

The IDES_2 Investigators

Principal Investigator: **Giuseppe Pugliese**, MD, PhD, Department of Clinical and Molecular Medicine, University of Rome La Sapienza, and Diabetes Unit, Sant'Andrea University Hospital, Via di Grottarossa, 1035-1039 - 00189 Rome, Italy; Phone: +39-0633775440; Fax: +39-0633776327; E-mail: giuseppe.pugliese@uniroma1.it.

Co-Investigator: **Stefano Balducci**, MD, Metabolic Fitness Association O.N.L.U.S., Via Nomentana, 27 - 00015 Monterotondo, Rome, Italy; Phone +390690080260; Fax: +390690080235; e-mail: sbalducci@esinet.it.

Steering Committee

Giuseppe Pugliese, MD, PhD, Department of Clinical and Molecular Medicine, University of Rome La Sapienza, Via di Grottarossa, 1035-1039 - 00189 Rome, Italy; E-mail: giuseppe.pugliese@uniroma1.it. (Principal Investigator).

Stefano Balducci, MD, Metabolic Fitness Association O.N.L.U.S., Via Nomentana, 27 - 00015 Monterotondo, Rome, Italy; E-mail: sbalducci@esinet.it. (Co-Investigator)

Massimo Sacchetti, PhD, Department of Human Movement and Sport Sciences, University of Rome 'Foro Italico', Piazza de Bosis, 15, 00135 Rome, Italy; E-mail: massimo.sacchetti@uniroma4.it. (Physical fitness)

Silvano Zanuso, PhD, Center for Applied Biological & Exercise Sciences, Faculty of Health & Life Sciences, Coventry University, Priory Street, Coventry, United Kingdom CV1 5FB; E-mail: szanuso@gmail.com. (Accelerometer)

Patrizia Cardelli, PhD, Department of Clinical and Molecular Medicine, University of Rome La Sapienza, and Laboratory of Clinical Chemistry, Sant'Andrea University Hospital, Via di Grottarossa, 1035-1039 - 00189 Rome, Italy; E-mail: patrizia.cardelli@uniroma1.it. (Biochemical tests)

Antonio Nicolucci, MD, PhD, Center for Outcomes Research and Clinical Epidemiology (CORESEARCH), Via Tiziano Vecellio, 2, 65124 Pescara, Italy; E-mail: nicolucci@coresearch.it. (Central randomization and statistical analysis)

Participating centers

Diabetes Clinics

1. Diabetes Unit, Sant'Andrea University Hospital, Rome, Italy: Giuseppe Pugliese, Maria Cristina Ribaudo, Elena Alessi, Martina Vitale, Tiziana Cirrito, Lucilla Bollanti, Francesco G. Conti.
2. Diabetes Unit, Fatebenefratelli San Pietro Hospital, Rome, Italy: Nicolina Di Biase, Filomena La Saracina.
3. Diabetes Unit, Health District, Monterotondo, Rome, Italy: Stefano Balducci, Mario Ranuzzi, Jonida Haxhi, Valeria D'Errico.

Metabolic Fitness Centers

1. Department of Human Movement and Sport Sciences, University of Rome 'Foro Italico', Rome, Italy: Massimo Sacchetti, Giorgio Orlando.
2. Center for the Study of Metabolism, Rome, Italy: Luca Milo, Roberto Milo.
3. Metabolic Fitness Association, Monterotondo, Rome, Italy: Gianluca Balducci, Enza Spinelli.

Central laboratory

Laboratory of Clinical Chemistry, Sant'Andrea University Hospital, Rome, Italy: Patrizia Cardelli, Stefano Cavallo.

Data Management team

1. Stefano Balducci, MD, Metabolic Fitness Association O.N.L.U.S., Monterotondo, Rome, Italy; coordinator;
2. Elena Alessi, MD, Diabetes Unit, Sant'Andrea University Hospital, Rome, Italy: responsible for control of data completeness, coherence, and plausibility;
3. Gianluca Balducci, Physiotherapist, Metabolic Fitness Association O.N.L.U.S., Monterotondo, Rome, Italy: responsible for monitoring of adverse events during theoretical and practical counseling sessions;

