

## **Online Only Supplemental Material**

Supplemental Table S1. Physical activity and type 2 diabetes, PubMed search

1. physical activity
2. exercise
3. sports
4. walking
5. biking
6. running
7. fitness
8. exercise test
9. inactivity
10. sedentary
11. 1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7 OR 8 R 9 OR 10
12. diabetes
13. case-control
14. retrospective
15. cohort
16. cohorts
17. prospective
18. longitudinal
19. follow-up
20. cross-sectional
21. trial
22. 13 OR 14 OR 15 OR 16 OR 17 OR 18 OR 19 OR 20 OR 21
23. 11 AND 12 AND 22

Supplemental Table S2. Physical activity and type 2 diabetes, Embase and Ovid search

1. physical activity/ or cycling/ or jogging/ or running/ or walking/ or bicycle/ or sport/ or exercise/ or fitness/ or sedentary lifestyle/
2. (physical activity or cycling or jogging or running or walking or bicycle or sport or exercise or fitness or sedentary lifestyle).mp.
3. diabetes.mp. or diabetes mellitus/
4. exp diabetes mellitus/ep, et, pc [Epidemiology, Etiology, Prevention]
5. (case-control or retrospective or cohort or cohorts or prospective or longitudinal or follow-up or cross-sectional or trial).mp.
6. 1 OR 2
7. 3 OR 4
8. 6 AND 7 AND 5

Search terms for case-control, retrospective and cross-sectional studies were included in the search to

In addition, studies which reported data on physical activity and type 2 diabetes risk that were identified by searches on adiposity, resting heart rate, pesticides and smoking in relation to type 2 diabetes in separate reviews that we are working on were included in the analysis (these were studies where there was no mention of physical activity in the title or abstract, and was therefore not retrieved by the main search strategy).

Supplemental Table S3. Physical activity and type 2 diabetes, list of excluded studies and exclusion reason

<b>Exclusion reason</b>	<b>Reference number</b>
Abstract only	(1-14)
Case-control study	(15-27)
Combined diet, lifestyle and physical activity intervention or lifestyle score	(28-39)
Commentary, editorial, letter, news	(40-49)
Cross-sectional study	(50-96)
Duplicate	(97-136)
Interaction analysis	(137)
Meta-analysis	(138)
Metabolic syndrome	(139-154)
No confidence intervals	(155)
No risk estimates	(156-165)
Not relevant data	(166-169)
Not relevant exposure	(170-185)
Not relevant outcome <sup>1</sup>	(186-196)
Not usable results (physical activity score, data which cannot be combined with other studies)	(197-201)
Physical activity pattern (cluster)	(202)
Review	(203-263)
Subjects with gestational diabetes only	(264;265)
Unspecific outcome	(266;267)
Secondary prevention study	(268)
Unadjusted risk estimates (and pregnant women)	(269-271)

<sup>1</sup> Not relevant outcome refers to studies that did not report on diabetes, but on hyperglycemia, dysglycemia, impaired glucose tolerance, metabolic syndrome, multimorbidity, cardiometabolic risk, mortality or successful aging.

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Supplemental Table S4: Prospective studies of physical activity and type 2 diabetes risk

Author, publication year, country/region	Study name or description	Follow-up period	Study size, gender, age, number of cases	Study quality	Exposure	Quantity	RR (95% CI)	Adjustment for confounders
Radford NB et al, 2015, USA	Cooper Center Longitudinal Study	1998-2013, 3.1 years follow-up	6519 men and 2334 women, age 20-90 years: 93 cases	8	Cardiorespiratory fitness	Per 1 MET (3.5 mL O <sub>2</sub> /min/kg)	0.81 (0.70-0.93)	Age, gender, BMI, glucose, statin use
Fan S et al, 2015, China	China Multicenter Collaborative Study of Cardiovascular Epidemiology & China Cardiovascular Health Study	1998-2007-2008 & 2000-2001-2007-2008, 7.9 years follow-up	6348 men and women, age 35-74 years: 478 cases	7	Total physical activity  Total physical activity	1.00-1.39 PAL 1.40-1.59 1.60-1.89 >1.89 1.00-1.39 PAL 1.40-1.59 1.60-1.89 >1.89	1.00 0.82 (0.62-1.09) 0.63 (0.47-0.83) 0.47 (0.36-0.61) 1.00 0.92 (0.69-1.22) 0.70 (0.52-0.93) 0.55 (0.42-0.73)	Age, sex, geographic region, education, cigarette smoking, alcohol, FH – DM  + BMI
Koloverou E et al, 2014, Greece	ATTICA study	2001-2002 – 2012, 10 years follow-up	1485 men and women, age 18-89 years: 191 cases	8	Total physical activity	Active vs. inactive	0.51 (0.24-1.10)	Age, sex, education, smoking, FH – DM, energy intake, abnormal WHt ratio, fasting blood glucose, hypercholesterolemia, hypertension
Kuwahara K et al, 2014, Japan	Japan Epidemiology Collaboration in Occupational Health Study	2003-2005 - 2011, 6.0 years follow-up	3523 men, age 18-61 years: 199 cases	8	Cardiorespiratory fitness  Cardiorespiratory fitness	44.2 VO <sub>2max</sub> (ml/min/kg) 37.6 32.4 44.2 VO <sub>2max</sub> (ml/min/kg) 37.6 32.4	1.00 1.26 (0.87-1.83) 1.10 (0.75-1.63) 1.00 1.44 (1.01-2.07) 1.48 (1.03-2.13)	Age, baseline year, smoking status, cigarettes per day, alcohol, sleep duration, hypertension, FH – DM  +BMI
Someya Y et al, 2014, Japan	Male Alumni of the Department of Physical Education of Juntendo University	1971-1991 - 2009, 26 years follow-up	570 men, age 23 years: 22 cases	6	Cardiorespiratory fitness  Sports club participation	353 sec (1500 m run time) 325 301 No Yes	1.00 0.40 (0.14-1.13) 0.26 (0.07-1.00) 1.00 0.80 (0.06-10.16)	Age, year of graduation, BMI, smoking, college sports club participation at college age  Age, year of graduation, BMI, smoking
Mehlig K et al, 2014, Sweden	Prospective Population Study of Women in Gothenburg	1968-1969 – 2002, ~34 years follow-up	1448 women, age 38-60 years: 139 cases	8	Leisure-time physical activity, non-obese  Leisure-time physical activity, obese	Active Inactive Active Inactive	1.00 1.79 (1.15-2.79) 2.43 (1.44-4.09) 11.7 (6.28-21.8)	Age, education, smoking, alcohol, triglycerides, hypertension, FH - DM
Tsai AC et al, 2014, Taiwan	Taiwan Longitudinal Survey on Aging	1999-2003, 4 years follow-up	2995 men and women, age ≥50 years: 225 cases	8	Leisure-time physical activity	Inactive Moderate High	1.00 0.95 (0.56-1.58) 0.59 (0.43-0.80)	Age, sex, smoking, alcohol, betel quid chewing, BMI, impairment of instrumental activities of daily living, hypertension, heart disease, chronic kidney disease, gout, Center for Epidemiologic Studies Depression

								Scale
Grøntved A et al, 2014, USA	Nurses' Health Study 1	2000-2008, 8 years follow-up	51642 women, age 53-81 years: 2158 cases	7	Total muscle-strengthening and conditioning activities (leisure-time)	0 min/wk	1.00	Age, smoking, alcohol, coffee, race, FH – DM, postmenopausal hormone use, total energy, trans fat, PUFA/SFA ratio, cereal fiber, whole grain, glycemic load, mutual adjustment between aerobic and resistance exercise
						12	0.90 (0.79-1.02)	
	39	0.97 (0.83-1.11)						
	95	0.81 (0.70-0.94)						
	225	0.58 (0.45-0.75)						
	Per 60 min/wk	0.90 (0.86-0.94)						
Resistance exercise	0 min/wk	1.00						
	12	0.82 (0.70-0.97)						
	39	0.97 (0.80-1.18)						
	87	0.74 (0.59-0.91)						
	300	0.68 (0.43-1.07)						
	Per 60 min/wk	0.92 (0.86-0.99)						
Lower intensity muscular conditioning exercises	0 min/wk	1.00						
	12	0.88 (0.76-1.00)						
	39	1.00 (0.86-1.15)						
	81	0.76 (0.63-0.92)						
	300	0.62 (0.39-0.98)						
	Per 60 min/wk	0.91 (0.85-0.97)						
Total muscle-strengthening and conditioning activities (leisure-time)	0 min/wk	1.00						
	12	0.94 (0.82-1.07)						
	39	1.03 (0.89-1.18)						
	95	0.89 (0.77-1.03)						
Resistance exercise	225	0.63 (0.49-0.81)						
	Per 60 min/wk	0.90 (0.85-0.96)						
	0 min/wk	1.00						
	12	0.89 (0.75-1.05)						
	39	1.04 (0.85-1.26)						
	87	0.77 (0.62-0.95)						
	300	0.68 (0.43-1.08)						
	Per 60 min/wk	0.94 (0.87-1.01)						
Lower intensity muscular conditioning exercises	0 min/wk	1.00						
	12	0.89 (0.78-1.03)						
	39	1.05 (0.91-1.21)						
	81	0.82 (0.67-0.99)						
	300	0.65 (0.41-1.02)						
	Per 60 min/wk	0.93 (0.87-0.99)						
Grøntved A et al, 2014, USA	Nurses' Health Study 2	2001-2009, 8 years follow-up	47674 women, age 36-55 years: 1333 cases	7	Total muscle-strengthening and conditioning activities (leisure-time)	0 min/wk	1.00	Age, smoking, alcohol, coffee, race, FH – DM, postmenopausal hormone use, total energy, trans fat, PUFA/SFA ratio, cereal fiber, whole grain, glycemic load, OC use, menopausal status, mutual adjustment between aerobic and resistance exercise
						12	0.75 (0.64-0.88)	
	39	0.86 (0.72-1.04)						
	95	0.67 (0.55-0.81)						
	226	0.62 (0.48-0.82)						
	Per 60 min/wk	0.92 (0.88-0.97)						
Resistance exercise	0 min/wk	1.00						
	12	0.68 (0.56-0.83)						
	39	0.77 (0.60-0.98)						
	98	0.77 (0.62-0.96)						
	300	0.70 (0.45-1.07)						

					Lower intensity muscular conditioning exercises	Per 60 min/wk 0 min/wk 12 39 75 300	0.94 (0.87-1.01) 1.00 0.86 (0.73-1.01) 0.89 (0.74-1.08) 0.89 (0.69-1.14) 0.72 (0.39-1.31)	+BMI
					Total muscle-strengthening and conditioning activities (leisure-time)	Per 60 min/wk 0 min/wk 12 39 95 226	0.91 (0.83-1.01) 1.00 0.85 (0.72-0.99) 0.95 (0.79-1.15) 0.79 (0.65-0.96) 0.75 (0.58-0.99)	
					Resistance exercise	Per 60 min/wk 0 min/wk 12 39 98 300	0.96 (0.91-1.01) 1.00 0.76 (0.63-0.93) 0.85 (0.66-1.08) 0.87 (0.70-1.09) 0.78 (0.51-1.21)	
					Lower intensity muscular conditioning exercises	Per 60 min/wk 0 min/wk 12 39 75 300 Per 60 min/wk	0.96 (0.90-1.03) 1.00 0.91 (0.77-1.07) 0.97 (0.80-1.17) 0.99 (0.77-1.27) 0.79 (0.43-1.45) 0.95 (0.87-1.04)	

Shi L et al, 2013, China	Shanghai Men's Health Study	2002-2006 – 2011, 5.4 years follow-up	51464 men, age 40-74 years: 1304 cases	8	Non-occupational physical activity (leisure, daily living, commuting)	<4.3 MET-hrs/week 4.3-<6.5 6.5-<8.9 8.9-<12.1 ≥12.1	1.00 0.84 (0.72-0.99) 0.72 (0.61-0.85) 0.66 (0.55-0.78) 0.65 (0.54-0.77)	Age, energy intake, smoking, alcohol, education, income, hypertension, FH – DM						
					Leisure-time physical activity	0 MET-hrs/wk <1.2 1.2-3.0 ≥3.0	1.00 0.79 (0.65-0.96) 0.87 (0.72-1.04) 0.89 (0.75-1.07)							
					Daily living physical activities	<3.3 MET-hrs/wk 3.3-<5.03 5.03-<7.0 7.0-<9.8 ≥9.8	1.00 0.83 (0.70-0.98) 0.82 (0.69-0.97) 0.77 (0.65-0.91) 0.69 (0.58-0.83)							
					Commuting physical activity	<1.1 MET-hrs/wk 1.1-2.67 ≥2.67	1.00 0.86 (0.73-1.01) 0.66 (0.55-0.79)							
					Non-occupational physical activity (leisure, daily living, commuting)	<4.3 MET-hrs/week 4.3-<6.5 6.5-<8.9 8.9-<12.1 ≥12.1	1.00 0.92 (0.78-1.08) 0.80 (0.68-0.95) 0.74 (0.62-0.88) 0.73 (0.61-0.87)		+BMI					
					Leisure-time physical activity	0 MET-hrs/wk <1.2 1.2-3.0 ≥3.0	1.00 0.80 (0.65-0.97) 0.89 (0.74-1.07) 0.91 (0.76-1.08)							
					Daily living physical activities	<3.3 MET-hrs/wk 3.3-<5.03 5.03-<7.0 7.0-<9.8 ≥9.8	1.00 0.88 (0.74-1.04) 0.88 (0.74-1.04) 0.85 (0.72-1.01) 0.75 (0.63-0.90)							
					Commuting physical activity	<1.1 MET-hrs/wk 1.1-2.67 ≥2.67	1.00 0.93 (0.79-1.10) 0.74 (0.62-0.89)							
					Regular exercise	Yes vs. no	0.63 (0.46-0.85)							
					Elwood PC et al, 2013, United Kingdom	Caerphilly Study	1979 – 2009, 30 years follow-up		2235 men, age 45-59 years: 214 cases	6	Regular exercise	Yes vs. no	0.63 (0.46-0.85)	Age, social class
					Tonstad S et al, 2013, USA	Adventist Health Study 2	2002-2007, 2 years follow-up		15200 m & 26187 w, age ≥30 years: 616 cases	6	Leisure-time physical activity	Never-<1/wk 1-2/wk ≥3	1.00 0.99 (0.79-1.24) 0.95 (0.79-1.14)	Age, BMI, race, sex, education, income, sleep duration, alcohol, smoking, vegetarian status
					Williams PT et al, 2013, USA	National Runners' Health Study 2 & National Walkers' Health Study	1998 – 2006, 8 years follow-up 1999 – 2006, 7 years follow-up		15229 walkers and 32811 runners, mean age 44.7/54.9 years: 629 cases	5	Running Walking Other vigorous activity Other moderate activity Other light activity	Per MET-hr/d Per MET-hr/d Per MET-hr/d Per MET-hr/d Per MET-hr/d	0.91 (0.86-0.96) 1.01 (0.95-1.08) 1.00 (0.97-1.02) 0.97 (0.90-1.02) 1.04 (0.80-1.16)	Age, age squared, race, education, smoking, red meat, fruit, alcohol, preexisting coronary heart disease, BMI
Rolando L et al, 2013, USA	Vanderbilt University employees	2003 – 2007 - 2010, 8 years follow-up	3125 men and women, mean age 43.6 years: 98 cases	6	Leisure-time physical activity, change between 2003 and 2007	Sedentary Increased activity Reduced activity	1.00 0.49 (0.20-1.22) 2.94 (0.67-12.86)	Age, sex, race, Fair Labor Standards Act status						



Stringhini S et al, 2012, United Kingdom	The Whitehall 2 Study	1991/1993 – 2009, 14.2 years follow-up	7237 men and women, age 35-55 years: 818 cases	7	Leisure-time physical activity	Inactive Moderately active Active	1.33 (1.13-1.56) 1.25 (1.04-1.50) 1.00	Age, sex, ethnicity
Grøntved A et al, 2012, USA	Health Professionals Follow-up Study	1990 – 2008, 18 years follow-up	32002 men, age 44-79 years: 2278 cases	7	Aerobic exercise  Weight training  Aerobic exercise  Weight training	0 min/wk 27 97 360 0 min/wk 17 85 193 0 min/wk 27 97 360 0 min/wk 17 85 193	1.00 0.93 (0.81-1.06) 0.69 (0.60-0.80) 0.48 (0.42-0.55) 1.00 0.88 (0.79-0.98) 0.75 (0.61-0.92) 0.66 (0.46-0.93) 1.00 1.00 (0.88-1.15) 0.80 (0.69-0.92) 0.61 (0.53-0.70) 1.00 0.92 (0.82-1.02) 0.82 (0.67-1.00) 0.71 (0.49-1.00)	Age, smoking, alcohol, coffee, race, family history of diabetes, total energy, trans fat, polyunsaturated to saturated fat ratio, cereal fiber, whole grain, glycemic load, weight training, other physical activity, television viewing  + BMI
Lee DC et al, 2012, Korea	Korea National Health Insurance Corporation Study	1996/1997 - 2005, 7.5 years follow-up	675496 men, age ≥18 years: 52995 cases	7	Leisure-time physical activity	0 min/wk 1-149 150-299 ≥300	1.00 0.95 (0.93-0.97) 0.90 (0.87-0.93) 0.91 (0.88-0.94)	Age, smoking status, alcohol intake, hypertension, parental diabetes, baseline glucose, BMI
Jefferis BJ et al, 2012, United Kingdom	General practices in 24 British Towns	1998/2000 – 2006, 7.1 years follow-up	3012 men, age 60-79 years: 135 cases	8	Leisure-time physical activity  Change in physical activity (baseline/2000)	None Occasional Light Moderate Moderately vigorous Vigorous None, occasional, light at both times Moderate/None, occasional, light None, occasional, light/moderate Moderate at both times	1.00 0.70 (0.40-1.24) 0.48 (0.25-0.92) 0.47 (0.23-0.93) 0.56 (0.28-1.12) 0.48 (0.23-1.02) 1.00 0.11 (0.07-0.77) 0.72 (0.40-1.32) 0.61 (0.37-0.99)	Age, region, social class, smoking history, alcohol, coffee, total energy, dietary fiber, protein, carbohydrate, total cholesterol, HDL cholesterol, triglycerides, BMI, waist circumference
The InterAct Consortium, 2012, Europe	European Prospective Investigation into Cancer and Nutrition – InterAct Study	1991-2007, 12.3 years follow-up	340234: case-cohort of 16154 men and women, mean age 53/52 years (m/w): 11230 cases	8	Total physical activity, men Total physical activity, women Leisure-time physical activity, men Leisure-time physical activity, women Total physical activity, BMI<25, men  Total physical activity, BMI 25-30	Per 1 category increase Per 1 category increase Per 1 category increase Per 1 category increase Active Moderately active Moderately inactive Inactive Active Moderately active Moderately inactive Inactive	0.87 (0.80-0.94) 0.93 (0.89-0.98) 0.90 (0.82-0.99) 0.94 (0.88-1.03) 1.00 0.83 (0.62-1.10) 1.32 (1.01-1.72) 1.81 (1.34-2.43) 1.00 1.09 (0.93-1.28) 1.15 (0.99-1.34) 1.36 (1.14-1.62)	Age, BMI, education, smoking status, alcohol, energy intake

