Appendix Table 1. Baseline characteristics by number of CAC measurements (n = 98,780)

	1 measurement	≥ 2 measurements	P-value
Number	73,295	25,485	
Age	41.8 (8.2)	42.0 (6.1)	0.009
Men, %	71.5	89.2	< 0.001
Physical activity, %			< 0.001
Inactive	49.4	46.8	
Moderately active	35.0	38.0	
HEPA	15.7	15.2	
Current smoker, %	26.1	35.1	< 0.001
High alcohol intake, %	23.5	30.3	< 0.001
BMI, kg/m^2	24.2 (3.3)	24.7 (3.1)	< 0.001
Higher education, %	78.3	79.8	< 0.001
SBP, mmHg	111.7 (12.5)	114.3 (12.4)	< 0.001
DBP, mmHg	72.4 (9.8)	74.9 (10.0)	< 0.001
Fasting glucose, mg/dl	97.2 (15.7)	99.5 (17.4)	< 0.001
Total cholesterol, mg/dl	197.8 (34.2)	204.6 (35.8)	< 0.001
LDL-C, mg/dl	127.6 (31.8)	131.9 (32.5)	< 0.001
HDL-C, mg/dl	55.7 (14.6)	52.6 (13.2)	< 0.001
Triglycerides, mg/dl	106 (75-156)	123 (87-177)	< 0.001
Hypertension, %	15.0	19.2	< 0.001
Diabetes, %	5.4	7.0	< 0.001
Family history of CVD, %	12.4	15.0	< 0.001
Lipid lowering therapy, %	4.0	4.6	< 0.001
CAC > 0, %	10.5	21.2	< 0.001
CAC 1 – 99, %	8.6	17.7	
CAC ≥ 100, %	1.9	3.4	

Numbers in the Table are mean (standard deviation), median (interquartile range), or percentages.
Abbreviations: BMI, body mass index; CAC: coronary artery calcium; CVD: cardiovascular disease; DBP: diastolic blood pressure; HDL-C, high-density lipoprotein cholesterol; HEPA, health-enhancing physically active; LDL-C, low-density lipoprotein cholesterol; and SBP: systolic blood pressure.
High alcohol intake defined as >30 g/day for men and >20 g/day for women; higher education defined as college graduate or higher.

Appendix Table 2. Baseline characteristics by coronary artery calcification categories at baseline (n = 25,485).

	CAC = 0	**CAC 1 – 99**	**CAC ≥ 100**
Number	20,096	4,522	867
Age	41.0 (5.5)	45.1 (6.4)	48.4 (7.5)
Men, %	87.4	95.7	97.0
Physical activity, %			
Inactive	47.8	43.8	38.4
Moderately active	37.8	38.8	39.2
HEPA	14.5	17.3	22.4
Current smoker, %	33.8	39.5	41.1
High alcohol intake, %	28.2	37.3	39.9
BMI, kg/m^2	24.6 (3.1)	25.3 (3.0)	25.5 (3.0)
Higher education, %	79.6	80.9	78.9
SBP, mmHg	113.5 (12.2)	116.7 (12.6)	118.3 (12.6)
DBP, mmHg	74.1 (9.9)	77.5 (10.0)	78.3 (10.0)
Fasting glucose, mg/dl	98.2 (15.3)	103.4 (21.7)	108.5 (28.3)
Total cholesterol, mg/dl	203.0 (34.9)	211.2 (38.1)	207.4 (40.2)
LDL-C, mg/dl	130.4 (31.9)	138.5 (34.1)	134.5 (35.7)
HDL-C, mg/dl	53.1 (13.4)	50.7 (12.5)	50.9 (13.1)
Triglycerides, mg/dl	119 (84-172)	137 (98-196)	135 (98-197)
Hypertension, %	15.4	30.9	45.8
Diabetes, %	5.1	12.9	20.9
Family history of CVD, %	14.4	17.3	17.9
Lipid-lowering therapy, %	3.3	8.2	16.6

Numbers in the Table are mean (standard deviation), median (interquartile range), or percentages.
Abbreviations: BMI, body mass index; CAC: coronary artery calcium; CVD: cardiovascular disease; DBP: diastolic blood pressure; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; and SBP: systolic blood pressure.
High alcohol intake defined as >30 g/day for men and >20 g/day for women; higher education defined as college graduate or higher.
All variables evaluated were statistically different by coronary artery calcification categories at baseline (*P*-value < 0.001).

