



**CALIFORNIA STATE SCIENCE FAIR  
2006 PROJECT SUMMARY**

<b>Name(s)</b> <b>Edward R. Rajasingham</b>	<b>Project Number</b> <b>S1014</b>
<b>Project Title</b> <b>The Response of Airflow Resistance with Exercise in Treated Asthmatics and Non-Asthmatics</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of my project is to see if asthmatics, who regularly take their asthma medications, can perform at the same level during exercise as people who do not have asthma. The level of performance is determined by each subject's airflow resistance, or peak-flow, measured in liters per minute, taken and recorded before and after exercise.</p> <p><b>Methods/Materials</b> For this experiment the following materials were necessary: a group of treated asthmatics, a group of non-asthmatics, peak-flow meter, peak-flow breathing tubes, slide rules for determining body mass index and acceptable peak-flow values, and a course of approximately 644 yards for running or jogging. Each subject's peak-flow was recorded before and after completing the course. The subjects completed the course at no particular pace, but to the best of their ability. Information on acceptable peak-flows for each subject, body mass index, and asthma were provided by my mentors; these people were all certified physicians. They are Marla Abrolat, C. Balakrishnan, Jack Gogolok, Richard Rajaratnam, Christiana Rajasingham, and Winston Rajasingham.</p> <p><b>Results</b> Each subject was able to fully or nearly complete the course. In almost all cases, the peak-flow was higher in each subject after exercising than before exercising. In some cases, a higher body mass index reflected a lower peak-flow.</p> <p><b>Conclusions/Discussion</b> With the data obtained from this experiment, it seems that in most cases treated asthmatics could perform at the same level or better than non-asthmatics with exercise. In both asthmatics and non-asthmatics, higher body mass indexes indicated a lower peak-flow in most cases.</p>	
<b>Summary Statement</b> My project is an attempt to discover if treated asthmatics can perform at the same level or better with exercise than non-asthmatics.	
<b>Help Received</b> The following people are doctors who taught me about asthma and provided me with useful materials. They are Marla Abrolat, C. Balakrishnan, Jack Gogolok, Richard Rajaratnam, Christiana Rajasingham, and Winston Rajasingham.	