					Total physical activity, BMI >30	Active Moderately active Moderately inactive Inactive	1.00 1.11 (0.87-1.40) 1.36 (1.08-1.71) 1.38 (1.08-1.78)	
					Total physical activity, BMI <25, women	Active Moderately active Moderately inactive Inactive	1.00 1.12 (0.88-1.41) 1.13 (0.90-1.40) 1.50 (1.17-1.93)	
					Total physical activity, BMI 25-30	Active Moderately active Moderately inactive Inactive	1.00 1.17 (0.96-1.43) 1.17 (0.97-1.41) 1.41 (1.15-1.72)	
					Total physical activity, BMI >30	Active Moderately active Moderately inactive Inactive	1.00 1.19 (0.91-1.55) 1.17 (0.92-1.48) 1.20 (0.94-1.54)	
Steinbrecher A et al, 2012, USA	Multiethnic Cohort Study	1993/1996 – 2007, 12.1 years follow-up	74913 men and women, age 45-75 years: 8561 cases	7	Strenuous sports, men	Never 0.5-1.0 hrs/wk 2-3 ≥4	1.00 0.94 (0.87-1.02) 0.85 (0.77-0.94) 0.80 (0.72-0.88)	Age, education, hypertension, ethnicity, BMI, processed red meat, dietary fiber, alcohol, smoking status
					Vigorous work	Never 0.5-1.0 hrs/wk 2-3 ≥4	1.00 0.91 (0.85-0.98) 0.91 (0.83-1.00) 0.84 (0.77-0.92)	
					Moderate activity	≤1 hrs/wk 2-3 4-6 7-10 ≥11	1.00 0.92 (0.84-1.00) 0.97 (0.89-1.06) 0.87 (0.78-0.97) 0.95 (0.86-1.05)	
					Strenuous sports, women	Never 0.5-1.0 hrs/wk 2-3 ≥4	1.00 1.00 (0.91-1.09) 0.85 (0.75-0.96) 0.67 (0.57-0.79)	
					Vigorous work	Never 0.5-1.0 hrs/wk 2-3 ≥4	1.00 1.03 (0.95-1.12) 0.99 (0.87-1.13) 0.91 (0.78-1.06)	
					Moderate activity	≤1 hrs/wk 2-3 4-6 7-10 ≥11	1.00 0.99 (0.90-1.09) 1.01 (0.92-1.12) 1.01 (0.90-1.12) 0.95 (0.85-1.06)	
Doi Y et al, 2012, Japan	Cardiovascular risk factor study in Hisayama	1988-2002, 11.8 years follow-up	1935 men and women, age 40-79 years: 286 cases	8	Regular exercise	No Yes	1.00 0.69 (0.43-1.10)	Age, sex, FH – DM, central obesity, BMI, hypertension, smoking, fasting plasma glucose
Xu F et al, 2012, China	Nanjing Community-based cohort studies	2004-2007, 2007-2010, 3 years follow-up	4550 men and women, age 35-64 years: 232 cases	6	Leisure-time physical activity	<150 min/wk ≥150	1.00 0.45 (0.28-0.72)	Age, sex, residence area, education, BMI, FH – DM, cigarette smoking, alcohol, TV viewing, vegetables, meat,

								hypertension
Reis JP et al, 2011, USA	NIH-AARP Diet and Health Study	1995/1996 – 2004/2006, 11 years follow-up	114996 men and 92483 women, age 50-71 years: 11031/6969 cases	6	Regular leisure-time physical activity, men  Regular leisure-time physical activity, women	No Yes No Yes	1.00 0.76 (0.73-0.79) 1.00 0.77 (0.73-0.82)	Age, race/ethnicity, education, marital status, BMI, diet score, smoking, alcohol
Sawada SS et al, 2010, Japan	Tokyo Gas Company	1985-1999, 14 years follow-up	4187 men, age 22-40 years: 274 cases	9	Cardiorespiratory fitness (baseline)  Change in cardiorespiratory fitness	<35 ml/kg/min O <sub>2</sub> 35-39.9 40-44.9 ≥45.0 -1.25 ml/kg/min 0.40 0.32 1.33	1.00 0.88 (0.66-1.18) 0.72 (0.50-1.02) 0.50 (0.31-0.81) 1.00 0.64 (0.46-0.89) 0.40 (0.27-0.58) 0.33 (0.21-0.50)	Age, BMI, SBP, cigarette smoking, alcohol, FH – DM  + baseline fitness
Joseph J et al, 2010, Norway	The Tromsø Study	1994-1995 – 2005, 10.8 years follow-up	12431 men and 13737 women, age 25-98 years: 522 cases	8	Leisure-time physical activity, men  Leisure-time physical activity, women	Hard Moderate Inactive Hard Moderate Inactive	1.00 1.03 (0.68-1.55) 1.69 (1.12-2.55) 1.00 0.81 (0.49-1.35) 1.13 (0.69-1.83)	Age, BMI, total cholesterol, TG, HDL-cholesterol, hypertension, FH – DM, smoking
Shirom A et al, 2010, Israel	Clialit Health Services	1988 – 2008, 20 years follow-up	968 men and women, age 18-73 years: NA	7	Exercise index	H vs. low	0.75 (0.63-0.90)	Age, sex, education, vigor, total cholesterol, glucose, BMI, alcohol, smoking, depressive symptoms, anxiety symptoms, chronic disease diagnosis, past hospitalization
Pronk NP et al, 2010, USA	Achieve Your Potential Health assessment	2004 – 2006, 2 years follow-up	6489 men and women, mean age 45 years: 78 cases	5	Leisure-time physical activity (moderate or vigorous)	High vs. low	0.51 (0.30-0.86)	Age, sex, smoking, alcohol, fruit and vegetables, family history of diabetes, family history of heart disease
Demakakos P et al, 2010, England	England Longitudinal Study of Aging	2002/2003 – NA, 45.3 months	7466 men and women, age ≥50 years: 258 cases	6	Leisure-time physical activity at least once a week	None Low intensity Vigorous/moderate intensity	1.00 0.87 (0.58-1.30) 0.64 (0.43-0.95)	Age, age squared, sex, marital status, education, total household wealth, BMI, long-standing illness, CVD/non-CVD comorbidities, smoking status, alcohol, elevated depressive symptoms
Longo-Mbenza B et al, 2010, Congo	NA	2004/2005 – 2008,	807 men and women, age ≥40 years: 93 cases	7	Total physical activity	Inactive Active	3.5 (1.2-10.6) 1.0	Age, metabolic syndrome, impaired glucose tolerance
Waller K et al, 2010, Finland	The Finnish Twin Cohort	1975/1976 – 2004, 28 years follow-up	20487 men and women, mean age 33 years: 1082 cases	7	Leisure-time physical activity	<0.59 MET-hrs/d ≥0.59	1.00 0.54 (0.37-0.78)	Age, sex, BMI, work-related physical activity, social class, alcohol, smoking
Jee SH et al, 2010, Korea	Korea National Health Insurance Corporation Study	1992/1995 – 2006, 14 years follow-up	708261 men and women, age 30-95 years: 89422 cases	7	Exercise, men Exercise, women	Yes vs. no Yes vs. no	0.94 (0.92-0.96) 1.03 (1.00-1.06)	Age, age squared, alcohol, BMI
Sieverdes JC et al, 2010, USA	Aerobics Center Longitudinal Study	1970/2003 – 2004, 18 years follow-up	23444 men, age 20-85 years: 589 cases	7	Leisure-time physical activity  Cardiorespiratory fitness	Sedentary Walking, jogging, runner Sport, fitness Low Moderate High	1.00 0.60 (0.48-0.74) 0.72 (0.55-0.94) 1.00 0.62 (0.49-0.78) 0.37 (0.28-0.50)	Age, examination year, survey response pattern, BMI, smoking status, alcohol, fasting glucose, hypercholesterolemia, hypertension, family history of diabetes, family history of cardiovascular disease

Brouwer BG et al, 2010, Netherlands	The SMART Study	1996/2006 - 2007, 4.7 years follow-up	3940 men and women with cardiovascular disease or cardiovascular risk factors, age 18-79 years: 194 cases	6	Leisure-time physical activity	0 MET-hrs/wk 0.5-10.5 >10.5	1.00 0.81 (0.48-1.36) 0.65 (0.43-0.99)	Age, sex, smoking, alcohol, BMI, metabolic syndrome, location of vascular disease, hypertension, hyperlipidemia
Laaksonen MA et al, 2010, Finland	Mini-Finland Health Survey	1978-1980 – NA, 10 years follow-up	4517 men and women, age ≥30 years: 145 cases	7	Exercise	No Occasional or regular	1.00 0.72 (0.52-1.01)	Age, sex
Laaksonen MA et al, 2010, Finland	Health 2000 Survey	2000-2001 – NA, 7 years follow-up	4110 men and women, age ≥30 years: 81 cases	7	Exercise	No Occasional or regular	1.00 0.65 (0.40-1.03)	Age, sex
Engberg S et al, 2010, Denmark	The Inter99 Study	1999/2001 – NA, 5 years follow-up	4031 men and women, mean age 46 years: 189 cases	7	Total physical activity Commuting physical activity Leisure-time physical activity	0 vs. 4-7 hrs/wk <15 vs. 60 min/day 0 vs. 4-6 hrs/wk	1.76 (0.98-3.14) NA 2.95 (1.35-5.68)	Age, sex, nationality, FH – DM, intervention group, high- or low-risk group, energy intake
Sun F et al, 2009, Taiwan	Taiwan MJ Longitudinal Health-check-up-based Population Database	1997/2005 – 1998/2006, 3.2 years follow-up	73961 men and women, age 35-74 years: 3612 cases	7	Exercise	<1 hr/wk ≥1	1.00 0.90 (0.81-0.99)	Age, sex, education, family history of diabetes, smoking, hypertension, BMI, waist circumference, fasting plasma glucose
Rathman W et al, 2009, Germany	KORA S4/F4 Study	1999/2001 – 2006/2008, 7 years follow-up	887 men and women, age 55-74 years: 93 cases	7	Leisure time physical activity, all  Leisure time physical activity, men  Leisure time physical activity, women	Active Inactive Active Inactive Active Inactive	1.0 1.3 (0.8-2.0) 1.0 1.8 (1.02-3.3) 1.0 0.7 (0.4-1.5)	Age, sex
Fretts AM et al, 2009, USA	The Strong Heart Family Study	1989/1991 – 1998/1999, 10 years follow-up	1651 American Indians, age 45-74 years: 454 cases	8	Total physical activity (pedometer measured)  Total physical activity	No activity <30 MET-hrs/wk 30-106 >106 No activity <30 MET-hrs/wk 30-106 >106	1.00 0.67 (0.46-0.99) 0.67 (0.45-0.99) 0.67 (0.45-0.99) 1.00 0.74 (0.50-1.09) 0.74 (0.49-1.10) 0.71 (0.48-1.07)	Age, study site, sex, education, cigarette smoking, alcohol use, FH – DM  +BMI
Chien KL et al, 2009, China	Chin-Shan Community Cardiovascular Cohort Study	1990 - NA, 9 years follow-up	1936 men and women, age ≥35 years: 312 cases	8	Sports activity  Work activity  Leisure activity	1.75 (Likert scale) 2 2.25 3 2.375 2.75 2.875 3.125 2 2.25 2.75 3.5	1.00 0.82 (0.60-1.12) 0.65 (0.47-0.89) 0.68 (0.49-0.95) 1.00 0.75 (0.54-1.05) 0.75 (0.50-1.12) 0.97 (0.69-1.37) 1.00 1.09 (0.80-1.49) 1.07 (0.77-1.48) 1.24 (0.87-1.75)	Age, sex, BMI, metabolic syndrome, smoking, alcohol, marital status, education, occupation, hypertension, HDL-cholesterol, triglycerides, glucose level, FH - DM

Mozaffarian D et al, 2009, USA	The Cardiovascular Health Study	1989-1998, 10 years follow-up	4883 men and women, age $\geq 65$ years: 337 cases	8	Leisure time physical activity and walking	<Median $\geq$ Median	1.00 0.74 (0.58-0.93)	Age, sex, race, education, annual income, smoking, dietary score, alcohol, BMI, waist circumference
Siegel LC et al, 2009, USA	Physicians' Health Study	1982-2006, 23.1 years	20757 men, age 40-84 years: 1836 cases	5	Vigorous physical activity  Vigorous physical activity	Rarely, never 1-3 times/mo 1/wk 2-4/wk $\geq 5$ Rarely, never 1-3 times/mo 1/wk 2-4/wk $\geq 5$	1.00 0.84 (0.72-0.98) 0.78 (0.68-0.91) 0.63 (0.55-0.73) 0.49 (0.41-0.59) 1.00 0.84 (0.72-0.98) 0.81 (0.70-0.93) 0.69 (0.61-0.79) 0.58 (0.48-0.69)	Age, alcohol use, smoking status, history of high cholesterol, history of hypertension  +BMI
Krishnan S et al, 2009, USA	Black Women's Health Study	1995-2005, 10 years follow-up,	45668 black women, age 21-69 years: 2928 cases	8	Vigorous physical activity  Walking, casual  Walking, average  Walking, brisk	0 hrs/wk <1 1-2 3-4 5-6 $\geq 7$ No <1 hrs/wk 1-2 3-4 $\geq 5$ No <1 hrs/wk 1-2 3-4 $\geq 5$ No <1 hrs/wk 1-2 3-4 $\geq 5$	1.00 0.90 (0.82-0.99) 0.77 (0.69-0.85) 0.53 (0.45-0.63) 0.49 (0.38-0.64) 0.43 (0.31-0.59), 1.00 1.04 (0.78-1.37) 1.09 (0.84-1.42) 1.21 (0.89-1.65) 1.21 (0.89-1.65) 1.00 1.02 (0.77-1.53) 0.96 (0.74-1.24) 1.04 (0.78-1.37) 0.95 (0.71-1.26) 1.00 0.91 (0.64-1.27) 0.78 (0.59-1.03) 0.69 (0.51-0.95) 0.67 (0.49-0.92)	Age, time period, FH – DM, years of education, family income, marital status, cigarette use, alcohol use, energy intake, coffee consumption, TV watching, mutual adjustment between vigorous activity, and walking
Montgomery MP et al, 2008, USA	Agricultural Health Study	1999-2003, 5 years follow-up	31787 men and women, age <40- $\geq 70$ years: 1176 cases	5	Summer exercise	None >0-2 hr/wk $\geq 3$	1.00 0.77 (0.62-0.95) 0.76 (0.61-0.93)	Age, state
Sui X et al, 2008, USA	Aerobics Center Longitudinal Study	1971-2004, 17 years follow-up	6249 women, age 20-79 years: 143 cases	8	Cardiorespiratory fitness  Cardiorespiratory fitness	1 2 3 1 2 3	1.00 0.76 (0.52-1.11) 0.49 (0.31-0.77) 1.00 0.86 (0.59-1.25) 0.61 (0.38-0.96)	Age, current smoking, alcohol, hypertension, FH – DM, survey response pattern  + BMI
Li G et al, 2008, China	China Da Qing Diabetes Prevention Study	1986-2006, 20 years follow-up	RCT: 577 men and women with IGT, mean age 45.2 years: 435 cases	7	Leisure-time physical activity increase	H vs. 1	0.51 (0.31-0.83)	Age, clinic

Magliano DJ et al, 2008, Australia	The Australian Diabetes, Obesity and Lifestyle Study	1999/2000 – 2004/2005, 5 years follow-up	5842 men and women, age ≥25 years: 224 cases	7	Leisure-time physical activity	0 min/wk 1-149 min/wk 150 min/wk	1.00 0.97 (0.58-1.63) 0.64 (0.46-0.89)	Age, sex, waist circumference, smoking status, education, hypertension, FH – DM, log FPG, hypertriglyceridemia, low HDL cholesterol, total cholesterol
Katzmarzyk PT et al, 2007, Canada	The Physical Activity Longitudinal Study	1981/1988 - 2002-2004, 15.5 years follow-up	1543 men and women, age 18-69 years: 78 cases	7	Leisure-time physical activity Max METs Sit-ups Push-ups Grip strength Trunk flexibility Muskuloskeletal fitness composite score	Per 12.3/9.5 kJ/kg/d m/w Per 1.6/1.6 Per 12.6/10.7 Per 12.2/12.2 Per 16.7/10.9 kg Per 9.3/8.4 cm H vs l	0.78 (0.59-1.02) 0.30 (0.14-0.60) 0.41 (0.26-0.64) 0.49 (0.28-0.81) 0.62 (0.33-1.20) 0.70 (0.48-1.02) 0.39 (0.23-0.63)	Age, sex, smoking status, alcohol consumption, parental history of diabetes
Lecomte P et al, 2007, France	NA	1995-1997 – 2000-2002, 5 years follow-up	743 men, age 20-60 years: 127 cases	8	Total physical activity	Low vs. High	1.70 (0.98-2.95)	Age, BMI, FH – DM, TG, glucose at baseline
Burke V et al, 2007, Australia	Australian Aboriginal Cohort	1988-1999 – 2002, 12.9 years follow-up	258 men and 256 women, age 15-88 years: 45/59 cases	9	Exercise	≥1 vs. <1/wk	1.19 (0.79-1.81)	Age, sex, waist girth, location
Lucke J et al, 2007, Australia	Australian Longitudinal Study on Women's Health	1996 – 2001/2003, 6 years follow-up	28956 women, age 18-23/45-50/70-75 years:	6	Physical activity, age 18-23 Physical activity, age 45-50 Physical activity, age 70-75	Nil/low vs. moderate/high Nil/low vs. moderate/high Nil/low vs. moderate/high	1.07 (0.70-1.64) 1.31 (1.08-1.60) 1.35 (1.13-1.62)	BMI, smoking, alcohol, education
Sato KK et al, 2007, Japan	The Kansai Healthcare Study	2000/2001 – 2004/2005, 4 years follow-up	8576 men, age 40-55 years: 878 cases	8	Walk to work  Regular leisure-time physical activity	0-10 min/d 11-20 ≥21 No Yes	1.00 0.86 (0.70-1.06) 0.73 (0.58-0.92) 1.00 0.90 (0.72-1.11)	Age, BMI, fasting plasma glucose, alcohol, smoking, parental history of diabetes
Rana JS et al, 2007, USA	Nurses' Health Study	1986-2002, 16 years follow-up	68907 women, age 30-55 years: 4030 cases	7	Moderate-vigorous physical activity  Moderate-vigorous physical activity	2.1 MET-h/wk 2.1-4.6 4.7-10.4 10.5-21.7 ≥21.8 2.1 MET-h/wk 2.1-4.6 4.7-10.4 10.5-21.7 ≥21.8	1.00 0.71 (0.65-0.79) 0.68 (0.61-0.75) 0.52 (0.47-0.57) 0.42 (0.38-0.47) 1.00 0.79 (0.71-0.87) 0.77 (0.69-0.85) 0.64 (0.57-0.71) 0.60 (0.55-0.67)	Age, smoking status, alcohol consumption, menopausal status, postmenopausal hormone use, FH – DM  + BMI
Holme I et al, 2007, Norway	The Oslo Study	1972/1973 – 2000, 28 years follow-up	6382 men, age 40-49 years: 584 cases	6	Leisure-time physical activity	Sedentary, light Moderate Moderate, vigorous Vigorous	1.00 0.87 (0.68-1.10) 0.87 (0.64-1.17) 0.42 (0.17-1.06)	Age, education, glucose, triglycerides, BMI, hypertension, systolic blood pressure
Carlsson S et al, 2007, Norway	Nord-Trøndelag Health Study (HUNT 1&2)	1984/1986 - 1995/1997, 11 years follow-up	38800 men and women, age ≥20 years: 738 cases	7	Exercise	Every day 2-3/wk 1/wk <1/wk Never Never <1/wk 1/wk	1.00 1.21 (0.92-1.59) 1.24 (0.94-1.62) 1.61 (1.24-2.10) 2.03 (1.52-2.71) 1.00 0.79 (0.54-1.17) 0.61 (0.41-0.91)	Sex, smoking, BMI

						2-3/wk Every day	0.60 (0.40-0.89) 0.49 (0.37-0.66)	
Schulze MB et al, 2007, Germany	European Prospective Investigation into Cancer and Nutrition – Potsdam Study	1994/1998 – 2005, 7 years follow-up	9729 men and 15438 women, age 35-65 years: 849 cases	8	Sports, biking, gardening	Per hour per week	0.984 (0.973-0.995)	Age, waist circumference, height, hypertension, red meat, whole grain bread, coffee, alcohol, smoking
Fossum E et al, 2007, Norway, Sweden, USA	The LIFE Study	1995/1997 - NA, 4.8 years follow-up	9185 men and women with hypertension and left ventricular hypertrophy, age 55-80 years: 562 cases	5	Leisure-time physical activity	Never ≤30 min twice/wk >30 min twice/wk	1.00 0.95 (0.76-1.19) 0.66 (0.53-0.81)	Age, sex, smoking, alcohol, race, degree of left ventricular hypertrophy, Framingham risk score
Onat A et al, 2007, Turkey	Turkish Adult Risk Factor Survey	1997/1998/2002/2003 – NA, 8 years follow-up	3248 men and women, age ≥28 years: 273 cases	7	Total physical activity, all Total physical activity, men Total physical activity, women	Active vs. sedentary Active vs. sedentary Active vs. sedentary	0.66 (0.49-0.89) 0.68 (0.46-0.98) 0.64 (0.39-1.04)	Age, sex, waist circumference
Villegas R et al, 2006, China	Shanghai Women's Health Study	1997/2000 – 2002/2004, 4.6 years follow-up	70658 women, age 40-70 years: 1973 cases	8	Leisure-time physical activity	Zero <1.4 h/wk 1.5-3.5 >3.5	1.00 0.89 (0.77-1.02) 1.05 (0.92-1.19) 0.83 (0.74-0.98)	Age, total energy, education level, income level, occupation, smoking, alcohol, hypertension, chronic diseases
					METs	zero <0.80 MET-h/wk 0.80-1.99 >1.99	1.00 0.88 (0.77-1.02) 1.01 (0.88-1.02) 0.91 (0.80-1.04)	
					Walking	<60 min/d 60-90 91-120 >120	1.00 1.03 (0.89-1.18) 1.05 (0.91-1.22) 0.91 (0.78-1.06)	
					Cycling	no yes	1.00 0.81 (0.66-1.00)	
					Stairs	<5 (flights/d) 5-9 10-15 >15	1.00 0.90 (0.79-1.02) 0.85 (0.75-0.95) 0.79 (0.70-0.89)	
					Household	<1 h/d 1-2.5 2.6-3 >3	1.00 0.96 (0.84-1.10) 0.93 (0.81-1.07) 0.98 (0.85-1.13)	
					METs (DPA)	<7.85 7.85-11.26 11.27-15.2 >15.2	1.00 0.98 (0.86-1.12) 0.95 (0.83-1.08) 0.88 (0.77-1.01)	
					METs (LPA+DPA)	<8.20 8.20-11.82 11.83-16.00 >16.00	1.00 1.08 (0.93-1.24) 1.06 (0.92-1.23) 0.91 (0.79-1.05)	