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Appendix Table 3. 5-year progression of coronary artery calcium (CAC) by physical activity categories at baseline, adjusted for inverse probability weights.

	Inactive	**Moderately active**	**HEPA**
Number	48,111	35,305	15,364
Mean CAC score (95% CI)			
Baseline	8.79	10.96	15.66
	(7.75, 9.83)	(9.53, 12.39)	(12.53, 18.78)
Year 5	22.78	28.09	37.80
	(20.75, 24.81)	(25.61, 30.56)	(32.65, 42.96)
5-year difference	13.99	17.13	22.15
(Year 5 – baseline)	(12.68, 15.30)	(15.65, 18.61)	(19.26, 25.04)
Difference in mean CAC score (95% CI)			
Baseline	Reference	2.17	6.86
		(0.35, 3.99)	(3.40, 10.33)
Year 5	Reference	5.31	15.03
		(2.06, 8.57)	(9.32, 20.74)
Difference in differences	Reference	3.14	8.16
(Year 5 – baseline)		(1.16, 5.12)	(4.99, 11.34)

Values in the Table were estimated from a random intercept and random slope mixed model for CAC score adjusted for baseline age, sex, center, smoking, alcohol intake, education, family history of cardiovascular disease, body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, fasting glucose, hypertension, diabetes, and lipid lowering therapy. *P*-value for trend across IPAQ categories for difference in differences was highly statistically significant ($P < 0.001$). Abbreviations: CAC, coronary artery calcium; CI, confidence interval; HEPA, health-enhancing physically active.

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Appendix Table 4. 5-year progression of coronary artery calcium (CAC) by physical activity categories among participants with prevalent CAC (CAC > 0) at baseline, adjusted for inverse probability weights.

	Inactive	Moderately active	HEPA
Number	5,565	4,895	2,629
Mean CAC score (95% CI)			
Baseline	67.70	73.37	86.99
	(61.03, 74.38)	(66.12, 80.43)	(74.41, 99.57)
Year 5	142.43	156.15	180.11
	(130.21, 154.65)	(144.06, 168.23)	(155.43, 204.80)
5-year difference	74.73	82.77	93.13
(Year 5 – baseline)	(67.29, 82.17)	(76.03, 89.52)	(77.13, 109.13)
Difference in mean CAC scores (95% CI)			
Baseline	Reference	5.67	19.29
		(-2.35, 13.69)	(6.01, 32.56)
Year 5	Reference	13.72	37.68
		(-2.00, 29.44)	(11.03, 64.34)
Difference in differences	Reference	8.05	18.40
(Year 5 – baseline)		(-1.98, 18.07)	(0.77, 36.02)

Values in the Table were estimated from a random intercept and random slope mixed model for CAC score adjusted for baseline age, sex, center, smoking, alcohol intake, education, family history of cardiovascular disease, body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, fasting glucose, hypertension, diabetes, and lipid lowering therapy. *P*-value for trend across IPAQ categories for difference in differences was 0.02.
Abbreviations: CAC, coronary artery calcium; CI, confidence interval; HEPA, health-enhancing physically active.

Appendix Table 5. 5-year progression of coronary artery calcium (CAC) by physical activity categories among participants with no CAC (CAC = 0) at baseline, adjusted for inverse probability weights.

	Inactive	Moderately active	HEPA
Number	42,546	30,410	12,735
Mean CAC score at 5 years (95% CI)	1.34	1.50	1.68
	(1.15, 1.53)	(1.22, 1.78)	(1.13, 2.23)
Difference in mean CAC scores at 5 years (95% CI)	Reference	0.17	0.36
		(-0.16, 0.51)	(-0.22, 0.94)

Values in the Table were estimated from a random intercept and random slope mixed model for CAC score adjusted for baseline age, sex, center, smoking, alcohol intake, education, family history of cardiovascular disease, body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, fasting glucose, hypertension, diabetes, and lipid lowering therapy. *P*-value for trend across IPAQ categories for difference in differences 0.16.
Abbreviations: CAC, coronary artery calcium; CI, confidence interval; HEPA, health-enhancing physically active.