4. Giorgio Orlando, PhD, Department of Human Movement and Sport Sciences, University of Rome 'Foro Italico', Rome, Italy: responsible for estimation of $\text{VO}_{2\text{max}}$, and analysis of self-reported MS questionnaire;
5. Silvano Zanuso, PhD, Center for Applied Biological & Exercise Sciences, Faculty of Health & Life Sciences, Coventry University, Coventry, UK: responsible for calculation of PA and SED-time from accelerometer readings;
6. Patrizia Cardelli, PhD, Department of Clinical and Molecular Medicine, University of Rome La Sapienza, and Laboratory of Clinical Chemistry, Sant'Andrea University Hospital, Rome, Italy: responsible for biochemical tests;
7. Giuseppe Lucisano, StatD, Center for Outcomes Research and Clinical Epidemiology (CORESEARCH), Pescara, Italy; E-mail: responsible for analysis of well-being/depression and QoL questionnaires.

Supplementary Table 1. Distribution of study participants by quartiles of mean changes over baseline in MVPA and SED-time by study arm.

		Quartiles of mean change in MVPA vs. baseline			
		I	II	III	IV
Study arm	CON	46 (34.3)	46 (34.3)	35 (26.1)	7 (5.2)
	INT	21 (15.8)	21 (15.8)	32 (24.1)	59 (44.4)
		Quartiles of mean change in SED-time vs. baseline			
		I	II	III	IV
Study arm	CON	52 (38.8)	42 (31.3)	30 (22.4)	10 (7.5)
	INT	15 (11.3)	24 (18.0)	38 (28.6)	56 (42.1)

Values are n (% of study arm). MVPA = moderate-to-vigorous-intensity SED-time = sedentary time; CON = control; INT = intervention.

Supplementary Table 2. Mean changes over baseline in study parameters according to quartiles of mean changes over baseline in LPA.

Variables	Quartiles of mean change in LPA vs. baseline				<i>P</i>
	I	II	III	IV	
N	66	67	67	67	
LPA, h·day⁻¹	-0.73±0.41	0.05±0.15	0.55±0.18	1.36±0.50	
(range)	(-1.96; -0.20)	(-0.19; 0.29)	(0.31; 0.90)	(0.92; 3.70)	
SED-time, h·day⁻¹	0.64±0.48	-0.10±0.41	-0.57±0.32	-1.45±0.52	<0.0001
MVPA, min·day⁻¹	-0.43±5.48	2.30±6.05	4.06±6.70	9.12±8.10	<0.0001
PA volume, MET h·week⁻¹	-1.83±1.44	0.42±0.98	1.87±1.14	4.56±1.78	<0.0001
VO_{2max}, ml·min⁻¹·kg⁻¹	0.33±2.86	1.29±3.25	2.32±3.50	4.49±4.15	<0.0001
Upper body muscle strength, Nm	-14.3±24.9	-8.3±23.4	-9.2±22.7	-3.4±34.4	0.146
Lower body muscle strength, Nm	8.7±22.1	13.4±27.3	20.2±24.8	32.0±38.0	<0.0001
Bending, cm	0.71±3.86	0.84±3.56	-0.24±3.92	-1.47±3.14	0.001
HbA_{1c}, %	0.44±0.80	0.05±0.86	-0.25±0.90	-0.75±1.11	<0.0001
(mmol·mol⁻¹)	(4.1±8.7)	(0.5±9.4)	(-2.7±9.8)	(-8.2±12.1)	
FPG, mmol·l⁻¹	0.32±1.99	0.21±3.15	-0.28±1.69	-0.54±1.59	0.077
BMI, kg/m²	0.01±1.18	0.04±1.42	-0.23±1.21	-0.22±1.27	0.455
Waist circumference, cm	0.51±4.81	2.39±9.13	-0.14±6.65	-0.48±4.32	0.054
Triglycerides, mmol·l⁻¹	-0.08±1.16	0.04±0.55	-0.08±0.71	-0.06±0.54	0.773
Total cholesterol, mmol·l⁻¹	0.05±0.85	0.17±0.72	-0.07±0.68	0.01±0.73	0.286
HDL cholesterol, mmol·l⁻¹	-0.10±0.17	-0.07±0.18	-0.06±0.18	-0.05±0.17	0.403
LDL cholesterol, mmol·l⁻¹	-0.05±0.79	0.06±0.64	-0.12±0.59	-0.03±0.69	0.510
Systolic BP, mmHg	-3.71±12.98	-4.73±17.77	-2.28±17.50	-3.74±16.84	0.858
Diastolic BP, mmHg	-2.70±9.98	-4.71±12.18	-3.56±8.15	-4.42±10.72	0.675
hs-CRP, mg·l⁻¹	-0.04±0.68	-0.10±0.78	-0.08±0.65	-0.14±0.54	0.871
CHD 10-year risk score, %	5.19±6.72	4.65±5.54	2.83±5.63	0.81±6.17	<0.0001
Fatal CHD 10-year risk score, %	4.68±5.99	4.20±4.69	2.77±5.06	0.95±5.13	<0.0001
Stroke 10-year risk score, %	3.69±3.65	3.94±3.16	4.45±9.41	2.73±3.28	0.339
Fatal stroke 10-year risk score, %	0.37±1.09	0.42±0.88	0.58±1.75	0.26±1.09	0.512