Jonker JT et al, 2006, USA	Framingham Heart Study	1948-51 - 1989, 46 years follow-up	5209 men and women, age 28-62 years: 329 cases	7	Total physical activity	Low Moderate High	1.00 0.62 (0.47-0.80) 0.60 (0.46-0.80)	Age, sex, education, marital status, smoking, baseline diseases, exam of start follow-up
Lindström J et al, 2006, Finland	The Finnish Diabetes Prevention Study	1993-1998 – 2004, 7 years follow-up	172 men and 350 women, age 40-65 years: 185 cases	7	Leisure-time physical activity	≥4 hrs/wk vs. 0	0.80 (0.57-1.12)	Weight reduction, total fat, SFA, fiber
Laaksonen DE et al, 2005, Finland	The Finnish Diabetes Prevention Study	NA, 4.1 years follow-up	487 men and women with impaired glucose tolerance, age 40-65 years: 107 cases	7	Change in leisure-time physical activity  Change in moderate-vigorous physical activity  Change in low- intensity physical activity	-3.2 0.5 3.8 -1.5 0.5 2.6 -3.2 0.1 3.1	1.00 0.52 (0.31-0.89) 0.34 (0.19-0.62) 1.00 0.95 (0.54-1.65) 0.51 (0.27-0.97) 1.00 0.63 (0.34-1.17) 0.36 (0.19-0.67)	Age, sex, group, smoking status, BMI, fasting and 2-hour plasma glucose, insulin level, FH – DM, energy, total fat, SFA, fiber, BMI
Patja K et al, 2005, Finland	NA	1972-1992, 21 years follow-up	41372 men and women, age 25-64 years: 2770 cases	7	Total physical activity, never smokers  Total physical activity, former smokers  Total physical activity, current smokers	High Medium Low High Medium Low High Medium Low	1.00 1.03 (0.92-1.16) 1.26 (1.09-1.46) 1.11 (0.93-1.33) 0.99 (0.82-1.19) 1.71 (1.31-2.21) 1.32 (1.13-1.54) 1.58 (1.37-1.82) 1.72 (1.42-2.10)	Age, study year, education, SBP, coffee, alcohol, BMI, sex
Hsia J et al, 2005, USA	Women's Health Initiative Observational Study	1994/1998 – 2002, 5.1 years follow-up	87907 women: 2271 cases	6	Leisure-time physical activity  Walking	0-2.3 MET-hrs/wk 2.3-7.4 7.5-13.9 14-23.4 23.5-143.0 0 MET-hrs/wk 0.5-2.5 2.6-5.0 5.1-10.0 10.1-10.8	1.00 0.91 (0.80-1.03) 0.80 (0.70-0.91) 0.86 (0.75-0.99) 0.78 (0.67-0.91) 1.00 0.77 (0.68-0.87) 0.87 (0.77-0.99) 0.74 (0.64-0.85) 0.82 (0.70-0.95)	Age, BMI, alcohol, education, smoking, hypertension, hypercholesterolemia, dietary fiber, carbohydrate %



Meisinger C et al, 2005, Germany	The MONICA/KORA Augsburg Cohort Study	1984/1995 – 1998, 7.4 years follow-up	4069 men and 4034 women, age 25-74 years: 145/82 cases	8	Leisure-time physical activity, men  Leisure-time physical activity, men  Leisure-time physical activity, women  Leisure-time physical activity, women	No activity Low activity Moderate activity High activity  No activity Low activity Moderate activity High activity  No activity Low activity Moderate activity High activity  No activity Low activity Moderate activity High activity	1.00 0.86 (0.57-1.29) 0.73 (0.45-1.20) 0.73 (0.45-1.20)  1.00 0.91 (0.61-1.38) 0.76 (0.47-1.25) 0.83 (0.50-1.36)  1.00 0.85 (0.51-1.41) 0.59 (0.31-1.11) 0.21 (0.05-0.86)  1.00 0.87 (0.52-1.45) 0.70 (0.37-1.33) 0.24 (0.06-0.98)	Age, survey, SBP, HDL, uric acid, regular smoker, alcohol intake, parental history of DM  +BMI  Age, survey, SBP, HDL, uric acid, regular smoker, alcohol intake, physical inactivity, parental history of DM  +BMI
Waki K et al, 2005, Japan	Japan Public Health Center-based Cohort Study	1990-2000, 10 years follow-up	12913 men and 15980 women, age 40-59 years: 703/482 cases	7	Leisure-time physical activity, men  Leisure-time physical activity, women	Inactive Active  Inactive Active	1.00 0.90 (0.73-1.12)  1.00 1.06 (0.82-1.37)	Age, BMI, alcohol, FH – DM, smoking, hypertension
Kumari M et al, 2004, England	The Whitehall 2 Study	1985/1988 – 1997/1999, 10.5 years follow-up	10308 men and women, age 35-55 years: 242/119 cases	8	Exercise, men  Exercise, women	Mild, none Moderate Vigorous  Mild, none Moderate Vigorous	1.00 1.08 (0.61-1.92) 0.65 (0.43-0.99)  1.00 0.81 (0.24-2.76) 0.58 (0.24-1.42)	Age, length of follow-up, employment grade, ethnic group, ECG abnormalities, FH – DM, height, BP, physical activity, smoking, BMI
Bonora E et al, 2004, Italy	The Bruneck Study	1990 – 2000, 10 years follow-up	837 men and women, age 40-79 years: 64 cases	8	Total physical activity	Low High	1.0 0.8 (0.5-1.4)	Age, sex
Nakanishi N et al, 2004, Japan	Japanese office workers	1994 – 2001, 7 years follow-up	2924 men, age 35-59 years: 168 cases	9	Daily energy expenditure (total physical activity)	<33.1 kcal/kg/d 33.1-36.7 36.8-40.3 ≥40.4	1.00 0.76 (0.52-1.11) 0.70 (0.46-1.06) 0.41 (0.24-0.71)	Age, FH – DM, alcohol, cigarette smoking, BMI, exercise, SBP, HDL cholesterol, TAG
Dotevall A et al, 2004, Sweden	The Göteborg BEDA Study of Cardiovascular Disease	1979/1981 – 1997/1998, 18 years follow-up	1351 women, age 26-66 years: 73 cases	8	Leisure-time physical activity	Not sedentary Sedentary	1.00 1.56 (0.96-2.53)	Age, BMI, TAG, SBP

Weinstein AR et al, 2004, USA	Women's Health Study	1992 - NA, 6.9 years follow-up	37878 women, age ≥45 years: 1361 cases	8	Leisure-time physical activity (Energy expenditure)  Leisure-time physical activity (Energy expenditure)  Walking  Walking	0-199 kcal/wk 200-599 600-1499 ≥1500 0-199 kcal/wk 200-599 600-1499 ≥1500 none <1 h/wk 1-1.5 2-3 ≥4 none <1 h/wk 1-1.5 2-3 ≥4	1.00 0.78 (0.68-0.90) 0.69 (0.59-0.80) 0.74 (0.63-0.88) 1.00 0.91 (0.79-1.06) 0.86 (0.74-1.01) 0.82 (0.70-0.97) 1.00 0.82 (0.71-0.96) 0.68 (0.58-0.80) 0.49 (0.40-0.60) 0.64 (0.53-0.78) 1.00 0.96 (0.82-1.10) 0.87 (0.73-1.02) 0.66 (0.54-0.81) 0.89 (0.73-1.09)	Age, FH – DM, alcohol, smoking status, HRT, hypertension, high cholesterol, fruits and vegetables, fiber, folate, SFA, vitamin E, randomised treatment group + BMI  Age, FH – DM, alcohol, smoking status, HRT, hypertension, high cholesterol, dietary factors, randomised treatment group  + BMI
Nilsson PM et al, 2004, Sweden	Malmö Preventive Project	1974/1984 – 1994/1996, 14.8 years follow-up	6599 men, age 35-51 years: 281 cases	7	Leisure-time physical activity	High Low	1.00 0.97 (0.75-1.25)	Age, sleep disturbances, SBP, DBP, antihypertensive medication, fasting glucose, BMI, change in BMI from baseline, follow-up time, diabetes heredity, smoking, social class
Hu G et al, 2003, Finland	NA	1982/1987/1992-1998, 12 yrs follow-up	6898 men and 7392 women, age 35-64 years: 373 cases	8	Occupational physical activity, all  Occupational physical activity, all  Commuting physical activity (walking or cycling)  Commuting physical activity (walking or cycling)  Leisure-time physical activity  Leisure-time physical activity	Light Moderate Active Light Moderate Active 0 min/d 1-29 ≥30 0 min/d 1-29 ≥30 Light Moderate Active Light Moderate Active	1.00 0.66 (0.49-0.90) 0.73 (0.56-0.94) 1.00 0.70 (0.52-0.96) 0.74 (0.57-0.95) 1.00 0.88 (0.68-1.15) 0.54 (0.38-0.77) 1.00 0.96 (0.74-1.25) 0.64 (0.45-0.92) 1.00 0.67 (0.53-0.84) 0.61 (0.41-0.90) 1.00 0.81 (0.64-1.02) 0.84 (0.46-1.25)	Age, sex, study year, SBP, smoking, education, other PA  + BMI  Age, sex, study year, SBP, smoking, education, other PA  + BMI  Age, sex, study year, SBP, smoking, education, other PA  + BMI
Kriska AM et al, 2003, USA	Pima Indians of the Gila River Indian Community of Arizona	1987-2000, 6 years follow-up	1728 pima-Indians, age 15-59 years: 346 cases	8	Leisure activity, men Total activity Leisure activity Total activity Leisure activity, women Total activity	≥16 vs. <16 MET-h/wk ≥16 vs. <16 MET-h/wk ≥16 vs. <16 MET-h/wk ≥16 vs. <16 MET-h/wk ≥16 vs. <16 MET-h/wk ≥16 vs. <16 MET-h/wk	0.66 (0.45-0.99) 0.82 (0.51-1.30) 0.88 (0.59-1.34) 1.10 (0.67-1.78) 0.70 (0.53-0.92) 0.75 (0.58-0.97)	Age  Age, BMI  Age

					Leisure activity Total activity	≥16 vs. <16 MET-h/wk ≥16 vs. <16 MET-h/wk	0.74 (0.56-0.97) 0.78 (0.60-1.02)	Age, BMI
Jacobsen BK et al, 2002, Norway	The Tromsø Study	1979/1980 – 1986/1987 - 1994/1995, 7 years follow-up	10055 men and women, age 20-54/20-49 years: 73 cases	7	Leisure-time physical activity (change from 1979/1980 to 1986/1987)	Unchanged low activity Reduced activity Increased activity Unchanged moderate or high activity	1.0 0.5 (0.2-0.9) 0.3 (0.1-0.7) 0.4 (0.2-0.7)	Age, sex, nonfasting glucose, BMI, change in BMI, nonfasting TAG, change in TAG, HDL cholesterol, change in HDL cholesterol, SBP, change in SBP, treatment for hypertension
Hu FB et al, 2001, USA	Health Professionals Follow-up Study	1986-1996, 10 years follow-up	37918 men, age 40-75 years: 1058 cases	7	Leisure-time physical activity	2.7 MET-hrs/wk 9.6 18.6 31.6 57.8	1.00 0.80 (0.68-0.95) 0.67 (0.56-0.81) 0.61 (0.50-0.74) 0.55 (0.45-0.68)	Age, pack-years of smoking, PH – DM, alcohol, vitamin E supplement use, BMI, SFA, MUFA, PUFA, trans-FA, cereal fiber
Wannamethee SG et al, 2000, United Kingdom	The British Regional Heart Study	1978/1980 – 1995, 16.8 years follow-up	5159 men, age 40-59 years: 196 cases	9	Leisure-time physical activity	Inactive Occasional Light Moderate Moderately vigorous/ vigorous	1.00 0.66 (0.42-1.02) 0.65 (0.41-1.03) 0.48 (0.28-0.83) 0.46 (0.27-0.79)	Age, smoking, alcohol, social class, BMI, preexisting CHD
Folsom AR et al, 2000, USA	Iowa Women's Health Study	1986-1997, 12 years follow-up	34257 women, age 55-69 years: 1997 cases	6	Moderate physical activity  Vigorous physical activity  Physical activity index  Moderate physical activity  Vigorous physical activity  Physical activity index	Rare, never 1/mo-1/wk 2-4/wk >4/wk Rare, never 1/mo-1/wk 2-4/wk >4/wk low medium high Rare, never 1/mo-1/wk 2-4/wk >4/wk Rare, never 1/mo-1/wk 2-4/wk >4/wk low medium high	1.00 0.80 (0.71-0.90) 0.65 (0.58-0.74) 0.51 (0.43-0.59) 1.00 0.76 (0.63-0.92) 0.68 (0.54-0.86) 0.46 (0.29-0.72) 1.00 0.75 (0.67-0.84) 0.58 (0.51-0.66) 1.00 0.90 (0.79-1.01) 0.86 (0.76-0.98) 0.73 (0.62-0.85) 1.00 0.92 (0.76-1.10) 0.88 (0.70-1.11) 0.64 (0.41-1.01) 1.00 0.91 (0.82-1.02) 0.79 (0.70-0.90)	Age, education, smoking, alcohol intake, ERT, energy intake, whole grain intake, Key's score, FH – diabetes          Also adjusted for BMI and WHR
Okada K et al, 2000, Japan	The Osaka Health Survey	1981/1990 – 1997, ~10 years follow-up	6013 men, age 35-60 years: 444 cases	9	Leisure-time physical activity  Intensity of physical activity  Change in leisure-time physical activity	0 h/wk 1-2 ≥3 Sedentary Moderate Vigorous Inactive/inactive	1.00 0.80 (0.64-0.99) 0.55 (0.34-0.87) 1.00 1.06 (0.86-1.31) 0.67 (0.47-0.94) 1.00	Age, BMI, alcohol, smoking status, blood pressure, parental history of DM2

					(1981-1990 and 1985-1994)	Active/inactive Inactive/active Active/active	0.78 (0.56-1.10) 0.66 (0.47-0.93) 0.63 (0.47-0.86)	
Hu FB et al, 1999, USA	Nurses' Health Study	1986-1994, 8 years follow-up	70102 women, age 40-65 years: 1419 cases	7	Leisure-time physical activity	0.8 MET-h/wk 3.3 7.7 15.7 35.4	1.00 0.77 (0.66-0.90) 0.75 (0.65-0.88) 0.62 (0.52-0.73) 0.54 (0.45-0.64)	Age, time period, cigarette smoking, menopausal status, parental history of DM, alcohol, hypertension, high cholesterol
					Leisure-time physical activity	0.8 MET-h/wk 3.3 7.7 15.7 35.4	1.00 0.84 (0.72-0.97) 0.87 (0.75-1.02) 0.77 (0.65-0.91) 0.74 (0.62-0.89)	Additionally adjusted for BMI
					Walking (among women who did not perform vigorous activities)	0 MET-h/wk 1.7 3.0 7.5 20.0	1.00 0.91 (0.75-1.09) 0.73 (0.59-0.90) 0.69 (0.56-0.86) 0.58 (0.46-0.73)	Age, time period, cigarette smoking, menopausal status, parental history of DM, alcohol, hypertension, high cholesterol
					Walking (among women who did not perform vigorous activities)	0 MET-h/wk 1.7 3.0 7.5 20.0	1.00 0.95 (0.79-1.15) 0.80 (0.65-0.99) 0.81 (0.66-1.01) 0.74 (0.59-0.93)	Additionally adjusted for BMI
					Walking pace(among women who did not perform vigorous activities)	<3.2 km/h 3.2-4.8 >4.8	1.00 0.72 (0.62-0.85) 0.41 (0.33-0.52)	
					Walking pace(among women who did not perform vigorous activities)	<3.2 km/h 3.2-4.8 >4.8	1.00 0.86 (0.73-1.01) 0.59 (0.47-0.73)	Age, time period, cigarette smoking, menopausal status, parental history of DM, alcohol, hypertension, high cholesterol
					Changes in leisure-time physical activity	Consistently low Increased physical activity Consistently high	1.00 0.71 (0.55-0.93) 0.59 (0.46-0.75)	Additionally adjusted for BMI
					Calisthenics, aerobics	0 hrs/wk <1 ≥1	1.00 0.67 (0.55-0.81) 0.56 (0.46-0.69)	
					Jogging	Any vs. none	0.58 (0.40-0.83)	
					Running	Any vs. none	0.74 (0.46-1.19)	
					Tennis	Any vs. none	0.79 (0.57-1.10)	
					Swimming	Any vs. none	1.14 (0.97-1.34)	
					Biking	Any vs. none	0.96 (0.85-1.09)	
					Vigorous physical activity	Per 5 MET-hrs/wk	0.92 (0.88-0.95)	
					Walking	Per 5 MET-hrs/wk	0.95 (0.92-0.98)	
Njølstad I et al, 1998, Norway	Finnmark Study	1977/78-1989, 12 years follow-up	11654 men and women, age 35-52 years: 87/75 cases	7	Leisure-time physical activity, men Leisure-time physical activity, women	one level one level	0.84 (0.61-1.16) 0.91 (0.61-1.36)	Age, BMI, DBP, HDL-cholesterol, glucose, smoking, height, antihypertensive treatment, ethnicity
Kawakami N et al, 1997, Japan	Electrical company	1984-1992, 8 years follow-up	2312 men, age 18-53 years: 41 cases	7	Leisure-time physical activity	Inactive Active	1.71 (0.92-3.19) 1.00	Age, education, work shift, occupation, BMI, alcohol, smoking, FH - DM
Haapanen N et al,	NA - check	1980-1990, 10	891 men and 973	8	Leisure-time physical activity, men	0-1100 kcal/wk	1.00	Age, smoking

