1. Title:
Past Use of Oral Contraceptives and Atherosclerosis

2. Writing Group:
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3. Timeline:
Conditional upon the Publications Committee approval, analysis can be begun immediately, as only Visit 1 data are requested. Draft manuscript expected January 1995.

4. Rationale:
Over 50 million women in the United States have used oral contraceptives (OCs) since their introduction in 1960. Data from some, but not all, epidemiologic studies suggest an increased risk of coronary heart disease (CHD) in women reporting current use of OCs. The excess risk may be limited to cigarette smokers and/or older women. In contrast, past use of OCs has not been associated with increased CHD risk and may in fact be associated with a somewhat lower risk of subsequent development of major disease. The Nurses' Health Study found particular protection in women with diabetes or hypertension. While no human studies have examined the relationship between prior OC use and subclinical atherosclerosis, experiments in cynomolgous macaques suggest less coronary artery atherosclerosis among those exposed to OCs. This was despite the well-known atherogenic effects of OCs on the lipid risk factor profile; the protection against carotid atherosclerosis was apparent only after adjustment for the adverse lipid effects.

The ARIC baseline cohort examination participants are an ideal group in which to examine the relationship between prior OC use and carotid artery atherosclerosis. This biracial cohort of women aged 45 to 64 are both "historically eligible" for longterm exposure to OCs and at risk for developing subclinical atherosclerosis. Nearly 45% of the ARIC women report that they ever took OCs, ranging from a high of 70% of those 45 to 49 years of age at Visit 1 to a low of 17.4% of those aged 60 to 64. This investigation will be the first to examine the relationship between past OC use and CHD in African-American women, in whom the prevalence of previous use is only slightly lower than in white women in these as well as national data. Information is available as to both duration and recency of OC use, which may be important modifiers of the relationship, among ARIC participants.

5. Main Hypothesis:
The main hypothesis is that prior OC use is independently and negatively associated with both wall thickness and prevalent CHD. A secondary aim is to characterize differences between women who do, and those who do not, have a history of prior OC use to explore possible selection issues.

6. Data (variables, time window, source, inclusions/exclusions):
Visit 1 data for all female participants on:
OC use: Ever use of OCs (RHXA11), age at first use (RHXA12), current use of OCs (RHXA13), time since first use (from RHXA12), time since last use (from RHXA14), total duration of use (RHXA15)
Outcomes: Intima-medial wall thickness, prevalent CHD (MI and angina pectoris to be examined separately), peripheral artery disease
Potential Confounders/Effect Modifiers:
Diabetes status, hypertension status, blood pressure, lipid levels, cigarette smoking, body mass index, WHR,
socioeconomic status, alcohol intake, other reproductive history: number of pregnancies and live births, menopausal status, age at menopause, HRT use status.