Values are mean±SD, unless otherwise specified. LPA = light-intensity physical activity; SED-time = sedentary time; MVPA = moderate-to-vigorous-intensity physical activity; PA = physical activity; METs = metabolic equivalents; VO_{2max} = maximal oxygen uptake; FPG = fasting plasma glucose; BP = blood pressure; hs-CRP = high-sensitivity C reactive protein; CHD = coronary heart disease.

Supplementary Table 3. Mean changes over baseline in study parameters according to quartiles of mean changes over baseline in PA volume.

Variables	Quartiles of mean change in PA volume vs. baseline				<i>P</i>
	I	II	III	IV	
N	66	67	67	67	
PA volume, MET h·week⁻¹	-1.90±1.34	0.22±0.34	1.85±0.57	4.85±1.57	
(range)	-6.57±-0.43	-0.35±0.81	0.90±3.02	3.06±9.14	
SED-time, h·day⁻¹	0.65±0.47	-0.10±0.36	-0.61±0.38	-1.42±0.55	<0.0001
MVPA, min·day⁻¹	-1.64±3.50	0.66±3.96	3.76±4.56	12.25±8.07	<0.0001
LPA, h·day⁻¹	-0.70±0.43	0.07±0.28	0.60±0.32	1.26±0.60	<0.0001
VO_{2max}, ml·min⁻¹·kg⁻¹	-0.13±2.60	0.83±2.59	2.47±3.36	5.25±4.03	<0.0001
Upper body muscle strength, Nm	-14.6±23.1	-11.9±24.8	-11.8±24.2	3.3±31.4	<0.0001
Lower body muscle strength, Nm	8.4±21.8	11.2±25.3	19.8±23.4	35.0±38.8	<0.0001
Bending, cm	0.89±3.68	0.86±4.36	-0.41±3.36	-1.51±2.93	<0.0001
HbA_{1c}, %	0.47±0.79	0.02±0.96	-0.22±0.76	-0.78±1.12	<0.0001
(mmol·mol⁻¹)	(5.1±8.6)	(0.2±10.5)	(-2.4±8.3)	(-8.5±12.2)	
FPG, mmol·l⁻¹	0.28±1.98	0.52±3.10	-0.57±1.67	-0.51±1.58	0.005
BMI, kg/m²	0.14±1.07	-0.02±1.50	-0.31±1.42	-0.20±1.00	0.179
Waist circumference, cm	0.81±4.52	2.01±9.22	0.08±6.96	-0.62±4.09	0.118
Triglycerides, mmol·l⁻¹	-0.05±1.17	0.06±0.55	-0.16±0.69	-0.03±0.55	0.445
Total cholesterol, mmol·l⁻¹	0.04±0.85	0.24±0.64	-0.12±0.77	0.00±0.66	0.037
HDL cholesterol, mmol·l⁻¹	-0.09±0.17	-0.07±0.17	-0.07±0.18	-0.05±0.18	0.508
LDL cholesterol, mmol·l⁻¹	-0.05±0.79	0.12±0.58	-0.18±0.67	-0.03±0.65	0.097
Systolic BP, mmHg	-3.07±13.55	-5.80±18.57	-0.58±14.11	-5.01±18.26	0.253
Diastolic BP, mmHg	-2.89±9.77	-4.16±12.57	-4.84±10.48	-3.50±8.14	0.725
hs-CRP, mg·l⁻¹	-0.11±0.84	0.02±0.54	-0.17±0.72	-0.10±0.50	0.421
CHD 10-year risk score, %	5.24±6.64	4.52±5.58	2.85±5.72	0.89±6.16	<0.0001
Fatal CHD 10-year risk score, %	4.71±5.89	4.03±5.00	2.96±4.98	0.93±5.05	<0.0001
Stroke 10-year risk score, %	3.68±3.57	4.87±9.14	3.63±3.90	2.65±3.37	0.149
Fatal stroke 10-year risk score, %	0.37±1.07	0.50±1.72	0.53±0.99	0.24±1.08	0.527

