1. Title (length 26): Diet and PAD
Full title: Diet and Peripheral Arterial Disease: The ARIC Study


3. Timeline: Analyses are expected to be completed within 3 months; a report formatted as a draft manuscript can be presented to the writing group within 2 months after the completion of the analysis

4. Rationale: Despite the overwhelming evidence on the relationships between diet and blood cholesterol, and between blood cholesterol and coronary heart disease, there are less consistent findings regarding the association of diet and cardiovascular disease. Few studies have examined the association between diet and peripheral arterial disease (PAD). In a hospital-based case-control study in Athens, Greece, Katsouyanni et al. found that saturated fatty acids, protein, and dietary cholesterol were significantly associated with increased risk of PAD, whereas polyunsaturated fatty acids, crude fiber, and vitamin C were significantly related to reduced risk. Monounsaturated fatty acids did not show significant association with PAD (Katsouyanni K et al., Diet and peripheral arterial occlusive disease: The role of poly-, mono-, and saturated fatty acids Int J Epidemiol 1991 13 3: 24-31). In the Edinburgh Artery Study of a population sample of men and women aged 55-74 years, higher frequency of fiber consumption was associated with greater mean ankle-brachial index (ABI), and meat consumption was associated with lower mean ABI. Dietary vitamin E and C intake was also related with ABI (Donnan PT et al., Diet as a risk factor for peripheral arterial disease in the general population The Edinburgh Artery Studv Am J Clin Nutr 1993;57:917-21). The ARIC study has measured ABI and PAD, and collected extensive dietary data. This analysis will add valuable information on the association between diet and PAD.

5. Main Hypothesis:
1) Prevalent PAD is positively associated with dietary intake of saturated fatty acids, monounsaturated fatty acids, proteins, and cholesterol; 2) Prevalent PAD is inversely associated with dietary intake of polyunsaturated fatty acids (PUFA), particularly omega-3 PUFA; 3) Prevalent PAD is inversely associated with dietary intake of crude fiber and vitamin C

6. Data
The ARIC visit 1 data will be used for analyses. PAD is defined by either the resting ankle-brachial index (ABI) < 0.9. Dietary intakes were estimated based on food frequency questionnaire, and the following nutrients will be used in the analyses: saturated, monounsaturated, and polyunsaturated fatty acids (in grams, or in percentage of total energy), dietary cholesterol (mg), total fat (g), carbohydrate (g), protein (g), crude fiber (g), sucrose (g), vitamin C, and energy (kcal). Covariates include age, sex, race, hypertension, diabetes, and smoking status. Data analysis is to be performed by the lead author.