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Appendix Table 6. Hazard ratios (95% confidence intervals) for the development of coronary artery calcium (CAC > 0) in participants with no coronary calcium (CAC = 0) at baseline, adjusted for inverse probability weights.

	Inactive	Moderately active	HEPA	P for trend
Number	49,486	35,713	14,995	
Model 1	Reference	1.02 (0.85, 1.21)	1.13 (0.91, 1.41)	0.33
Model 2	Reference	1.02 (0.86, 1.21)	1.13 (0.91, 1.41)	0.33
Model 3	Reference	1.05 (0.88, 1.24)	1.17 (0.94, 1.46)	0.19
Model 4	Reference	1.05 (0.88, 1.24)	1.18 (0.95, 1.47)	0.17
Model 5	Reference	1.05 (0.89, 1.24)	1.18 (0.95, 1.47)	0.16

Model 1: adjusted for age, sex, and center; Model 2: Model 1 + smoking, alcohol, education, and family history of cardiovascular disease; Model 3: Model 2 + body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, and fasting glucose; Model 4: Model 3 + history of diabetes, and history of hypertension; and Model 5: Model 4 + lipid lowering therapy.
Abbreviations: CAC, coronary artery calcium; HEPA, health-enhancing physically active.

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Appendix Table 7. 5-year progression in the geometric mean of coronary artery calcium (CAC) by physical activity categories.

	Inactive	**Moderately active**	**HEPA**
Number	48,111	35,305	15,364
Geometric mean CAC score (95% CI)			
Baseline	0.64 (0.60, 0.68)	0.75 (0.70, 0.80)	0.86 (0.78, 0.94)
Year 5	1.43 (1.36, 1.51)	1.67 (1.58, 1.76)	2.01 (1.85, 2.17)
5-year difference (Year 5 – baseline)	0.80 (0.74, 0.85)	0.92 (0.86, 0.98)	1.15 (1.03, 1.26)
Difference in geometric mean CAC score (95% CI)			
Baseline	Reference	0.11 (0.05, 0.17)	0.22 (0.13, 0.31)
Year 5	Reference	0.24 (0.12, 0.35)	0.57 (0.40, 0.75)
Difference in differences (Year 5 – baseline)	Reference	0.13 (0.14, 0.21)	0.35 (0.22, 0.48)

Values in the Table were estimated from a random intercept and random slope mixed model for $\log_e$(CAC score + 1) adjusted for baseline age, sex, center, smoking, alcohol intake, education, family history of cardiovascular disease, body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, fasting glucose, hypertension, diabetes, and lipid lowering therapy. The estimates were then exponentiated to obtain the geometric means of CAC scores at 5-years and the 5-year change. *P*-value for trend across IPAQ categories for difference in differences was highly statistically significant ($P < 0.001$). Abbreviations: CAC, coronary artery calcium; CI, confidence interval; HEPA, health-enhancing physically active.

Appendix Table 8. 5-year progression of coronary artery calcium (CAC) by physical activity categories at baseline by age.