Values are mean±SD, unless otherwise specified. PA = physical activity; METs = metabolic equivalents; SED-time = sedentary time; MVPA = moderate-to-vigorous-intensity physical activity; LPA = light-intensity physical activity; VO_{2max} = maximal oxygen uptake; FPG = fasting plasma glucose; BP = blood pressure; hs-CRP = high-sensitivity C reactive protein; CHD = coronary heart disease.

Supplementary Table 4. Univariate correlation between mean changes over baseline in MVPA, SED-time, LPA, or PA volume and those in and physical fitness parameters and CVD risk factors and scores.

Mean change in:	Mean change in MVPA		Mean change in SED-time		Mean change in LPA		Mean change in PA volume	
	ρ	P	ρ	P	ρ	P	ρ	P
VO_{2max}	0.596	<0.0001	-0.503	<0.0001	0.448	<0.0001	0.560	<0.0001
Upper body muscle strength	0.299	<0.0001	-0.176	0.004	0.095	0.125	0.198	0.001
Lower body muscle strength	0.374	<0.0001	-0.315	<0.0001	0.277	<0.0001	0.361	<0.0001
Bending	-0.233	<0.0001	0.294	<0.0001	-0.250	<0.0001	-0.275	<0.0001
HbA_{1c}	0.428	<0.0001	0.518	<0.0001	-0.478	<0.0001	-0.496	<0.0001
FPG	0.228	<0.0001	0.185	<0.0001	-0.183	0.003	-0.193	0.002
BMI	-0.131	0.033	0.099	0.105	-0.093	0.128	-0.109	0.076
Waist circumference	-0.178	0.004	0.104	0.089	-0.085	0.167	-0.111	0.069
Triglycerides	-0.087	0.154	0.004	0.953	-0.046	0.459	-0.036	0.554
Total cholesterol	-0.005	0.931	0.082	0.179	-0.092	0.135	-0.058	0.345
HDL cholesterol	0.055	0.368	-0.069	0.261	0.079	0.200	0.083	0.175
LDL cholesterol	0.046	0.450	0.019	0.761	-0.015	0.809	0.003	0.965
Systolic BP	0.008	0.896	-0.011	0.854	0.030	0.629	0.036	0.564
Diastolic BP	0.031	0.613	0.080	0.193	-0.064	0.300	-0.037	0.542
hs-CRP	-0.121	0.049	0.124	0.042	-0.119	0.053	-0.114	0.063
CHD 10-year risk score	-0.234	<0.0001	0.303	<0.0001	-0.266	<0.0001	-0.278	<0.0001
Fatal CHD 10-year risk score	-0.244	<0.0001	0.311	<0.0001	-0.269	<0.0001	-0.287	<0.0001
Stroke 10-year risk score	-0.095	0.122	0.166	0.007	-0.135	0.028	-0.154	0.012
Fatal stroke 10-year risk score	-0.033	0.597	0.109	0.077	-0.108	0.080	-0.102	0.097

MVPA = moderate-to-vigorous-intensity physical activity; SED-time = sedentary time; LPA = light-intensity physical activity; PA = physical activity; CVD = cardiovascular disease; VO_{2max} = maximal oxygen uptake; FPG = fasting plasma glucose; BP = blood pressure; hs-CRP = high-sensitivity C reactive protein; CHD = coronary heart disease.

Supplementary Table 5. Independent predictors of mean changes over baseline in physical fitness and CVD risk factors and scores (Model 2).

