**Differential effects of monounsaturated, polyunsaturated and saturated fat ingestion on glucose-stimulated insulin secretion, sensitivity and clearance in overweight and obese, non-diabetic humans**  
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**Amendments**  
None.  
  
  
  
  
**Study Design**  
  
7 overweight, but biomedically healthy men were recruited for this study. Participants came into the testing facility after a 12 hour overnight fast and consumed one of four treatments - a chocolate flavored drink containing one of three fat conditions or water, every hour for 12 hours, then every 2 hours after the initial 12 hours. The fat drinks were 89% fat, 9% carbohydrates, and 2% protein.   
  
*The Treatment Conditions:*  
  
1. Monounsaturated Fat Drink (Olive Oil based): 78% monounsaturated fat, 8% polyunsaturated fat, and 14% saturated fat. Unsaturated fat was mostly oleate, and saturated fat was mostly palmitate.  
  
2. Polyunsaturated Fat Drink (Safflower Oil based): 78% polyunsaturated fat, 13% monounsaturated fat, and 9% saturated fat. Unsaturated fat was mostly linoleate, and saturated fat was mostly palmitate.   
  
3. Saturated Fat Drink (Palm Oil based): 50% saturated fat, 40% monounsaturated fat, and 10% polyunsaturated fat. Saturated fat was mostly palmitate, unsaturated fat was mostly oleate.  
  
Participants did not eat throughout the experiments and were only exposed to the described treatments. During the 2 days they stayed at the testing facility, the researchers performed a series of experiments on the participants.