



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Jessica K. Ruane	Project Number J1326
Project Title Can I Eat That?	
Abstract Objectives/Goals The purpose of my research was to see if there are foods that are potentially dangerous to neutropenic patients that are not listed on the food guides they are given by their doctors. I was most interested in the foods routinely consumed by teenagers that had been opened and used by multiple users. These foods would be studied for the presence of bacteria. Methods/Materials Potentially harmful foods and test foods were studied. Using sterile technique I placed 1 ml of each food item into 10 ml of thioglycollate broth, incubated for 18 hours 35°C. then cultured .001 ml onto agar plates. The plates were incubated for 72 hours then observed for the presence of different colony types and the colony counts in colony forming units(CFU) were determined per ml of each food item. Results All potentially harmful foods grew up to four different bacteria with CFU ranging from 1,000,000 CFU to 3,500,000 CFU. Eleven of the thirteen test foods grew 1 to 3 different bacterial species ranging from 1,000,000 to 2,500,000 CFU. Conclusions/Discussion Both potentially harmful food and test foods grew high counts of bacteria. Growth of bacteria in test foods was related to (1)poor protection of the product during storage, (2)many entries into a product by many users, (3)the product being direct from nature and (4)nutrients present in the food that could support the growth of bacteria. Four recommendations were developed to guide teenagers undergoing chemotherapy make safer food choices.	
Summary Statement I studied bacterial contamination in food items often consumed by teenagers to see if they would be safe to consume while neutropenic from chemotherapy.	
Help Received Used laboratory equipment at Cedars Sinai Medical Center with their supervision	