

Supplementary Text. Search terms in PubMed

((("physical activity" OR physical activity[MeSH] OR exercise OR exercise[MeSH] OR sports OR sports[MeSH] OR walking OR walking[MeSH] OR biking OR bicycling OR bicycling[MeSH] OR running OR running[MeSH] OR fitness OR "exercise test" OR exercise test[MeSH] OR inactivity OR sedentary)) AND ("sudden cardiac death" OR sudden cardiac death[MeSH] OR "cardiac arrest" OR cardiac arrest[MeSH])) AND ("case-control" OR cohort OR prospective OR longitudinal OR retrospective OR "follow-up" OR "cross-sectional" OR "hazard ratio" OR "hazard ratios" OR "relative risk" OR "relative risks" OR "incidence rate ratio" OR "incidence rate ratios" OR "odds ratio" OR odds ratios OR incidence)

Search terms in Embase

(physical activity OR physical activity/ OR exercise OR exercise/ OR sports OR sports/ OR walking OR walking/ OR biking OR biking/ OR bicycling OR bicycling/ OR running OR running/ OR fitness OR fitness/ OR exercise test OR exercise test/ OR inactivity OR inactivity/ OR sedentary OR sedentary/) AND (sudden cardiac death OR cardiac arrest OR sudden cardiac death/ OR cardiac arrest/) AND (case-control OR cohort OR prospective OR longitudinal OR retrospective OR follow-up OR cross-sectional OR hazard ratio OR hazard ratios OR relative risk OR relative risks OR incidence rate ratio OR incidence rate ratios OR odds ratio OR odds ratios OR incidence)

Supplementary Table 1: List of excluded studies and exclusion reasons

Exclusion reason	Reference number
Abstract	(1-9)
Athletes	(10-13)
Case-control study	(14-18)
Case only study	(19)
Duplicate	(20-26)
Editorial, comment	(27;28)
No risk estimate	(29)
Not relevant data	(30;31)
Not relevant exposure	(32)
Not relevant outcome	(33;34)
Patient population	(35-42)
Review	(43-59)
Survival after cardiac arrest	(60;61)
Unspecific outcome	(62)

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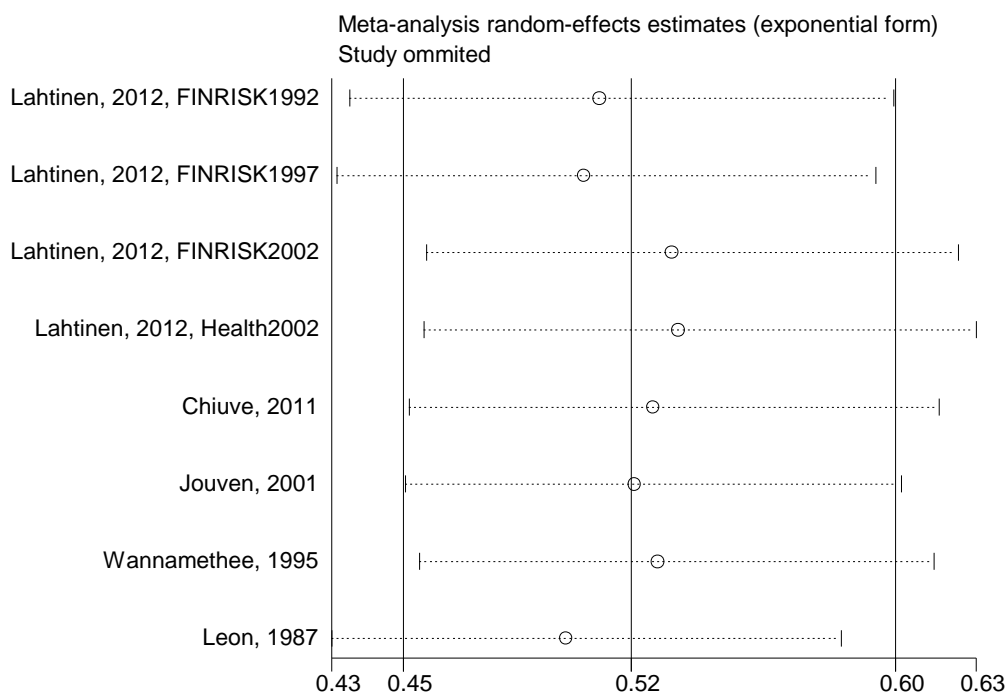
Supplementary Table 2. Relative risks and 95% confidence intervals from the nonlinear analysis of the association between leisure-time physical activity and sudden cardiac death

MET-hours/week	RRs (95% CIs)	RRs (95% CIs) sensitivity analysis including Hamer et al, 2018
0	1.00	1.00
5	0.79 (0.64-0.99)	0.84 (0.70-1.01)
10	0.67 (0.47-0.95)	0.73 (0.54-0.98)
15	0.61 (0.42-0.88)	0.66 (0.47-0.91)
20	0.60 (0.44-0.81)	0.62 (0.47-0.82)
25	0.60 (0.47-0.77)	0.60 (0.49-0.75)
30	0.62 (0.48-0.80)	0.60 (0.47-0.77)
35	0.64 (0.44-0.92)	0.61 (0.41-0.92)
40	0.66 (0.40-1.08)	0.63 (0.34-1.17)
$P_{\text{nonlinearity}}$	0.18	0.35

Supplementary Table 3. Study quality of included studies

Author, publication year	Representative-ness	Selection of non-exposed cohort	Exposure ascertainment	Demonstration of outcome not present at start	Adjustment for one confounder	Adjustment for a second confounder	Assessment of outcome	Long enough follow-up	Loss to follow-up	Total
Leon AS et al, 1987, USA	1	1	1	0	1	1	1	1	0	7
Wannamethee G et al, 1995, United Kingdom	1	1	0	1	1	0	1	1	0	6
Jouven X et al, 2001, France	1	1	0	0	1	1	1	1	1	7
Chiuve SE et al, 2011, USA	0	1	1	0	1	1	1	1	0	6
Lahtinen AM et al, 2012, Finland, FINRISK 1992	1	1	0	1	1	1	1	1	1	8
Lahtinen AM et al, 2012, Finland, FINRISK 1997	1	1	0	1	1	1	1	1	1	8
Lahtinen AM et al, 2012, Finland, FINRISK, 2002	1	1	0	1	1	1	1	1	1	8
Lahtinen AM et al, 2012, Finland, Health 2000	1	1	0	1	1	1	1	1	1	8
Hamer M et al, 2018, United Kingdom	1	1	1	0	1	1	1	1	1	8

Supplementary Figure 1. Influence analysis of leisure-time physical activity and sudden cardiac death



Study omitted	e ^{coef.}	[95% Conf. Interval]
Lahtinen, 2012, FINRISK1992	0.51020825	0.4319464 0.60264993
Lahtinen, 2012, FINRISK1997	0.50550044	0.42799681 0.59703869
Lahtinen, 2012, FINRISK2002	0.53300029	0.45604306 0.62294406
Lahtinen, 2012, Health2002	0.53490186	0.45522401 0.62852567
Chiuve, 2011	0.52722019	0.45057067 0.61690909
Jouven, 2001	0.521415	0.44938955 0.60498416
Wannamethee, 1995	0.5284946	0.4538939 0.61535639
Leon, 1987	0.49985841	0.42629701 0.58611345
Combined	0.52035358	0.44882823 0.60327722

Supplementary Figure 2. Leisure-time physical activity and sudden cardiac death, sensitivity analyses including the study by Hamer et al, 2018 (which included a combined outcome of sudden cardiac death and arrhythmia)