Independent variables	Mean change in MVPA, min·day ⁻¹		Mean change in LPA, hs·day ⁻¹		Baseline value of dependent variable		Age, years		Sex, Male		Study arm, INT	
	β	P	β	P	β	P	β	P	β	P	β	P
Dependent variables												
Mean change in:												
VO _{2max} , ml·min ⁻¹ ·kg ⁻¹	0.230	<0.0001	0.647	0.013	-	-	-	-	0.657	0.087	0.824	0.058
Upper body muscle strength, Nm	0.944	<0.0001	-	-	-0.139	<0.0001	-0.507	0.001	11.980	<0.0001	5.411	0.089
Lower body muscle strength, Nm	0.996	<0.0001	-	-	-0.161	<0.0001	-0.639	<0.0001	9.473	0.010	19.432	<0.0001
Bending, cm	-0.048	0.090	-	-	-0.146	<0.0001	0.090	<0.0001	-1.165	0.003	-1.862	<0.0001
HbA _{1c} , %	-0.034	<0.0001	-0.413	<0.0001	-0.348	<0.0001	-	-	-	-	0.278	0.006
FPG, mmol·l ⁻¹	-0.036	0.021	-0.302	0.031	-0.522	<0.0001	-0.018	0.096	0.490	0.021	-	-
BMI, kg/m ²	-	-	-	-	-0.034	0.023	-0.018	0.024	-	-	-0.278	0.071
Waist circumference, cm	-0.109	0.028	-	-	-0.187	<0.0001	-	-	1.881	0.013	-	-
Triglycerides, mmol·l ⁻¹	-0.013	0.008	-	-	-0.373	<0.0001	-0.011	0.004	-	-	-	-
Total cholesterol, mmol·l ⁻¹	-	-	-	-	-0.516	<0.0001	-0.008	0.032	-0.192	0.007	-	-
HDL cholesterol, mmol·l ⁻¹	0.003	0.019	-	-	-0.316	<0.0001	-	-	-0.042	0.017	-	-
LDL cholesterol, mmol·l ⁻¹	-	-	-	-	-0.533	<0.0001	-0.007	0.032	-0.111	0.087	-	-
Systolic BP, mmHg	-0.199	0.018	-	-	-0.653	<0.0001	0.347	<0.0001	-	-	-	-
Diastolic BP, mmHg	-	-	-1.015	0.010	-0.749	<0.0001	-0.080	0.017	-	-	-	-
hs-CRP, mg·l ⁻¹	-	-	-	-	-0.628	<0.0001	-	-	-	-	-	-
CHD 10-year risk score, %	-0.143	0.005	-1.387	0.003	-0.190	<0.0001	0.278	<0.0001	4.222	<0.0001	-	-
Fatal CHD 10-year risk score, %	-0.127	0.005	-1.134	0.005	-0.131	<0.0001	0.228	<0.0001	3.150	<0.0001	-	-
Stroke 10-year risk score, %	-	-	-	-	0.083	0.020	0.149	0.001	1.135	0.088	-	-
Fatal stroke 10-year risk score, %	-	-	-	-	-0.222	<0.0001	0.058	<0.0001	0.474	0.001	-	-

CVD = cardiovascular disease; MVPA = moderate-to-vigorous-intensity physical activity; LPA = light-intensity physical activity; VO_{2max} = maximal oxygen uptake; FPG = fasting plasma glucose; BP = blood pressure; hs-CRP = high-sensitivity C reactive protein; CHD = coronary heart disease.

Supplementary Table 6. Independent predictors of mean changes over baseline in physical fitness and CVD risk factors and scores (Model 3).

