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*The Effect of Simple Hand Washing on the Presence of Potentially Hazardous Bacteria*

The purpose of this experiment was to see if the hands of high school students had any potentially hazardous bacteria and how simple hand washing influenced the bacterial contamination. The hands of 25 high school students were tested before and after hand washing and the bacteria swabbed from the student's hand was put in a Petri dish and the Petri-dishes were sealed throughout the experiment. Petri-dishes were put in the incubator and were checked after 3 days later. Twelve samples (48%) out of the 25 samples seemed to have either Staphylococcus or Micrococcus and 2 samples (8%) seemed to have Streptococcus before hand washing. Two samples (8%) contained Staphylococcus or Micrococcus and 1 sample (4%) contained Streptococcus after hand washing. There was a significant decrease of bacterial-contamination ( $p < 0.01$ ). However, working at a school lab, Petri dishes could not be opened; therefore, reactions to test the true identity of the bacteria could not be performed. In order to identify the bacteria, 3 reactions should've been performed including anaerobic growth, oxidase reaction, and glucose fermentation. Staphylococcus would have tested positive for anaerobic growth, glucose fermentation, and negative for oxidase reaction. Micrococcus would have tested positive for oxidase reaction and negative for anaerobic growth and glucose fermentation. In conclusion, in this experiment 56% of the high school students had potentially hazardous bacteria on their hands. However, this bacterial contamination can be reduced to 12% with one simple hand wash.