	Inactive	Moderately active	HEPA
Age < 40			
Number	4,288	3,573	1,127
Mean CAC score (95% CI)			
Baseline	3.12	3.71	3.07
	(2.25, 3.98)	(2.74, 4.69)	(1.46, 4.68)
Year 5	9.81	10.51	9.54
	(8.28, 11.33)	(8.85, 12.18)	(6.63, 12.45)
5-year difference	6.69	6.80	6.47
(Year 5 – baseline)	(5.31, 8.07)	(5.32, 8.28)	(3.82, 9.13)
Difference in mean CAC score (95% CI)			
Baseline	0	0.60	-0.05
	(reference)	(-0.61, 1.80)	(-1.82, 1.73)
Year 5	0	0.70	-0.26
	(reference)	(-1.49, 2.91)	(-3.52, 2.99)
Difference in differences	0	0.11	-0.22
(Year 5 – baseline)	(reference)	(-1.91, 2.14)	(-3.21, 2.78)
Age ≥ 40			
Number	7,632	6,110	2,755
Mean CAC score (95% CI)			
Baseline	9.74	13.31	23.41
	(7.45, 12.02)	(10.76, 15.85)	(19.72, 27.09)
Year 5	29.54	38.17	52.64
	(26.35, 32.73)	(34.65, 41.69)	(47.45, 57.82)
5-year difference	19.81	24.86	29.23
(Year 5 – baseline)	(17.26, 22.35)	(22.08, 27.65)	(25.05, 33.40)
Difference in mean CAC score (95% CI)			
Baseline	0	3.57	13.67
	(reference)	(0.30, 6.84)	(9.42, 17.93)
Year 5	0	8.63	23.09
	(reference)	(3.99, 13.27)	(17.07, 29.12)
Difference in differences	0	5.06	9.42
(Year 5 – baseline)	(reference)	(1.28, 8.83)	(4.53, 14.31)

Values in the Table were estimated from a random intercept and random slope mixed model for CAC score adjusted for baseline sex, center, smoking, alcohol intake, education, family history of cardiovascular disease, body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, fasting glucose, hypertension, diabetes, and lipid lowering therapy. *P*-value for trend across IPAQ categories for difference in differences was not significant in age < 40 group ($P = 0.95$) but statistically significant om age ≥ 40 group ($P < 0.001$).

Abbreviations: CAC, coronary artery calcium; CI, confidence interval; HEPA, health-enhancing physically active.

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Appendix Table 9. Hazard ratios (95% confidence intervals) for the development of coronary artery calcium (CAC > 0) in participants with no coronary calcium (CAC = 0) at baseline by age.

	Inactive	Moderately active	HEPA	P for trend
Age < 40				
Number	3,883	3,228	1,020	
Model 1	Reference	0.94 (0.78, 1.13)	1.08 (0.83, 1.40)	0.88
Model 2	Reference	0.94 (0.78, 1.13)	1.09 (0.83, 1.42)	0.84
Model 3	Reference	0.95 (0.79, 1.15)	1.14 (0.88, 1.49)	0.59
Model 4	Reference	0.96 (0.80, 1.16)	1.14 (0.88, 1.49)	0.56
Model 5	Reference	0.96 (0.80, 1.16)	1.13 (0.87, 1.48)	0.59
Age ≥ 40				
Number	5,722	4,359	1,884	
Model 1	Reference	1.03 (0.91, 1.16)	1.20 (1.03, 1.40)	0.04
Model 2	Reference	1.03 (0.91, 1.16)	1.19 (1.02, 1.39)	0.05
Model 3	Reference	1.07 (0.94, 1.21)	1.26 (1.08, 1.47)	0.006
Model 4	Reference	1.07 (0.95, 1.21)	1.27 (1.09, 1.49)	0.005
Model 5	Reference	1.07 (0.95, 1.21)	1.27 (1.09, 1.49)	0.004

Model 1: adjusted for sex and center; Model 2: Model 1 + smoking, alcohol, education, and family history of cardiovascular disease; Model 3: Model 2 + body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, and fasting glucose; Model 4: Model 3 + history of diabetes, and history of hypertension; and Model 5: Model 4 + lipid lowering therapy.

Abbreviations: CAC, coronary artery calcium; HEPA, health-enhancing physically active.

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Appendix Table 10. 5-year progression of coronary artery calcium (CAC) by physical activity
categories at baseline by sex.

