



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

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Project Title Which Food Group Is Best to Eat before Taking an NSAID?	
Abstract Objectives/Goals The objective of this project is to find out which food group (protein, carbohydrates, dairy, fats) will best protect the lining of the stomach if eaten before taking a non steroidal anti inflammatory medication. Methods/Materials Artificial gastric juice was used to replicate the gastric juice in the stomach. Motrin, Aleve, Excedrin Back and Body and Aspirin were used as to represent the actual medication that would go into a persons body. Chicken baby food was used as protein, sweet potato baby food was used to represent carbohydrates, milk was used as a dairy product and butter represented fats. Food groups and gastric juice were measured in proportion with each other. A portion of gastric juice was placed into 5 cups and a portion of one of the types of food was placed into each cup leaving one cup with just gastric juice. After being measured with no medication, one of the medications was added and the pH was measured after certain times. The testing was then repeated with all four medications. Results The chicken was most successful with all NSAIDs in lowering the acidity of the gastric juices. Milk came a close second to chicken, and had a lower range of numbers than chicken did (chicken was from 6.08-6.38 and milk ranged from 6.15-6.24). Out of all the food groups, butter was the least successful in reducing the acidity of the gastric juice, but it is still better than eating nothing at all. Conclusions/Discussion Overall the chicken was the most successful out of all the food groups. Eating sweet potato before taking medication is least successful out of all the food groups but it is still significantly better than eating no food at all. The hypothesis was not proven. There is a possibility that the results would have varied slightly if there was a smaller margin of error, and a bigger sample size.	
Summary Statement This projects goal is to find out which food group is best to eat before taking a non-steroidal anti-inflammatory drug in order to prevent damage to the lining of the stomach.	
Help Received Mom helped conduct the experiment, Mr. Hartung provided material, Uncle provided equipment, Dad helped create the graphs and analyze the data.	