



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Kathryn E. Cordero	Project Number J1508
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Project Title
The Effect of Topical Contaminants on Blood Glucose Levels

Abstract

Objectives/Goals
The purpose of the project is to determine how much of a difference a topical contaminant will make on blood glucose levels. A contaminant with higher sugar content will change the blood glucose more than a contaminant with less sugar. The blood used was obtained solely from the experimenter.
In this project to test for the blood glucose you have to prick your finger to get a blood sample. Then the blood glucose meter reads the blood glucose and displays the blood glucose in mg/dl. The hypothesis was correct the blood glucose was changed the most by the contaminant group with milk it was changed by 234%. Milk had the most sugar and milk made the most difference. The hand washing made the least difference it changed by 5%.

Methods/Materials
The blood used was obtained solely from the experimenter. nothing on the finger; Use lancet devise with lancet inside to poke finger for blood; Put blood on strip that is connected to the freestyle blood meter ; Record reading; an alcohol swab; Wipe finger once; Use lancet devise with lancet inside to poke finger; Put blood on strip that is connected to the blood meter; Record reading; hand sanitizer ; Put 1 drop on the finger; Then let it dry for 50 seconds; Use lancet device with lancet inside to poke finger; Record reading; hand washing; Wet hands with warm water ; Rub the soap on the finger rinse well; Dry hands with a paper towel; Put blood on strip that is connected to the blood meter; Record reading; milk; Dip finger in milk for 3 seconds; Let it dry for 60 seconds; Use lancet device with lancet inside to poke finger; Put blood on strip that is connected to the blood meter; Record reading.

Results
My hypthises was correct the Topical contaminant with the most sugar made the most difference in blood glucose levels and the contaminant with the least amount of sugar made the least difference.

Conclusions/Discussion
It is important to get an accurate reading. When the score is not it can be dangerous. The substance that changed it the most was milk the least was purell it changed by 100 mg/dl. The contaminant that changed readings the least was Purell. Hand washing did not seem to change readings much. The group that had no preparation or cleaning was different every time, because there was no way of knowing what was on the finger prior to testing. It seems the reason the milk had the most impact on blood glucose scores is because it has the most sugar content.

Summary Statement
This Project is testing the accuracy of blood glucose readings and showing the importance of properly cleaning your finger before testing blood glucose levels

Help Received