



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> <b>Krikor Bornazyan</b>	<b>Project Number</b> <b>J1404</b>
<b>Project Title</b> <b>Mitigating the Negative Impact of Different Medicines with Similar Effects</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Can intake time of two different medicines with similar effects influence patient's blood pressure and hence condition? Based on my research, I hypothesized that staggering the intake time of two different medicines with similar effects on blood pressure will mitigate negative impact on patient's condition by stabilizing blood pressure.</p> <p><b>Methods/Materials</b> 79 year old hypertensive female patient's medicines were categorized into four groups based on the doctor's recommended intake times. In each group the medicines with similar effects on the blood pressure, taken concurrently, were identified and studied (coinciding intake method). The patient's blood pressure was measured and condition observed before and after intake of each medicine group, four times a day, for sixteen days. Then the intake times of two different medicines with similar effects on the blood pressure were staggered (staggered intake method). The same measurement and observation procedure was followed now for the staggered method. The mean systolic and diastolic pressures were calculated and observed patient's condition summarized for each method and the results were compared between the two methods.</p> <p><b>Results</b> In the staggered case, systolic pressure stabilized around 110 mmHg and diastolic 80 mmHg, increasing the patient's alertness and activity throughout the day; mean variation of systolic pressure was only 22 mmHg and diastolic 11 mmHg. In the coinciding case, mean variation of systolic pressure was 47 mmHg and diastolic 31 mmHg ranging from 109 to 156 mmHg and 71 to 102 mmHg respectively resulting in increased inactive episodes during the day.</p> <p><b>Conclusions/Discussion</b> In the staggered case, the peak effects of two blood pressure medicines did not overlap each other resulting in more equalized effect on the blood pressure consequently improving patient's condition throughout the day. Data fully supported the hypothesis. Findings agree with the information found in the literature</p>	
<b>Summary Statement</b> By staggering intake times of two different medicines with similar effects on the blood pressure, it was shown that the blood pressure could be effectively stabilized, hence improving the patient's condition throughout daytime.	
<b>Help Received</b> Consulting, transportation to obtain necessary materials and literature.	