1997, Finland		years follow-up	women, age 35-63 years: 64/54 cases		Vigorous activity Leisure-time physical activity, women Vigorous activity	1101-1900 >1900 <1/wk ≥1/wk 0-900 kcal/wk 901-1500 >1500 <1/wk ≥1/wk	0.79 (0.32-1.91) 0.65 (0.35-1.19) 1.00 0.61 (0.35-1.09) 1.00 0.44 (0.15-1.35) 0.38 (0.18-0.78) 1.00 0.45 (0.19-1.05)	
Lynch J et al, 1996, Finland	Kuopio Ischemic Heart Disease Risk Factor Study	1984/1989 – 1991/1993, 4.2 years follow-up	897 men, age 42, 48, 54 and 60 years: 46 cases	7	Leisure-time physical activity Cardiorespiratory fitness	low ≥5.5 METs and 40 min/wk <5.5 METs + ≥2 h/wk 1 (<25.8 mL O <sub>2</sub> /kg/min) 2 3 4 (36.0 mL O <sub>2</sub> /kg/min)	1.00 0.42 (0.22-0.79) 0.52 (0.28-0.99) 1.00 0.70 (0.31-1.46) 0.26 (0.09-0.74) 0.09 (0.02-0.44)	Age, BMI, WHR, serum TG, HDL, SBP, alcohol, parental history of DM, cardiorespiratory fitness and physical activity mutually adjusted
Monterrosa AE et al, 1995, USA	The San Antonio Heart Study	1979/1982 – 1987, 8 years follow-up	353 men and 491 women (Mexican-Americans), age 25-64 years: 57 cases	8	Leisure-time physical activity, men Leisure-time physical activity, women	Per 1 time/wk Per 1 time/wk	0.41 (0.18-0.93) 1.43 (0.85-2.41)	Age, socioeconomic status, structural assimilation, weight control by dieting, sugar avoidance, alcohol, BMI
Burchfiel CM et al, 1995, USA	The Honolulu Heart Program	1965/1968-1974, 6 years follow-up	6815 Japanese-Americans men, age 45-68 years: 391 cases	7	Total physical activity (per 24 hrs)	Quintile 5 vs. 1-4	0.49 (0.34-0.72)	Age, BMI, subscapular/triceps skinfold ratio, SBP, TAG, glucose, hematocrit, parental DM – history
Simonsick EM et al, 1993, USA	Established Populations for Epidemiologic Studies of the Elderly - East Boston	1982/1983 – NA, 6 years follow-up	East Boston 1874 men and women, age 65-≥75 years: NA	6	Leisure-time physical activity	Inactive Moderately active Highly active	1.00 0.85 (0.50-1.45) 1.11 (0.53-2.30)	Age, sex, education, work status, smoking, respiratory symptoms, MI, stroke, diabetes, angina, self-rated health, modified depression score
Simonsick EM et al, 1993, USA	Established Populations for Epidemiologic Studies of the Elderly - New Haven	1982/1983 – NA, 6 years follow-up	1488 men and women, age 65-≥75 years: NA	6	Leisure-time physical activity, New Haven	Inactive Moderately active Highly active	1.00 1.54 (0.68-3.49) 0.59 (0.20-1.77)	Age, sex, education, work status, smoking, respiratory symptoms, MI, stroke, diabetes, angina, self-rated health, modified depression score
Simonsick EM et al, 1993, USA	Established Populations for Epidemiologic Studies of the Elderly - Iowa	1982/1983 – NA, 6 years follow-up	1815 men and women, age 65-≥75 years: NA	6	Leisure-time physical activity, Iowa	Inactive Moderately active Highly active	1.00 0.76 (0.42-1.38) 1.51 (0.83-2.75)	Age, sex, education, work status, smoking, respiratory symptoms, MI, stroke, diabetes, angina, self-rated health, modified depression score
Manson JAE et al, 1991, USA	Nurses' Health Study	1980-1988, 8 years follow-up	87253 women, age 34-59 years: 1303 cases	8	Vigorous exercise Vigorous exercise	0/wk 1 2 3 ≥4 0/wk 1	1.00 0.74 (0.60-0.91) 0.55 (0.44-0.68) 0.73 (0.59-0.90) 0.63 (0.53-0.75) 1.00 0.89 (0.72-1.11)	Age Age, BMI

						2 3 ≥4	0.71 (0.56-0.89) 0.93 (0.75-1.16) 0.86 (0.71-1.04)	
Helmrich SP et al, 1991, USA	University of Pennsylvania Alumni Health Study	1962-1976, 14 years follow-up	5990 men, age 39-68 years: 202 cases	7	Sports played	None Moderate Vigorously Moderate+ vigorously	1.00 0.90 0.69 0.65	Age
					Flights of stairs climbed per day	<5 5-14 ≥15	1.00 0.78 0.75	
					Blocks walked per day	<5 5-14 ≥15	1.00 1.31 0.93 (0.62-1.40)	
					Leisure-time physical activity	Per 500kcal/wk	0.94 (0.90-0.98)	
					Leisure-time physical activity (all)	<500 kcal/wk 500-999 1000-1499 1500-1999 2000-2499 2500-2999 3000-3499	1.00 0.94 0.79 0.78 0.68 0.90 0.86	Age, BMI, hypertension, parental history of DM
					Leisure-time physical activity, all activities except vigorous sports	≥3500 <500 kcal/wk 500-999 1000-1499 1500-1999 2000-2499 2500-2999 3000-3499	0.52 (0.31-0.86) 1.00 0.97 0.87 0.92 0.75 1.29 1.03	
					Vigorous sports only	≥3500 <500 kcal/wk 500-999 1000-1499 1500-1999 2000-2499 2500-2999 3000-3499 ≥3500	0.48 (0.27-0.87) 1.00 0.69 - 0.53 0.86 0.56 0.40 0.46 (0.02-11.85)	

BMI=Body Mass Index, CHD= coronary heart disease, DBP=diastolic blood pressure, DM=diabetes mellitus, DM2= type 2 diabetes mellitus, FFQ=food frequency questionnaire, FH=family history, GL=glycemic load, HDL=high density lipoprotein cholesterol, HRT=hormone replacement therapy, IFG=impaired fasting glucose, Mg=magnesium, OC=oral contraceptive, PUFA=polyunsaturated fatty acids, SBP=systolic blood pressure, SFA=saturated fatty acids, TAG=triacylglycerol, trans FA = trans fatty acids, WHR=waist-to-hip ratio

Supplemental Table S5. Relative risks from nonlinear dose-response analysis of leisure-time physical activity and type 2 diabetes (MET-hours per week)

Leisure-time physical activity, all studies		Leisure-time physical activity, with BMI adjustment		Leisure-time physical activity, no BMI-adjustment	
MET-hrs/wk	RR (95 CI)	MET-hrs/wk	RR (95 CI)	MET-hrs/wk	RR (95 CI)
1	1.00	1	1.00	1	1.00
5	0.90 (0.88-0.92)	5	0.91 (0.89-0.93)	5	0.83 (0.81-0.85)
10	0.83 (0.80-0.86)	10	0.84 (0.81-0.87)	10	0.72 (0.69-0.75)
15	0.79 (0.75-0.82)	15	0.79 (0.76-0.83)	15	0.65 (0.62-0.68)
20	0.76 (0.72-0.80)	20	0.76 (0.72-0.80)	20	0.60 (0.57-0.64)
25	0.74 (0.71-0.78)	25	0.74 (0.71-0.78)	25	0.57 (0.54-0.60)
30	0.73 (0.70-0.76)	30	0.73 (0.69-0.76)	30	0.55 (0.52-0.58)
35	0.72 (0.68-0.75)	35	0.72 (0.68-0.76)	35	0.53 (0.51-0.56)
40	0.71 (0.67-0.75)	40	0.71 (0.67-0.76)	40	0.52 (0.49-0.55)
45	0.70 (0.65-0.74)	45	0.70 (0.66-0.75)	45	0.51 (0.48-0.54)
50	0.69 (0.64-0.74)	50	0.70 (0.64-0.75)	50	0.49 (0.46-0.52)
55	0.68 (0.62-0.73)	55	0.69 (0.63-0.76)	55	0.48 (0.45-0.51)

Supplemental Table S6. Relative risks from nonlinear dose-response analysis of leisure-time physical activity and type 2 diabetes (hours per week)

Leisure-time physical activity, all studies		Leisure-time physical activity, with BMI adjustment		Leisure-time physical activity, no BMI-adjustment	
Hrs/wk	RR (95 CI)	Hrs/wk	RR (95 CI)	Hrs/wk	RR (95 CI)
0	1.00	0	1.00	0	1.00
1	0.91 (0.89-0.93)	1	0.90 (0.87-0.92)	1	0.87 (0.82-0.92)
2	0.84 (0.81-0.88)	2	0.82 (0.79-0.86)	2	0.77 (0.71-0.85)
3	0.80 (0.76-0.84)	3	0.78 (0.73-0.82)	3	0.71 (0.64-0.78)
4	0.76 (0.72-0.81)	4	0.74 (0.69-0.79)	4	0.65 (0.59-0.73)
5	0.73 (0.67-0.79)	5	0.70 (0.65-0.76)	5	0.61 (0.55-0.67)
6	0.71 (0.64-0.78)	6	0.67 (0.60-0.74)	6	0.57 (0.51-0.63)



Supplemental Table S7. Relative risks from nonlinear dose-response analysis of leisure-time physical activity and type 2 diabetes (kcal per week)

Leisure-time physical activity, all studies	
Kcal/week	RR (95 CI)
100	1.00
500	0.94 (0.92-0.97)
1000	0.89 (0.85-0.94)
1500	0.84 (0.79-0.90)
2000	0.79 (0.73-0.85)
2500	0.74 (0.69-0.79)
3000	0.69 (0.64-0.75)
3500	0.64 (0.58-0.71)

Supplemental Table S8. Relative risks from nonlinear dose-response analysis of vigorous physical activity and type 2 diabetes (hours per week)

Vigorous physical activity, all studies		Vigorous physical activity, with BMI adjustment		Vigorous physical activity, no BMI-adjustment	
Hrs/wk	RR (95 CI)	Hrs/wk	RR (95 CI)	Hrs/wk	RR (95 CI)
0	1.00	0	1.00	0	1.00
1	0.89 (0.87-0.92)	1	0.88 (0.86-0.91)	1	0.84 (0.82-0.85)
2	0.81 (0.77-0.85)	2	0.79 (0.75-0.83)	2	0.72 (0.70-0.74)
3	0.75 (0.71-0.80)	3	0.73 (0.68-0.78)	3	0.64 (0.62-0.66)
4	0.71 (0.66-0.76)	4	0.69 (0.64-0.75)	4	0.59 (0.57-0.61)
5	0.68 (0.62-0.74)	5	0.66 (0.60-0.73)	5	0.55 (0.53-0.57)
6	0.65 (0.59-0.72)	6	0.63 (0.56-0.71)	6	0.52 (0.49-0.54)
7	0.63 (0.56-0.70)	7	0.61 (0.53-0.70)	7	0.49 (0.45-0.52)

Supplemental Table S9. Relative risks from nonlinear dose-response analysis of low intensity physical activity and type 2 diabetes (hours per week)

Low intensity physical activity, all studies		Low intensity physical activity, with BMI adjustment		Low intensity physical activity, no BMI-adjustment	
Hrs/wk	RR (95 CI)	Hrs/wk	RR (95 CI)	Hrs/wk	RR (95 CI)
0	1.00	0	1.00	0	1.00
1	0.94 (0.90-0.99)	1	0.94 (0.90-0.99)	1	0.87 (0.83-0.91)
2	0.88 (0.82-0.95)	2	0.88 (0.82-0.95)	2	0.78 (0.73-0.84)
3	0.82 (0.75-0.89)	3	0.82 (0.75-0.89)	3	0.73 (0.67-0.79)
4	0.76 (0.68-0.85)	4	0.76 (0.68-0.85)	4	0.69 (0.61-0.77)
5	0.70 (0.59-0.82)	5	0.70 (0.59-0.82)	5	0.66 (0.56-0.77)

Supplemental Table S10. Relative risks from nonlinear dose-response analysis of walking and type 2 diabetes (MET-hours per week)

Walking, all studies		Walking, with BMI adjustment	
MET-hrs/wk	RR (95 CI)	MET-hrs/wk	RR (95 CI)
0	1.00	0	1.00
5	0.86 (0.84-0.89)	5	0.86 (0.84-0.89)
10	0.79 (0.75-0.83)	10	0.79 (0.75-0.83)
15	0.77 (0.73-0.81)	15	0.77 (0.73-0.81)
20	0.77 (0.73-0.81)	20	0.77 (0.73-0.81)
25	0.79 (0.75-0.83)	25	0.79 (0.75-0.83)

A nonlinear analysis of studies not adjusted for BMI was not possible because there was only one study reporting categorical results

Supplemental Table S11. Relative risks from nonlinear dose-response analysis of walking and type 2 diabetes (hours per week)

Walking, all studies		Walking, with BMI adjustment		Walking, no BMI-adjustment	
Hrs/wk	RR (95 CI)	Hrs/wk	RR (95 CI)	Hrs/wk	RR (95 CI)
0	1.00	0	1.00	0	1.00
1	0.92 (0.88-0.96)	1	0.90 (0.87-0.94)	1	0.86 (0.78-0.95)
2	0.87 (0.82-0.93)	2	0.84 (0.79-0.90)	2	0.79 (0.68-0.92)
3	0.86 (0.81-0.91)	3	0.83 (0.78-0.88)	3	0.78 (0.67-0.91)
4	0.87 (0.82-0.91)	4	0.84 (0.79-0.89)	4	0.80 (0.70-0.91)
5	0.88 (0.83-0.93)	5	0.86 (0.81-0.92)	5	0.83 (0.75-0.91)

Supplemental Table S12. Relative risks from nonlinear dose-response analysis of resistance exercise and type 2 diabetes (hours per week)

Resistance exercise, all studies		Resistance exercise, with BMI adjustment		Resistance exercise, no BMI-adjustment	
Hrs/wk	RR (95 CI)	Hrs/wk	RR (95 CI)	Hrs/wk	RR (95 CI)
0	1.00	0	1.00	0	1.00
1	0.87 (0.84-0.91)	1	0.87 (0.84-0.91)	1	0.81 (0.78-0.84)
2	0.80 (0.76-0.85)	2	0.80 (0.76-0.85)	2	0.72 (0.68-0.76)
3	0.76 (0.72-0.81)	3	0.76 (0.72-0.81)	3	0.68 (0.64-0.72)
4	0.74 (0.69-0.80)	4	0.74 (0.69-0.80)	4	0.68 (0.63-0.73)
5	0.74 (0.67-0.81)	5	0.74 (0.67-0.81)	5	0.69 (0.63-0.76)
6	0.73 (0.64-0.83)	6	0.73 (0.64-0.83)	6	0.71 (0.62-0.80)

Supplemental Table S13. Relative risks from nonlinear dose-response analysis of cardiorespiratory fitness and type 2 diabetes (mL O<sub>2</sub>/kg/min)

Cardiorespiratory fitness, all studies	
ml O <sub>2</sub> /kg/min	RR (95 CI)
23.2	1.00
28.3	0.81 (0.60-1.10)
32.5	0.69 (0.41-1.17)
37.5	0.56 (0.28-1.13)
42.5	0.45 (0.22-0.92)
47.5	0.36 (0.18-0.72)

Supplemental Table S14: Subgroup analyses of physical activity and type 2 diabetes risk, high vs. low analysis

	Total physical activity					Leisure-time physical activity					Vigorous physical activity					
	<i>n</i>	RR (95% CI)	<i>I</i> <sup>2</sup> (%)	<i>P</i> <sub>h</sub> <sup>1</sup>	<i>P</i> <sub>h</sub> <sup>2</sup>	<i>n</i>	RR (95% CI)	<i>I</i> <sup>2</sup> (%)	<i>P</i> <sub>h</sub> <sup>1</sup>	<i>P</i> <sub>h</sub> <sup>2</sup>	<i>n</i>	RR (95% CI)	<i>I</i> <sup>2</sup> (%)	<i>P</i> <sub>h</sub> <sup>1</sup>	<i>P</i> <sub>h</sub> <sup>2</sup>	
All studies	14	0.65 (0.59-0.71)	18.4	0.25		55	0.74 (0.70-0.79)	84.0	<0.0001		8	0.61 (0.51-0.74)	73.4	<0.0001		
Duration of follow-up																
<10 yrs follow-up	8	0.59 (0.49-0.72)	46.1	0.07	0.39	27	0.79 (0.74-0.85)	44.5	0.007	0.19	2	0.64 (0.32-1.28)	77.4	0.04	0.42	
≥10 yrs follow-up	6	0.68 (0.62-0.73)	0	0.86		28	0.71 (0.65-0.78)	90.3	<0.0001		6	0.58 (0.47-0.72)	74.2	0.002		
Gender																
Men	7	0.66 (0.56-0.78)	43.3	0.10	0.57/ 0.19	24	0.75 (0.68-0.82)	84.9	<0.0001	0.96/ 0.49	5	0.62 (0.48-0.79)	72.0	0.006	0.90/ 0.90	
Women	4	0.76 (0.69-0.83)	0	0.72		21	0.78 (0.70-0.87)	87.4	<0.0001		5	0.63 (0.49-0.81)	72.0	0.006		
Men and women	7	0.60 (0.51-0.70)	0	0.66		21	0.74 (0.66-0.84)	64.9	<0.0001		0					
Geographic location																
Europe	6	0.68 (0.62-0.74)	0	0.89	0.26	21	0.64 (0.58-0.72)	41.3	0.03	0.002	2	0.48 (0.33-0.71)	0	0.60	0.32	
America	4	0.66 (0.52-0.84)	56.5	0.08		17	0.76 (0.71-0.81)	45.9	0.02		6	0.64 (0.53-0.78)	77.3	0.001		
Asia	3	0.57 (0.46-0.70)	17.0	0.30		14	0.86 (0.79-0.93)	65.0	<0.0001		0					
Australia	0					3	0.81 (0.62-1.05)	63.0	0.07		0					
Africa	1	0.29 (0.09-0.83)				0					0					
Number of cases																
Cases <250	6	0.55 (0.43-0.71)	0	0.47	0.23	20	0.62 (0.55-0.69)	9.4	0.34	0.004	3	0.50 (0.36-0.67)	0	0.85	0.25	
Cases 250-<1000	6	0.64 (0.55-0.75)	42.6	0.12		15	0.77 (0.69-0.87)	58.4	0.002		0					
Cases ≥1000	2	0.68 (0.62-0.75)	0	0.68		15	0.79 (0.72-0.87)	93.5	<0.0001		5	0.66 (0.54-0.80)	80.4	<0.0001		
Study quality score																
0-3	0				NC	0				0.61	0				0.97	
4-6	0					15	0.77 (0.73-0.82)	24.2	0.19		2	0.59 (0.50-0.70)	0	0.69		
7-9	14	0.65 (0.59-0.71)	18.4	0.25		40	0.73 (0.68-0.79)	80.8	<0.0001		6	0.61 (0.48-0.77)	75.7	0.001		
<b>Adjustment for confounding factors</b>																
Age	Yes	14	0.65 (0.59-0.71)	18.4	0.25	NC	54	0.75 (0.71-0.80)	83.5	<0.0001	0.05	8	0.61 (0.51-0.74)	73.4	<0.0001	NC
	No	0					1	0.49 (0.37-0.66)				0				
Education	Yes	6	0.66 (0.61-0.72)	0	0.64	0.96	22	0.80 (0.75-0.85)	54.1	0.001	0.11	3	0.60 (0.41-0.89)	82.7	0.003	0.96
	No	8	0.62 (0.50-0.76)	44.0	0.09		33	0.70 (0.63-0.77)	81.3	<0.0001		5	0.60 (0.46-0.79)	69.4	0.01	
Family history of diabetes	Yes	7	0.55 (0.47-0.65)	0	0.79	0.03	22	0.75 (0.68-0.82)	69.8	<0.0001	0.84	4	0.49 (0.31-0.61)	0	0.52	0.08
	No	7	0.69 (0.63-0.75)	9.8	0.35		33	0.74 (0.68-0.80)	87.1	<0.0001		4	0.70 (0.58-0.84)	74.5	0.008	
Body mass index	Yes	8	0.65 (0.57-0.73)	41.7	0.10	0.62	39	0.76 (0.70-0.81)	86.6	<0.0001	0.41	6	0.68 (0.57-0.80)	66.1	0.01	0.11
	No	6	0.62 (0.52-0.74)	0	0.66		16	0.71 (0.62-0.81)	54.1	0.005		2	0.46 (0.35-0.60)	0	0.52	
Waist circumference, or waist-to-hip ratio	Yes	2	0.64 (0.48-0.84)	0	0.54	0.91	7	0.83 (0.74-0.93)	50.3	0.06	0.20	2	0.55 (0.37-0.82)	10.2	0.29	0.63
	No	12	0.64 (0.58-0.71)	28.9	0.16		48	0.73 (0.68-0.78)	85.5	<0.0001		6	0.63 (0.51-0.77)	78.7	<0.0001	
Smoking	Yes	6	0.61 (0.54-0.69)	0	0.54	0.16	42	0.75 (0.71-0.80)	59.8	<0.0001	0.97	5	0.59 (0.47-0.75)	78.0	0.001	0.69
	No	8	0.68 (0.59-0.77)	25.3	0.23		13	0.73 (0.73-0.85)	77.1	<0.0001		3	0.62 (0.38-0.98)	71.5	0.03	
Alcohol	Yes	5	0.65 (0.57-0.73)	27.0	0.24	0.93	30	0.75 (0.69-0.81)	89.3	<0.0001	0.71	5	0.58 (0.46-0.74)	79.1	0.001	0.56
	No	9	0.64 (0.55-0.75)	23.4	0.24		25	0.73 (0.66-0.81)	52.7	<0.0001		3	0.65 (0.44-0.96)	67.6	0.05	
Hypertension	Yes	1	0.51 (0.24-1.10)			0.57	18	0.79 (0.72-0.87)	59.0	0.001	0.24	3	0.65 (0.51-0.82)	76.6	0.01	0.70
	No	13	0.65 (0.59-0.71)	22.5	0.22		37	0.72 (0.67-0.78)	87.7	<0.0001		5	0.57 (0.40-0.81)	76.5	0.002	
Triglycerides	Yes	3	0.49 (0.37-0.64)	0	0.65	0.04	7	0.65 (0.48-0.87)	67.7	0.005	0.28	1	0.42 (0.22-0.79)			0.32



