

ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #509

1. a. Title: The Association of Arterial Stiffness with the Social Environment of Childhood and Middle Age.

b. Short Title: Adult and Childhood SES and Arterial Stiffness

2. Writing Group:

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3. Time Line:

Phase 1

Submit Proposal to Publications Committee	August, 1997
Complete Analysis	December, 1997
Submit first draft to Publications Committee	March, 1998
Submit to Journal	August, 1998

Phase 2

Conditional on availability of data from Visit 4

4. Rationale:

Arterial stiffness, assessed as degree of carotid artery diameter change during a cardiac cycle (adjusted for blood pressure and arterial diameter), is associated with atherosclerosis, its risk factors and its clinical sequelae in the ARIC Study population. Stiffness may represent the cause, an indicator of atherosclerosis, or a consequence of the atherosclerosis process. Although a cross-sectional study does not permit definitive differentiation of antecedent/consequent relations, there is the potential to assess the role of social environmental exposures associated with stiffness during both early and later pre-clinical stages of its natural history. Socio-economic status in the ARIC study is associated with many of the variables under study as possible correlates, determinants, or risk factors for stiffness. It is not the purpose of this study to assess the role of the risk factors as potential intervening variables in any detected associations between SES and stiffness. The only risk factor to be included in the analysis will be smoking history, as this has been found to be a strong affect modifier of stiffness in the ARIC study. The social environment during childhood will be assessed by use of Visit 4 information regarding father's education when the examinee was age 10; social conditions in adulthood will be assessed by the examinee's attained education level, income and occupation.

5. Main Study Questions:

Phase One

- (1) Does arterial stiffness vary (inversely) with income, education, or occupation level in adulthood?
- (2) Is the association of arterial stiffness with indices of SES similar among the four major ethnicity-gender groups?

Phase Two

- (1) Does arterial stiffness vary (inversely) with childhood SES?
- (2) If stiffness varies with childhood SES, is the relationship present controlling for current SES?

6. Data (variables, source, inclusion/exclusion):

Prevalent CHD at Visit 1 or Visit 2 will be an exclusion criterion. The following variables are required: Arterial stiffness data (Visit 1 and Visit 2 combined), smoking history, demographic and SES variables (Visit 1), childhood parental education (Visit 4)