Manuscript #510

1. Title:
Multiple metabolic syndrome (disorder) and arterial stiffness
Short Title: Insulin, MMS, and Arterial Stiffness

2. Writing Group:
(lead) Duanping Liao, Angela Liese, Donna Arnett, James Pankow, Ward Riley, Ed Davis, Veikko Salomaa, George Howard

3. Timeline:
Submit Proposal to Publications Committee August, 1997
Complete analysis December, 1997
Submit first draft to Publications Committee March, 1998
Submit to Journal August, 1998

4. Main Study Questions:
(1) Is MMS, defined by the clustering of hypertension, diabetes mellitus, and dyslipidemias, associated with higher levels of arterial stiffness?
(2) Is arterial stiffness associated with the MMS components in the presence of (adjusting for) elevated fasting insulin, as an index of insulin resistance among non-diabetics.
(3) Is there a dose-response relationship between the number of MMS disorders and the levels of arterial stiffness?
(4) Is there evidence of effect modification in the association between MMS components and arterial stiffness?
(5) Is obesity, measured by BMI, associated with levels of arterial stiffness?
(6) Is body fat distribution, measured by abdominal and hip girths and their ratio, associated with arterial stiffness?

5. Data (variables, source, inclusion/exclusion):
The following variables are needed for this analysis: Arterial stiffness data (Visit 1 and Visit 2 combined), Visit 1 and visit 2 diabetes, hypertension and treatment variables, lipids levels, glucose and insulin (visit 1 only), anthropometric measures, demographic and SES variables, smoking status and intensity