	Inactive	Moderately active	HEPA
Men			
Number	10,472	8,875	3,394
Mean CAC score (95% CI)			
Baseline	10.11	12.70	18.30
	(8.42, 11.80)	(10.89, 14.52)	(15.45, 21.16)
Year 5	26.41	31.41	42.34
	(24.08, 28.74)	(28.93, 33.90)	(38.36, 46.33)
5-year difference	16.30	18.71	24.04
(Year 5 – baseline)	(14.44, 18.16)	(16.74, 20.68)	(20.81, 27.27)
Difference in mean CAC score (95% CI)			
Baseline	0	2.59	8.19
	(reference)	(0.23, 4.95)	(4.94, 11.45)
Year 5	0	5.00	15.93
	(reference)	(1.68, 8.32)	(11.36, 20.51)
Difference in differences	0	2.41	7.74
(Year 5 – baseline)	(reference)	(-0.30, 5.12)	(4.04, 11.46)
Women			
Number	1,448	808	488
Mean CAC score (95% CI)			
Baseline	1.47	3.13	1.57
	(-0.85, 3.78)	(0.23, 6.04)	(-2.06, 5.21)
Year 5	4.61	9.97	10.39
	(1.58, 7.63)	(6.08, 13.86)	(5.47, 15.31)
5-year difference	3.14	6.83	8.82
(Year 5 – baseline)	(1.14, 5.14)	(4.17, 9.50)	(5.41, 12.23)
Difference in mean CAC score (95% CI)			
Baseline	0	1.67	0.11
	(reference)	(-1.55, 4.89)	(-3.75, 3.97)
Year 5	0	5.36	5.78
	(reference)	(0.80, 9.92)	(0.34, 11.23)
Difference in differences	0	3.69	5.68
(Year 5 – baseline)	(reference)	(0.36, 7.02)	(1.72, 9.63)

Values in the Table were estimated from a random intercept and random slope mixed model for CAC
score adjusted for baseline age, center, smoking, alcohol intake, education, family history of
cardiovascular disease, body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol,
triglyceride, fasting glucose, hypertension, diabetes, and lipid lowering therapy. *P*-value for trend across
IPAQ categories for difference in differences was highly statistically significant for both subgroups ($P <
0.001$ and $P = 0.002$ in men and women, respectively).

Abbreviations: CAC, coronary artery calcium; CI, confidence interval; HEPA, health-enhancing
physically active.

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Appendix Table 11. Hazard ratios (95% confidence intervals) for the development of coronary artery calcium (CAC > 0) in participants with no coronary calcium (CAC = 0) at baseline by sex.

	Inactive	Moderately active	HEPA	P for trend
Men				
Number	8,256	6,848	2,467	
Model 1	Reference	1.00 (0.90, 1.11)	1.11 (0.97, 1.28)	0.18
Model 2	Reference	1.01 (0.91, 1.12)	1.13 (0.98, 1.30)	0.13
Model 3	Reference	1.04 (0.94, 1.15)	1.19 (1.34, 1.37)	0.02
Model 4	Reference	1.04 (0.94, 1.16)	1.20 (1.05, 1.38)	0.02
Model 5	Reference	1.04 (0.94, 1.16)	1.20 (1.05, 1.38)	0.02
Women				
Number	1,349	739	437	
Model 1	Reference	0.92 (0.53, 1.60)	1.18 (0.65, 2.14)	0.72
Model 2	Reference	0.93 (0.54, 1.61)	1.20 (0.66, 2.17)	0.68
Model 3	Reference	0.95 (0.55, 1.65)	1.23 (0.68, 2.22)	0.60
Model 4	Reference	0.93 (0.54, 1.61)	1.24 (0.69, 2.25)	0.59
Model 5	Reference	0.94 (0.54, 1.63)	1.24 (0.69, 2.25)	0.57

Model 1: adjusted for age and center; Model 2: Model 1 + smoking, alcohol, education, and family history of cardiovascular disease; Model 3: Model 2 + body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, and fasting glucose; Model 4: Model 3 + history of diabetes, and history of hypertension; and Model 5: Model 4 + lipid lowering therapy.

Abbreviations: CAC, coronary artery calcium; HEPA, health-enhancing physically active.

Appendix Table 12. 5-year progression of coronary artery calcium (CAC) by physical activity categories at baseline by Framingham Risk Score.

