

Supplemental Table 1. Age- and cohort-standardized characteristics of controls by quartile of PGE-M (ng/mg creatinine)

	Quartile 1 (n=150)	Quartile 2 (n=150)	Quartile 3 (n=150)	Quartile 4 (n=150)
PGE-M(ng)/Creatinine(mg), mean (SD)	3.0(0.6)	4.5(0.4)	6.3(0.6)	11.4(4.1)
Age at specimen collection, mean (SD)*	53.8(11.5)	56.5(11.7)	59.1(11.4)	59.9(11.0)
Cohort*				
- NHS, %	40.7	40.0	46.7	37.3
- NHSII, %	41.3	24.7	16.7	11.3
- SWHS, %	18.0	35.3	36.7	51.3
BMI, mean (SD)	24.6 (4.7)	24.6 (4.1)	26.1 (4.9)	25.3 (4.7)
Menopausal status/use of hormone therapy (HT), %				
- Premenopausal, %	36.5	40.0	35.4	34.6
- Postmenopausal/no HT, %	19.6	36.6	35.4	40.7
- Postmenopausal/HT use, %	42.8	22.6	28.1	24.8
- Unknown, %	1.0	0.8	1.1	0.0
Parity, %				
- Nulliparous, %	6.1	6.8	6.5	11.1
- 1 child, %	8.0	8.3	8.6	10.6
- 2 children, %	32.3	36.3	28.1	29.0
- 3 children, %	25.5	19.6	28.5	21.2
- 4+ children, %	28.2	29.1	28.3	28.1
Ever IUD use, %	26.6	26.1	21.3	25.3
Oral contraceptive (OC) use, %				
- Never, %	45.6	52.6	56.7	50.4
- <1 year, %	8.1	8.3	8.2	10.7
- 1-5 years, %	20.9	22.9	20.1	20.1
- 5+ years, %	25.3	16.3	15.0	18.8
Tubal ligation, %	21.1	16.1	21.7	22.9
Hysterectomy, %	12.1	17.2	14.7	18.7
Family history of ovarian cancer, %	1.1	0.0	3.0	1.5
Smoking status, %				
- Never, %	72.8	72.4	71.5	62.7
- Past, %	24.2	25.1	22.7	24.3
- Current, %	3.0	2.4	5.8	13.0
Regular aspirin use, %	27.0	20.4	21.6	15.4

Values are means (SD) or percentages and standardized to the age and cohort distribution of the study population. Values of polytomous variables may not sum to 100% due to rounding.

*Value is not adjusted for age or cohort.

Supplemental Table 2. Urinary PGE-M levels and risk of invasive epithelial ovarian cancer in NHS, NHSII and SWHS, modeled with study-specific PGE-M quartiles

		Study-specific PGE-M (ng/mg creatinine) quartiles				
		Q1* (low)	Q2	Q3	Q4 (high)	p-trend**
NHS	Cases/controls	35/61	34/62	32/63	22/61	
			0.97	0.88	0.64	
	†Model 1 OR (95% CI)	(ref)	(0.52-1.81)	(0.48-1.61)	(0.33-1.23)	0.16
			0.99	0.82	0.59	
	‡Model 2 OR (95% CI)	(ref)	(0.51-1.92)	(0.43-1.56)	(0.30-1.15)	0.10
NHSII	Cases/controls	16/36	13/34	27/35	15/36	
			0.88	1.80	0.97	
	†Model 1 OR (95% CI)	(ref)	(0.38-2.06)	(0.83-3.91)	(0.42-2.27)	0.80
			0.77	1.54	0.93	
	‡Model 2 OR (95% CI)	(ref)	(0.29-2.02)	(0.47-5.04)	(0.31-2.83)	0.98
SWHS	Cases/controls	23/52	23/51	36/49	28/52	
			1.10	1.72	1.32	
	†Model 1 OR (95% CI)	(ref)	(0.56-2.18)	(0.89-3.30)	(0.62-2.83)	0.37
			1.03	1.75	1.18	
	‡Model 2 OR (95% CI)	(ref)	(0.51-2.06)	(0.86-3.57)	(0.51-2.73)	0.48
Pooled	Cases/controls	74/149	70/147	95/147	65/149	
			0.96	1.27	0.88	
	†Model 1 OR (95% CI)	(ref)	(0.64-1.44)	(0.87-1.86)	(0.57-1.35)	0.77
			0.94	1.18	0.80	
	‡Model 2 OR (95% CI)	(ref)	(0.62-1.42)	(0.79-1.75)	(0.51-1.26)	0.46

* Quartile (Q) cutpoints are 3.78, 5.41, 7.43 (NHS), 3.08, 3.98, 5.89 (NHSII), 4.55, 6.13, 8.95 (SWHS).

**Tests for trend use quartile medians.

†Conditional logistic regression.

‡Adjusted for parity, OC use, IUD use, tubal ligation, hysterectomy, family history of ovarian cancer, smoking, and BMI. Hysterectomy and family history of ovarian cancer were not adjusted for in the analysis of SWHS only, since prevalence of these factors was very low.

Supplemental Table 3. Urinary PGE-M levels and risk of invasive epithelial ovarian cancer in NHS, NHSII and SWHS, by time from urine collection to case diagnosis.

