

Supplemental table 1 Percent mammographic density and absolute density by selected characteristics of rotating night shift work by menopausal status

Night shift work characteristics	PREMENOPAUSAL			POSTMENOPAUSAL		
	n	Percent density Adjusted ^b mean (95%CI)	Absolute density Adjusted ^b mean (95%CI)	n	Percent density Adjusted ^c mean (95%CI)	Absolute density Adjusted ^c mean (95%CI)
Current rotating night shift work						
No	162	25.7 (23.1-28.3)	26.3 (22.6-30.1)	157	18.6 (16.2-20.9)	16.8 (13.8-19.7)
Yes	206	27.0 (24.7-29.3)	27.3 (23.9-30.6)	115	18.7 (15.97-21.4)	19.9 (15.2-22.6)
		0.45	0.71		0.94	0.23
Total duration of night shift work in years						
-5	38	29.4 (23.9-34.9)	32.1 (23.8-40.9)	39	18.1 (13.8-22.4)	17.2 (11.3-23.1)
>5 - ≤15	87	27.4 (24.0-31.1)	27.4 (22.3-32.6)	76	18.6 (15.4-21.8)	17.5 (13.2-21.8)
>15 - ≤25	172	26.0 (23.5-28.5)	27.2 (23.6-30.9)	62	18.9 (15.2-22.5)	18.9 (13.4-23.2)
>25	71	24.6 (20.8-28.4)	22.6 (17.4-27.9)	95	18.8 (15.8-21.7)	17.5 (13.6-21.4)
		0.11	0.07		0.81	0.92
Total number of hours of night shift work by tertiles ^a						
1 st	113	29.0 (25.8-32.2)	30.4 (25.6-35.2)	101	18.0 (15.2-20.8)	16.6 (13.0-20.3)
2 nd	156	25.5 (23.0-28.1)	26.3 (22.6-30.1)	58	18.7 (15.0-22.3)	18.6 (13.5-23.7)
3 rd	99	25.0 (21.7-28.2)	23.9 (19.3-28.5)	113	19.2 (16.5-20.0)	18.1 (14.5-21.7)

	p-trend		0.07	0.05		0.51	0.60
Cumulative number of the night shifts							
	-999	104	28.4 (25.1-31.7)	29.7 (24.7-34.6)	83	17.8 (14.8-20.8)	17.3 (12.3-20.3)
	1000-1999	158	26.0 (23.4-28.5)	27.0 (23.3-30.8)	67	18.8 (15.3-22.2)	18.8 (14.1-23.5)
	2000+	106	25.3 (22.1-28.4)	24.0 (19.6-28.1)	122	19.2 (16.5-21.9)	18.0 (14.5-21.4)
	p-trend		0.18	0.09		0.49	0.58
Total duration of reported exposure to surgical lamp (in years)							
	>0- ≤10	19	26.9 (19.8-34.1)	25.8 (15.1-36.6)	20	14.5 (9.4-19.7)	14.9 (7.2-22.5)
	>10	31	25.1 (19.4-30.7)	26.8 (18.2-35.5)	20	18.2 (12.2-24.2)	16.5 (8.5-24.5)
	p		0.68	0.94		0.39	0.56
Average frequency (weighted by duration)(n. of the night shifts/ month)							
	-2	108	28.7 (25.5-32.0)	30.1 (25.2-35.0)	106	19.0 (16.2-21.7)	18.4 (14.6-22.2)
	>2-3.9	144	26.0 (23.3-28.7)	27.1 (23.1-31.1)	69	17.5 (14.2-20.8)	17.8 (13.3-22.4)
	>3.9	116	24.9 (22.0-27.9)	23.8 (19.6-27.9)	97	19.1 (16.1-22.0)	16.7 (13.0-20.4)
	p-trend		0.09	0.05		0.91	0.54

^a 1st tertile: -130562 hrs, 2nd tertile: 13056 – 24304 hrs; 3rd tertile: 24304 hrs

^b Adjusted for BMI, smoking and season of the year

^c Adjusted for age, age at menopause, age at menarche, BMI, family history of breast cancer and smoking

Supplemental table 2 Percent mammographic density and absolute density by selected characteristics of current rotating night shift work by menopausal status

