CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
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Project Number
J1012

Project Title
Impact of Physical Activity on Women's Hip and Spine's Bone Density

Abstract

Objectives/Goals
My objective is to stress the importance of exercise to women's bone health.

Methods/Materials
I have used a bone density machine called DEXA to measure the bone density of fifteen physically active women and fifteen sedentary women. I recorded the results and then compared them.

Results
The average hipbone density for the sedentary women was 1.182 g/cm2 and the average hipbone density for the physically active women was 1.265 g/cm2. The average spine bone density for the sedentary women was 0.988 g/cm2 and the average spine bone density for the physically active women was 1.104 g/cm2.

Conclusions/Discussion
My study showed that physically active women have greater bone density than sedentary women especially in the women over 35 years of age. In my project, I also gathered the data on amount of milk intake and sunlight exposure from each of the subjects. After studying the data, I have concluded milk and sunlight exposure are important for healthy bones, but I did not see significant impact on the bone density. If I were to perform this experiment again, I would try to include more people in the study particularly under the age of 35. This is because I would like to figure out if physical activity really impacts people under the age of 35. Also, I would try comparing different contributing factors in more detail.

Summary Statement
Physical activity in women is vital for preventing bone loss and osteoporosis.

Help Received
My parents helped to conduct the study, my sister helped with the display board, my science teacher, Mr.Post, helped with the data results, and the local racquetball club helped in choosing the subjects.