	PGE-M (ng/mg creatinine) quartiles				p-trend**
	Q1* (low)	Q2	Q3	Q4 (high)	
Time from collection to diagnosis \geq 1 year [†]					
Cases/controls	69/134	68/139	75/136	62/125	
‡Model 1 OR (95% CI)	(ref)	0.92 (0.61-1.39)	1.04 (0.69-1.58)	0.93 (0.59-1.47)	0.88
§Model 2 OR (95% CI)	(ref)	0.88 (0.57-1.35)	0.97 (0.63-1.50)	0.86 (0.54-1.39)	0.65
Time from collection to diagnosis \leq median time					
Cases/controls	33/73	38/67	43/82	39/72	
‡Model 1 OR (95% CI)	(ref)	1.24 (0.70-2.18)	1.11 (0.63-1.96)	1.19 (0.65-2.19)	0.72
§Model 2 OR (95% CI)	(ref)	1.17 (0.64-2.14)	1.02 (0.56-1.86)	1.10 (0.56-2.15)	0.92
Time from collection to diagnosis $>$ median time					
Cases/controls	42/76	40/82	39/65	30/75	
‡Model 1 OR (95% CI)	(ref)	0.88 (0.52-1.49)	1.07 (0.62-1.85)	0.68 (0.37-1.28)	0.31
§Model 2 OR (95% CI)	(ref)	0.83 (0.46-1.50)	1.01 (0.56-1.84)	0.64 (0.32-1.28)	0.25

* Quartile (Q) cutpoints are 3.78, 5.34 and 7.53 ng PGE-M/mg creatinine.

** Tests for trend use quartile medians.

[†] Insufficient power to consider those with $<$ 1 year from urine specimen collection to case diagnosis.

[‡] Conditional logistic regression.

[§] Adjusted for parity, OC use, IUD use, tubal ligation, hysterectomy, family history of ovarian cancer, smoking, and BMI.

Supplemental Table 4. Urinary PGE-M levels and risk of invasive epithelial ovarian cancer in NHS, NHSII and SWHS women who never smoked and were normal weight

	Study-specific PGE-M (ng/mg creatinine) quartiles				p-trend**
	Q1* (low)	Q2	Q3	Q4 (high)	
Cases/controls	27/59	24/62	31/47	23/52	
†Model 1 OR (95% CI)	(ref)	1.30 (0.50-3.37)	2.38 (0.81-7.03)	2.40 (0.92-6.29)	0.04
‡Model 2 OR (95% CI)	(ref)	1.02 (0.35-3.00)	1.72 (0.52-5.64)	1.60 (0.50-5.14)	0.29

* Quartile (Q) cutpoints are 3.78, 5.34 and 7.53 ng PGE-M/mg creatinine.

**Tests for trend use quartile medians.

† Unconditional logistic regression model adjusted for matching factors

‡Previous model further adjusted for parity, OC use, IUD use, tubal ligation, hysterectomy, and family history of ovarian cancer.

Supplemental Table 5. Association of urinary PGE-M levels and risk of invasive epithelial ovarian cancer in NHS, NHSII and SWHS among women who did not report recent aspirin or NSAID use*

	PGE-M (ng/mg creatinine) quartile				p-trend†
	Q1** (low)	Q2	Q3	Q4 (high)	
Cases/controls	47/98	55/116	61/117	54/118	
†Model 1 OR (95% CI)	(ref)	1.04 (0.63-1.72)	1.15 (0.70-1.91)	1.01 (0.59-1.73)	0.49
‡Model 2 OR (95% CI)	(ref)	0.95 (0.57-1.58)	0.99 (0.59-1.66)	0.84 (0.48-1.46)	0.96

* Recent aspirin or NSAID use was defined differently for each study. NHS: aspirin, aspirin products, acetaminophen or ibuprofen within 72 hours of urine collection. NHSII: aspirin or aspirin products within 72 hours of urine collection. SWHS: NSAID use in the 24 hour or 1 week period prior to urine collection.

** Quartile (Q) cutpoints are 3.78, 5.34 and 7.53 ng PGE-M/mg creatinine

† Tests for trend use quartile medians.

‡ Unconditional logistic regression model adjusted for matching factors, parity, OC use, IUD use, tubal ligation, hysterectomy, family history of ovarian cancer, smoking and BMI.

Supplemental Table 6. Aspirin use and risk of ovarian cancer by PGE-M level in the Nurses Health Studies

	PGE-M Quartiles* 1 and 2		PGEM Quartiles 3 and 4		p-heterogeneity
	Cases/Controls	OR** (95% CI)	Cases/Controls	OR** (95% CI)	
Standard-dose aspirin					
Never regular use	62/115	(ref) 1.35	42/85	(ref) 0.79	
Past regular use	23/35	(0.54-3.34) 1.44	15/27	(0.30-2.05) 0.86	
Current regular use	21/33	(0.62-3.38)	13/39	(0.25-2.91)	0.36
<100mg baby aspirin					
Never regular use	57/86	(ref) 0.80	34/73	(ref) 0.64	
Past regular use	14/26	(0.30-2.13) 0.73	8/17	(0.18-2.34) 1.14	
Current regular use	37/77	(0.36-1.47)	28/66	(0.51-2.58)	0.89

* Quartile (Q) cutpoints are 3.78, 5.34 and 7.53 ng PGE-M/mg creatinine.

** Unconditional logistic regression model adjusted for matching factors