

# **SUPPLEMENTAL MATERIAL**

**Table S1. Sensitivity analyses of adjusted hazard ratio of death by excluding subjects with coronary heart disease or chronic heart failure.**

<b>Variable</b>	<b>Baseline ERP</b>	<b>P Value</b>	<b>Time-varying ERP</b>	<b>P Value</b>
<b>Sudden cardiac death</b>				
Multivariate adjusted HR (95% CI)	1.16 (0.89-1.51)	0.27	1.42 (1.06-1.90)	0.02
<b>Cardiovascular death</b>				
Multivariate adjusted HR (95% CI)	1.21 (1.01-1.45)	0.04	1.55 (1.27-1.89)	<0.001
<b>Death from any cause</b>				
Multivariate adjusted HR (95% CI)	1.01 (0.92-1.11)	0.79	1.07 (1.06-1.19)	0.23

ERP, early repolarization; HR, hazard ratio; CI, confidence interval.

\*Variables that were included in the multivariate analyses were age, race, sex, hypertension, smoking status, diabetes mellitus, body mass index, blood pressure, total cholesterol, fasting blood glucose, heart rate, QTc duration, presence of left ventricular hypertrophy on ECG, and use of cardiac medications.

**Table S2. Baseline characteristics of subjects according to changes in ERP status.**

<b>Characteristic</b>	<b>Normal-normal</b>	<b>ERP-normal</b>	<b>Normal-ERP</b>	<b>ERP-ERP</b>	<b>P value</b>
No. of subjects	11359	477	470	1051	
Age, years	54.2 (5.7)	54.2 (5.6)	54.2 (5.8)	54.2 (5.8)	0.87
Males, %	4592 (40.3)	333 (69.8)	317 (67.5)	816 (77.6)	<0.001
Caucasians, %	9085 (80.0)	283 (59.3)	348 (74.0)	526 (50.1)	<0.001
Education, %					
<High school	2357 (20.8)	123 (25.8)	106 (22.6)	333 (31.7)	<0.001
High school/vocational school	4871 (42.9)	170 (35.6)	177 (37.7)	330 (31.4)	
College, graduate, or professional school	4131 (36.4)	184 (38.6)	187 (39.8)	388 (36.9)	
Smoking status, %					
Never	4951 (43.6)	176 (36.9)	167 (35.3)	326 (31.0)	<0.001
Former	3712 (32.7)	168 (35.2)	176 (37.5)	351 (33.4)	
Current	2696 (23.7)	133 (27.9)	127 (27.0)	374 (35.6)	
Hypertension, %	3700 (32.6)	159 (33.3)	172 (36.6)	440 (41.9)	<0.001
Diabetes, %	1203 (10.6)	51 (10.7)	62 (13.2)	157 (14.9)	<0.001
Coronary heart disease, %	462 (4.1)	25 (5.2)	42 (8.9)	85 (8.1)	
Body mass index, kg/m <sup>2</sup>	27.8 (5.3)	26.8 (4.9)	27.1 (4.9)	26.5 (4.5)	<0.001
Blood pressure, mmHg					
Systolic	120.0 (17.8)	123.1 (17.7)	122.4 (19.4)	125.3 (21.3)	<0.001
Diastolic	73.0 (10.6)	75.8 (11.3)	74.3 (11.7)	76.1 (13.1)	<0.001
Fasting glucose, mmol/L	6.0 (2.0)	5.9 (2.1)	6.2 (2.6)	6.2 (2.6)	<0.001
Total cholesterol, mmol/L	5.6 (1.1)	5.5 (1.0)	5.5 (1.0)	5.5 (1.1)	0.12
Low-density lipoprotein cholesterol, mmol/L	3.6 (1.0)	3.5 (1.0)	3.6 (1.0)	3.6 (1.0)	0.12

High-density lipoprotein cholesterol, mmol/L	1.3 (0.4)	1.4 (0.5)	1.3 (0.4)	1.3 (0.4)	0.07
Triglycerides, mmol/L	1.5 (1.0)	1.3 (0.9)	1.5 (1.2)	1.4 (1.0)	<0.001
Electrocardiographic findings					
Heart rate, bpm	66.4 (10.1)	64.2 (9.7)	64.7 (9.9)	64.5 (10.6)	0.06
QTc duration, ms	416.2 (18.4)	412.9 (18.7)	414.4 (21.0)	415.0 (24.9)	<0.001
Left ventricular hypertrophy on electrocardiogram, %	129 (1.1)	17 (3.6)	15 (3.2)	99 (9.4)	<0.001
Medication, %					
Calcium antagonist	354 (3.1)	18 (3.8)	25 (5.3)	41 (3.9)	0.04
Digitalis	145 (1.3)	8 (1.7)	6 (1.3)	25 (2.4)	0.03
$\beta$ -Blocker	597 (5.3)	31 (6.5)	37 (7.9)	64 (6.1)	0.05
Antiarrhythmics	64 (0.6)	10 (2.1)	3 (0.6)	14 (1.3)	<0.001

**Table S3. Hazard ratios of various ERP phenotypes for cardiovascular outcomes in subjects with baseline ERP\*.**

	Sudden cardiac death			Cardiovascular death			Death from any cause		
	No. of deaths	Adjusted HR (95% CI)	p Value	No. of deaths	Adjusted HR (95% CI)	p Value	No. of deaths	Adjusted HR (95% CI)	p Value
<b>No ERP (N=12315)</b>	442	1.00		985	1.00		4209	1.00	
<b>J-wave amplitude</b>									
0.1–0.19 mV (N=1617)	114	1.33 (1.06-1.67)	0.01	211	1.29 (1.10-1.52)	0.002	718	1.06 (0.97-1.15)	0.19
≥0.2 mV (N=176)	15	1.51 (0.89-2.58)	0.13	43	2.39 (1.74-3.29)	<0.001	106	1.46 (1.20-1.78)	<0.001
<b>Lead distributions</b>									
Inferior leads (N=119)	7	1.40 (0.66-2.96)	0.38	12	1.18 (0.67-2.08)	0.58	51	1.27 (0.97-1.68)	0.09
Lateral leads (N=642)	39	1.08 (0.77-1.53)	0.66	72	1.14 (0.89-1.45)	0.31	266	1.04 (0.91-1.18)	0.55
Anterior leads (N=1717)	117	1.32 (1.05-1.65)	0.02	234	1.40 (1.20-1.64)	<0.001	741	1.08 (1.00-1.18)	0.06

ERP, early repolarization; HR, hazard ratio; CI, confidence interval.

\*Variables that were included in the multivariate analyses were age, race, sex, hypertension, smoking status, diabetes mellitus, history of coronary heart disease or chronic heart failure, body mass index, blood pressure, total cholesterol, fasting blood glucose, heart rate, QTc duration, presence of left ventricular hypertrophy on ECG, and use of cardiac medications.