

## ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #132

1. Title:

Lumen Compensation to Arterial Wall Thickening

2. Writing Group:

(lead) John R. Crouse	Uri Goldbourt	Ward Riley
Ken Cram	Greg Evans	Richey Sharrett

3. Timeline:

Cross-sectional analyses can begin as soon as Publications Committee approval is received. Analyses will be performed at NHLBI, with support from the investigators at BGSM.

4. Rationale:

Glagov et al. have published data consistent with a compensatory enlargement of the arterial lumen accompanying the process of arterial wall thickening, in individuals with manifest atherosclerosis. The aim of this proposal is to replicate this finding in ARIC's population sample, and identify factors related to the ability to "compensate in lumen diameter" for the development of thickening of artery walls.

5. Main Hypothesis:

There are characteristics that identify "compensators" and "non-compensators" - e.g., gender, race, smoking status, arterial distensibility, blood lipids, arterial blood pressure.

To test this in cross-sectional analysis, we wish to identify characteristics associated with wide or narrow lumens in individuals stratified by wall thickness (e.g., near + far wall of the carotid artery segment). E.g., if we apportion the population by strata of wall thickness there will be a distribution of lumen diameters at each wall thickness. Individuals with thick walls (highest stratus of wall thickness) but wide lumens are "compensators" and characteristics of this group will be compared with those of individuals with thick walls and narrow lumens and with individuals with thin walls.

6. Data (variables, time window, source, inclusions/exclusions):

B-mode, demographic variables, and "established" risk factors. If warranted, Visit 2 data will be requested.