	No	11	0.68 (0.63-0.73)	0	0.44		48	0.75 (0.71-0.80)	84.8	<0.0001		7	0.63 (0.52-0.76)	74.7	0.001	
Serum cholesterol	Yes	2	0.44 (0.28-0.69)	0	0.65	0.10	6	0.76 (0.70-0.83)	0	0.61	0.88	2	0.57 (0.48-0.67)	0	0.34	0.36
	No	12	0.66 (0.61-0.72)	11.3	0.33		49	0.74 (0.70-0.80)	85.1	<0.0001		6	0.64 (0.52-0.79)	72.2	0.003	
Dietary fat	Yes	0				NC	5	0.72 (0.64-0.80)	66.9	0.02	0.55	0				NC
	No	14	0.65 (0.59-0.71)	18.4	0.25		50	0.75 (0.70-0.80)	75.5	<0.0001		8	0.61 (0.51-0.74)	73.4	<0.0001	
Fiber	Yes	0				NC	7	0.72 (0.66-0.79)	56.2	0.03	0.52	1	0.76 (0.70-0.83)			0.32
	No	14	0.65 (0.59-0.71)	18.4	0.25		48	0.75 (0.70-0.80)	75.5	<0.0001		7	0.58 (0.46-0.72)	68.7	0.004	
Carbohydrates	Yes	0				NC	2	0.71 (0.48-1.04)	36.2	0.21	0.85	0				NC
	No	14	0.65 (0.59-0.71)	18.4	0.25		53	0.75 (0.70-0.79)	84.3	<0.0001		8	0.61 (0.51-0.74)	73.4	<0.0001	
Coffee or caffeine	Yes	1	0.69 (0.62-0.76)			0.47	4	0.63 (0.57-0.71)	0	0.50	0.13	0				NC
	No	13	0.63 (0.56-0.70)	18.6	0.26		51	0.76 (0.71-0.80)	83.3	<0.0001		8	0.61 (0.51-0.74)	73.4	<0.0001	
Vegetables	Yes	0				NC	3	0.71 (0.53-0.96)	36.3	0.21	0.79	0				NC
	No	14	0.65 (0.59-0.71)	18.4	0.25		52	0.75 (0.70-0.79)	84.6	<0.0001		8	0.61 (0.51-0.74)	73.4	<0.0001	
Meat	Yes	0				NC	2	0.91 (0.72-1.15)	10.9	0.29	0.31	1	0.76 (0.70-0.83)			0.32
	No	14	0.65 (0.59-0.71)	18.4	0.25		53	0.74 (0.69-0.79)	84.5	<0.0001		7	0.58 (0.46-0.72)	68.7	0.004	
Whole grains	Yes	0				NC	4	0.72 (0.62-0.83)	63.6	0.04	0.39	1	0.64 (0.41-1.01)			0.87
	No	14	0.65 (0.59-0.71)	18.4	0.25		51	0.75 (0.70-0.80)	83.3	<0.0001		7	0.61 (0.50-0.74)	77.0	<0.0001	
Dairy	Yes	0				NC	0				NC	0				NC
	No	14	0.65 (0.59-0.71)	18.4	0.25		55	0.74 (0.70-0.79)	84.0	<0.0001		8	0.61 (0.51-0.74)	73.4	<0.0001	
Energy intake	Yes	3	0.64 (0.54-0.76)	0	0.74	0.88	10	0.74 (0.68-0.81)	62.7	0.004	0.65	2	0.51 (0.35-0.75)	49.5	0.16	0.31
	No	11	0.64 (0.57-0.72)	34.2	0.13		45	0.75 (0.70-0.81)	75.5	<0.0001		6	0.66 (0.55-0.79)	69.4	0.006	

*n* denotes the number of studies.

<sup>1</sup> P for heterogeneity within each subgroup,

<sup>2</sup> P for heterogeneity between subgroups with meta-regression analysis,

<sup>3</sup> P for heterogeneity between men and women (studies with genders mixed were excluded),

NC = not calculable

Supplemental Table 15: Subgroup analyses of walking and type 2 diabetes risk, high vs. low analysis

		Walking				
		<i>n</i>	RR (95% CI)	<i>I</i> <sup>2</sup> (%)	<i>P</i> <sub>h</sub> <sup>1</sup>	<i>P</i> <sub>h</sub> <sup>2</sup>
All studies		7	0.85 (0.79-0.91)	0	0.52	
Duration of follow-up						
<10 yrs follow-up		5	0.83 (0.77-0.90)	0.8	0.40	0.33
≥10 yrs follow-up		2	0.92 (0.78-1.09)	0	0.96	
Gender						
Men		2	0.78 (0.63-0.95)	2.7	0.31	0.37/0.37
Women		5	0.86 (0.80-0.93)	0	0.52	
Men and women		0				
Geographic location						
Europe		0				0.98
America		5	0.85 (0.78-0.93)	0	0.60	
Asia		2	0.83 (0.67-1.03)	58.9	0.12	
Australia		0				
Africa		0				
Number of cases						
Cases <250		1	0.93 (0.62-1.40)			0.60
Cases 250-<1000		1	0.73 (0.58-0.92)			
Cases ≥1000		5	0.86 (0.80-0.93)	0	0.52	
Study quality score						
0-3		0				0.62
4-6		1				
7-9		6	0.86 (0.79-0.93)	0	0.42	
<b>Adjustment for confounding factors</b>						
Age	Yes	7	0.85 (0.79-0.91)	0	0.52	NC
	No	0				
Education	Yes	3	0.88 (0.80-0.96)	0	0.54	0.30
	No	4	0.80 (0.71-0.91)	0	0.45	
Family history of diabetes	Yes	5	0.84 (0.76-0.93)	4.1	0.38	0.72
	No	2	0.86 (0.78-0.96)	0	0.35	
Body mass index	Yes	5	0.81 (0.74-0.89)	0	0.61	0.17
	No	2	0.91 (0.81-1.03)	0	0.93	
Waist circumference, or waist-to-hip ratio	Yes	0				NC
	No	7	0.85 (0.79-0.91)	0	0.52	
Smoking	Yes	6	0.85 (0.79-0.91)	0.4	0.41	0.68
	No	1	0.93 (0.62-1.40)			
Alcohol	Yes	6	0.85 (0.79-0.91)	0.4	0.41	0.68
	No	1	0.93 (0.62-1.40)			

Hypertension	Yes	5	0.85 (0.78-0.93)	0	0.60	0.90
	No	2	0.83 (0.66-1.04)	58.6	0.12	
Triglycerides	Yes	0				NC
	No	7	0.85 (0.79-0.91)	0	0.52	
Serum cholesterol	Yes	3	0.82 (0.74-0.91)	0	0.49	0.42
	No	4	0.88 (0.79-0.97)	0.3	0.39	
Dietary fat	Yes	1	0.89 (0.73-1.09)			0.65
	No	6	0.84 (0.78-0.91)	0	0.42	
Fiber	Yes	2	0.85 (0.75-0.95)	0	0.52	0.94
	No	5	0.85 (0.76-0.94)	16.6	0.31	
Carbohydrates	Yes	1	0.82 (0.70-0.96)			0.62
	No	6	0.86 (0.79-0.93)	0	0.42	
Coffee or caffeine	Yes	1	0.92 (0.77-1.10)			0.38
	No	6	0.84 (0.77-0.91)	0	0.51	
Vegetables	Yes	1	0.89 (0.73-1.09)			0.65
	No	6	0.84 (0.78-0.91)	0	0.42	
Meat	Yes	0				NC
	No	7	0.85 (0.79-0.91)	0	0.52	
Whole grains	Yes	0				NC
	No	7	0.85 (0.79-0.91)	0	0.52	
Dairy	Yes	0				NC
	No	7	0.85 (0.79-0.91)	0	0.52	
Energy intake	Yes	2	0.91 (0.81-1.03)	0	0.93	0.17
	No	5	0.81 (0.74-0.89)	0	0.61	

*n* denotes the number of studies.

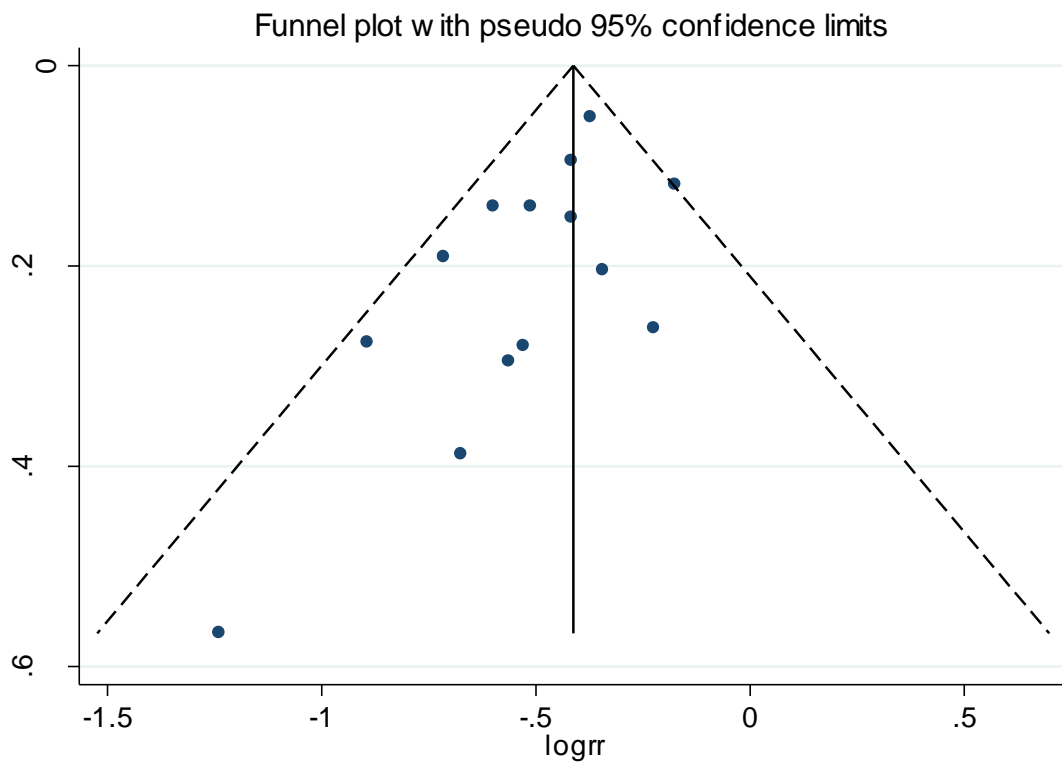
<sup>1</sup> P for heterogeneity within each subgroup,

<sup>2</sup> P for heterogeneity between subgroups with meta-regression analysis,

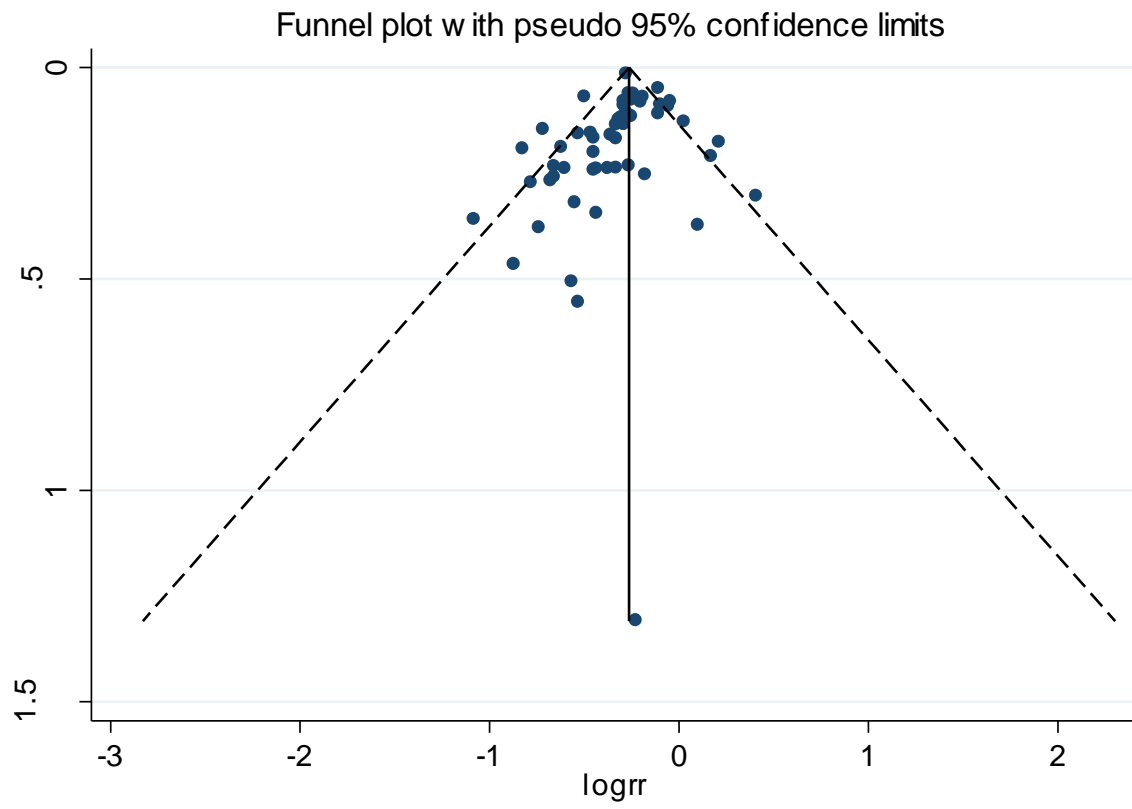
<sup>3</sup> P for heterogeneity between men and women (studies with genders mixed were excluded),

NC = not calculable

Supplemental Figure S1. Funnel plot of total physical activity and type 2 diabetes

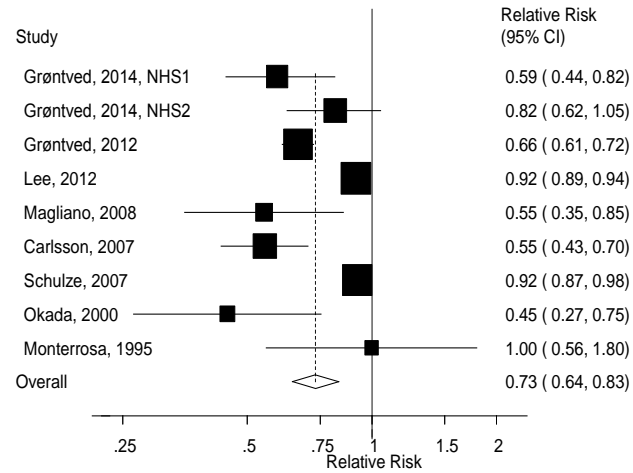


Supplemental Figure S2. Funnel plot of leisure-time physical activity and type 2 diabetes

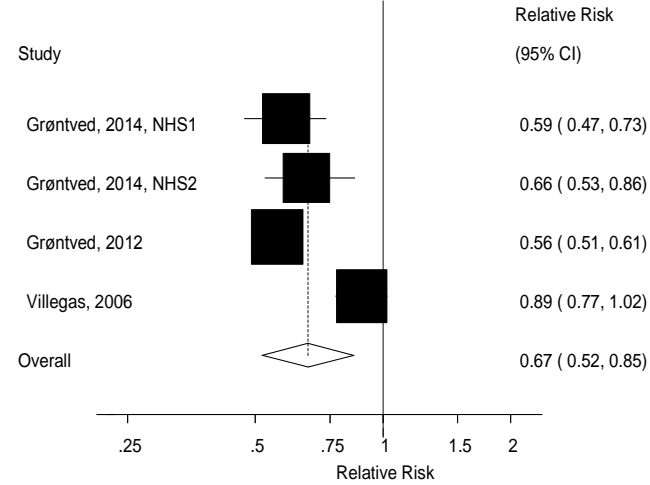


Supplemental Figure S3. Leisure-time physical activity and type 2 diabetes, dose-response analysis with and without BMI adjustment

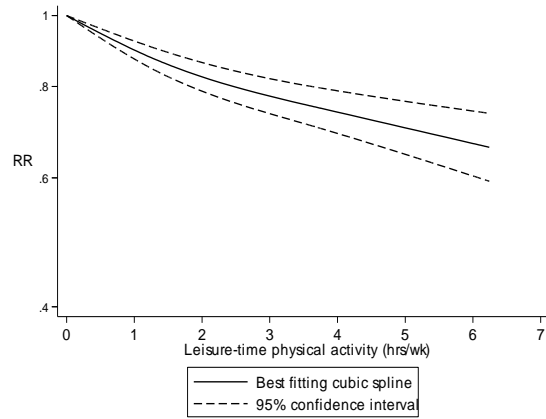
**A** Leisure-time physical activity and type 2 diabetes (with BMI adjustment), linear dose-response analysis per 5 hrs/week



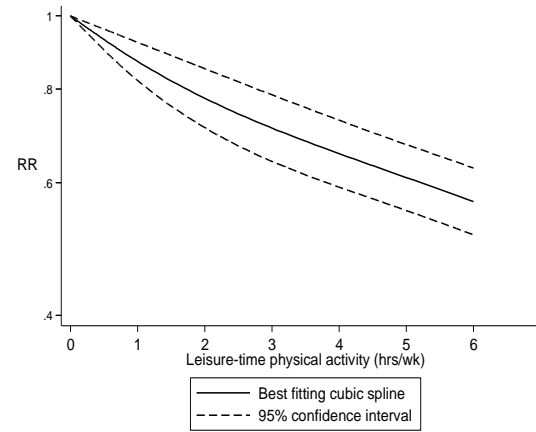
**C** Leisure-time physical activity and type 2 diabetes (no BMI adjustment), linear dose-response analysis per 5 hrs/week



**B** Leisure-time physical activity and type 2 diabetes (with BMI adjustment), nonlinear dose-response analysis, hours/week

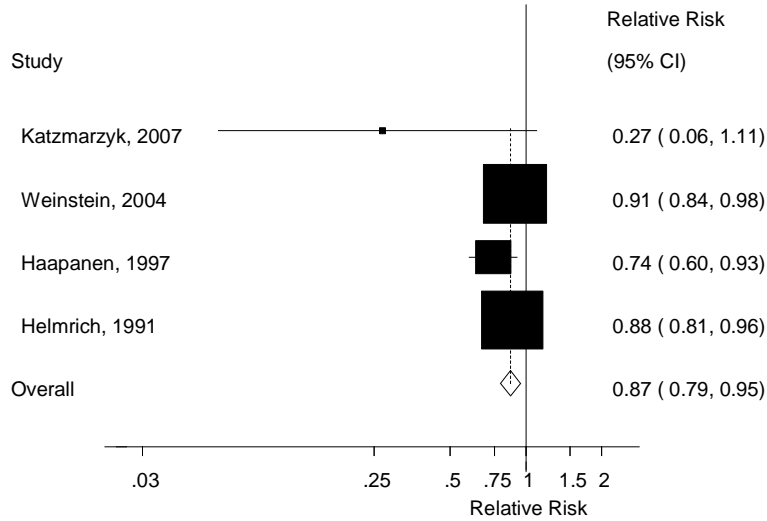


**D** Leisure-time physical activity and type 2 diabetes (no BMI adjustment), nonlinear dose-response analysis, hours/week

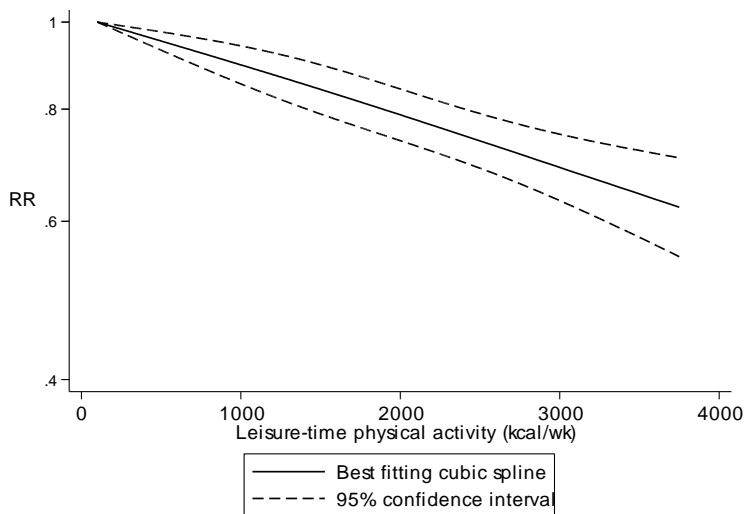


Supplemental Figure S4. Leisure-time physical activity and type 2 diabetes, dose-response analysis, kcal per week

