

## ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #332

1. Title: Physical Activity and Stroke Risk

2. Writing Group:

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3. Timeline:

The study will begin when 1994 stroke data is completed. Using the sample size formula for the proportional hazards model derived by Schoenfeld (1993), approximately 150 total incident stroke events are required to obtain a relative risk of 1.5 at 80% power (one sided,  $\alpha = 0.05$ ).

4. Rationale:

Previous studies have reported physical inactivity to be a risk factor for clinical manifestations of coronary heart disease, especially myocardial infarction and sudden death. Currently, there is less direct evidence relating physical activity to stroke risk. Two recent studies were able to document an inverse relationship between physical activity and stroke risk (Abbott et al., 1994 and Manson et al., 1995). Physical activity favorably influences many stroke determinants including blood pressure, plasma glucose, smoking, and clotting factors. However, it has not yet been established whether or not physical activity is an independent stroke risk factor and a paucity of studies have tested this relationship in African-Americans.

5. Main Hypothesis:

This study will prospectively examine the relationship between physical activity and stroke incidence among ARIC participants. It is hypothesized that stroke incidence is lower in physically active individuals.

6. Data:

Exposure: physical activity as determined by the Baecke questionnaire

Outcome: stroke incidence

Covariates: age, race, blood pressure, plasma glucose, uric acid, clotting factors, alcohol intake, lipids, hematocrit, smoking status, gender, socioeconomic status, body mass index, ECG defined LVH, waist:hip ratio

## References Cited

Abbott RD, Rodriguez BL, Burchfiel CM, and Curb JD. (1994). Physical activity in older middle-aged men and reduced risk of stroke: The Honolulu Heart Program. American Journal of Epidemiology. 139(9), 881-893.

Manson JE, Stampfer MJ, Willett WC, Colditz GA, Speizer FE, and Hennekens CH. (1995). Physical activity and incidence of coronary heart disease and stroke in women. Circulation. 91(3), 5.

Schoenfeld DA. (1983). Sample-size formula for the proportional-hazards regression model. Biometrics. 39, 499-503.