Multimedia Appendix 3. Effects of rest-activity rhythm (RAR) measures on the risk for developing dementia (excluding those with only mild cognitive impairment [MCI]). Among those with no dementia or MCI at baseline (n=91,517), 489 developed dementia during the follow-up.

RAR characteristics		Fully Adjusted Model
Relative Amplitude	Q1	1.80 (1.38-2.35)
	Q2	1.26 (0.95-1.67)
	Q3	0.93 (0.69-1.26)
	Q4	Ref.
	Per 1-SD Decrease	1.23 (1.17-1.30)
M10	Q1	1.67 (1.27-2.21)
	Q2	1.10 (0.81-1.48)
	Q3	0.99 (0.72-1.35)
	Q4	Ref.
	Per 1-SD Decrease	1.33 (1.17-1.51)
M10 midpoint	Earlier	1.10 (0.89-1.35)
	Middle	Ref.
	Later	1.02 (0.81-1.28)
	Per 1-SD Increase	0.95 (0.85-1.06)
L5	Q1	Ref.
	Q2	1.24 (0.96-1.60)
	Q3	0.98 (0.74-1.28)
	Q4	1.44 (1.12-1.85)
	Per 1-SD Increase	1.15 (1.09-1.22)
L5 midpoint	Earlier	1.08 (0.87-1.35)
	Middle	Ref.
	Later	0.88 (0.70-1.09)
	Per 1-SD Increase	0.90 (0.83-0.98)
IV	Q1	Ref.
	Q2	1.67 (1.27-2.20)
	Q3	1.38 (1.04-1.83)
	Q4	1.51 (1.14-1.99)
	Per 1-SD Increase	1.12 (1.03-1.23)
IS	Q1	0.93 (0.72-1.21)
	Q2	0.75 (0.58-0.98)
	Q3	1.04 (0.83-1.31)
	Q4	Ref.
	Per 1-SD Decrease	0.95 (0.86-1.05)
Amplitude	Q1	1.88 (1.41-2.50)
	Q2	1.28 (0.94-1.73)
	Q3	1.24 (0.91-1.69)
	Q4	Ref.
	Per 1-SD Decrease	1.38 (1.21-1.58)
Phase	Earlier	1.05 (0.85-1.30)
	Middle	Ref.
	Later	0.98 (0.78-1.24)
	Per 1-SD Increase	0.94 (0.85-1.03)

Models are adjusted for age at the time of actigraphy, sex, education, Townsend Deprivation Index, ethnic background, obesity, sleep apnea, morbidity burdens, circulatory disorders, night shiftwork status, alcohol intake, smoking status, and polygenic risk score of for Alzheimer's disease.