

Whole Grain Acute Study

Main Study Question

The objectives of this study were the following: 1) to determine the acute effect of whole grain barley on risk factors of cardiovascular disease compared to a diet low in whole grain, and 2) to compare the effects of whole grain barley to those of whole grain oats to determine if the response to these two grains is similar.

Motivation for Research

Increasing whole grain intake is associated with decreased risk of biomarkers of cardiovascular disease and diabetes. Whole grains contain bioactive components that may contribute to reduced risk of cardiovascular disease, and there may be significant differences among whole grain sources with respect to ability to alter biomarkers of cardiovascular disease. Research has focused on the effect of whole grains on lipoprotein changes (particularly LDL cholesterol concentration). Whole grains can also alter glucose and lipid response after a meal. Emerging evidence suggests that glucose and lipid response after a meal alters endothelial function (proper reactivity of blood vessels) and contributes to insulin resistance. This acute study is designed to determine if whole grain barley improves lipid metabolism and endothelial function after a meal. Further, we will determine if acute consumption of whole grain barley verses acute consumption of whole grain oats results in differential response with respect to biomarkers of cardiovascular disease risk.

The study ran from mid-February to end of April 2011.