	Inactive	Moderately active	HEPA
FRS < 10%			
Number	9,457	7,642	2,969
Mean CAC score (95% CI)			
Baseline	10.85	12.34	12.18
	(9.18, 12.53)	(10.48, 14.19)	(9.25, 15.11)
Year 5	20.88	24.11	27.16
	(18.54, 23.23)	(21.54, 26.68)	(23.04, 31.27)
5-year difference	10.03	11.78	14.98
(Year 5 – baseline)	(8.12, 11.94)	(9.71, 13.84)	(11.62, 18.33)
Difference in mean CAC score (95% CI)			
Baseline	0	1.48	1.33
	(reference)	(-0.95, 3.92)	(-2.01, 4.67)
Year 5	0	3.23	6.27
	(reference)	(-0.21, 6.66)	(1.56, 10.99)
Difference in differences	0	1.75	4.95
(Year 5 – baseline)	(reference)	(-1.07, 4.56)	(1.09, 8.81)
FRS ≥ 10%			
Number	1,815	1,454	601
Mean CAC score (95% CI)			
Baseline	15.75	21.75	57.20
	(11.52, 19.99)	(17.14, 26.35)	(50.40, 64.00)
Year 5	59.60	75.82	121.67
	(53.88, 65.31)	(69.56, 82.08)	(112.11, 131.22)
5-year difference	43.84	54.08	64.47
(Year 5 – baseline)	(39.40, 48.28)	(49.17, 58.99)	(56.73, 72.21)
Difference in mean CAC score (95% CI)			
Baseline	0	5.99	41.44
	(reference)	(0.44, 11.54)	(33.99, 48.90)
Year 5	0	16.22	62.07
	(reference)	(8.25, 24.20)	(51.33, 72.81)
Difference in differences	0	10.24	20.62
(Year 5 – baseline)	(reference)	(3.61, 16.86)	(11.70, 29.55)

Values in the Table were estimated from a random intercept and random slope mixed model for CAC score adjusted for baseline age, sex, center, smoking, alcohol intake, education, family history of cardiovascular disease, body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, fasting glucose, hypertension, diabetes, and lipid lowering therapy. *P*-value for trend across IPAQ categories for difference in differences was highly statistically significant for both subgroups ($P = 0.009$ and $P < 0.001$ in FRS < 10% and FRS ≥ 10% group, respectively).

Abbreviations: CAC, coronary artery calcium; CI, confidence interval; HEPA, health-enhancing physically active.

Appendix Table 13. Hazard ratios (95% confidence intervals) for the development of coronary artery calcium (CAC > 0) in participants with no coronary calcium (CAC = 0) at baseline by Framingham Risk Score.

	Inactive	Moderately active	HEPA	P for trend
FRS < 10%				
Number	8,000	6,323	2,386	
Model 1	Reference	0.99 (0.87, 1.11)	1.17 (1.00, 1.36)	0.18
Model 2	Reference	0.98 (0.87, 1.11)	1.16 (0.99, 1.35)	0.21
Model 3	Reference	1.00 (0.88, 1.13)	1.18 (1.01, 1.38)	0.11
Model 4	Reference	1.00 (0.89, 1.13)	1.19 (1.01, 1.39)	0.11
Model 5	Reference	1.00 (0.89, 1.13)	1.19 (1.01, 1.39)	0.10
FRS ≥ 10%				
Number	1,058	785	267	
Model 1	Reference	1.10 (0.89, 1.37)	1.17 (0.87, 1.56)	0.06
Model 2	Reference	1.11 (0.89, 1.37)	1.20 (0.90, 1.61)	0.05
Model 3	Reference	1.15 (0.93, 1.43)	1.26 (0.94, 1.69)	0.05
Model 4	Reference	1.16 (0.93, 1.43)	1.32 (0.98, 1.77)	0.04
Model 5	Reference	1.16 (0.93, 1.44)	1.31 (0.97, 1.75)	0.04

Model 1: adjusted for age, sex, and center; Model 2: Model 1 + smoking, alcohol, education, and family history of cardiovascular disease; Model 3: Model 2 + body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, and fasting glucose; Model 4: Model 3 + history of diabetes, and history of hypertension; and Model 5: Model 4 + lipid lowering therapy.