Independent variables	Mean change in PA volume, METs·h·week ⁻¹		Baseline value of dependent variable		Age, years		Sex, Male		Study arm, INT	
Dependent variables	β	P	β	P	β	P	β	P	β	P
Mean change in:										
VO_{2max}, ml·min⁻¹·kg⁻¹										
VO _{2max} , ml·min ⁻¹ ·kg ⁻¹	0.676	<0.0001	-	-	-	-	0.678	0.087	1.066	0.016
Upper body muscle strength, Nm	1.701	0.006	-0.140	<0.0001	-0.494	0.002	12.418	<0.0001	7.500	0.023
Lower body muscle strength, Nm	2.304	<0.0001	-0.151	<0.0001	-0.602	<0.0001	9.091	0.015	20.308	<0.0001
Bending, cm	-0.148	0.061	-0.145	<0.0001	0.088	<0.0001	-1.172	0.003	-1.804	<0.0001
HbA _{1c} , %	-0.189	<0.0001	-0.360	<0.0001	-	-	-	-	0.266	0.008
FPG, mmol·l ⁻¹	-0.167	<0.0001	-0.528	<0.0001	-0.019	0.080	0.493	0.020	-	-
BMI, kg/m ²	-	-	-0.034	0.023	-0.018	0.024	-	-	-0.278	0.071
Waist circumference, cm	-0.282	0.041	-0.185	<0.0001	-	-	1.869	0.014	-	-
Triglycerides, mmol·l ⁻¹	-0.041	0.002	-0.375	<0.0001	-0.011	0.003	-	-	-	-
Total cholesterol, mmol·l ⁻¹	-	-	-0.516	<0.0001	-0.008	0.032	-0.192	0.007	-	-
HDL cholesterol, mmol·l ⁻¹	0.008	0.010	-0.313	<0.0001	-	-	-0.042	0.019	-	-
LDL cholesterol, mmol·l ⁻¹	-	-	-0.533	<0.0001	-0.007	0.032	-0.111	0.087	-	-
Systolic BP, mmHg	-0.576	0.014	-0.655	<0.0001	0.343	<0.0001	-	-	-	-
Diastolic BP, mmHg	-0.332	0.007	-0.753	<0.0001	-0.083	0.014	-	-	-	-
hs-CRP, mg·l ⁻¹	-	-	-0.628	<0.0001	-	-	-	-	-	-
CHD 10-year risk score, %	-0.686	<0.0001	-0.192	<0.0001	0.276	<0.0001	4.257	<0.0001	-	-
Fatal CHD 10-year risk score, %	-0.578	<0.0001	-0.132	<0.0001	0.226	<0.0001	3.169	<0.0001	-	-
Stroke 10-year risk score, %	-	-	0.083	0.020	0.149	0.001	1.135	0.088	-	-
Fatal stroke 10-year risk score, %	-	-	-0.222	0.000	0.058	<0.0001	0.474	0.001	-	-

CVD = cardiovascular disease; PA = physical activity; METs = metabolic equivalents; VO_{2max} = maximal oxygen uptake; FPG = fasting plasma glucose; BP = blood pressure; hs-CRP = high-sensitivity C reactive protein; CHD = coronary heart disease.

Supplementary Table 7. Independent predictors of mean changes over baseline in physical fitness and CVD risk factors and scores in CON participants.

Independent variables	Model 1				Model 2				Model 3	
	Mean change in MVPA, min·day ⁻¹		Mean change in SED- time, hs·day ⁻¹		Mean change in MVPA, min·day ⁻¹		Mean change in LPA, hs·day ⁻¹		Mean change in PA volume, METs·h·week ⁻¹	
	β	P	β	P	β	P	β	P	β	P
Dependent variables										
Mean change in:										
VO _{2max} , ml·min ⁻¹ ·kg ⁻¹	0.538	<0.0001	-	-	0.538	<0.0001	-	-	0.703	<0.0001
Upper body muscle strength, Nm	1.059	0.027	-	-	1.059	0.027	-	-	-	-
Lower body muscle strength, Nm	1.770	<0.0001	-	-	1.770	<0.0001	-	-	2.249	0.008
Bending, cm	-0.262	0.001	-	-	-0.262	0.001	-	-	-0.366	0.011
HbA _{1c} , %	-0.053	0.002	0.491	<0.0001	-0.065	<0.0001	-0.429	<0.0001	-0.213	<0.0001
FPG, mmol·l ⁻¹	-	-	0.703	0.002	-	-	-0.596	0.009	-0.206	0.010
BMI, kg/m ²	-	-	-	-	-	-	-	-	-	-
Waist circumference, cm	-	-	-	-	-	-	-	-	-	-
Triglycerides, mmol·l ⁻¹	-0.065	<0.0001	-	-	-0.065	<0.0001	-	-	-0.086	0.002
Total cholesterol, mmol·l ⁻¹	-	-	-	-	-	-	-	-	-	-
HDL cholesterol, mmol·l ⁻¹	-	-	-0.046	0.009	0.008	0.011	-	-	0.013	0.029
LDL cholesterol, mmol·l ⁻¹	-	-	-	-	-	-	-	-	-	-
Systolic BP, mmHg	-0.412	0.075	-	-	-0.412	0.075	-	-	-	-
Diastolic BP, mmHg	-0.482	<0.0001	-	-	-0.482	<0.0001	-	-	-0.834	<0.0001
hs-CRP, mg·l ⁻¹	-	-	-	-	-	-	-	-	-	-
CHD 10-year risk score, %	-0.336	0.033	2.070	0.015	-0.532	<0.0001	-	-	-0.815	0.002
Fatal CHD 10-year risk score, %	-0.256	0.069	1.703	0.025	-0.416	0.001	1.703	0.025	-0.634	0.007
Stroke 10-year risk score, %	-	-	-	-	-	-	-	-	-	-
Fatal stroke 10-year risk score, %	-	-	-	-	-	-	-	-	-	-

