

*Consumer Abstract*

White adipose tissue (WAT) is a regulator of metabolism and WAT dysfunction, when paired with obesity, is associated with increased risk for diseases such as diabetes. These outcomes seem to be controlled by factors such as peroxisome proliferator activated receptors (PPARs), proteins inside cells that respond to metabolic signals and that control gene activity. The action of PPARs may be partially controlled by lipoproteins, blood lipids that carry fatty acids that bind PPARs, but the relationship between diet, bioactive lipids from lipoproteins, and lipid targets in tissues is not fully understood. Dr. Adams' research group aims to prove that active lipids in lipoproteins regulate some of the PPAR activity in fat cells. These studies will be complemented by work looking at markers of neuron growth and function, to understand if metabolic effects of lipids extend to nerves since neuropathy risk is increased in obesity and hypothesized to be linked to PPAR activity. These studies will help clarify the relationship between diet, body fat, and nerve damage.