Abbreviations: CAC, coronary artery calcium; HEPA, health-enhancing physically active.

Appendix Table 14. 5-year progression of coronary artery calcium (CAC) by physical activity categories at baseline by CAC scores.

	Inactive	Moderately active	HEPA
CAC 1–99			
Number	1,982	1,756	784
Mean CAC score (95% CI)			
Baseline	19.43	19.86	20.55
	(17.92, 20.94)	(18.27, 21.44)	(18.42, 22.67)
Year 5	64.47	67.36	71.20
	(61.08, 67.85)	(63.80, 70.91)	(65.95, 76.45)
5-year difference	45.04	47.50	50.66
(Year 5 – baseline)	(41.83, 48.24)	(44.14, 50.86)	(45.58, 55.73)
Difference in mean CAC score (95% CI)			
Baseline	0	0.43	1.12
	(reference)	(-1.26, 2.11)	(-1.08, 3.32)
Year 5	0	2.89	6.74
	(reference)	(-1.81, 7.57)	(0.65, 12.82)
Difference in differences	0	2.46	5.62
(Year 5 – baseline)	(reference)	(-2.18, 7.10)	(-0.38, 11.63)
CAC ≥ 100			
Number	333	340	194
Mean CAC score (95% CI)			
Baseline	168.45	184.76	239.68
	(119.42, 217.48)	(134.99, 234.53)	(179.27, 300.08)
Year 5	432.32	467.49	487.85
	(367.96, 396.68)	(402.97, 532.01)	(407.72, 567.98)
5-year difference	263.87	282.73	248.17
(Year 5 – baseline)	(217.66, 310.07)	(237.11, 328.34)	(189.70, 306.65)
Difference in mean CAC score (95% CI)			
Baseline	0	16.31	74.23
	(reference)	(-29.30, 61.92)	(16.64, 125.81)
Year 5	0	35.17	55.53
	(reference)	(-39.00, 109.35)	(-31.02, 142.09)
Difference in differences	0	18.86	-15.69
(Year 5 – baseline)	(reference)	(-46.07, 83.79)	(-90.22, 58.84)

Values in the Table were estimated from a random intercept and random slope mixed model for CAC score adjusted for baseline age, sex, center, smoking, alcohol intake, education, family history of cardiovascular disease, body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, fasting glucose, hypertension, diabetes, and lipid lowering therapy. *P*-values for trend across IPAQ categories for difference in differences were not statistically significant ($P = 0.06$ and $P = 0.78$ in CAC 1–99 and CAC ≥ 100 group, respectively).

Abbreviations: CAC, coronary artery calcium; CI, confidence interval; HEPA, health-enhancing physically active.

Appendix Table 15. 5-year progression of coronary artery calcium (CAC) by time-varying physical activity categories at baseline.

	Inactive	Moderately active	HEPA
Mean CAC score (95% CI)			
Baseline	10.23	10.28	11.30
	(9.02, 11.45)	(9.01, 11.55)	(9.65, 12.96)
Year 5	24.42	27.82	35.83
	(22.65, 26.20)	(25.98, 29.65)	(33.29, 38.37)
5-year difference	14.19	17.54	24.53
(Year 5 – baseline)	(12.50, 15.88)	(15.72, 19.35)	(21.68, 27.38)
Difference in mean CAC score (95% CI)			
Baseline	0	0.05	1.07
	(reference)	(-1.11, 1.20)	(-0.54, 2.67)
Year 5	0	3.39	11.41
	(reference)	(1.42, 5.36)	(8.74, 14.08)
Difference in differences	0	3.35	10.34
(Year 5 – baseline)	(reference)	(0.88, 5.82)	(7.03, 13.66)

Values in the Table were estimated from a random intercept and random slope mixed model for CAC score adjusted for baseline age, sex, center, smoking, alcohol intake, education, family history of cardiovascular disease, body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, fasting glucose, hypertension, diabetes, and lipid lowering therapy. *P*-value for trend across IPAQ categories for difference in differences was highly statistically significant ($P < 0.001$). Abbreviations: CAC, coronary artery calcium; CI, confidence interval; HEPA, health-enhancing physically active.