Current rotating night shift work characteristics	PREMENOPAUSAL			POSTMENOPAUSAL		
	n	Percent density Adjusted ^b mean (95%CI)	Absolute density Adjusted ^b mean (95%CI)	n	Percent density Adjusted ^c mean (95%CI)	Absolute density Adjusted ^c mean (95%CI)
Current night shift work frequency per month						
Day shifts (reference)	162	25.7 (23.1-28.3)	26.3 (22.6-30.1)	157	18.5 (16.2-20.8)	16.8 (13.8-19.7)
2-7 nights	187	27.1 (24.7-29.5)	27.3 (23.8-30.8)	98	18.5 (15.6-21.5)	18.5 (14.5-22.4)
8+ nights	19	25.7 (17.8-33.6)	26.6 (15.4-37.8)	17	20.8 (13.7-28.0)	21.3 (11.3-31.3)
p		0.57	0.77		0.67	0.31
Activities at work during the night shift						
Day shifts (reference)	162	25.7 (23.1-28.2)	26.3 (22.5-30.1)	157	18.5 (16.2-20.8)	16.8 (13.8-19.7)
1 ^a	11	31.1 (20.6-41.5)	27.9 (13.2-42.6)	12	23.7 (14.9-32.5)	23.7 (11.3-36.2)
1 and 2 or 2	139	26.6 (23.8-29.3)	26.3 (22.2-30.3)	82	18.5 (15.3-21.6)	19.1 (14.8-23.5)
any combination with 3	51	27.3 (22.8-31.8)	29.8 (22.7-36.8)	19	17.3 (11.1-23.5)	14.6 (6.7-22.4)
p-trend		0.51	0.58		0.84	0.71

Duration of the working hours during the night shift						
Day shifts (reference)	162	25.6 (23.1-28.2)	26.3 (22.5-30.1)	157	18.5 (16.2-20.9)	16.7 (13.8-19.7)
< 10	61	26.5 (22.3-30.6)	25.7 (19.7-31.7)	23	17.8 (12.3-23.4)	18.3 (10.5-26.5)
≥10 - 14	140	27.3 (24.4-30.0)	27.9 (23.8-32.0)	90	19.0 (15.9-22.2)	18.9 (14.7-23.1)
		0.41	0.58		0.85	0.41
p						
Light at work						
Day shifts (reference)	162	25.6 (23.0-28.2)	26.3 (22.5-30.1)	157	18.5 (16.2-20.9)	16.8 (13.8-19.7)
Dim	86	25.9 (22.3-29.4)	25.1 (20.1-30.1)	54	18.0 (14.2-22.7)	19.1 (13.7-24.4)
Full light	89	29.2 (25.6-32.8)	30.0 (24.6-35.3)	51	18.5 (14.6-22.5)	19.1 (13.6-24.6)
Surgical lamp	26	23.6 (17.7-29.5)	25.5 (16.2-34.7)	9	20.2 (10.3-30.2)	15.4 (3.7-27.1)
		0.50	0.54		0.90	0.57
p-trend						

^a Categories of the activities 1 = care for patients, injections, administering pills ; 2 = small interventions; 3 = assistance in operations(births delivery)

^b Adjusted for BMI, smoking and season of the year

^c Adjusted for age, age at menopause, age at menarche, BMI, family history of breast cancer and smoking

Supplemental table 3 Adjusted means of percent density and absolute density according to the quartiles of urinary MT6s levels

	PREMENOPAUSAL				POSTMENOPAUSAL			
	Range	n	Percent mammographic density Adjusted ^a mean (95%CI)	Absolute density Adjusted ^a mean (95%CI)	Range	n	Percent mammographic density Adjusted ^b mean (95%CI)	Absolute density Adjusted ^b mean (95%CI)
Q1	<27.2	95	26.1 (22.5-29.6)	24.8 (19.9-29.7)	-22.7	65	17.7 (14.3-21.2)	16.9 (12.3-21.4)
Q2	≥27.2-≤46.9	96	26.4 (23.0-29.8)	27.7 (22.6-32.6)	>22.7-≤38.4	64	18.8 (15.4-22.1)	16.1 (11.9-20.4)
Q3	>46.9-≤69.4	96	26.9 (23.6-30.3)	27.9 (22.9-32.8)	>38.4 -≤64.4	65	18.7 (15.3-22.0)	17.2 (12.7-21.7)
Q4	>69.4	95	26.4 (23.0-29.7)	27.0 (22.0-32.1)	>64.4	64	19.3 (15.8-22.8)	20.5 (15.6-25.4)
p			0.85	0.55			0.55	0.25

^a Adjusted for age, BMI, and smoking

^b Adjusted for age, age at menopause, age at menarche, BMI, family history of breast cancer and smoking