experiment.</p> <p>Results The bone treated with the osteophase solution developed bones that were the densest. However, the bones treated only with water were determined the most durable once it was tested on the texture analyzer. All the other bones that were treated with the other herbal extracts fall below these two.</p> <p>Conclusions/Discussion Osteophase is a medication that works by redirecting calcium into the bones. Due to the lack of calcium external prior to the bones, this medication was unable to serve its full potential, although it did develop the densest bones. However, the osteophase solution maintained the density by shifting minerals from the outer layer, into the marrow, thus weakening the bones further than the water solution.</p>	
Summary Statement In an attempt to find the cure for osteoporosis, this project is designed to test the effectiveness of osteophase and its herbal extracts in the promotion of calcification of bones by redirecting BMD compositions into the skeletal system.	
Help Received Dr. Haidekker contributed information for my research; Dr. Judo assisted me in using the x-ray; Dr. Omary assisted me in using the texture analyzer; Mrs. Taylor checked and approved of my papers; Mom helped with the design; Dad helped supervised through procedures.	