Appendix Table 16. 5-year progression of coronary artery calcium (CAC) by time-varying physical activity categories among participants with prevalent CAC (CAC > 0) at baseline.

	Inactive	Moderately active	HEPA
Mean CAC score (95% CI)			
Baseline	73.62	73.45	76.68
	(68.33, 78.91)	(68.14, 78.76)	(70.43, 82.92)
Year 5	149.08	154.33	170.87
	(141.25, 156.91)	(146.60, 162.05)	(161.33, 180.41)
5-year difference	75.47	80.88	94.19
(Year 5 – baseline)	(68.18, 82.75)	(73.63, 88.12)	(83.91, 104.48)
Difference in mean CAC scores (95% CI)			
Baseline	0	-0.17	3.06
	(reference)	(-4.36, 4.03)	(-2.54, 8.66)
Year 5	0	5.24	21.79
	(reference)	(-1.60, 12.08)	(12.56, 31.01)
Difference in differences	0	5.41	18.73
(Year 5 – baseline)	(reference)	(-3.53, 14.35)	(6.82, 30.63)

Values in the Table were estimated from a random intercept and random slope mixed model for CAC score adjusted for baseline age, sex, center, smoking, alcohol intake, education, family history of cardiovascular disease, body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, fasting glucose, hypertension, diabetes, and lipid lowering therapy. *P*-value for trend across IPAQ categories for difference in differences was 0.003.
Abbreviations: CAC, coronary artery calcium; CI, confidence interval; HEPA, health-enhancing physically active.

Appendix Table 17. 5-year progression of coronary artery calcium (CAC) by time-varying physical activity categories among participants with no CAC (CAC = 0) at baseline.

	Inactive	Moderately active	HEPA
Mean CAC score at 5 years (95% CI)	1.18	1.74	1.82
	(0.97, 1.38)	(1.52, 1.95)	(1.51, 2.12)
Difference in mean CAC scores at 5 years (95% CI)	0	0.56	0.67
	(reference)	(0.33, 0.79)	(0.32, 1.02)

Values in the Table were estimated from a random intercept and random slope mixed model for CAC score adjusted for baseline age, sex, center, smoking, alcohol intake, education, family history of cardiovascular disease, body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, fasting glucose, hypertension, diabetes, and lipid lowering therapy. *P*-value for trend across IPAQ categories for difference in differences was < 0.001.
Abbreviations: CAC, coronary artery calcium; CI, confidence interval; HEPA, health-enhancing physically active.

Appendix Table 18. Hazard ratios (95% confidence intervals) for the development of coronary artery calcium (CAC > 0) by time-varying physical activity categories among participants with no coronary calcium (CAC = 0) at baseline.

	Inactive	Moderately active	HEPA	P for trend
Model 1	Reference	0.87 (0.78, 0.96)	0.98 (0.85, 1.12)	0.18
Model 2	Reference	0.92 (0.83, 1.02)	0.98 (0.85, 1.13)	0.41
Model 3	Reference	1.01 (0.91, 1.12)	1.15 (1.00, 1.33)	0.11
Model 4	Reference	1.03 (0.92, 1.14)	1.17 (1.01, 1.35)	0.06
Model 5	Reference	1.03 (0.92, 1.14)	1.17 (1.01, 1.36)	0.06
Model 6	Reference	1.02 (0.91, 1.13)	1.17 (1.01, 1.35)	0.08

Model 1: adjusted for age, sex, and center; Model 2: Model 1 + smoking, alcohol, education, and family history of cardiovascular disease; Model 3: Model 2 + body mass index, systolic blood pressure, LDL-cholesterol, HDL-cholesterol, triglyceride, and fasting glucose; Model 4: Model 3 + history of diabetes, and history of hypertension; and Model 5: Model 4 + lipid lowering therapy. Model 6: Model 5 + time difference.

Abbreviations: CAC, coronary artery calcium; HEPA, health-enhancing physically active.