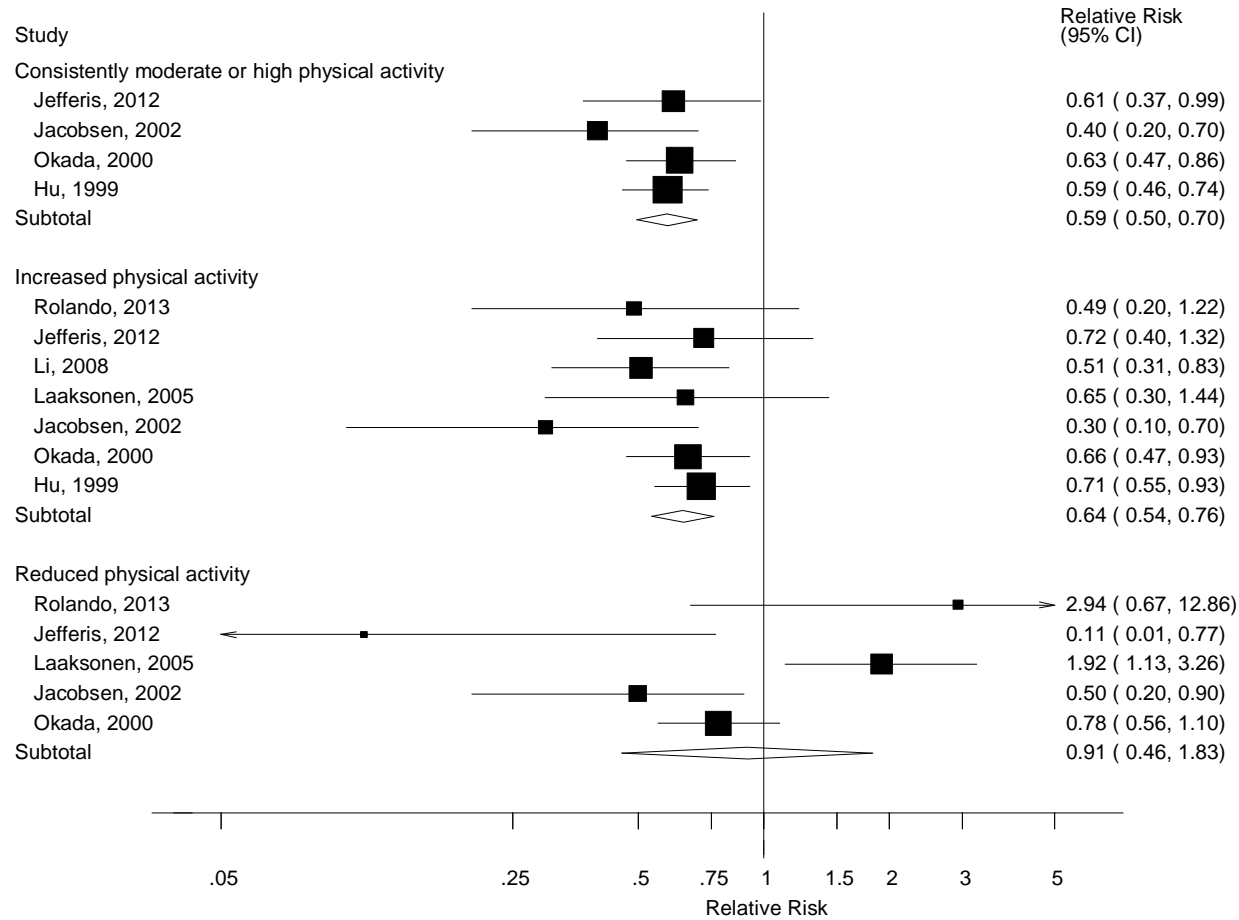
**A** Leisure-time physical activity and type 2 diabetes, linear dose-response analysis per 1000 kcal/wk



**B** Leisure-time physical activity and type 2 diabetes, nonlinear dose-response analysis, kcal/week

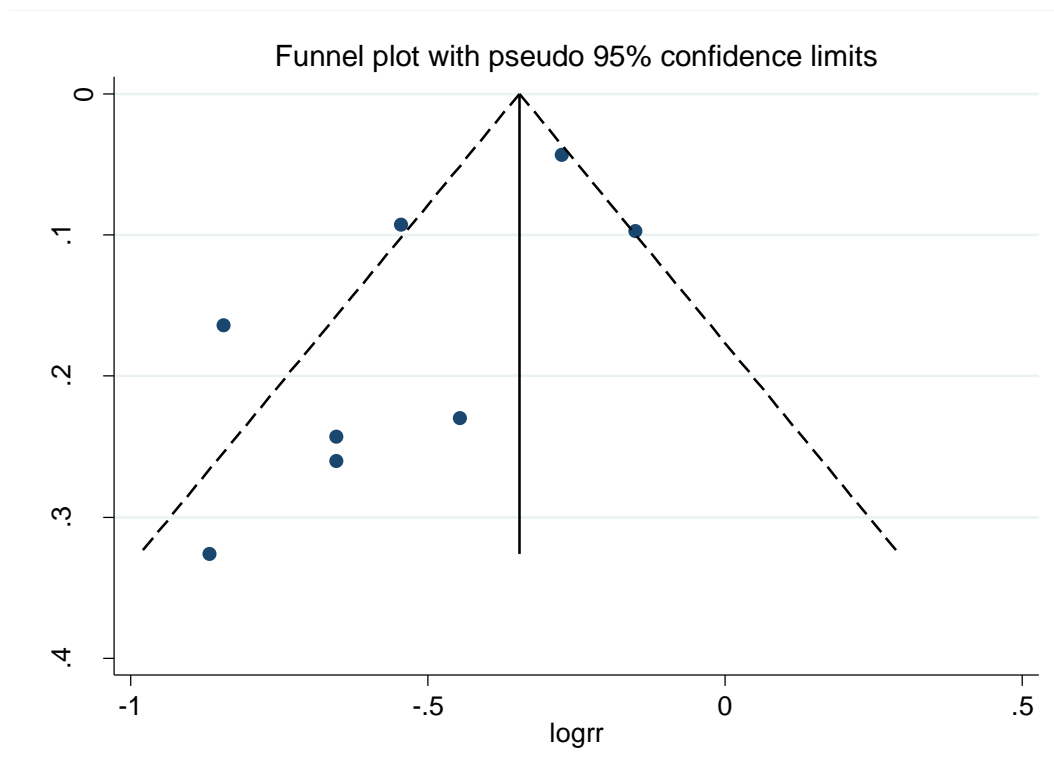


Supplemental Figure S5. Changes in physical activity and risk of type 2 diabetes (reference category are those with a consistently low physical activity level).



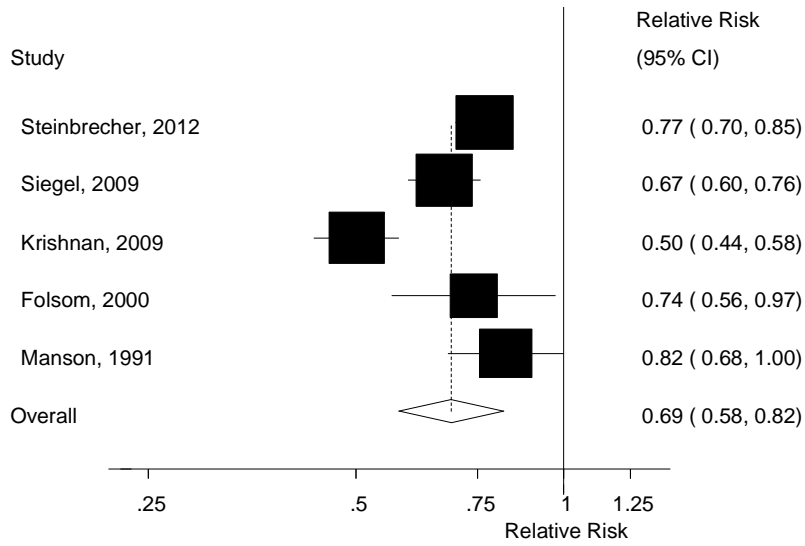


Supplemental Figure S6. Funnel plot of vigorous physical activity and type 2 diabetes

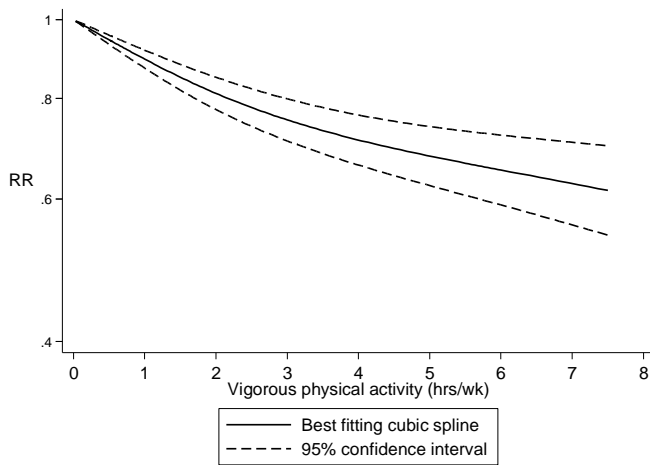


Supplemental Figure S7. Vigorous physical activity and type 2 diabetes, linear and nonlinear dose-response analyses

**A Vigorous physical activity and type 2 diabetes, linear dose-response analysis per 5 hrs/week**

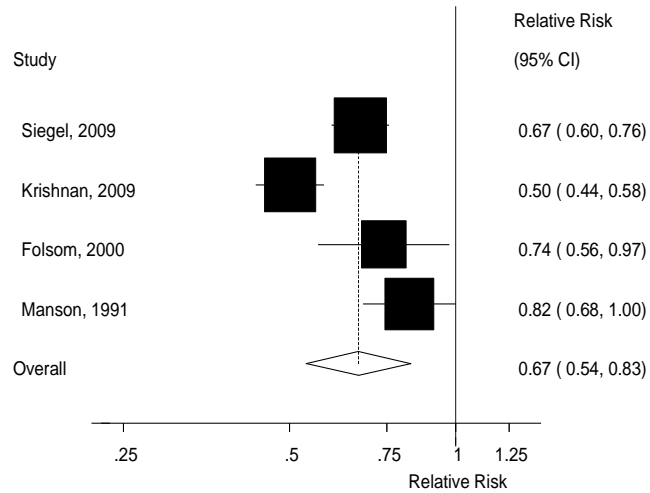


**B Vigorous physical activity and type 2 diabetes, nonlinear dose-response analysis, hours/week**

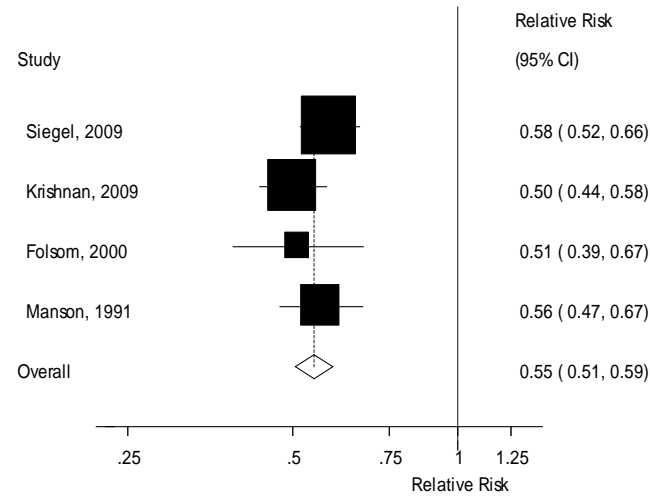


Supplemental Figure S8. Vigorous physical activity and type 2 diabetes, linear and nonlinear dose-response analyses (with and without BMI adjustment).

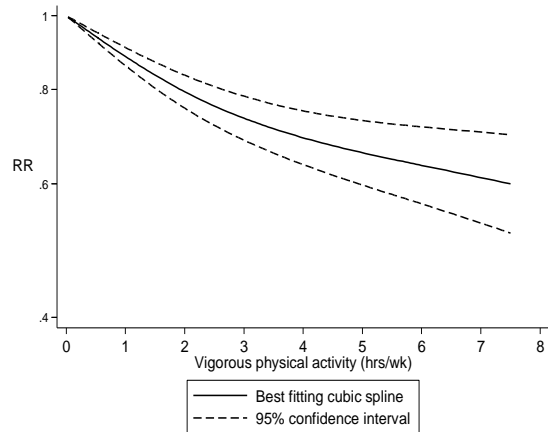
**A** Vigorous physical activity and type 2 diabetes (with BMI adjustment), linear dose-response analysis per 5 hrs/week



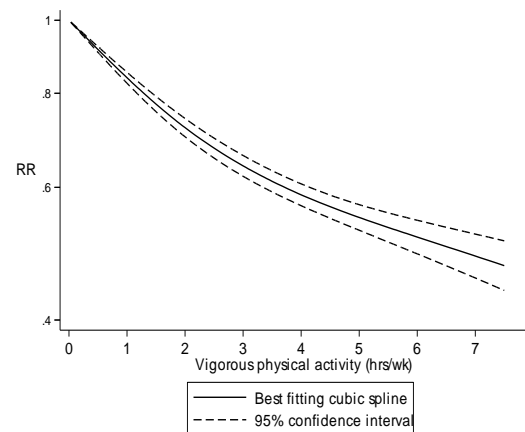
**C** Vigorous physical activity and type 2 diabetes (no BMI adjustment), linear dose-response analysis per 5 hrs/week



**B** Vigorous physical activity and type 2 diabetes (with BMI adjustment), nonlinear dose-response analysis, hours/week

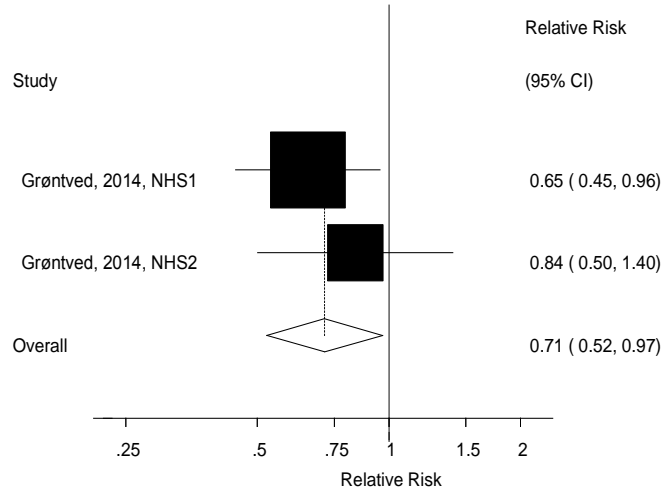


**D** Vigorous physical activity and type 2 diabetes (no BMI adjustment), nonlinear dose-response analysis, hours/week

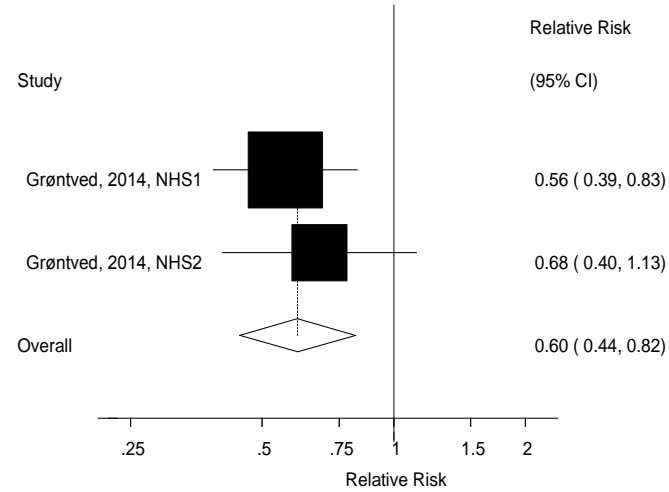


Supplemental Figure S9. Low intensity physical activity and type 2 diabetes, linear and nonlinear dose-response analyses (MET-hours/week and hours/week).

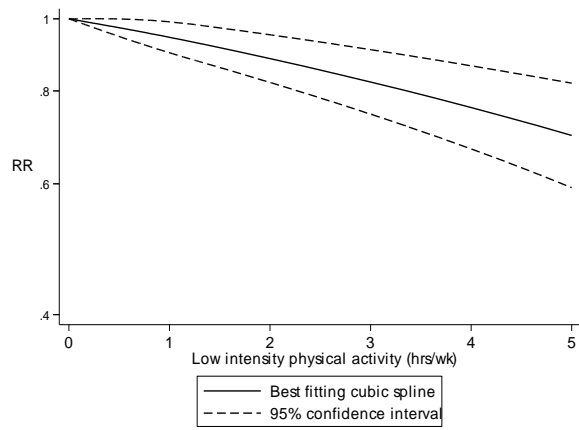
**A** Low intensity physical activity and type 2 diabetes (with BMI adjustment), linear dose-response analysis per 5 hours/week



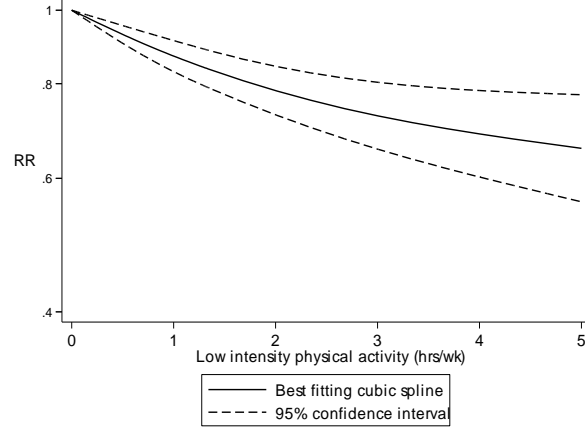
**C** Low intensity physical activity and type 2 diabetes (no BMI adjustment), linear dose-response analysis per 5 hours/week



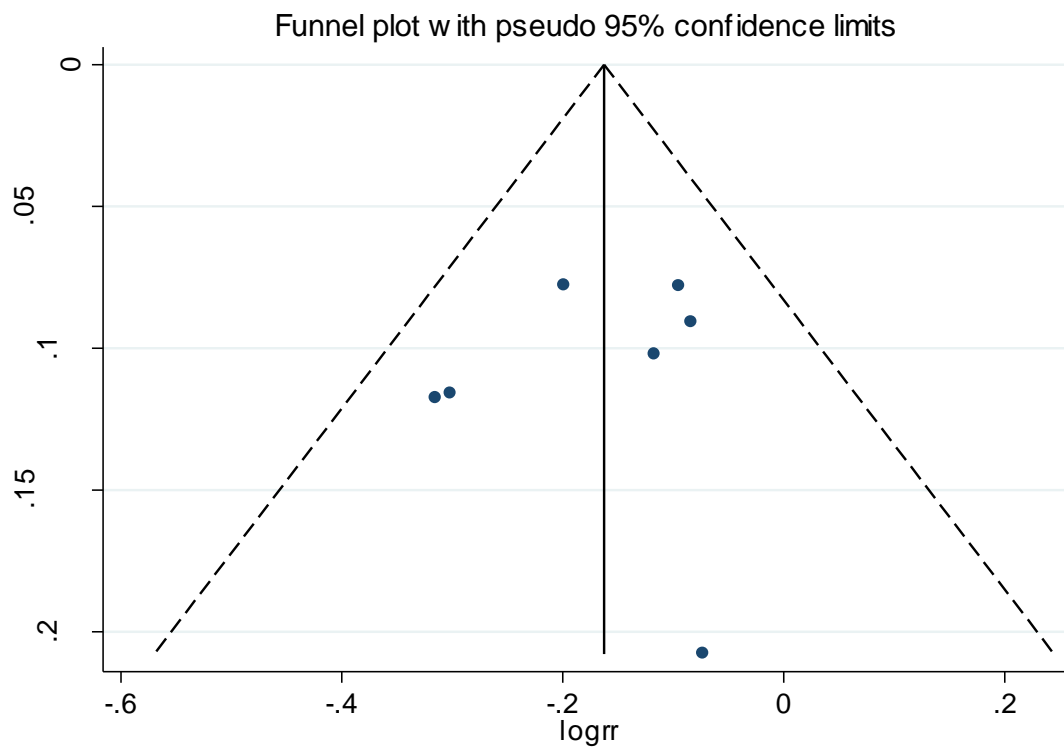
**B** Low intensity physical activity and type 2 diabetes (with BMI adjustment), nonlinear dose-response analysis, hours/week



**D** Low intensity physical activity and type 2 diabetes (no BMI adjustment), nonlinear dose-response analysis, hours/week

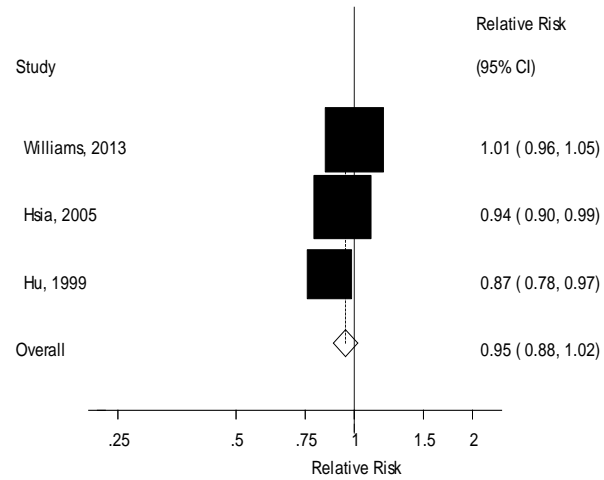


Supplemental Figure S10. Funnel plot of walking and type 2 diabetes

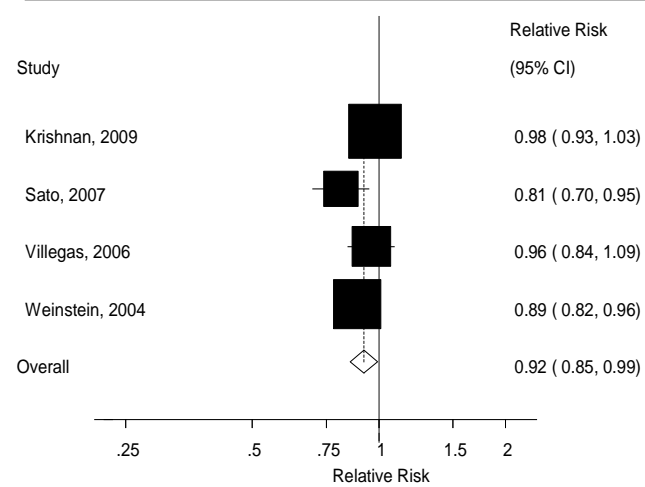


Supplemental Figure S11. Walking and type 2 diabetes, linear and nonlinear dose-response analyses (MET-hours/week and hours/week).

