

Whole Grain Daily Intake Study

Main Study Question

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

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 postprandial glucose and lipid response, and changes in postprandial lipemia is thought to be particularly important since much of the time blood contains fat from the previous meal. Emerging evidence suggests that postprandial lipemia alters endothelial function (proper reactivity of blood vessels) and contributes to insulin resistance. This study is designed to determine if daily intake for 6 weeks of whole grain barley improves markers of cardiovascular disease in the fasted and postprandial states. Further, we will determine if daily consumption of whole grain barley vs. daily consumption of whole grain oats results in differential response with respect to biomarkers of cardiovascular disease risk.

The study ran from mid-January to end of July 2011.

