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The Effects of Carbon Monoxide on Body Weight, Caloric Intake, Fat Mass, and  
Insulin Sensitivity in Mice

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## **Abstract**

The purpose of my study is to determine if CO treatment can result in a decrease in adiposity and improve insulin sensitivity. The hypothesis is that 10 days of CO Treatment would decrease body weight and increase insulin sensitivity. 18 Male C57/B6 mice ( $n = 18$ ; Jackson Labs, Bar Harbor, Maine) were assigned to a control (CON) ( $n=10$ ) or a Carbon Monoxide (CO) ( $n=8$ ) group by pair matching based on weight. The CO group was placed in individual induction chambers and subjected to 250 parts per million of CO for 70 minutes (10 to fill chambers and 60 to run experiment) each day for 10 days. Body weight and caloric intake were measured every three days and EWAT weight was measured at the end of the 10 days of treatment. An insulin assisted glucose tolerance test (IAGTT) was given once over the 10-day period on day 5. There was significance found between the control and CO group in the IAGTT, where insulin sensitivity was significantly decreased with CO treatment. Carbon monoxide treatment did not affect body weight, caloric intake, or EWAT weight. The results indicate that instead of making the mice more insulin sensitive, the mice became more insulin resistant.