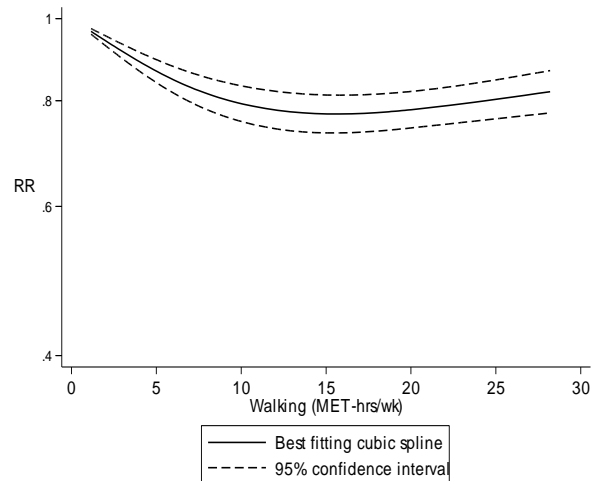
**A** Walking and type 2 diabetes, linear dose-response analysis, per 10 MET-hours/week



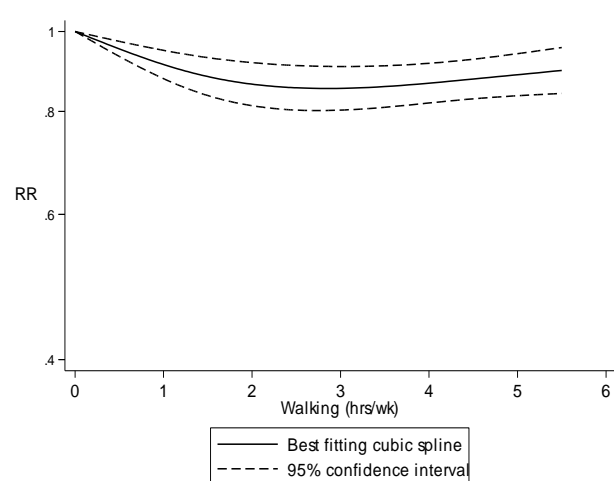
**C** Walking and type 2 diabetes, linear dose-response analysis, per 2 hours/week



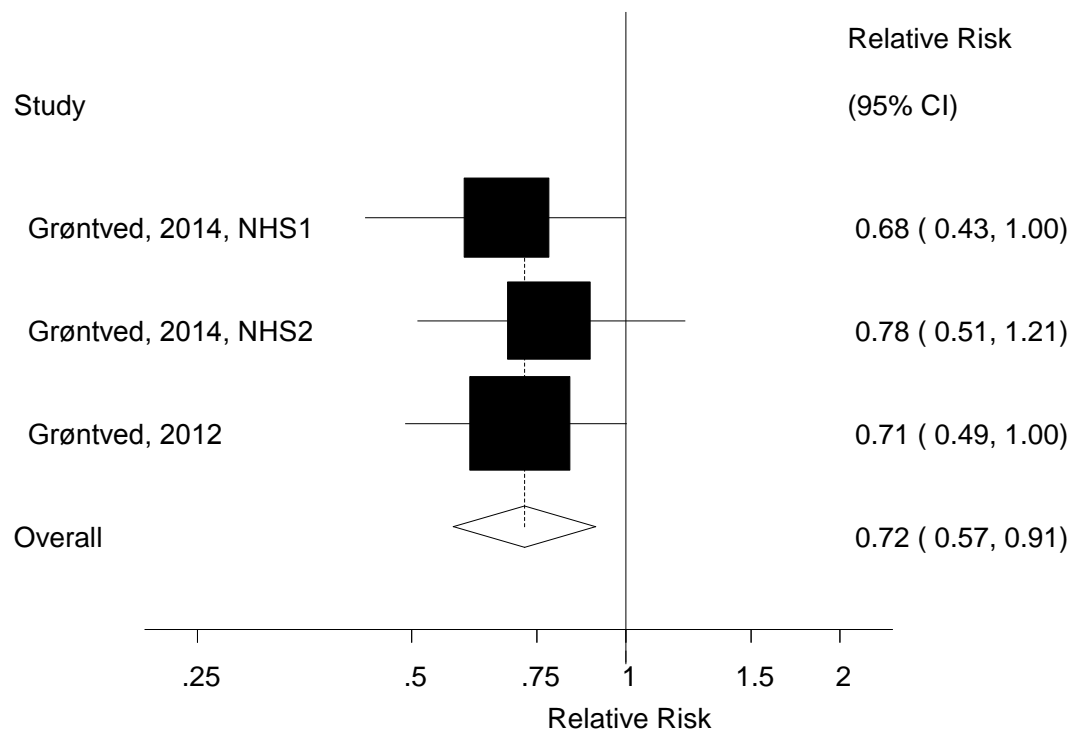
**B** Walking and type 2 diabetes, nonlinear dose-response analysis, MET-hours/week



**D** Walking and type 2 diabetes, nonlinear dose-response analysis, hours/week

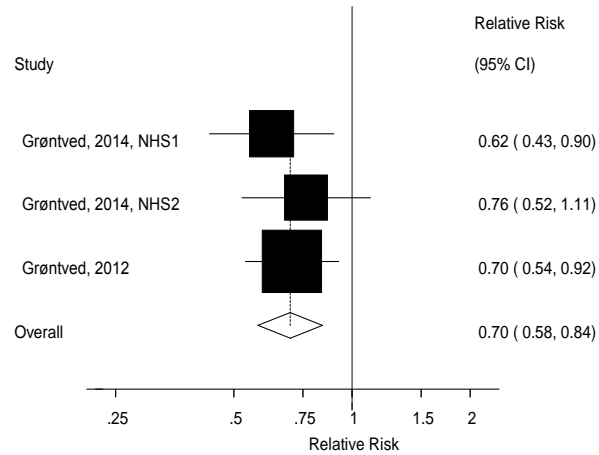


Supplemental Figure S12. Resistance exercise and type 2 diabetes, high vs. low analysis

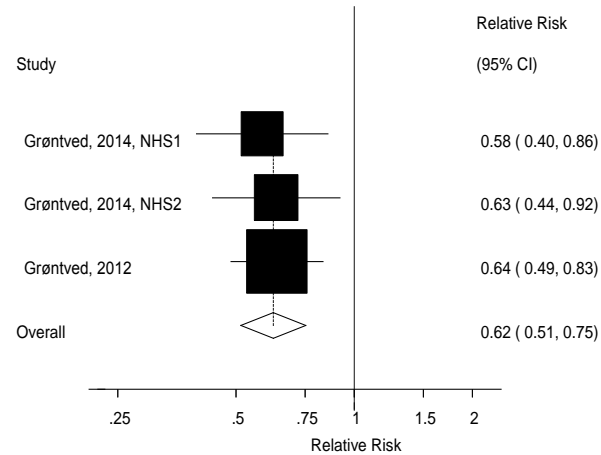


Supplemental Figure S13. Resistance exercise and type 2 diabetes, linear and nonlinear dose-response analyses (MET-hours/week and hours/week).

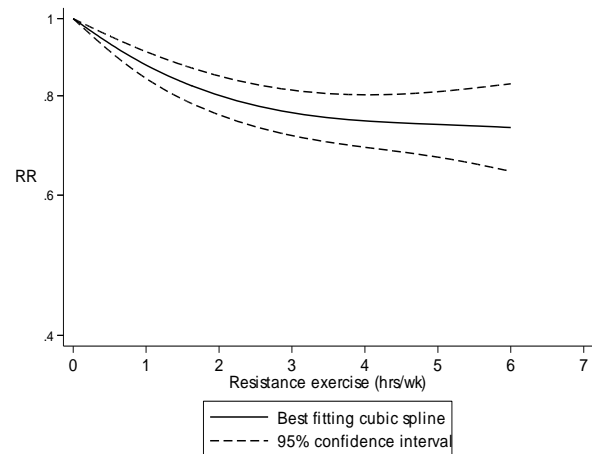
**A** Resistance exercise and type 2 diabetes (with BMI adjustment), linear dose-response analysis, per 5 hours/week



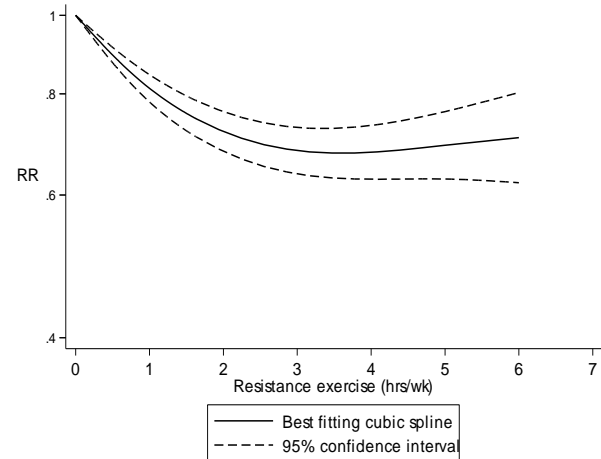
**C** Resistance exercise and type 2 diabetes (no BMI adjustment), linear dose-response analysis, per 5 hours/week



**B** Resistance exercise and type 2 diabetes (with BMI adjustment), nonlinear dose-response analysis, hours/week

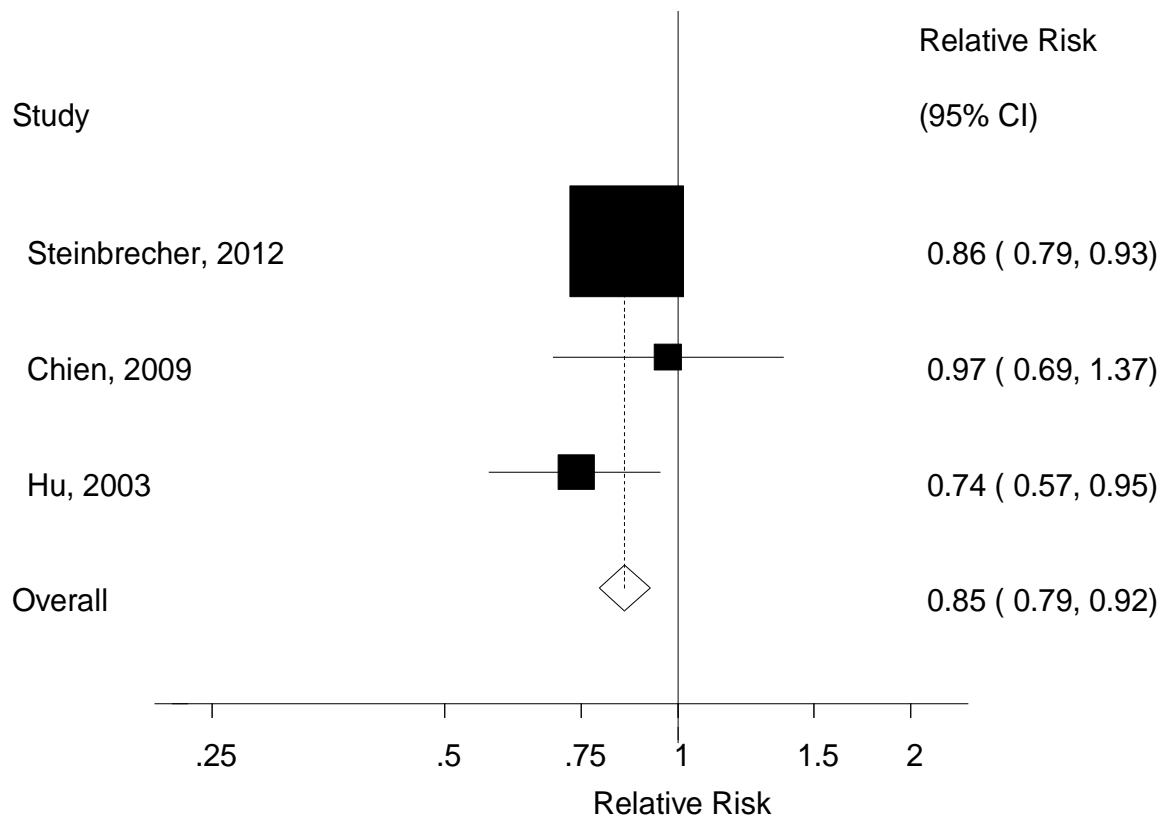


**D** Resistance exercise and type 2 diabetes (no BMI adjustment), nonlinear dose-response analysis, hours/week

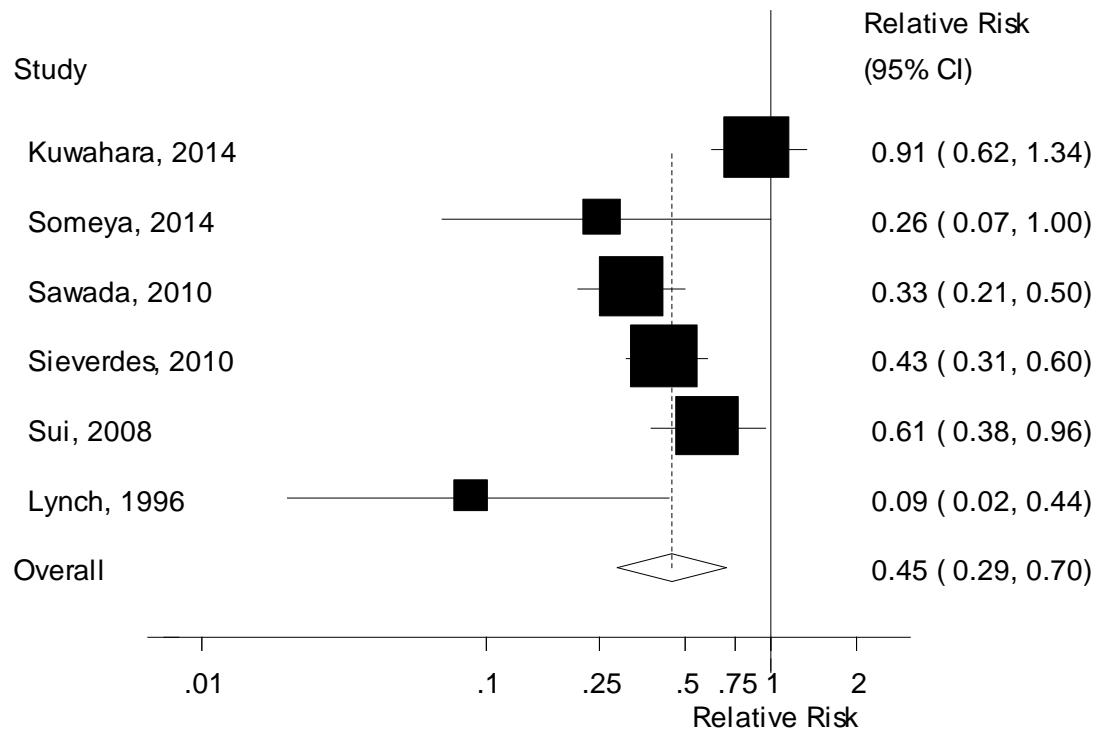




Supplemental Figure S14. Occupational physical activity and type 2 diabetes

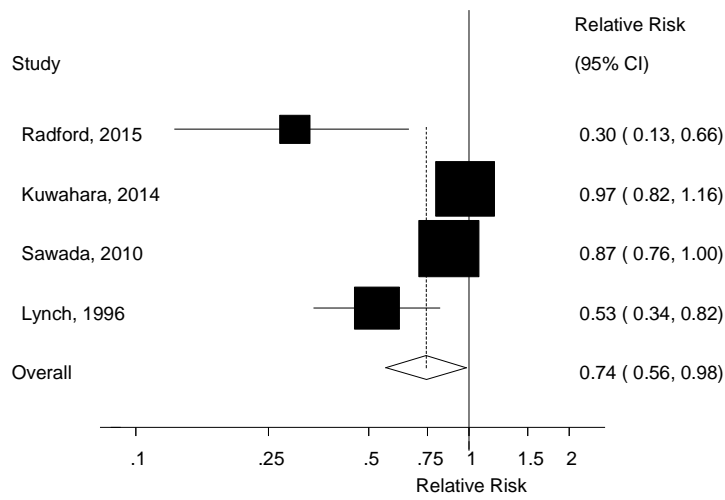


Supplemental Figure S15. Cardiorespiratory fitness and type 2 diabetes

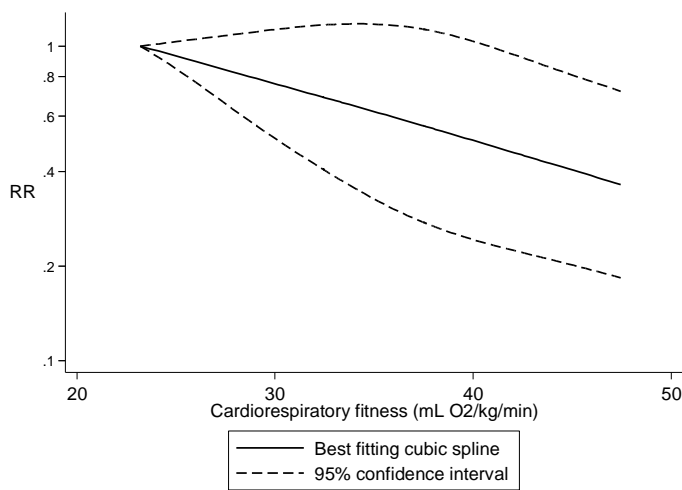


Supplemental Figure S16. Cardiorespiratory fitness and type 2 diabetes, per 20 mL O<sub>2</sub>/kg/min

