CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)

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Project Number

22497

Project Title

How High Can Guys Fly?

Abstract

Objectives/Goals

The Purpose was to determine if any of our three variables: dorsiflexion (flexibility of the achilles tendon), navicular (height of arch), and arch (length + width), effect how high people can jump. Many athletes today are required to jump at a certain level, for them to enter at least a Division I college. We hypothesize thats guys that jump higher will have a more flexible achilles tendon and larger (wider and higher) arches, and guys that jump lower will have less flexibility and smaller arches.

Methods/Materials

Research began three months ago and continues through today. We did not know that testing people on their verticals would be so difficult. We had to make sure that our variables were controlled and we had to double and sometimes triple check everyone's information so we could be as specific and accurate as possible. We have collected data on all three variables and the participant's verticals.

Results

Out of 71 people that we used, we found that our hypothesis was correct, only when using the data from the five highest and five lowest jumpers comparing it to the three verticals.

Conclusions/Discussion

In conclusion, we found that a person's Achilles tendon flexibility and arch size will determine how high a guy can jump. If a person has a more flexible Achilles tendon and a larger arch then they will be able to jump higher than a person with flat feet, or almost no arch, and an inflexible Achilles tendon.

Summary Statement

In our project we were trying to find out if a guy's flexibility of their Achilles tendon and size of arch determines how high they jump.

Help Received

Used Desert High Volleyball vertex, Mom and dad help wire board