CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY

Name(s)
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Project Number
35184

Project Title
How Does the Age of Athletes Affect Heat Dissipation?

Abstract

Objectives/Goals
The objective of my project was to determine if there would be differences in the facial temperatures of secondary school students and elementary school students after exercise.

Methods/Materials
An infrared camera (FLIR ThermaCAM EX320) was used to take infrared images of secondary school and elementary school aged subjects after exercise. The images were then processed to obtain average temperatures of the pterygoid plexus capillary bed in the cheek (a principal site for excess heat dissipation by radiation). Thermal patterns of the region were also recorded.

Results
Differences in the average temperatures, the range of temperatures, and the thermal patterns after exercise were observed between the two age groups.

Conclusions/Discussion
The differences observed suggest that the elementary school age group may be dissipating more heat through radiation than the secondary school age group.

Summary Statement
This project examines one of the main mechanisms of thermoregulation (radiation) to determine if there is a difference in how excess body heat is dissipated between young children and young adults.

Help Received
My father helped me figure out how to operate and download image data from the infrared camera.