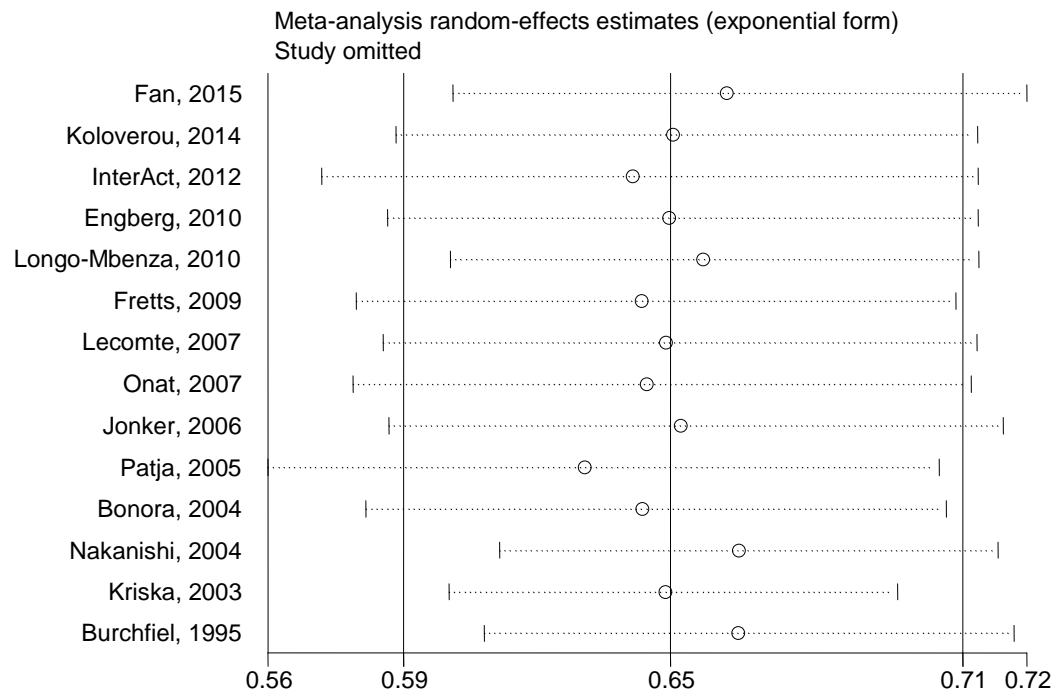
**A** Cardiorespiratory fitness and type 2 diabetes, linear dose-response analysis per per 20 mL O<sub>2</sub>/kg/min



**B** Cardiorespiratory fitness and type 2 diabetes, and type 2 diabetes, nonlinear dose-response analysis

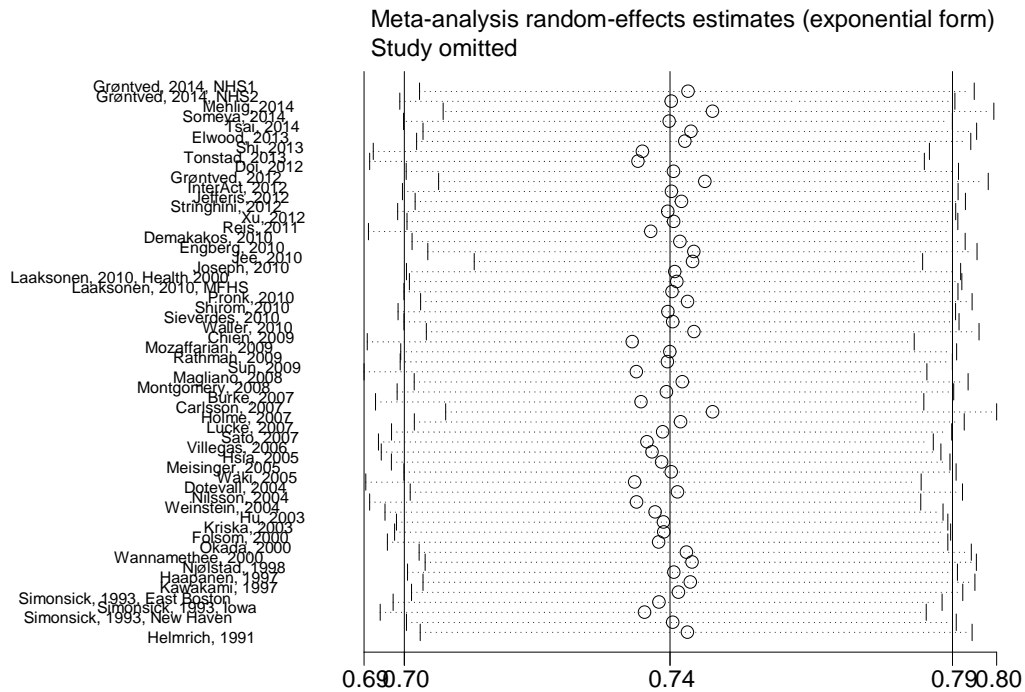


Supplemental Figure S17. Total physical activity and type 2 diabetes, sensitivity analyses excluding one study at a time



Study omitted	Estimate	[95% Conf. Interval]
Fan, 2015	0.65986061	0.60279399 0.72232974
Koloverou, 2014	0.64862478	0.59086704 0.71202838
InterAct, 2012	0.64016992	0.57542855 0.7121954
Engberg, 2010	0.64780688	0.58920974 0.71223152
Longo-Mbenza, 2010	0.65491128	0.60217875 0.71226156
Fretts, 2009	0.64205736	0.58266032 0.70750934
Lecomte, 2007	0.6471554	0.58827537 0.71192867
Onat, 2007	0.64314437	0.58194423 0.71078062
Jonker, 2006	0.65025765	0.58944553 0.71734363
Patja, 2005	0.63025844	0.56422079 0.70402533
Bonora, 2004	0.64224696	0.5846777 0.70548463
Nakanishi, 2004	0.66234571	0.61244798 0.71630877
Kriska, 2003	0.64699167	0.60191005 0.69544983
Burchfiel, 1995	0.66215008	0.60921776 0.7196815
Combined	0.64809187	0.59243668 0.70897546

Supplemental Figure S18. Leisure-time physical activity and type 2 diabetes, sensitivity analyses excluding one study at a time

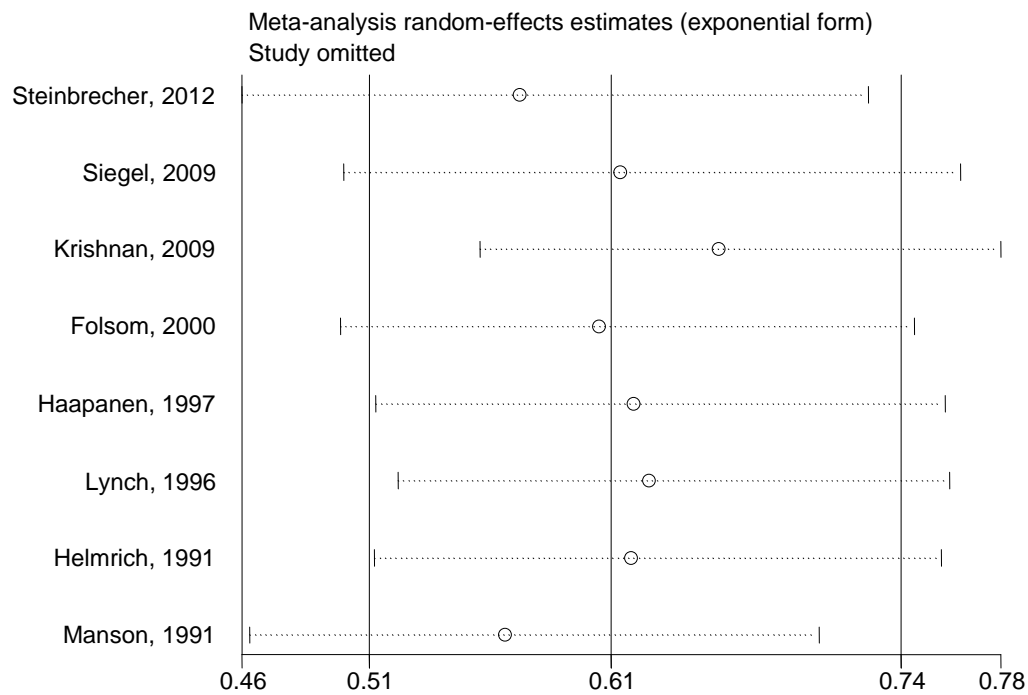


Meta-analysis Random-effects estimates

Study omitted	Estimate	[95% Conf. Interval]
Grøntved, 2014, NHS1	.73949564	.6947614 .78711021
Grøntved, 2014, NHS2	.75155312	.70658195 .7993865
Mehlig, 2014	.73799473	.69335324 .78551048
Someya, 2014	.74603486	.70089805 .79407841
Tsai, 2014	.74497473	.69990754 .79294384
Elwood, 2013	.74565023	.70058227 .79361737
Shi, 2013	.74687892	.70165968 .79501241
Tonstad, 2013	.7483772	.70353609 .79607636
Doi, 2012	.74244863	.69674754 .79114735
Grøntved, 2012	.75023824	.70537966 .79794961
InterAct, 2012	.74742323	.70216417 .79559952
Jefferis, 2012	.74411345	.69882637 .79233533
Stringhini, 2012	.74778515	.70273608 .79572207
Xu, 2012	.7473129	.70228797 .79522443
Reis, 2011	.74616057	.70128816 .79390419
Demakakos, 2010	.74298042	.69742024 .7915169
Engberg, 2010	.74327016	.69828373 .7911548
Jee, 2010	.74460554	.69927686 .79287249
Joseph, 2010	.74818122	.711371 .78689623
Laaksonen, 2010, Health 2000	.74632519	.70140183 .7941258
Laaksonen, 2010, MFHS	.74517763	.69995308 .79332417
Pronk, 2010	.74579394	.70081455 .79366016
Shirom, 2010	.74331295	.69796455 .7916078
Sieverdes, 2010	.74552429	.70045334 .7934953

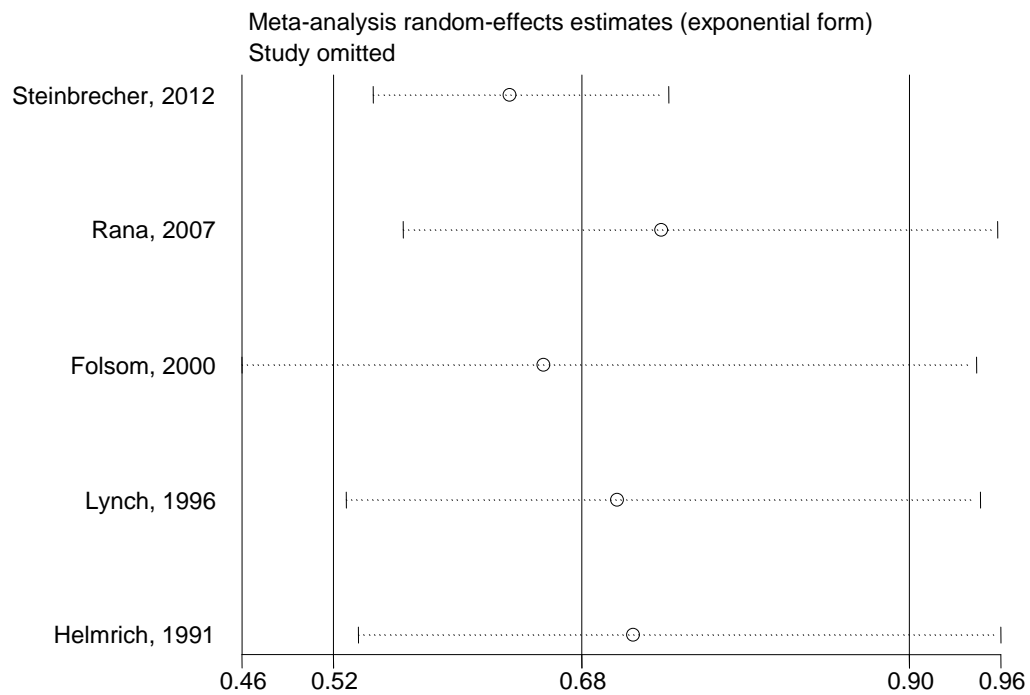
Waller, 2010		.74473065	.69952995	.79285198
Chien, 2009		.74313223	.69744802	.79180884
Mozaffarian, 2009		.74645287	.70125103	.79456836
Rathman, 2009		.75108087	.70613819	.79888397
Sun, 2009		.74457932	.69951975	.79254138
Magliano, 2008		.7437849	.69839185	.79212832
Montgomery, 2008		.74434781	.69900399	.792633
Burke, 2007		.73872167	.69374782	.78661108
Carlsson, 2007		.74501628	.70013964	.79276937
Holme, 2007		.74714369	.70208389	.79509544
Lucke, 2007		.74733663	.70232421	.79523391
Sato, 2007		.74395066	.69890112	.79190403
Villegas, 2006		.74113351	.69358122	.79194599
Hsia, 2005		.74048668	.69522983	.78868961
Meisinger, 2005		.73973924	.69438934	.78805089
Waki, 2005		.74401855	.69855207	.79244429
Dotvall, 2004		.7448284	.6995371	.79305208
Nilsson, 2004		.74251133	.69771069	.79018861
Weinstein, 2004		.74009472	.69552028	.78752583
Hu, 2003		.7448231	.69996053	.79256105
Kriska, 2003		.7442534	.69945782	.79191786
Folsom, 2000		.74398398	.69846785	.79246622
Okada, 2000		.73869294	.69280827	.78761655
Wannamethee, 2000		.7389887	.6937452	.78718281
Njølstad, 1998		.74790782	.70272297	.79599804
Haapanen, 1997		.74134386	.69572449	.78995454
Kawakami, 1997		.73840326	.69311816	.78664708
Simonsick, 1993, East Boston		.74840349	.70329732	.79640257
Simonsick, 1993, Iowa		.74809682	.70311964	.79595107
Simonsick, 1993, New Haven		.74185956	.69634277	.79035157
Helmrich, 1991		.74500024	.70004547	.79284185
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Combined		.74434468	.69960671	.79194352
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Supplemental Figure S19. Vigorous physical activity and type 2 diabetes, sensitivity analyses excluding one study at a time



Study omitted	Estimate	[95% Conf. Interval]	
Steinbrecher, 2012	0.57607657	0.45931879	0.72251391
Siegel, 2009	0.61826491	0.50209659	0.7613107
Krishnan, 2009	0.65970427	0.55927575	0.77816653
Folsom, 2000	0.60935795	0.50059807	0.7417469
Haapanen, 1997	0.62381005	0.5156278	0.75468969
Lynch, 1996	0.63021952	0.52495044	0.75659841
Helmrich, 1991	0.62284613	0.51503497	0.75322509
Manson, 1991	0.56983101	0.46260843	0.70190549
Combined	0.61442972	0.5127095	0.73633098

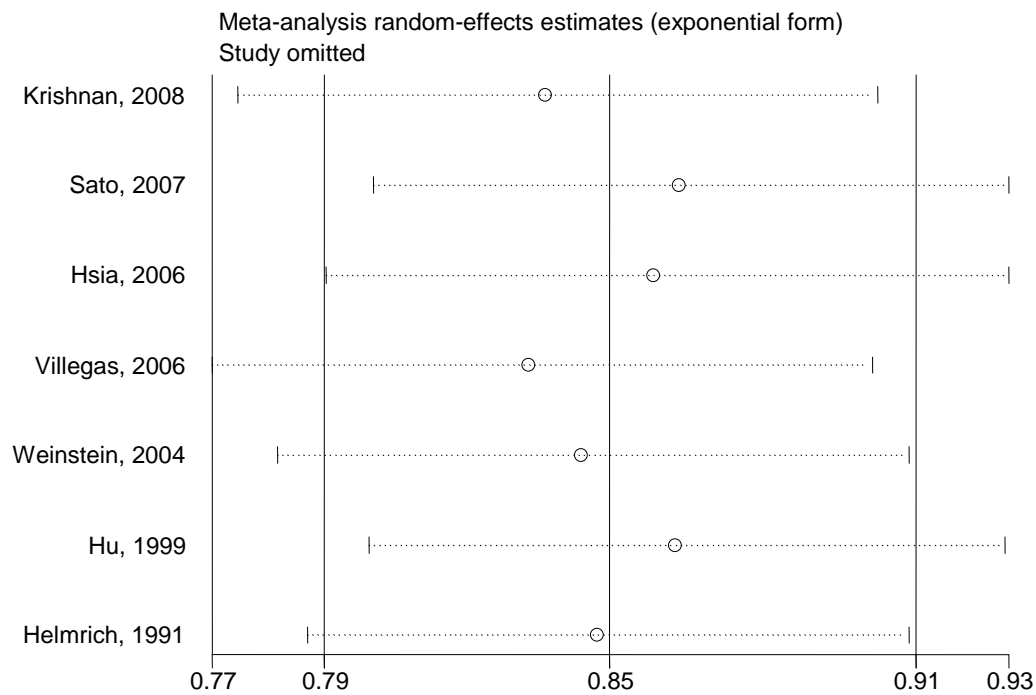
Supplemental Figure S20. Moderate physical activity and type 2 diabetes, sensitivity analyses excluding one study at a time



Study omitted	Estimate	[95% Conf. Interval]	
Steinbrecher, 2012	0.63261563	0.54241472	0.73781651
Rana, 2007	0.73305333	0.5623855	0.95551383
Folsom, 2000	0.65500188	0.45567942	0.94151157
Lynch, 1996	0.70361102	0.52446669	0.94394642
Helmrich, 1991	0.71422064	0.53270376	0.95758873
Combined	0.68036908	0.51613916	0.89685518

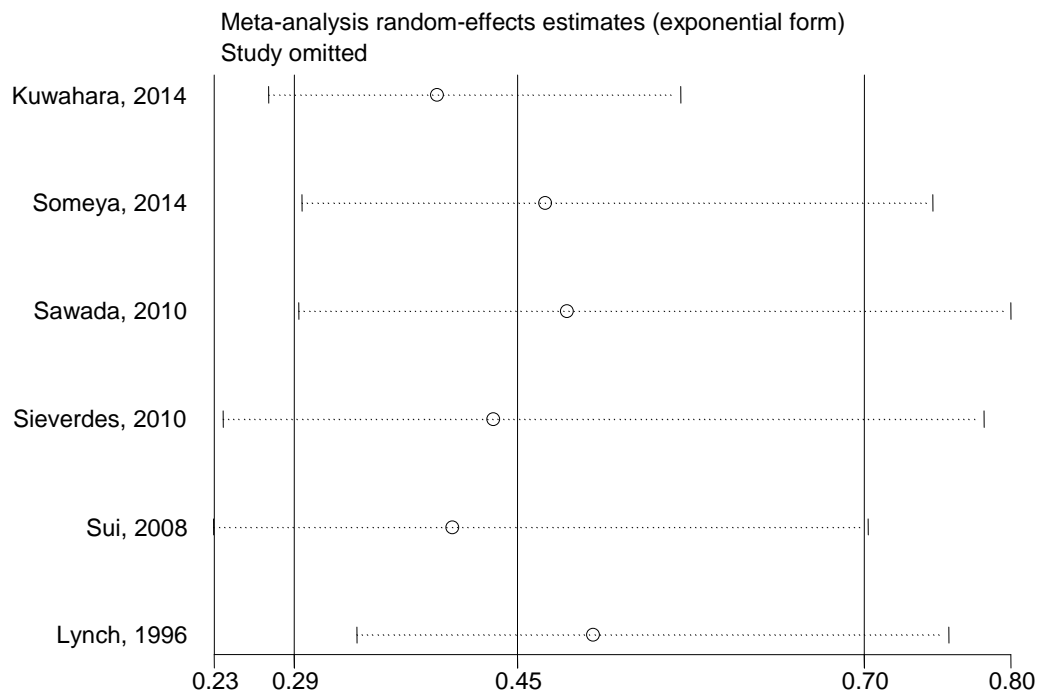


Supplemental Figure S21. Walking and type 2 diabetes, sensitivity analyses excluding one study at a time



Study omitted	Estimate	[95% Conf. Interval]
Krishnan, 2008	0.83639663	0.77172971 0.90648234
Sato, 2007	0.86465877	0.80028838 0.93420672
Hsia, 2006	0.85919148	0.79026121 0.93413419
Villegas, 2006	0.83295989	0.76621819 0.90551507
Weinstein, 2004	0.84396106	0.7799989 0.91316831
Hu, 1999	0.86375421	0.7993542 0.93334258
Helmrich, 1991	0.8473708	0.78633612 0.91314292
Combined	0.84998488	0.78987199 0.91467264

Supplemental Figure S22. Cardiorespiratory fitness and type 2 diabetes, sensitivity analyses excluding one study at a time



Study omitted	Estimate	[95% Conf. Interval]
Kuwahara, 2014	0.39143509	0.2705076 0.56642181
Someya, 2014	0.46905893	0.2943396 0.7474913
Sawada, 2010	0.48447403	0.29215884 0.80338186
Sieverdes, 2010	0.43165034	0.23766693 0.78396273
Sui, 2008	0.40254247	0.23120855 0.70084101
Lynch, 1996	0.50326979	0.33373383 0.75892967
Combined	0.44907055	0.28887444 0.69810386