

Supplemental Material

Table 1. Estimated aMT6s mesor (circadian mean) and acrophase (peak time) by night shift work (shift status, night shift workers's diurnal preference, nights worked over the past 2 weeks and total years worked in night shift)

	Mesor			Acrophase		
	Crude geometric mean (95%CI) ^a	Adjusted geometric mean % change (95%CI) ^b	p-value ^c	Crude geometric mean (95%CI) ^d	Adjusted geometric mean difference (95% CI) ^e	p-value ^c
Day workers	15.4 (12.3, 19.3)	<i>Ref</i>		5:36 (5:06, 6:12)	<i>Ref</i>	
Night workers	10.9 (9.5, 12.6)	-40.4 (-53.5, -23.7)	<0.001	8:42 (7:48, 9:42)	3.2 (2.0, 4.4)	<0.001
<i>Night shift workers's diurnal preference</i>						
Evening	11.8 (8.7, 15.8)	-34.3 (-49.8, -14.0)	0.046	8:30 (5:48, 12:24)	3.4 (1.2, 5.6)	0.001
Neither	11.5 (9.7, 13.6)	-31.0 (-52.1, -0.7)	0.003	8:48 (7:48, 9:54)	3.2 (1.8, 4.6)	<0.001
Morning	6.4 (3.0, 13.6)	-59.7 (-75.5, -33.6)	<0.001	8:30 (6:30, 11:18)	3.8 (0.7, 7.0)	0.004
<i>Nights worked over the past 2 weeks</i>						
≤4 nights	10.5 (8.6, 12.9)	-45.4 (-59.8, -25.7)	<0.001	8:48 (7:42, 10:00)	3.2 (1.5, 4.9)	<0.001
5-8 nights	11.1 (8.8, 13.9)	-37.5 (-53.6, -15.9)	0.002	7:18 (5:30, 9:48)	3.0 (1.4, 4.6)	<0.001
≥9 nights	11.6 (6.9, 19.5)	-33.4 (-57.3, 3.9)	0.073	10:06 (7:36, 11:54)	3.6 (0.8, 6.3)	0.004
<i>Total years worked in night shift work</i>						
≤9 yrs	11.7 (9.6, 14.4)	-40.5 (-55.4, -20.7)	0.001	9:12 (7:30, 11:12)	3.2 (1.7, 4.8)	<0.001
10-19 yrs	10.6 (7.2, 15.8)	-41.7 (-61.1, -12.5)	0.010	9:00 (7:42, 10:30)	3.7 (1.6, 5.9)	<0.001
≥20 yrs	9.8 (7.6, 12.7)	-39.2 (-59.1, -9.6)	0.015	7:42 (6:24, 9:06)	2.3 (0.1, 4.5)	0.028

^aExpressed in ng aMT6s/creatinine/h, ^bAdjusted for age, chronotype, educational level, sex, menopausal status, parity, age at first full-term birth, time spent outdoors on a free day, smoking status, sleeping problems, sleep duration, ^cWald test, ^dExpressed as local time, ^eAdjusted for age, chronotype, educational level, sex, menopausal status, parity, age at first full-term birth, medication consumption, physical activity during the last 24 h, hours of sunlight

Table 2. Estimated aMT6s mesor (circadian mean) and acrophase (peak time) by light exposure among night shift workers (tertiles of mean light exposure from 24:00 to 05:00 h and over the night shift)

	Mesor			Acrophase		
	Crude geometric mean (95%CI) ^a	Adjusted geometric mean % change (95%CI) ^b	p-value ^c	Crude geometric mean (95%CI) ^d	Adjusted geometric mean difference (95% CI) ^e	p-value ^c
Day workers	15.4 (12.3, 19.3)	Ref		5:36 (5:06, 6:12)	Ref	
Night workers	10.9 (9.5, 12.6)	-40.4 (-53.5, -23.7)	<0.001	8:42 (7:48, 9:42)	3.2 (2.0, 4.4)	<0.001
<i>Mean light-at-night exposure from 24:00 to 05:00 h (lux)</i>						
≤14	11.4 (8.8, 14.8)	-35.7 (-53.4, -11.3)	0.008	7:12 (5:36, 9:00)	2.1 (0.5, 3.7)	0.008
15-40	10.7 (8.4, 13.5)	-45.1 (-60.9, -23.0)	0.001	9:18 (8:00, 10:48)	3.6 (1.7, 5.4)	<0.001
41-315	10.7 (8.0, 14.4)	-41.4 (-57.7, -18.8)	0.002	9:48 (7:48, 12:06)	4.1 (2.1, 6.0)	<0.001
<i>Mean light-at-night exposure over the night shift (lux)</i>						
<38	11.0 (8.6, 14.1)	-33.6 (-52.1, -8.0)	0.015	7:36 (6:00, 9:36)	2.9 (1.1, 4.7)	0.001
38-55	11.3 (8.6, 14.8)	-42.7 (-58.4, -20.9)	0.001	9:36 (8:24, 10:54)	3.1 (1.4, 4.9)	<0.001
55-246	10.5 (8.0, 13.7)	-44.7 (-60.1, -23.2)	0.001	9:00 (7:12, 11:18)	3.7 (1.8, 5.6)	<0.001

^aExpressed in ng aMT6s/creatinine/h, ^bAdjusted for age, chronotype, educational level, sex, menopausal status, parity, age at first full-term birth, time spent outdoors on a free day, smoking status, sleeping problems and sleep duration, ^cWald test, ^dExpressed as local time, ^eAdjusted for age, chronotype, educational level, sex, menopausal status, parity, age at first full-term birth, medication consumption, physical activity during the last 24 h, hours of sunlight

Figure 1. Directed Acyclic Graph (DAG) for the selection of confounders (ancestor of exposure and outcome) using DAGitty (<http://www.dagitty.net>) for the association between night shift work and aMT6s (levels and time of peak)

