Web Material

Web Table 1. Postmenopausal OSA risk according to age at menopause among naturally postmenopausal women who never used postmenopausal hormone therapy[a]

	No. of cases	HR	95% CI
Age at menopause			
<40 years	13	0.76	0.42, 1.40
40-44 years	64	0.89	0.66, 1.17
45-49 years	346	1.03	0.89, 1.19
50-54 years	710	1.00	Referent
≥55 years	189	1.12	0.94, 1.33
P for trend		0.17	

Abbreviations: CI, confidence interval; HR, hazard ratio; OSA, obstructive sleep apnea
[a]Stratified by age in months and calendar years, and adjusted for body mass index (<20.0, 20.0–24.9, 25.0–29.9, 30.0–34.9, 35.0–39.9, ≥40.0 kg/m^2), waist circumference (<76, 76–87, 88–95, ≥96 cm), smoking (never, past, current), alcohol consumption (none, <5.0, 5.0–14.9, 15.0–29.9, ≥30.0 g/day), duration of postmenopausal hormone therapy by type (never, <5.0, 5.0–9.9, ≥10.0 years), race/ethnicity (white, non-white), history of diabetes (yes, no), history of hypertension (yes, no), duration of oral contraceptive use (never, <1.0, 1.0–4.9, 5.0–9.9, ≥10.0 years), parity (continuous), physical activity (<3.0, 3.0–8.9, 9.0–17.9, 18.0–26.9, ≥27.0 MET-h/week), Alternate Healthy Eating Index (in quintiles) and sleep duration (≤5, 6, 7, 8, ≥9 hours/day)

Web Table 2. Odds ratios for OSA diagnosis with EDS, OSA diagnosis without EDS, high-risk group without diagnosed OSA (versus low-risk group) according to type of menopause using multinomial logistic regression

Type of menopause	High-risk group without OSA diagnosis[a] (n=25,103)		OSA diagnosis without EDS (n=3,613)		OSA diagnosis with EDS (n=659)	
	OR	95% CI	OR	95% CI	OR	95% CI
Natural	1.00	Referent	1.00	Referent	1.00	Referent
Surgical	1.08	1.04, 1.13	1.48	1.35, 1.63	1.80	1.47, 2.20
P for trend[c]			<0.0001			

Abbreviations: CI, confidence interval; EDS, excessive daytime sleepiness; OR, odds ratio; OSA, obstructive sleep apnea

[a]Defined as reporting habitual snoring

[b]Adjusted for baseline factors including age (continuous), body mass index (<20.0, 20.0–24.9, 25.0–29.9, 30.0–34.9, 35.0–39.9, ≥40.0 kg/m^2), waist circumference (<76, 76–87, 88–95, ≥96 cm), smoking (never, past, current), alcohol consumption (none, <5.0, 5.0–14.9, 15.0–29.9, ≥30.0 g/day), duration of postmenopausal hormone therapy by type (never, <5.0, 5.0–9.9, ≥10.0 years), race/ethnicity (white, non-white), history of diabetes (yes, no), history of hypertension (yes, no), duration of oral contraceptive use (never, <1.0, 1.0–4.9, 5.0–9.9, ≥10.0 years), parity (continuous), physical activity (<3.0, 3.0–8.9, 9.0–17.9, 18.0–26.9, ≥27.0 MET-h/week), Alternate Healthy Eating Index (in quintiles) and sleep duration (≤5, 6, 7, 8, ≥9 hours/day)

[c]P for trend was calculated using ordinal logistic regression

Web Table 3. Joint associations of type of menopause and anthropometric measures with OSA risk in postmenopausal women[a]

| Anthropometric measures | Type of menopause | | | |
| | Natural | | Surgical | |
	HR	95% CI	HR	95% CI
BMI				
<30 kg/m^2	1.00	Referent	1.38	1.23, 1.55
≥30 kg/m^2	2.64	2.41, 2.89	3.20	2.85, 3.60
Waist circumference[b]				
<88 cm	1.00	Referent	1.36	1.18, 1.56
≥88 cm	1.39	1.24, 1.55	1.71	1.49, 1.96

Abbreviations: CI, confidence interval; HR, hazard ratio; OSA, obstructive sleep apnea
[a]Stratified by age in months and calendar years, and adjusted for (except the stratification variable) age at menopause, body mass index (<20.0, 20.0–24.9, 25.0–29.9, 30.0–34.9, 35.0–39.9, ≥40.0 kg/m^2), waist circumference (<76, 76–87, 88–95, ≥96 cm), smoking (never, past, current), alcohol consumption (none, <5.0, 5.0–14.9, 15.0–29.9, ≥30.0 g/day), duration of postmenopausal hormone therapy by type (never, <5.0, 5.0–9.9, ≥10.0 years), race/ethnicity (white, non-white), history of diabetes (yes, no), history of hypertension (yes, no), duration of oral contraceptive use (never, <1.0, 1.0–4.9, 5.0–9.9, ≥10.0 years), parity (continuous), physical activity (<3.0, 3.0–8.9, 9.0–17.9, 18.0–26.9, ≥27.0 MET-h/week), Alternate Healthy Eating Index (in quintiles) and sleep duration (≤5, 6, 7, 8, ≥9 hours/day)
[b]Among a subset of participants with waist circumference measurements

Web Table 4. Prevalence of self-reported OSA among postmenopausal women in the NHS/NHSII compared to the projected US prevalence of moderate-to-severe sleep-disordered breathing (AHI≥15)

	NHS/NHSII[a]		US prevalence estimates[b]	
	Prevalence	95% CI	Prevalence	95% CI
Overall	6.4	6.2, 6.7	9.0	7.0, 11.0
BMI <25.0	2.3	2.1, 2.4	1.4	0.7, 2.5
BMI 25.0-29.9	5.0	4.8, 5.2	4.5	3.0, 6.3
BMI 30.0-39.9	13.2	12.8, 13.6	13.9	10.4, 17.4
BMI ≥40.0	30.2	28.9, 31.5	33.5	25.7, 40.8

Abbreviations: BMI, body mass index; CI, confidence interval; NHS, Nurses' Health Study; NHSII, Nurses' Health Study II; OSA, obstructive sleep apnea
[a]Among postmenopausal women
[b]The numbers were extracted from Peppard et al. Table 3 for women aged 50-70 years (6)