



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Justin J. Persky	Project Number J1325
Project Title Demolishing Dental Bacteria	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective is to determine which type of dental hygiene (manual tooth brush, rotary tooth brush, mouthwash, or dental floss) reduces the most number and variety of dental bacteria.</p> <p>Methods/Materials After each dental hygiene method, I obtained a dental bacterial sample by scraping my front teeth with a sterile needle. It was then swabbed on a petri dish and incubated for 48 hours. Finally, the surface area of bacterial growth was measured for each dental hygiene method. A gram stained slide was made from each dental hygiene petri dish. These slides were microscopically examined using a 40x oil immersion lens.</p> <p>Results Rotary tooth brushing decreased the most surface area of dental bacteria from a control of 664 mm² to 11 mm²/ 4 trials. Mouthwash decreased the surface area of dental bacteria to 24 mm²/ 4 trials and manual tooth brushing decreased the surface area of dental bacteria to 27 mm²/ 4 trials. Dental floss decreased the least surface area of dental bacteria to 120 mm²/ 4 trials. Manual and rotary tooth brushing decreased the variety of dental bacteria to only gram-positive cocci. Mouthwash and dental floss decreased the variety of dental bacteria to gram-positive cocci, gram-negative cocci, and gram-positive/negative bacilli.</p> <p>Conclusions/Discussion My conclusion is that rotary tooth brushing is the most effective in decreasing the number and variety of dental bacteria. Mouthwash and manual tooth brushing were intermediate in decreasing the number of dental bacteria. Dental floss was the least effective in decreasing the number and variety of dental bacteria.</p>	
Summary Statement My project is about dental bacteria and which dental hygiene method reduces the most bacteria on my teeth.	
Help Received Grandmother taught me to use a microscope.	