NHLBI Evidence Table: State of the Science: CV Risk Factors and the Development of Atherosclerosis in Childhood-MA

PMID	First Author	Title	Year	Study Type	CVD	RF by CQ	Study Origin	Setting	Search Range	Data Sources	Study Eligibility Criteria	Number of Studies	Main Study Objective	Study Pop. (N)	Target Population	Patient Characteristics	Study Characteristics	Interv. Type	Specific Intervention Examined	Observational Relationship Assessed	Outcomes Measured	Treatment Effect and Statistical Significance	Main Reported Findings by Critical Question	Limitations of Studies Reviewed	Quality of MA
11023118	Rowlands AV	The effect of type of physical activity measure on the relationship between body fatness and habitual physical activity in children: a meta-analysis	2000	MA	None	Q6 (RF2, RF3, RF8, RF11)	UK	Don't Know/NR	Through Sept 1998	MEDLINE Sport Discus BIOSIS Science Citation Index Reference lists	Subjects < 18 yr Studies with a measure of habitual daily activity Studies with a measure of body fat/relative weight Studies with a effect size *r* or where the effect size could be calculated or estimated Subjects had no disease states other than obesity Studies in which measure of activity did not follow an intervention which might alter habitual daily activity Studies in which measures of fat and activity were taken at the same time Studies in which physical activity was not expressed as energy expended	50	Examine the relationship between activity level and body fat in children and assess whether the type of activity measure used has an effect on the strength of the relationship observed	NR	Pediatric/ Young Adults	Studies only in males: 8 Studies only in females: 4 Studies in males and females: 38	Median number of subjects: 86	N/A	N/A	Body fatness and habitual physical activity	Mean effect size	78% of studies reported a negative relationship between activity levels and body fat; 18% were non-significant; 4% showed a positive relationship The mean effect size was -0.16. This decreased to -0.10 when studies were weighted for degrees of freedom. Omitting the 9 non-significant studies increased the mean effect size to -0.19 and the weighted mean effect size to -0.11; the Stouffer Z associated with the mean effect size was statistically significant at 11.72 ($p < 0.001$). The 95% CI (-0.12 to -0.20) indicated that the relationship between activity levels and body fat was small to moderate Effect sizes were significantly heterogeneous ($p < 0.001$), which indicate that additional variables were moderating the relationship (e.g., activity measure used) Correlational analyses revealed no effect of gender, age group, or use of extreme/continuous fat groups on the strength of the relationship between activity levels and body fat The use of extreme activity groups elicited higher effect sizes than continuous activity groups (r: 0.285, $p < 0.05$)	Q6: Correlational analyses revealed no effect of gender, age group, or use of extreme/continuous fat groups on the strength of the relationship between activity levels and body fat Evidence indicated that there is a weak to moderate relationship between body fat and activity in children; however, activity only explains a small proportion of the variance in fatness	Possibility of publication bias Possibility of observation bias when reporting physical activity Wide variety of indicators of fatness; insufficient studies using techniques other than skinfolds to investigate the measure of fat as a potential moderator variable	
18559702	Chen X	Tracking of blood pressure from childhood to adulthood: a systematic review and meta-regression analysis.	2008	MA	None	Q5 (RF4) Q8 (RF4)	USA	Clinical	Jan 1970 - Jul 2006	PubMed	Cohort studies examining BP tracking from childhood to adulthood. Studies published between Jan 1970 & July 2006. BP tracking correlation coefficients reported. Cohort's baseline age <18 yr. Sample size > 50 Studies published in English, Chinese or Japanese.	50 studies	Systematically evaluate epidemiological evidence on BP tracking from childhood to adulthood.		Pediatric/ Young Adults	< 18 yr at baseline	US: 29 Europe: 11 Asia: 6 Other: 4 Length of follow-up ranged from 0.5 to 47 years. Recorded BP once per visit: 3 studies Recorded BP twice per visit: 11 studies Recorded BP 3+ times per visit: 25 Did not provide detailed informtion: 11	None	N/A	Serial BPs Gender Baseline age Length of follow-up Number of BP measurements per visit Ethnic/population difference	SBP DBP	BP tracked moderately well from childhood to adulthood with correlation coefficients ranging from -0.12 to 0.80 for SBP with a mean of 0.38; and -0.16 to 0.70 for DBP with a mean of 0.28 . BP tracking increased with increasing baseline age by 0.012 for SBP (p<S**) and 0.009 for DBP(p<S**). The strength of BP tracking decreased as follow-up duration increased, 0.008 for SBP(p<S**) and 0.005 for DBP(p<S**) Strength of correlation did not vary significantly with the number of measurements. BP tracking did not significantly vary across race/population groups. There was little sex difference in SBP tracking, but men had stronger DBP tracking than women.	Q8. BP tracked moderately well from childhood to adulthood with correlation coefficients ranging from -0.12 to 0.80 for SBP with a mean of 0.38; and -0.16 to 0.70 for DBP with a mean of 0.28 . Q5. BP tracking did not significantly vary across race/population groups.	Potential selection bias Inability to study additional predictors or adjust for some potential confounders	Good.