

ARIC Manuscript Proposal # 1677

PC Reviewed: 8/10/09
SC Reviewed: _____

Status: A
Status: _____

Priority: 2
Priority: _____

1.a. Full Title:

Association between Physical Activity and Stroke Risk: the ARIC Study

b. Abbreviated Title (Length 26 characters):

Physical Activity & Stroke

2. Writing Group:

Writing group members:

Christine Autenrieth

Wayne Rosamond

Kelly Evenson

Others welcome

I, the first author, confirm that all the coauthors have given their approval for this manuscript proposal. CA [**please confirm with your initials electronically or in writing**]

First author: Christine Autenrieth

Address: Institute of Epidemiology
Helmholtz Zentrum München
Ingolstädter Landstr. 1
85764 Neuherberg
Germany

Phone: 011-49-89-3187-4580

Fax: 011-49-89-3187-3667

E-mail: christine.autenrieth@helmholtz-muenchen.de

ARIC author to be contacted if there are questions about the manuscript and the first author does not respond or cannot be located (this must be an ARIC investigator).

Name: Wayne Rosamond, PhD

Address: 137 E. Franklin Street, Suite 306

ARIC Coordinating Center

Campus Box 7435

Chapel Hill 27514

Phone: 919-962-3230

Fax: 919-966-9800

E-mail: wayne_rosamond@unc.edu

3. Timeline: Analysis to begin August 2010
First draft December 2010

4. Rationale:

Regular physical activity has many benefits, as it lowers the risk of developing a number of chronic diseases (1,2). The relationship between physical activity and stroke risk has been subject to several studies (3-5). The majority of the studies have concentrated on the inverse association between ischemic stroke incidence and physical activity; however, whether physical activity reduces hemorrhagic stroke is less clear (6). Furthermore, it has been 10 years since a paper focused on physical activity and stroke has been published with ARIC data (3); more stroke events could be taken into account for the analyses which will allow for inspection of effect modifiers.

5. Main Hypothesis/Study Questions:

The main hypothesis is that regular physical activity will be inversely associated with stroke events.

6. Design and analysis (study design, inclusion/exclusion, outcome and other variables of interest with specific reference to the time of their collection, summary of data analysis, and any anticipated methodologic limitations or challenges if present).

Data will include the main variables physical activity (sport, leisure, and work activity) assessed by the validated Baecke Questionnaire and stroke classifications. Covariates will include age, race-center, sex, education, smoking, hypertension, fibrinogen, body mass index, and diabetes.

7.a. Will the data be used for non-CVD analysis in this manuscript? ____ Yes
X No

b. If Yes, is the author aware that the file ICTDER03 must be used to exclude persons with a value RES_OTH = "CVD Research" for non-DNA analysis, and for DNA analysis RES_DNA = "CVD Research" would be used? ____

Yes ____ No

(This file ICTDER03 has been distributed to ARIC PIs, and contains the responses to consent updates related to stored sample use for research.)

8.a. Will the DNA data be used in this manuscript? ____ Yes X No

8.b. If yes, is the author aware that either DNA data distributed by the Coordinating Center must be used, or the file ICTDER03 must be used to

exclude those with value RES_DNA = "No use/storage DNA"?

Yes No

9. The lead author of this manuscript proposal has reviewed the list of existing ARIC Study manuscript proposals and has found no overlap between this proposal and previously approved manuscript proposals either published or still in active status. ARIC Investigators have access to the publications lists under the Study Members Area of the web site at: <http://www.csc.unc.edu/ARIC/search.php>

Yes No

10. What are the most related manuscript proposals in ARIC (authors are encouraged to contact lead authors of these proposals for comments on the new proposal or collaboration)?

Evenson KR, Rosamond WD, Cai J, Toole JF, Hutchinson RG, Shahar E, Folsom AR. Physical activity and ischemic stroke risk. The atherosclerosis risk in communities study. *Stroke*. 1999 Jul;30(7):1333-9.

11. a. Is this manuscript proposal associated with any ARIC ancillary studies or use any ancillary study data?

Yes No

11.b. If yes, is the proposal

A. primarily the result of an ancillary study (list number* _____)

B. primarily based on ARIC data with ancillary data playing a minor role (usually control variables; list number(s)* _____)

*ancillary studies are listed by number at <http://www.csc.unc.edu/aric/forms/>

12. Manuscript preparation is expected to be completed in one to three years. If a manuscript is not submitted for ARIC review at the end of the 3-years from the date of the approval, the manuscript proposal will expire.

References

- 1 . U.S. Department of Health and Human Services. Physical activity and health: A report of the surgeon general. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion; 1996.
2. Wannamethee SG, Shaper AG. Physical activity in the prevention of cardiovascular disease: an epidemiological perspective. *Sports Med*. 2001;31(2):101-14

3. Evenson KR, Rosamond WD, Cai J, Toole JF, Hutchinson RG, Shahar E, Folsom AR. Physical activity and ischemic stroke risk. The atherosclerosis risk in communities study. *Stroke*. 1999 Jul;30(7):1333-9.
4. Hu G, Sarti C, Jousilahti P, Silventoinen K, Barengo NC, Tuomilehto, J. Leisure time, occupational, and commuting physical activity and the risk of stroke. *Stroke*. 2005 Sep;36(9):1994-9.
5. Willey JZ, Moon YP, Paik MC, Boden-Albala B, Sacco RL, Elkind MS. Physical activity and risk of ischemic stroke in the Northern Manhattan Study. *Neurology*. 2009 Nov 24;73(21):1774-9.
6. Lee CD, Folsom AR, Blair SN. Physical activity and stroke risk: a meta-analysis. *Stroke*. 2003 Oct;34(10):2475-81. Epub 2003 Sep 18.