CVD = cardiovascular disease; CON = control; MVPA = moderate-to-vigorous-intensity physical activity; SED-time = sedentary time; LPA = light-intensity physical activity; PA = physical activity; METs = metabolic equivalents; VO_{2max} = maximal oxygen uptake; FPG = fasting plasma glucose; BP = blood pressure; hs-CRP = high-sensitivity C reactive protein; CHD = coronary heart disease.

Supplementary Table 8. Independent predictors of mean changes over baseline in physical fitness and CVD risk factors and scores in INT participants.

Independent variables	Model 1				Model 2				Model 3	
	Mean change in MVPA, min·day ⁻¹		Mean change in SED- time, hs·day ⁻¹		Mean change in MVPA, min·day ⁻¹		Mean change in LPA, hs·day ⁻¹		Mean change in PA volume, METs·h·week ⁻¹	
	β	P	β	P	β	P	β	P	β	P
Dependent variables										
Mean change in:										
VO _{2max} , ml·min ⁻¹ ·kg ⁻¹	0.204	<0.0001	-	-	0.204	<0.0001	-	-	0.670	<0.0001
Upper body muscle strength, Nm	1.039	<0.0001	-	-	1.039	<0.0001	-	-	2.910	<0.0001
Lower body muscle strength, Nm	0.928	0.002	-	-	0.928	0.002	-	-	2.675	0.008
Bending, cm	-	-	-	-	-	-	-	-	-0.125	0.096
HbA _{1c} , %	-0.021	0.024	0.371	<0.0001	-0.029	0.001	-0.342	<0.0001	-0.169	<0.0001
FPG, mmol·l ⁻¹	-0.033	0.025	-	-	-0.033	0.025	-	-	-0.118	0.016
BMI, kg/m ²	-	-	-	-	-	-	-	-	-	-
Waist circumference, cm	-	-	-	-	-	-	-	-	-	-
Triglycerides, mmol·l ⁻¹	-	-	-	-	-	-	-	-	-	-
Total cholesterol, mmol·l ⁻¹	-	-	-	-	-	-	-0.095	0.089	-	-
HDL cholesterol, mmol·l ⁻¹	-	-	-	-	-	-	-	-	-	-
LDL cholesterol, mmol·l ⁻¹	-	-	-	-	-	-	-	-	-	-
Systolic BP, mmHg	-	-	-	-	-	-	-	-	-	-
Diastolic BP, mmHg	-	-	-	-	-	-	-	-	-	-
hs-CRP, mg·l ⁻¹	-	-	-	-	-	-	-	-	-	-
CHD 10-year risk score, %	-	-	1.999	<0.0001	-0.105	0.049	-1.461	0.011	-0.692	<0.0001
Fatal CHD 10-year risk score, %	-	-	1.859	<0.0001	-0.091	0.045	-1.381	0.004	-0.623	<0.0001
Stroke 10-year risk score, %	-	-	-	-	-	-	-	-	-	-
Fatal stroke 10-year risk score, %	-	-	-	-	-	-	-	-	-	-

CVD = cardiovascular disease; INT = intervention; MVPA = moderate-to-vigorous-intensity physical activity; SED-time = sedentary time; LPA = light-intensity physical activity; PA = physical activity; METs = metabolic equivalents; VO_{2max} = maximal oxygen uptake; FPG = fasting plasma glucose; BP = blood pressure; hs-CRP = high-sensitivity C reactive protein; CHD = coronary heart disease.