

Swimcaps change swimmer speed

By: Ingrith Hernandez

Introduction

- A factor that affects the swimmer's time in races is the type of clothes that they wear.
- Speedo created a new swimsuit called 'Fastskin'. The suit is scientifically designed to replicate sharkskin so that it cuts down on drag - the friction that slows down any body moving in water.
- 'Fastskin' is supposed to reduce drag by 4% in men and 3% in women.
- Lycra is the most common use of material for cap and swimsuits.

Introduction Continued



Hypothesis

- I hypothesized that the type of cap that a swimmer wears affects her performance in the water.
- The more formfitting the swim cap, the faster the swimmer will go.
- A swimmer who does not wear any cap will go slower than when she wears either type of swim cap.

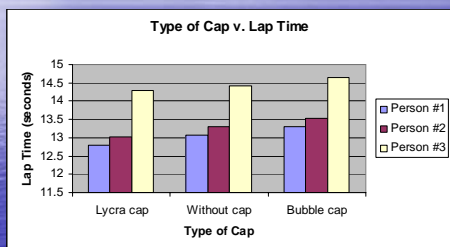
Methods

- I tested three different swimmers in a pool. Each swimmer had three different swim conditions. One wearing a Lycra swim cap, another wearing a Latex bubble swim cap, and a final wearing no swim cap.
- The first part of the experiment was testing the type of cap verses swim time.
- The second part of the experiment was testing the type of cap verses push-off distance.

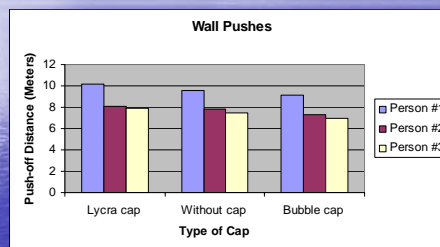
Evidence



Results



Results



Conclusions

- From these experiments I concluded that the type of cap has a noticeable impact on the performance (speed and push-off) of a swimmer.
- This experiment proved part of my hypothesis wrong because the swimmers without any cap was not actually the slowest. The bubble cap increased friction because rough texture of the material.
- According to the results of my experiment it showed that the swimmers with the Lycra cap had the fastest times. Lycra reduced the friction in the water.

Future Studies

- I would like to have swimmers vary the material of the suits each swimmer wears: Fastskin, Nylon and Lycra.
- I would like to test male swimmers to see if there is a difference between the sexes since males have more muscle mass and different body types than women.