NHLBI Evidence Table: RF7-OB

PMID	First Author	Title	Year	Study Type	Prospect./ Restrospect.	Study	CVD	RF by CQ	Country	Setting	Main Study Objective	N at Baseline (N at Follow-up)	Target Population	Eligibility Criteria	Patient Characteristics	Study Groups	n at Baseline (n at Follow-up) for Study Groups	Total Follow-up Duration	Outcomes Measured	Results	Main Reported Findings by Critical Question
15802624	Zieske AW	Elevated serum C-reactive protein levels and advanced atherosclerosis in youth.	2005	CrS	Retrospective	PDAY	Atherosclerosis	Q1 (RF4,5,7,8,10,14) Q2 (RF4,5,7,8,10,14) Q4 (RF4,5,7,8,10,14)	USA	Clinical	Determine the association between CRP, CV RFs and atherosclerosis at autopsy in children & young adults.	1,244	Pediatric/ Young adults	All cases from the PDAY study for whom CRP levels and all CV RF measurements were available.	3,201 15-34 y olds who died accidentally in 15 different cities in the U.S.; information on age/ gender/ lipids/ smoking / HTN / obesity / hyperglycemia was available. For this study, 45% white(W), 55% black(B); 26%female(F), 74% male(M).	N/A	N/A	N/A	Pathology: Extent of intimal surface of RCA & abd Ao with fatty streaks and raised lesions was evaluated and AHA grading (grades 1-6) of stained sections of CAs and abd Ao performed. C-V RFs: Gender Age TC HDL Non-HDL-C = TC - HDL (LDL cutpoints + 30mgm/dL = non-HDL cutpoints) Thiocyanate level ≥ 90mmol/L Intimal thickness of small renal arteries = Mean BP estimate >110 mmHg BMI > 30 kg/ m squared HbA1C > 8% CRP	CRP levels increased with age and were higher in Fs than Ms; there was no difference between Bs & Ws. CRP was significantly associated with obesity (p=S) and with hyperglycemia (p=S**); it was higher in cases with low HDL after age 25. After accounting for CV RFs, elevated CRP was associated with a greater extent of raised lesions in the RCA after age 25 and in the AA after age 30, with a greater prevalence of grade 5 lesions after age 25.	Q1,2,4. Atherosclerosis begins in childhood and advanced lesions are associated with elevated CRP after age 25, independent of traditional RFs.
16728658	Juonala M	Childhood C-reactive protein in predicting CRP and carotid intima-media thickness in adulthood: the Cardiovascular Risk in Young Finns Study	2006	Cohort	Prospective	Young Finns	IMT	Q1 (RF4,5,7,8,10,14) Q2 (RF4,5,7,8,10,14) Q3 (RF4,5,7,8,10,14) Q4 (RF4,5,7,8,10,14) Q8 (RF4,5,7,8,10,14)	Finland	Community (other)	(1) Evaluate whether CRP in childhood predicts CRP in young adult life (2) Evaluate which childhood RFs including CRP predict carotid IMT in young adults	1617	Pediatric/ Young adults	Subjects from the CV Risk in Young Finns study who had CRP performed in 2001 as young adults and who were not pregnant or using OC and id not have DM, rheumatic disease or recent infection.	Finnish cohort enrolled at 3-18 yr of age in 1980 and followed with serial RF evaluation over time. At 24-39 yr of age, group underwent evaluation of carotid IMT and reassessment of CRP. 43% F; all W.	N/A	N/A	21 yr	Ht Wt BMI Sum of skin folds (SSFs) BP Smoking status TC TG HDL- C LDL-C CRP Fasting glucose (FG) Fasting insulin (INS) Carotid intima media thickness (CIMT)	Significant tracking was observed between childhood and adult CRP levels, best for the oldest age group at baseline (18 yr) (r=0.47 in females, 0.32 in males, p=S**), independent of lipids, BP, smoking, obesity indices, and insulin. In MVA, childhood RFs that independently associated with increased adult carotid IMT included elevated BP (p=S**), high LDL (p=S*),and smoking (p=S) but not CRP.	Q1,2. Atherosclerosis-related target organ damage begins in childhood and is significantly affected by the presence of RFs. Q3. Atherosclerosis-related target organ damage in young adult life is related significantly to CV RFs present in childhood. There is no correlation between childhood CRP and adult atherosclerosis-related target organ damage.